


**REVBOX**  
**MK7.0**  
INSTRUCTION  
MANUAL

REVBOX 

TRAIN • EVOLVE • SUCCEED



# WELCOME TO THE REVBOX COMMUNITY...

Congratulations on the purchase of your new Revbox – a low inertia, stationary air resistance trainer with no fly wheel assistance, designed, developed and assembled in New Zealand.

The Revbox will make you stronger and more efficient, as it recruits and engages all the muscle groups throughout your entire pedal stroke, increasing strength and neuromuscular efficiency, and perfecting your pedaling technique.



# IN THE BOX...

## Your Revbox MK7.0 will come with:

1. Revbox trainer unit
2. Stabiliser leg
3. Short quick-release skewer for the stabilizer leg
4. Long quick-release skewer to mount your bike
5. Velcro fastened carry handle (remove if not required)
6. Two 0.7mm cassette spacers if required (10sp freehub bodies only)
7. Two spare rubber end-caps for the stabiliser leg

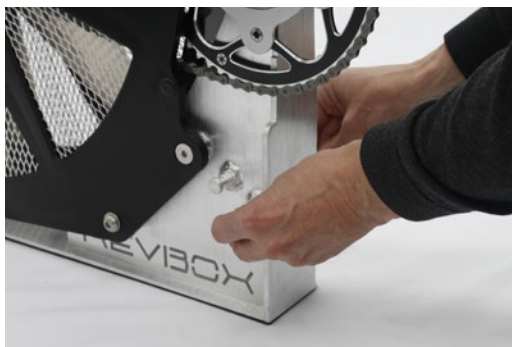
## Additional parts are also available:

- Inertia set
- Training Mat
- Revbox travel/storage bag
- Speed & Cadence Sensor sets
- Heart Rate monitor set
- Thru axle conversion kit



# TO SET UP;

**To ensure your Revbox is set up correctly, please follow these steps:**



**1.** After removing your Revbox from all packaging, fit the short quick release skewer to the lower front of the Revbox unit.



**2.** Mount the stabiliser leg onto the short quick release skewer. Make sure that the stabiliser leg is pushed in as far as possible (so there is almost no gap between the leg and the unit) and that the guide plates are resting on the stops.



**3.** Tighten the skewer as tight as possible to fix the stabiliser leg securely in place.



**4.** Mount a suitable cassette to the freehub body.



**5.** Fit the long quick release skewer to the trainer through the cassette/freehub axle.

**Mounting your bike to the Revbox unit:**

- 1.** Remove the rear wheel from your bike and fit it to the trainer.
- 2.** Ensure that the drop outs rest on the long quick release axle, then make sure the quick release is done up tight. (This is done easiest with the gears set in the smallest sprockets).

If you require any further assistance with your set up, do not hesitate to contact us

# TRANSPORT & CARE

## When transporting the Revbox:

1. Keep it properly secured – we recommend investing in the Revbox carry bag to keep all the parts protected. **A**
2. Use the supplied Velcro fastened carry handle to lift the Revbox. (Make sure that the Velcro is fully secured.) **B**
3. If you use the optional Revbox carry bag, store the stabilizer leg in the special compartment inside of the bag, so that the leg fork does not scratch the side panels.
4. If the protection mesh becomes bent, pull it gently back out with an L shaped tool, so that it does not interfere with the fan at any point of the rotation.
5. Always remove the long top skewers before placing the trainer in the bag.



# REVBOX IN USE

## While using the Revbox

1. Avoid placing pressure or weight on the mesh that covers the top of the fan.
2. Do not put pressure or force on the mesh of the side panels.
3. Avoid rocking your bike excessively. Although the Revbox is very stable, rocking can cause damage to both your bike and the trainer.
4. Ensure the unit is on a flat, hard surface. The training mat is an ideal addition to protect surfaces, provide grip and catch any drink or sweat spills. **A**
5. Although the Revbox is entirely enclosed and is very safe to use, we strongly recommend that you train in a safe and controlled environment, without children or pets around, so that no small body parts can get into the machine while it is in use.



# MAINTENANCE

**Although the Revbox is largely maintenance free, there are a few small things you can do to enhance the longevity of your unit.**

1. After about every two weeks of use, check and tighten all the bolts on the unit with a torque wrench – they should be tightened to 8Nm.
2. Periodically check the chain on the Revbox to make sure it is not becoming too slack. We recommend checking after every 6 hours of use, especially in the first month. The chain should have no more than 5mm slack where it first comes into contact with the top of the chainring. If there is more movement than this, adjust the chain tension as follows:
  - a. Loosen the 2 bolts of the fan unit at the center of the main side panels
  - b. Adjust the chain tensioner to the correct position (position 9 or max 10) on both sides and make sure the fan is perfectly straight. The notches of the chain tensioner must be fully engaged with bolt head in front.
  - c. Re-tighten the bolts to 8Nm with a torque wrench, starting with the drive-side bolt, and making sure that the fan remains straight. The fan blades should not be within 10mm of the chain in any part of the fan's revolution.
  - d. Recheck the chain to make sure the tension is correct.
3. The lube on the chain from new will last for a long time, but when it eventually requires a re-lube, only use a silicone lubricant. (This can also be applied to the cassette if required).

# THIS IS NOT A TRAINER, THIS IS TRAINING.



**This part is up to you, but to get the most out of your training on the Revbox, we've developed several training programs that you can download depending on your requirements.**

**To get started, head to our 'Downloads' section under 'About' on our website.**

Note: The Revbox is NOT designed as just a winter trainer.

To experience the maximum benefits from the Revbox Erg it's highly recommend using it for regular training sessions all year round.

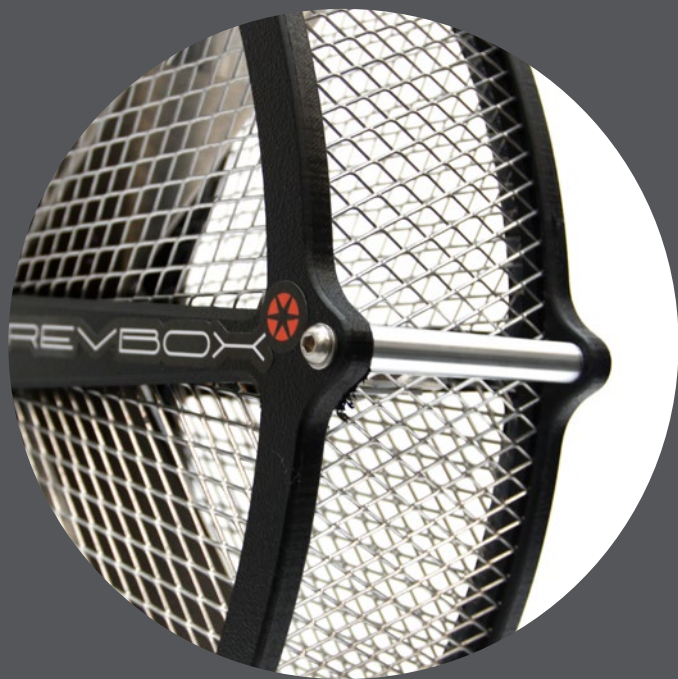
T R A I N

Y O U R

B R A I N



TO PEDAL IN CIRCLES



# MEASURE YOUR POWER

**POWER** - Superior to monitoring heart rate which is only a measure of how hard the human body is working internally, power output for a cyclist is the amount of work generated into forward motion. Power equals work multiplied by time. Work for a cyclist is the force applied to the crank arm times the cadence. Multiply this by time and we get power. What this means is that power is a definitive value of a cyclist's performance. Unlike heart rate, there are no variables with power.

Training to specific power outputs usually requires the use of a crank system such as those made by InfoCrank, Power2Max, or a

rear wheel based device like a PowerTap hub. Using the Revbox as a training tool, a rider who does not have a crank based system can use the supplied laminated handlebar charts. These align fan speed with power, with the fan speed being picked up by a wireless cycle computer. While not as accurate as a crank based system, this method is an adequate way for a rider without that equipment, to gauge their power while training on the Revbox.

From in depth personal fitness tests, with protocol explained in the supplied Revbox manual, a rider is able to create an athletic profile of their current physiological capacity. This information can be used by the rider to train to certain power outputs, maximising time and efficiency. Just with an additional cadence computer, even a rider without power measuring cranks is able to train very specifically for their goals using the Revbox.

# GAIN STRENGTH

**STRENGTH** - The amount of force that can be applied by the cyclist to the crank arms to create torque is strength. Rotational speed (pedal cadence) multiplied by torque equals power. While power is most often referred to for training purposes, power is essentially the end value of the strength applied times cadence relationship.

To ride faster a cyclist can maintain a certain pedal speed and push a harder gear or pedal the same gear, just faster. Both result in more power but each puts very different demands on the human body. Strength and cadence need to be carefully understood and considered if a cyclist is to achieve maximum benefit from their training and maximum performance while racing. The

Revbox has been designed for effective training of both high values of strength and cadence. The chain drive mechanism will tolerate huge amounts of acceleration force for non-slip power transfer. The large diameter air-braked fan is impossible to spin out as the air resistance keeps rising with speed.

Strength training is often performed at low pedal speeds, focusing on taxing the muscular system. The Revbox allows a rider to train at an extremely low cadence range but at very high resistance. In the highest gear of 53/11, just 45RPM requires 500watts, while 60RPM requires 800watts, providing a range difficult enough for even the strongest athletes. The specially tuned low inertia, low friction design of the Revbox means that a rider is able to maintain good pedaling technique which isolates and develops specifically targeted muscle groups.

# ACHIEVING HIGH CADENCE

**CADENCES** - The counterpart of strength to produce power, developing a high cadence, or pedal speed, is essential for a rider to reduce the onset of fatigue, and also improve acceleration. High cadences, while requiring more oxygen, increase the body's recruitment of slow twitch muscle fibers. These are more efficient at producing energy and have greater fatigue resistance than the higher force producing fast twitch muscle fibers.

The Revbox has a tuned resistance that encourages recruitment of the lower leg muscles through the crankarm "dead-center". Improving the coordination of these muscles in tandem with the main force producing muscles of the upper

legs, is a crucial aspect in a rider elevating their sustainable cadence. The first requirement for achieving a high cadence is coordination. As this neuromuscular functioning is raised to a level relevant to the riders goals, cardiovascular and strength training can also be ramped up accordingly.

To improve a riders functional cadence, training on a low inertia high resistance stationary trainer provides the most controlled and effective environment. The large fan of the Revbox maintains resistance throughout the whole circumference of the pedal stroke. A high inertia trainer unit will accelerate from the point of peak power and maintain momentum through the "dead-center" of the pedal stroke. Much like cycling with a tail wind, this limits specific muscle adaptations as the trainer unit is doing much of the work for the rider during a significant portion of the pedal stroke.

# COORDINATION TRAINING

**COORDINATION** - In a sport that requires such rapid and repetitive movements from major muscle groups, coordination, neuromuscular-efficiency, often limits performance more than a lack of strength or cardiovascular fitness.

Neuromuscular efficiency is described as the ability of the brain to muscle pathway to allow prime movers, synergists, stabilisers and neutralisers to work together in synergy as an integrated unit.

Neuromuscular efficiency is crucial to all cyclists at all levels as improving the efficiency of the power delivery to the pedals ultimately results in better oxygen utilization and less muscle fatigue.

The Revbox air-braked fan with precisely tuned low inertia and low friction chain drive connection provides an ideal controlled environment for a rider to concentrate on their technique and intensity.

With coordination being the most important prerequisite for achieving a high cadence, it is easy to see how a rider can use this to increase power output, enhance endurance by decreasing muscle fatigue, and improve acceleration and sprinting. The Revbox fan provides a brilliant audible feedback of where in the pedal rotation power is being applied by the rider. The diameter of the fan, its weight and rotational speed, have been designed to allow a rider to become aware of inconsistencies in their pedal stroke. By using this feature, a rider can improve their muscle coordination and ultimately produce more power, with less fatigue, for longer durations.

# WARMING UP ON THE REVBOX

**WARMING UP** - Almost a science in its own right, preparing the human body for peak performance in the minutes prior to an event, is now understood to have even more influence than once thought. For the athlete considering every detail over months or even years of training, a correct and planned warm-up schedule needs to come from an in-depth analysis of the power outputs, cadence range, and momentum rates, applicable to the competition.

Standard trainer designs and especially the “rollers” styles are often not able to provide enough resistance for a rider to replicate certain heart rates or power outputs at cadences appropriate for the event.

Rollers in particular are not able to generate anywhere near the required resistance levels, so even though the heart rate of an individual may be raised to the target zone, resistance for the muscles is not.

The Revbox with its capacity to provide unlimited resistance in a tuned low inertia format, means any bike rider from amateur road cyclist to world champion track sprinter, can prepare both cardiovascular and muscular systems as best as possible. Events where the conditions will mean the rider carries a low level of momentum such as hill climbs, or flat road head wind, and of course mountain biking, need to have special consideration given to the warm up. High inertia trainers are not able to replicate these loads. The Revbox is a perfect warming up tool for any athlete serious about maximum performance.

# APPS TO USE

To get the most out of your training we recommend our Revbox Power App along with our required sensor set or a crank based power meter to monitor your training.



# ENVIRONMENT WHEN TRAINING

**ENVIRONMENT** - Although events are often held in environments that may be affected by weather, training however is most often best done in controlled situations to make the time spent exercising as effective as possible. Many cyclists will have experienced finishing a training ride realising that a large proportion of time has not been spent within the required intensity zones. If an athlete can make small improvements in every training session, then the accumulated benefit over weeks, months or years, can add up to significant performance gains.

Attempting to perform high intensity, specific training sessions outdoors, does not come close to the consistency of a stationary indoor environment on a Revbox.

The duration of training inhibited due to road surface variations, corners, and traffic, as well as hill gradient variations, wind, rain, and mechanical issues such as flat tires, all add up to a considerable loss that could potentially have been fitness gains if a rider focused important training sessions on a Revbox.

# WARRANTY + LIABILITY

## Warranty

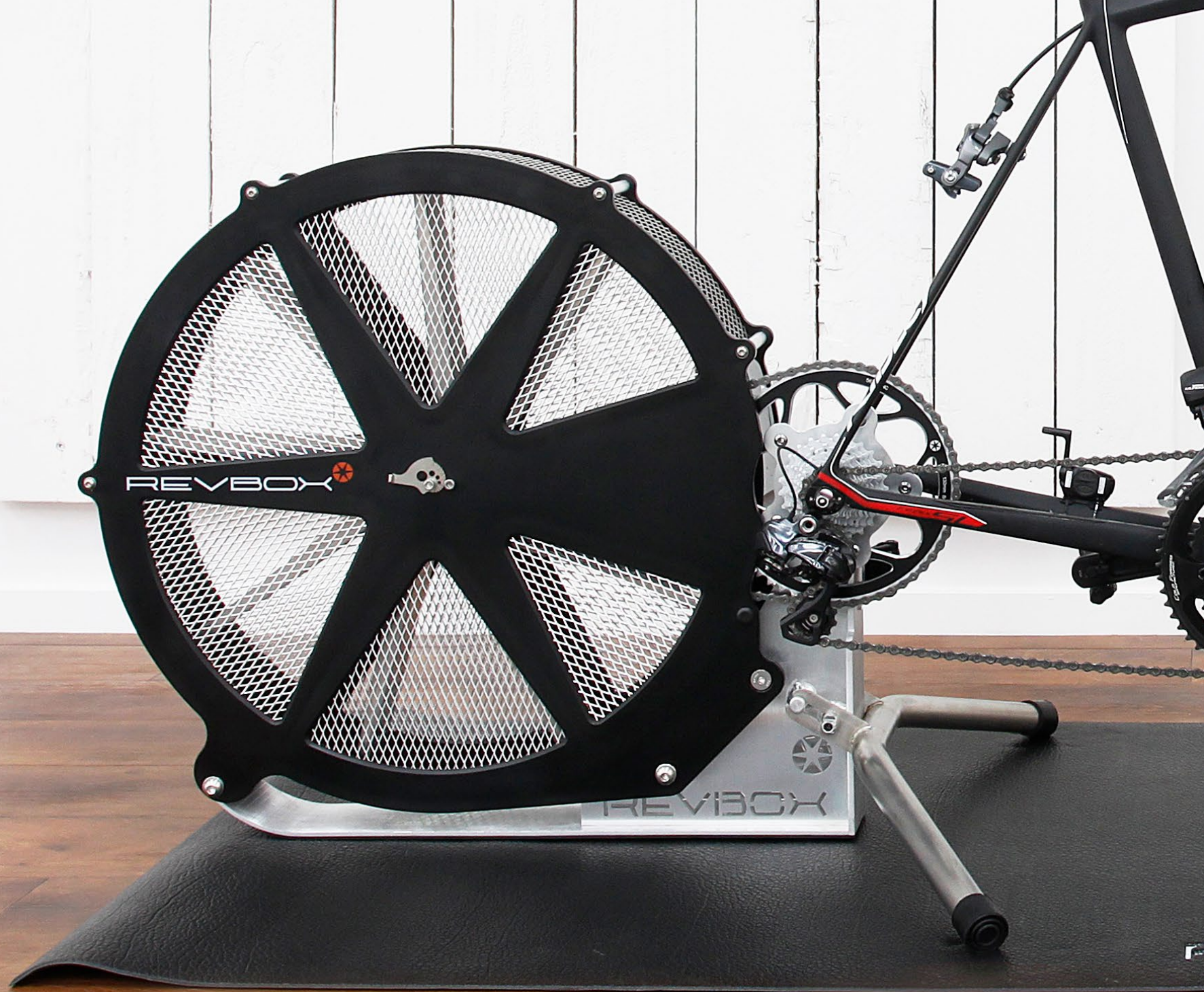
The Revbox comes with a 12 month warranty. For any warranty issues please contact your local dealer or one of our team via the website.

## Liability

The details in the manual are for information purposes only. Revbox Training Ltd. constantly pursues innovation and reserves the right to make changes or improvements in the products described in this manual, without prior notice.

Revbox Training Ltd. does not accept any liability for direct, incidental, or exceptional damage arising from, or connected to, the use of this Instruction Manual or the products described herein.

Please contact us if you are unsure about the correct use of your Revbox.





[www.revbox.training](http://www.revbox.training)

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