



MACFLY MINITRIKE V2 User manual



Congratulations on the purchase of your MACFLY MINITRIKE.

This trike is the result of 25 years of experience in the paramotor industry, both in national and international competitions and in flight training with students of all sizes and experience levels. Our frames and trikes are constantly evolving to provide you with the best solutions available to-day.

It is very important that you read this manual before using your Minitrike for the first time. It will help you get the most out of your equipment, provide information about its design, and offer tips and recommendations to ensure safe operation and long-term durability.

We hope you will enjoy flying our machines as much as we have enjoyed developing, testing, and refining them over the years

Have great flights!

The MACFLY Team



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1 – Warnings and Regulations 1/2

The training curriculum is quite flexible in most countries, and the ways of teaching the quite different disciplines from one training center to another.

The specific regulations in each country must be carefully studied before flying, it is for this reason that the company Macfly does not engage its responsibility in the event of an accident on a bad use of the Paramotor, and we strongly advise you to follow the recommendations of this manual.

WARNING : MACFLY recognizes that there are risks associated with handling and flying a paramotor.

By purchasing and using this product, the user acknowledges, accepts, and assumes all risks associated with its use.

This Minitrike has been designed for MACFLY paramotors, foot take-off. Associated with the Trike it allows a take-off in trolley in solo.

Flight and ground tests have been carried out during years with this Trike and the MACFLY paramotor, It has not been designed for use with another brand of frame not suitable for the Trike which can be dangerous depending on the configuration,

Improper use and/or poor maintenance of your equipment increases these risks.

Macfly paramotors are suitable for qualified pilots as well as in training. Under no circumstances can the manufacturer, importer or sellers be held responsible about the use of this product.

We advise you to do your training in competent schools

Continue to train regularly to follow the evolution of our sport, driving techniques and equipment

Your equipment must not have been modified in any way and must be in good condition and regularly reviewed
A pre-flight inspection of all your equipment - and this before each flight - is essential. Never try to fly with equipment that is damaged or not suitable for your experience.

Always fly equipped with a helmet, suitable shoes and gloves

Absolutely avoid flying in rain, snow, in strong winds, in turbulent conditions and in clouds.



1 – Warnings and Regulations 2/2

1.1 Licence certificate and insurances

Depending on the country and state, the paramotor may or may not be subject to specific regulations. The passage of a patent, or a license specific to each country must be obtained before flying with your paramotor. Similarly, some countries require compulsory insurance.

All pilots must demonstrate that they have the required level of training and experience and must - depending on the country - have taken out at least civil liability insurance.

1.2 Identification/ registration

In some countries or states, the paramotor is considered as a means of transport, or even a vehicle, and it requires an identification or a specific registration.

Get some information at your ministry or federation before flying with your paramotor

1.3 Wing connection

There are different types of wings more or less adapted to the practice of paramotoring.

Some haven't been designed specifically for this sport but rather for paragliding.

Ask for the manufacturer's advice before trying a non-validated assembly.

Check the compatibility with powered paragliding in the user manual.

1.4 Specificities of use

The Minitrike must be used with a motorization and a wing of the paragliding type and of design for the paramotor. Sufficiently sized to support the weight of the Total Flying Weight assembly = Equipped Pilot + Minitrike + Paramotor + weight of the wing if this is the case.

WARNING : For the safety of the pilot, the Trike should not be used for traveling and power taxiing at high speeds over ground without being connected to a wing, as the speeds of evolution have not been tested for this.

It is imperative to associate the Trike with the wing, because this allows the weight of the Trike, the engine, and the pilot to be taken care of from 15-20 km/h.



2 - MACFLY Minitrike Technical Specifications 1/3

2.1 Technical Data

Dimensions

Sports wheels 300mm x 70mm :

- Standard version: length 147 cm x width 157.5 cm
- Sports version: length 142 cm x width 131.5 cm

Comfort wheels 400 mm / 100-105 mm :

- Standard version: length 166 cm x width 164 cm
- Sports version: length 161 cm x width 138 cm

Disassembled :

75 cm X 62 cm X 31 cm

Frame

Manufactured in titanium tubes of different sections, microblasted finish. The round tube was chosen for its aesthetics and aerodynamics.

Wheels

Stainless steel bearing, aluminum rims 3 and 8 spokes

Weight

With Sport wheels : 10.95 Kg

With Comfort wheels : 13.35 Kg

Frame fixing

3 Peguet pins for fixing the wheels

4 stainless steel screws with fluted knobs + spacer for the lower fixing of the chassis to the trike

Fixing of the wing

2 Lines supports for cage

Possible options

Minitrike seat

Cage reinforcement bar

Choice of wheel type

Secondary Cage

2 - MACFLY Minitrike Technical Specifications 2/3

2.1 Cage and Propeller Compatibility

Only the propellers listed below are approved by Macfly for each cage configuration.

Any other configuration must receive prior written approval from the manufacturer.

COMPATIBILITY CAGES/PROPELLERS	
Cage Diameter	Maximum Recommended Propeller Diameter
138 cm	125 cm
138 cm with <u>Secondary Cage</u>	130 cm
150 cm	135 cm
150 cm with <u>Secondary Cage</u>	140 cm

Always verify:



- A minimum clearance of 8 cm between the propeller and the cage for a Ø138 cage, and 9 cm for Ø150 and Ø154 cages.
- Compatibility with the installed engine.
- Compliance with the manufacturer's specified tightening torque.
- Proper propeller tracking.

What is Propeller Tracking? **Propeller tracking** refers to the alignment of the propeller blades within the same rotational plane.

When the propeller rotates, each blade tip should follow exactly the same path through space. If one blade passes slightly ahead of or behind another, the propeller tracking is considered incorrect.

2 - MACFLY Minitrike Technical Specifications 3/3

Poor Tracking : Poor tracking occurs when one blade is slightly out of alignment with the others, most commonly due to uneven tightening of the propeller mounting bolts.

Possible consequences include:

- Increased vibrations
- Reduced propeller efficiency

Additional stress on the engine and frame

Premature wear of components such as netting, engine mounts (silent blocks) and other consumable parts

How to Check Propeller Tracking

1. Secure a fixed reference point close to the propeller tip.
2. Rotate the propeller by hand and bring each blade to the same position (typically the lowest point).
3. Measure the distance between the reference point and each blade tip.

Compare the measurements obtained for all blades.

Recommended Tolerance

Macfly recommends a maximum tracking deviation of 2 mm, provided that no abnormal vibrations are present.

If vibrations are detected, the tracking should be adjusted to achieve the smallest possible deviation.

Tracking errors exceeding this value may lead to increased vibration levels and premature wear of consumable components such as netting, silent blocks and other parts of the propulsion system



3 - Minitrike Assembly 1/5

The Minitrike is quick and easy to assemble, and just as easy to disassemble.

For storage, we recommend minimizing the number of times it is disassembled whenever possible. This will reduce the amount of work required before its next use and help ensure a faster and more convenient setup.

Example of a Minitrike with the Comfort Wheel option, disassembled for storage or transport.



- Before assembly, check the tire pressure.

Two wheel options are available: Sport and Comfort.

Comfort Wheels

Recommended tire pressure: 1.2 to 1.5 bar (17 to 22 psi)

For rough or uneven terrain, we recommend a softer setup: 1.2 bar (17 psi).

For smoother terrain, a slightly higher pressure of 1.5 bar (22 psi) can be used.

Sport Wheels

Recommended tire pressure: 1.0 to 1.3 bar (14.5 to 19 psi)

Wheel Installation

The wheel assemblies are identical for both the Sport and Comfort versions and can be installed on either side, as they have no directional orientation.

**COMFORT
WHEEL**



**SPORT
WHEEL**



- Next, install the front wheel, ensuring that the spacers are correctly positioned on both sides of the wheel.



3 - Minitrike Assembly 2/5

- Install the rear wheels onto their axles, ensuring that the retaining studs securing the wheel axles are present and properly tightened.

Important:

The studs are factory-installed and secured with threadlocker (Loctite). Do not attempt to loosen them. If desired, you may check that they are secure using the appropriate tool and only light pressure applied with two fingers. Do not apply excessive torque.

WHEELS AXLES



STUD



ZIP TIE



- Insert and lock the quick-release pin in a vertical direction, from top to bottom, ensuring that the left and right landing gear legs are installed on the correct sides.

Your wheels are now ready to be installed on the trike.

To prevent accidental loss due to vibration during operation, we recommend securing the retaining pins with a cable tie (zip tie). This simple precaution helps ensure that the pins remain safely in place during use.

3 - Minitrike Assembly 3/5

Now take the seat support assembly.

ADJUSTMENT

The seat support offers several height adjustment positions.

- For 138 cm frames, use the lowest position.
- For 150 cm frames, select a higher position.

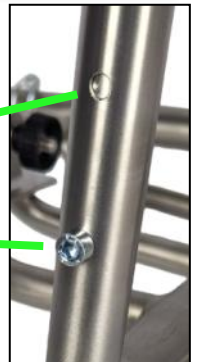
Insert the seat support into the central section of the trike and secure it using the supplied bolt.

To confirm the correct adjustment, suspend the unit from a hang point and check your flying position:

The bottom of the harness must not be in contact with the seat support while in the flying position. This ensures proper comfort and unrestricted harness movement during flight.



REGLAGE HAUTEUR DU SIEGE



Next, insert the front fork into the central section of the trike. Two positions are also available: short legs or long legs.



3 - Minitrike Assembly 4/5

ADJUSTMENT

The pilot should determine the most comfortable of the two positions by carrying out the following checks:

- Sit in the harness and place your feet on the footrests. Turn the front wheel left and right to ensure that the trike length adjustment provides sufficient clearance for the front wheel movement without causing your feet to come off the footrests.
- While suspended from a hang point, verify that it is easy to remove and replace your feet on the footrests quickly.
- It is possible, and recommended, to slide slightly out of the harness to reach the footrests and prepare for landing.



← Short-Leg Position

Long-Leg Position→



- Once the desired adjustment has been selected, install the knurled thumb screws. The split lock washers must be positioned on the side of the knurled thumb screw.

ADJUSTMENT :

It is also possible to adjust the height of the footrest.



3 - Minitrike Assembly 5/5

- Now insert the landing gear legs into the central section of the trike. Insert and lock the tube clip pin on each side, from top to bottom.
- At this location, it is not possible to install the pins from front to rear. Therefore, we recommend securing each pin with a cable tie (zip tie) to prevent accidental loss during operation.

ADJUSTMENT :

Different wheel track width settings are available.

The **widest setting** provides greater stability during takeoff and landing. This is the recommended setting for learning to use the trike and for recreational flying.

The **narrowest setting** makes the trike more maneuverable and reduces drag in flight. This setting is intended for pilots who are already experienced in trike operations.



The trike is now ready to receive the Paramotor

4 - Trike and Frame Assembly

- Now attach the Paramotor to the Minitrike.



- Now position the attachment brackets and secure the lower part of the frame to the trike using the supplied knurled thumb screws.

5 - Reserve Parachute Installation / Paramotor Storage

Rescue installation

Refer to the MACFLY user manual for the installation of the rescue parachute :

https://www.macflyparamotors.com/wa_files/manuel%20macfly%20en.pdf



Storage

Avoid running the engine on blended gasoline that is more than one month old.

If this is the case, empty the old mixture and replace it with recent fuel.

We advise you to disconnect the battery from the paramotor if you have one, as well as the spark plug suppressor when you move or store the paramotor.

**STOCKAGE
CARBURANT**

6 – Adjustments and Settings

Pilot flight position :

The paramotor swing arms are delivered with the factory standard setting.

The attachment point of the left and right hang point rings is intentionally set at slightly different positions (typically 1 to 2 cm apart). This adjustment helps compensate for engine torque effects during flight.

You may wish to slightly modify this setting to suit your personal preferences, pilot weight, tandem operation, or trike installation, as these factors can affect your flying position. It may also be adjusted to further refine engine torque compensation.

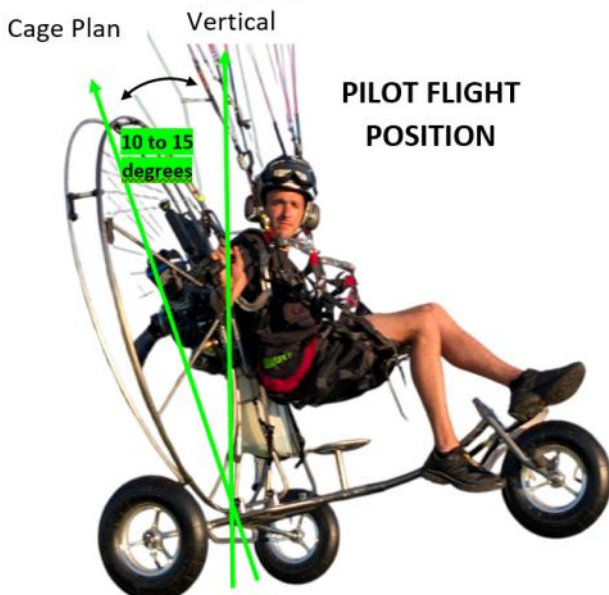
For more detailed information on fine-tuning this adjustment, please refer to the following section.

To do this, proceed as indicated in the MACFLY User Manual, page 8 :

https://www.macflyparamotors.com/wa_files/manuel%20macfly%2004%2002%202026%20en.pdf

For more detailed information on fine-tuning this adjustment :

https://www.macflyparamotors.com/wa_files/service%20bulletin%20ring%20settings%20en%2018%2003%202024.pdf



7 – Pre-Flight Inspection 1/2

WARNING: We strongly recommend carrying out a careful and thorough pre-flight inspection before every flight. If any anomaly is suspected, no matter how minor it may seem, **DO NOT FLY**. Contact your dealer for assistance.

Each engine has its own specific operating and maintenance requirements. Follow the engine manufacturer's recommendations regarding all mechanical components and maintenance procedures (manuals are available and regularly updated on each manufacturer's website).

HARNESS

- ☐ Pockets closed (including pilot pockets)
- ☐ General condition of the webbing and straps checked
- ☐ Upper and lower harness attachment points checked, paramotor swing arms moving freely
- ☐ Reserve parachute container closed, straps correctly routed and secured
- ☐ Seat board inspected and checked

FRAME

- ☐ Frame free from deformation, sufficient propeller clearance between the cage and propeller tips
- ☐ Swing arm mounting bolts checked for tightness
- ☐ Cage sections correctly assembled
- ☐ Velcro fasteners in good condition (replace every 150 hours or 2 years, or sooner if wear is visible)
- ☐ Netting condition and tension checked (replace every 150 hours or 2 years, or sooner if wear is visible)
- ☐ Starter pulley and shackle inspected
- ☐ Engine silent block mountings checked

TRIKE - Minitrike

- ☐ Structure free from deformation
- ☐ Pins correctly installed and secured
- ☐ Wheels correctly installed and rotating freely
- ☐ Front wheel moves freely through its full steering range
- ☐ Pilot harness correctly attached
- ☐ Frame-to-trike attachment checked
- ☐ No abnormal play in the assembly
- ☐ Line support in place
- ☐ Wing laid out and prepared with lines tensioned and the trailing edge folded under the leading edge



WARNING: Aerobic and acrobatic flying are **not recommended**.

This equipment has been tested and validated for **training, recreational, and competition flights**. However, it has **not been tested or approved for aerobic flight**, which involves significantly higher structural loads and forces.

Any use of the equipment for aerobic maneuvers is entirely at the pilot's own risk and may result in structural damage, equipment failure, or serious injury.

More videos on our website : <https://www.macflyparamotors.com/>

7 – Pre-Flight Inspection 2/2

ENGINE (follow the fuel system path)

- ☐ Fuel level checked, top up if necessary
- ☐ General condition of the fuel tank and its attachment to the frame checked
- ☐ Fuel filter pickup clean (replace annually or every 50 hours)
- ☐ Fuel cap properly tightened, no leaks present
- ☐ Fuel lines in good condition, leak-free, and routed away from hot parts (replace annually or every 50 hours)
- ☐ Primer bulb not cracked and properly secured (replace annually or every 50 hours)
- ☐ Carburetor and airbox securely mounted, unobstructed, rubber mounts in good condition
- ☐ Spark plug cap properly seated, spark plug correctly tightened
- ☐ Ignition coil securely mounted, electrical terminals in good condition
- ☐ No leaks from the engine block (no oil seepage)
- ☐ Engine cover properly secured
- ☐ Exhaust system and muffler in good condition: no cracks, no leaks, springs properly tensioned, silent blocks in good condition
- ☐ Reduction drive checked: no play in the fasteners, no excessive seepage from the decompression valve, belt tension verified
- ☐ Propeller and propeller mounting bolts checked: no play, no abnormal noise, general condition and leading edge inspected
- ☐ Throttle control checked: full travel, positive and immediate return
- ☐ Starter pulley and recoil rope in good condition, without pulling the rope to avoid any unintentional engine start

PILOT

- ☐ Physical condition suitable for flight (no illness)
- ☐ Mental condition suitable for flight: no anger, abnormal stress, or emotional disturbance



8 – Engine Start Procedure

1. Position the Minitrike/Paramotor assembly on a stable, level, and unobstructed surface.
2. Open the fuel valve if required.
3. Verify that the throttle control operates freely throughout its full range of motion and returns correctly to the idle position when released.
4. Prime the fuel system using the primer bulb until fuel reaches the carburetor (depending on the specifications of the engine used).
5. If the engine is equipped with a choke, activate it for a cold start.
6. If the engine is equipped with an electric starter, switch the ignition to ON.
7. Put on your helmet and properly fasten the chin strap.
8. Ensure that the propeller area is completely clear of any persons, animals, or objects.
9. Sit in the harness and put on the shoulder straps.
10. Close and secure all harness buckles.
11. Place your feet firmly on the ground to maintain control of the engine thrust during startup.
12. Verify that the engine kill switch is immediately accessible.
13. Start the engine in accordance with the PPU manufacturer's recommendations.
14. Gradually disengage the choke as soon as the engine is running properly.
15. Allow the engine to warm up before operating at full power.



WARNING: The thrust generated by the propeller can be sudden and significant as soon as the engine starts. Always maintain full control of the Minitrike/Paramotor assembly and follow the engine manufacturer's recommended warm-up procedure.

Never start the engine unless you are properly seated in the harness, securely attached to the Minitrike, and with the engine kill switch immediately accessible.

9 – Checklists / Vital Actions

You are ready for takeoff. One final check is required to make sure nothing has been forgotten:

- ☐ Windsock visible from the inflation area
- ☐ Wing, risers, and lines checked
- ☐ Engine started after verifying the surrounding environment
- Leg straps, waist strap, chest strap, and helmet securely fastened
- Main carabiners properly closed and secured
- Front risers in hand, no twists
- Brake handles in hand, no knots, and direct routing through the pulleys
- Radio checked, volume and frequency properly set
- Final engine warm-up performed while avoiding blowing the wing or sucking in a line
- Current weather and aerological conditions checked, including wind strength and direction
- Airspace clear in front of and behind the pilot
- Inflate the wing using approximately 30% to 40% throttle

HAVE A GREAT FLIGHT!

