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WORLDWIDE PARAGLIDING AND PARAMOTORING MAGAZINE. FOR FREE.



TRAVELLING BY PARAMOTOR

THE STORY : 1 000 KM WITH AN ALL UP WEIGHT OF 110 KG

FLYING BICYCLES

INSPECTOR GADGET'S TRIKE



Photo : Jan Schäfer

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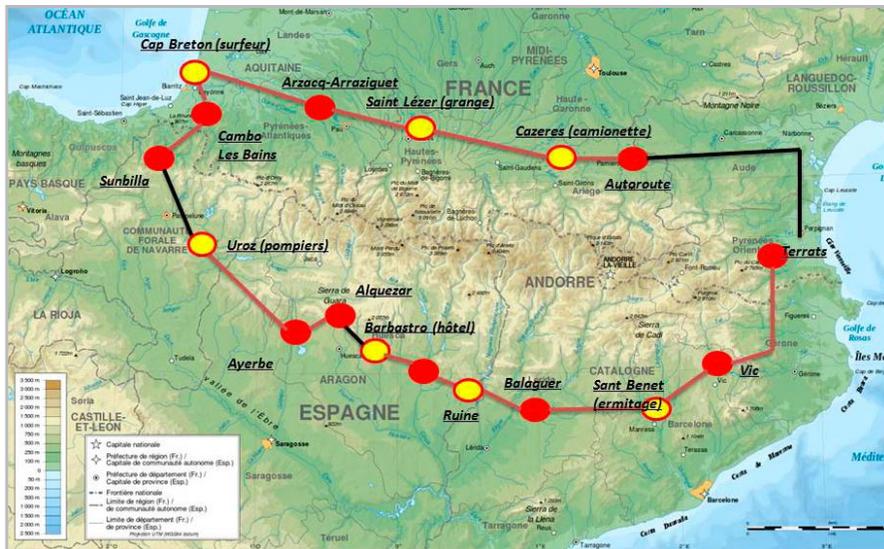
Thanks to the equipment getting lighter, new horizons are opening up for vol bivouac, whether foot launching or with a trike...

THE STORY :
1000 KM
WITH AN ALL UP WEIGHT OF
110 KG



Marc Coffinet did an original vol bivouac – a circuit of the Pyrenees, from Perpignan via Spain to Biarritz and back, with only the bare minimum of equipment, weighing 110 kg for this 1000 km tour. His minimalist approach paid off: In the air Marc felt freer than with heavier equipment. And on the ground without a tent, his search for shelter for the night, led to some unforgettable experiences. Here's the full story...

By Marc Coffinet
Translated and edited by Ruth Jessop



Marc Coffinet

Red line: kilometres flown
 Black line: travelled by car
 Red dots: landing fields
 Yellow dots: bivouacs

Marc Coffinet has a job that most paramotor pilots dream of. In addition to running a luxury gite: www.moulindecanterrane.com he has a 'fly and wine' business. He paramotors over the Roussillon vineyards in the Pyrénées-Orientales taking his clients for 'dégustations', French for drinks and nibbles. www.canigouairlines.com In a moment of madness in September 2012 Marc decided to take off all his clothes (see picture next page) and go on a paramotoring bivouac tour round the Pyrenees. (See map). His Miniplane with a Top 80 motor had a 12 litre fuel capacity which allowed him three hours flying time before having to stop and refuel. He entered all the details

of spare parts on the Mecafly website that he might need en route onto his iPhone and ordered a new propeller, all of which he could have sent out to him if necessary.

Naked, he weighed 76 kg, with his kit on as it were, he weighed 115 kg.

Once he had put on a few clothes he packed 5 kilos of essentials - a credit card, a bit of cash, a ½ litre water bottle, 8 cereal bars, a few toiletries, a silk sheet – ok so not leaving all the home comforts behind, a ground sheet, a tool kit, two GoPros and his iPhone which doubled up as a telephone, GPS, camera, map and note book. He was now ready to set off.



www.canigouairlines.com

Day 1

At dawn he was rewarded by the sight of the Mediterranean Sea stretching out before him like a thin blue line on the horizon. The noise of the motor broke the still of the dawn as he took his last step in France, saying au revoir to all his home comforts for the next ten days.

His objective was to fly right round the Pyrenees linking the Mediterranean Sea and the Atlantic Ocean. He decided not to plan his route in too much detail, knowing that the weather could, at any point, spoil the best made plans.

He crossed the border into Spain at Fort du Perthus. His first impression of the Spanish countryside was one of sadness as he flew over a burnt out landscape. A few months ago a forest fire had ravaged the whole area. An interesting point to note: Whilst paramotoring in Spain, you are not supposed to fly higher than 300 metres above the ground.

After two hours and twenty minutes of flying, Marc landed near some men mending the road. They were so impressed that they drove him to the nearest petrol station.

After another forty five minutes of flying, the weather started to look a bit unsettled. Spotting the stunning looking roman monastery of Saint Benêt with a field of cut corn next to it, Marc decided to land. A majestic monastery seemed like the perfect resting place for his first night of vol bivouac. With that idea in mind, Marc knocked on the big wooden monastery door. The monk who opened the door was far less impressed than the men mending the road had been by somebody dropping in from the heavens to visit. He sent Marc packing – to the 120 euro a night luxury hotel next door.



Naked pilot weight (without helmet) 76 kg. All up weight with his equipment 110kg. Following a trip the previous year, flying anything but light, Marc opted this time for the minimalist method. With success!



Long straight roads guided Marc across the semi-arid countryside, making navigation easy.

Day 2

The sun was barely up, two cereal bars downed and Marc was off. The landscape was much more open and the flying felt safer than the previous day. He felt as if he was in Arizona or Australia such was the desert landscape below him. He was even able to fly until reasonably late because, unusually at midday, the air was still pretty stable.

A short break at Balaguer for fruit and fuel - the heat had taken away his own appetite but not that of his engine. After a siesta under an almond tree he was off again.

After a gentle flight making the most of the last few week thermals, it was again time to find somewhere to spend the night. From the air he spotted a ruin that he was able to land beside. He set up bivouac in the one remaining room with a roof on the ground floor. Sitting eating his dinner on the doorstep he reflected on what life must have been like here fifty or more years ago. Not a sound; silence all around.

Day 3

He flew over a semi desert arid landscape to land, when his tank was empty, by a convenient petrol station. The assistant was far more impressed by beings dropping in from the skies than the monk had been. In fact the petrol pump attendant was so in awe of Marc's exploits that he wouldn't let him pay for his tank of fuel!

Next stop Barbastro where he was befriended by a Spaniard called Thor who introduced him to fiesta, Spanish style. Unable to cope with the smell of his own B.O., Marc then checked into a hotel for his third night of vol bivouac to have a nice long shower.

Day 4

After a tourist visit around the beautiful medieval town of Alquezar on the edge of the river Vero, it was time to wave good bye to Thor the Spaniard and to take to the skies once more. Flying from village to village, he ticked them off on the map one by one.

REPORT TRAVELLING BY PARAMOTOR

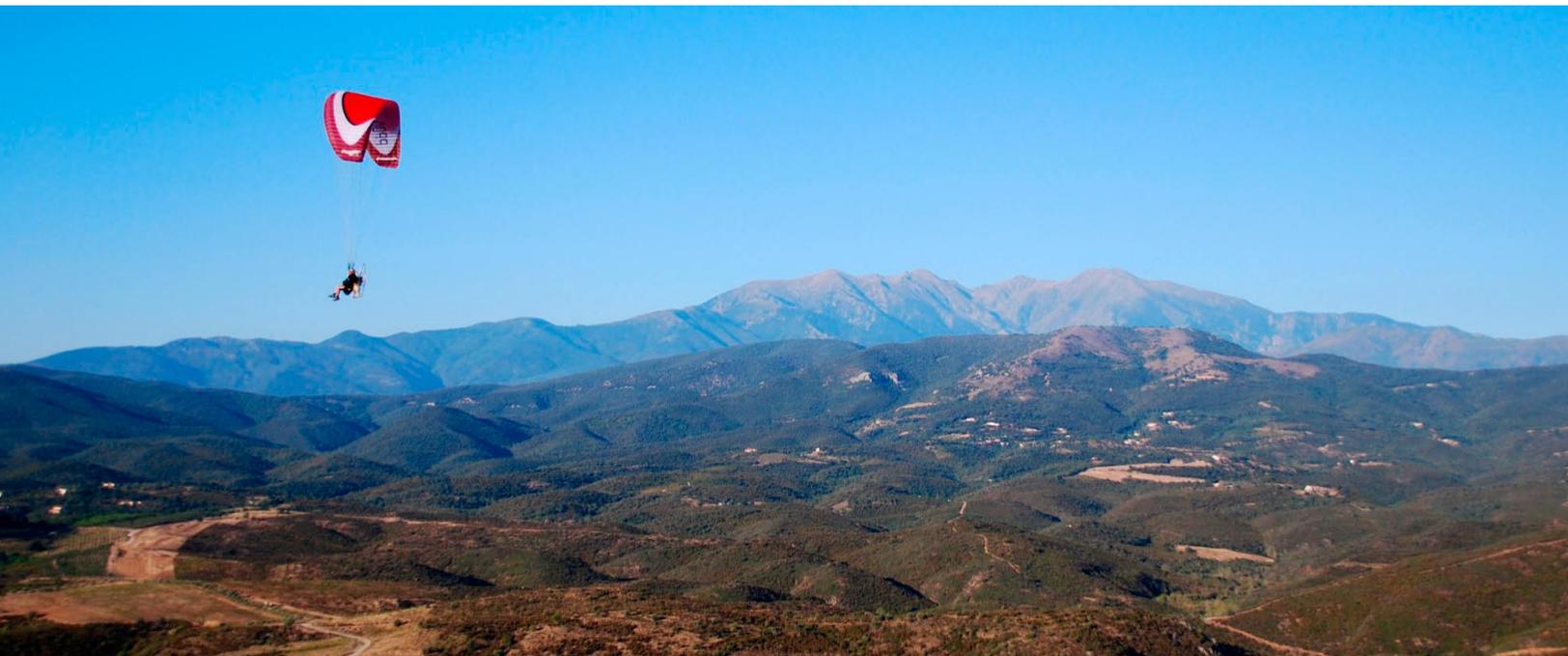
An improvised siesta during the heat of the day, under a bridge near Balaguer.

At about 11 o'clock and about to run out of fuel, Marc spotted a flock of sheep beneath his feet with a shepherd waving enthusiastically at him. He landed and introduced himself to Antonio the shepherd – seventy five years old and with an accent and breath to take your breath away. His weathered face and hands testified to a hard life working under a brutal sun. He welcomed Marc with simple kindness and in reply to Marc's questions about his sheep he introduced them to him – one by one – giving their name and a brief résumé of each animal's character and personality, whilst Mark looked on, flabbergasted, not able to tell one from another.

Whilst waiting for the weather to improve Antonio took Marc to a fete at Ayerbe where there was a competition called «mât de cocagne» which involved climbing with bare hands and feet up a very tall pole to get a leg of dried ham which was attached to the top of the pole. Just in case that was too easy, the top of the pole was covered in black soap. Fortunately for Marc, the weather cleared up and he was able to leave the pole climbing behind. Just as he was about to take off, Antonio



A rustic bivouac in an isolated ruin for the second night.





A self portrait before arriving at Barbastro, a mosaic of corn and wheat fields in the background. Ideal for low flying.

insisted he take some goat's cheese with him, explaining that it wasn't any ordinary old goat's cheese. He should eat a piece of it each and every day for the rest of his journey to bring him good luck and good health until he reached home safely – no mention of what it would do for his breath.

Antonio was so lost in the past and completely adrift from modern times, but still, he was totally at peace with himself and his environment – a lesson for us all. After two hours of flying Marc landed at Uroz where two firemen obligingly came to collect him. So Marc's fourth night of vol bivouac was spent in a fire station ready to go and help fight fires at any minute. Fortunately there were no call-outs that night and Marc was able to sleep soundly.

Day five – half way there.

Marc took advantage of a lift for 40 km with one of the firemen to a place where it would be easier to cross the Pyrenees.

He set off north in the morning mist. Initially anxious about crossing the Pyrenees at that side, it turned out not to be as daunting as Marc had feared with lots of places to land out and a reassuring greenness. He was happy to have been able to take off at altitude appreciating that a bigger wing would have been better able to cope with the Top 80 engine. Toying with a few ridges, he then dropped down into the French side of the Pyrenees.

A covered sky and a cross-wind slowed him down a bit and also, sadly, meant that he couldn't see the sea. Unable to resist the urge to dip his toes in the Atlantic, he landed near Capbreton.



A rare walk carrying the motor on his back. Just a few dozen metres to hide it in a thicket.

After a few wingovers to impress the surfers and sunbathers, he landed safely, only to then have his paramotor fall on him and the exhaust burn his leg. Safe in the knowledge that the most dangerous part of the journey was over, he went into the sea with a piece of cardboard with 'Half way round' written on it to take a selfie. Unfortunately a big wave took him by surprise and knocked him clean off his feet leaving him with a lung full of salt water and no sign of his camera (and the SD-card with his last five days of photos on it). It was time to go and do something a bit safer – like getting driven to his next bivouac by a drunken surfer whom he met on the beach. This was the most dangerous part of the whole paramotoring trip Marc reckoned. So it was that night five of his vol bivouac was spent in a magnificent beach house in the middle of a pine forest having drinks and nibbles by the pool with his new friend.

Day 6

Despite a bad hangover, Marc knew that bad weather was approaching and that he really needed to get out of bed and get on his way. He could see through the window that the sky was already covered, heralding unsettled weather and a front coming in from the northwest.

He took off from the beach and, with the wind behind him, made good progress, flying fast across the green countryside of the Pays Basque. By the afternoon it started to rain gently and then more heavily.

A bit caught out by the fading light, Marc decided to land next to a mansion house surrounded by big fields. The occupants of the house were less than impressed by Marc and his story and very reluctantly let him spend the night on a pile of straw in their guest cow shed.

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Day 7

The next morning he took off at dawn under a covered sky and flew to Cazères where the village bar beckoned. The barman's van was his bed for the night at the end of day seven of Marc's vol bivouac trip.

Day 8

With an empty stomach and a strong wind blowing in the back door of the barman's van (the weather forecast for the Perpignan area predicted 35 km/h winds with gusts up to 75 km/h), Marc set off to try and fly for as much of the day as he could. After forty five minutes his ground speed was alarmingly fast and so it was time to land. Landing going backwards on a paramotor is 'an enriching experience' as Marc put it! It took him three goes to land - finally he came down vertically going slightly backwards.

Alquezar, a stunning medieval village clinging to the cliffs.



Antonio, the kind old shepherd and his sheep, in the field where we met.

Concepteur de plaisir

REPORT TRAVELLING BY PARAMOTOR

'It was at this point that I knew that I wouldn't get right round the circuit. Truth be told, I had realized that the previous night. I ate the last piece of Antonio's good luck goat's cheese. Antonio was right; I wouldn't let myself fly to Perpignan without any more of his cheese.'

Out of lucky goat's cheese and good weather, Marc finished the rest of his trip by road.

Epilogue

Despite eating so much 'lucky goat's cheese,' Marc lost 3 kg on his vol bivouac trip. Will the 'vol bivouac lucky goat's cheese diet', become a new fad amongst overweight pilots in the future? ■



Cries of joy halfway round. I've finally reached the Atlantic.

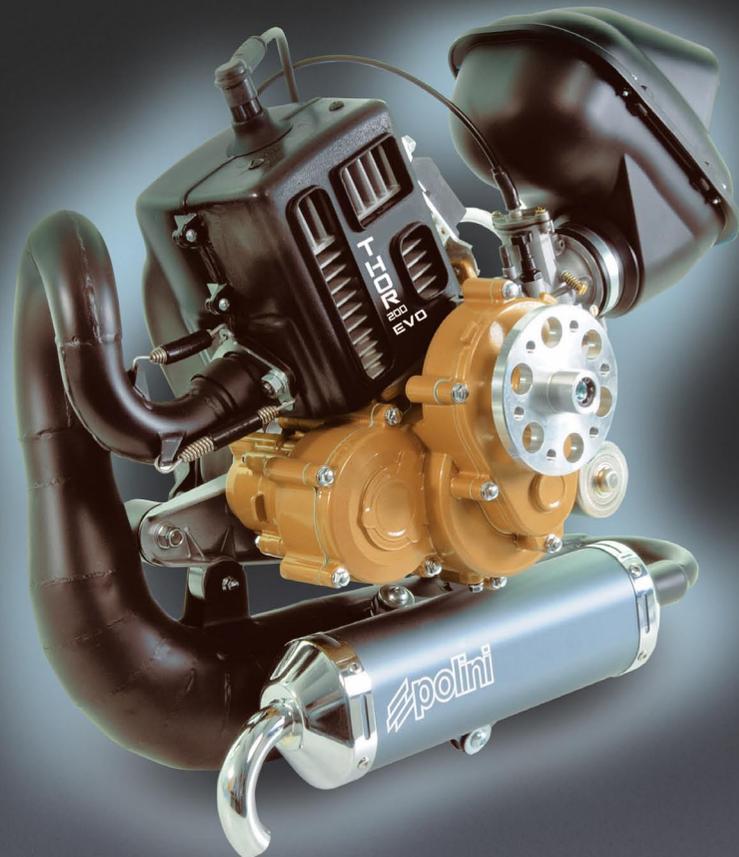


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CATCHING UP WITH FLYING BICYCLE



Photo: Werner Riehm /PARAMOTOR

THE FLYKE

A flying bicycle is the ultimate way to travel. The Flyke made by Fresh Breeze was the first trike of this type...

*By Sascha Burkhardt
Translation : Ruth Jessop*



Discovering the world travelling by paramotor is possible thanks to the flying bike...
Photo : Jan Schäfer

@FreeBreeMag

www.free.aero



A squadron of flying bikes in Austria.
Photo : Helmut Raffelsberger



Michael Werner, co-owner of Fresh Breeze, aboard one of the first Flykes.
Photo : Fresh Breeze

Fourteen years ago, at the beginning of the millennium, the German manufacturer Fresh Breeze produced the first flying bicycle, the Flyke. The idea of Michael Werner, the co-owner of Fresh Breeze, was to allow the pilot to continue on his way after landing. In the beginning, Michael envisaged adding a small fold up bicycle attached to the chassis of a paramotor and launching on foot. In the end, it turned out that it was better to adapt a paramotor trike to be used as a tricycle on the ground.

In the Nordic countries, and thus around the Fresh Breeze headquarters, recumbent tricycles are much more common than elsewhere, even though it is a French invention

(http://en.wikipedia.org/wiki/Recumbent_bicycle). Michael Werner therefore found all the inspiration necessary to develop the Flyke.

It was really important to preserve as many of the characteristics of a real bicycle as possible; not only its lightness, but also its maximum width, so that it would not be too wide for cycle routes in German towns after the removal of the paramotor.



The lever serves as the handlebars. Pull to turn right, push to turn left.
Photos : Sascha Burkhardt



At bends in the road, the Flyke bends around this pivot above the central bush.



The front wheel suspension: A rubber block acts as a shock absorber.

Elsewhere, the latter is suspended by hooks at the back of the bicycle and secured by straps. The reason for this design was not only to be able to convert it easily into a 'town bike', but also to stay within the law. If the motor was bolted onto the chassis of the bike it could be considered, under German law, as a motor bike. On the other hand, in its actual form, on the road, the Flyke is nothing other than a bicycle carrying a motor on its carrier. This was confirmed by a German tribunal which annulled the fine given by an over-zealous policeman to a cyclist on a Flyke who was diligently pedalling along a main road.

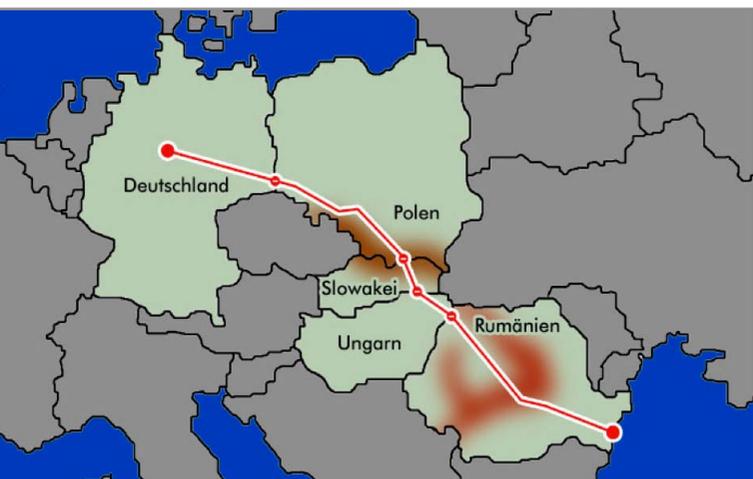
In bicycle mode, the paraglider folded up in its bag is stored behind the pilot's seat. There is even space for a few essentials for a long journey. The pilot pedals whilst gently leaning backwards, a position which is more efficient. One of the clever things about the Flyke is its steering, adapted for use on the road and for the constraints of take off and landing. On the road, the pilot uses a lever on his right; push forwards and the lever pivots the engine to the left, pull backwards and you turn right. The pilot helps the bike to turn by weight shifting. For take off, and whilst in flight, the steering is severely limited by a piece of elastic and the pilot doesn't touch the lever.

TO BE PROPELLED OR TO PEDAL?

Obviously, on the road, there is a great temptation to start the motor thus reducing the effort required, especially on the hills, but propulsion by propeller on a public road is forbidden in most European countries. In 2004, three friends showed the Flyke's capacity as a means of travel. They left Hanover and travelled across countries such as Poland and Romania to the edge of the Black Sea. During their 1650 km trip, when the three pilots couldn't fly due to bad weather, they continued by road, usually pedalling, but sometimes helped along by the motor in those countries which seemed a bit more flexible with the rules.

In Romania for example the police even encouraged our three friends by clapping when they saw them being propelled by their motors along the main road...

But be careful: The steering behaviour on the ground is such that, when travelling above a certain speed, without a canopy but propelled by the blades, the Flyke becomes very unstable, starts to weave about all by itself and can go over.



1650 km, by air and by road, without a support vehicle. Even ten years ago, three explorers proved that the Flyke could open the door to the travels of our dreams... The DVD, East West (in German and English), recounts their journey and is available from our partner THERMIK. Length 37 min + 19 bonus minutes. Price 23.95 euros.

http://shop.thermik.at/product_info.php?cPath=25&products_id=106

East Wind
Reise über den Horizont
Journey beyond the Horizon

Alle fliegenden Fahrer sind Schwarz. Meist Ein Dokumentarfilm über ein modernes Abenteuer von drei Freunden, die eine neue Art des Fliegens entdeckt: Zu Lande und in der Luft.

With flying boots as the Black Seal, documentary about a modern adventure of three friends discovering a new dimension of personal flying on the ground and in the air.



Crossing the border on a Flyke. Pedalling of course...
Photo : Till Middelhaue



Very practical, not only for long journeys, but also for short day long XC's. It's very easy to get to a petrol station from the landing field. It is equally possible to pedal to somewhere else if you can't take off again where you've landed out.
Photo : Till Middelhaue



One option which makes it more stable when it is being ridden and at takeoff, is a kit (600 euros approx) which increases the width of the back axle.
Photo : Fresh Breeze

THE DRAWBACKS

The Flyke could be the perfect means of transport, but we need to be aware of the negative aspects. Firstly, although it has passed the mandatory resistance tests for all ultralights in Germany, this flying bicycle is still relatively delicate and won't withstand heavy impacts during a bumpy landing. Secondly, the front wheel isn't used for steering during take off. Certainly if the paraglider comes up asymmetrically, the Flyke will automatically start a gentle turn to the lower side, but the trajectory is a little more random than with a traditional trike. It's off-putting but the pilot will get used to it.

Another point concerns the width of the back axle. The base of the machine is less stable and the Flyke can turn over more easily than a traditional trike.

Finally, the last complaint was that, despite its reasonable weight, the Flyke isn't really a small lightweight bicycle and, despite the recumbent position, which is great for efficient pedalling and economical on energy, you wouldn't do the Tour de France on a Flyke. It's pretty tiring up hill.

Fresh Breeze has found solutions for some of these problems. For a little over six hundred euros, the manufacturer can fit a wider rear axle, which can be reduced to the original width for use on cycle tracks.

For ascents in regions which are not flat, Fresh Breeze sells an alternative transmission option 'Mountain Drive', which doubles the number of gears from seven to fourteen.



1



2

1. A practical if costly accessory: A cockpit for instruments specially designed for the Flyke by an independent manufacturer: www.loescher.com. It marries perfectly with the tube above the front wheel, being fixed by a Velcro strap. Price 250 euros.
2. Here, we fixed the radio and the instruments as well as a phone onto the cockpit. Equally visible in this photo, another very useful accessory during long flights, the Caméléon throttle which is equipped with a cruise control, which allows the pilot to fix the power at the desired level. www.mycameleon.fr, Price 195 euros. In addition, the left control in this photo has been extended using the Rolconfort system <http://rpassion.free.fr>.
3. A safe box for the Flyke: Price 450 euros from www.loescher.com
4. You don't necessarily need to motorize a Flyke with a Fresh Breeze engine. With a bit of work we adapted an old Fly Products' motor to the flying bike...



3



4

TECHNICAL DATA

Length, width, height: 1836 x 1110 x 859 mm

Chassis: aluminium

Weight: 25 kg (without motor)

Engine: Virtually all Fresh Breeze engines. It is possible to adapt motors from other manufactures with a bit of DIY.

Pilot weight: 60 - 100 kg

Height of pilot: 160-195 cm, the distance from the pedals to the seat is adjustable.

Wheels: 20 inches

Bicycle transmission: 7 gears (Shimano hubs), option of 14 gears

Brakes: drum

Suspension: Elastomer

Approximate price: 3 166 € (without motor)

<http://www.fresh-breeze.de/en/home.html>

Dealer based in Switzerland

<http://www.pmswiss.ch>

FLYKE



Coming in to land after a beautiful flight on a flying bike...For landing you need to flare hard. Don't try to land travelling fast. The Flyke lands a bit like a foot launched paramotor.

The natural progression from Fresh Breeze's flying bike: The flying car. Mass production was initially meant to have started in the spring, but it will now take a few more months. Certain technical details are being reworked and, above all, the flying car will be streamlined as in the photo on the right. At least that leaves us time to save up: 60,000 euros for this machine, including the canopy.





Photo: Helmut Raffelsberger

SUMMARY

Over the last fourteen years, the Flyke has been a real success despite certain characteristics which are likely to discourage pilots who are beginning paramotoring with a trike. Lots of pilots, especially from Germanic countries, use it for long and short journeys, for a day or for a vol bivouac. If you intend to use a flying bike, above all ask the seller to fully brief you on the specific behaviour of this machine. If you bear in mind a few rules, the Flyke handles very well. ■



A helping hand? The assisted As are standard on the Flyke. It has lines which pull on the As to inflate without the pilot needing to do anything. Some Flyke pilots don't use them, preferring to pull on the risers by hand. Photo : Fresh Breeze



THE PARAVELO

This British project for a new flying bike concept started in 2013 in collaboration with Parajet. The founders tried to raise the finance necessary via the crowdfunding (the collection of finance from a large pool of backers) website Kickstarter.

Unfortunately, promises of funding by internet users only reached £9750 out of the £50,000 required. Despite the lack of funding having slowed down development, the team at XploreAir are still working on the project, and have been busy getting more TV and media coverage.

<http://xploreair.com>



The designers even thought of a customized tent for their flying bike, proof that vol bivouac was clearly part of the program.



But, above all, the concept was very different to the Flyke, being a four wheeled buggy which converts into a bicycle plus trailer after landing.

All photos: xploreair.com



1



THE TRIOSTAR

Shortly after the arrival of the Flyke, another German manufacturer, Parazoom, developed the Triostar trike, which is available with optional pedals...

1. The standard version of the Triostar, less flimsy than the Flyke...
2. ...motorized with a Briggs & Stratton two cylinder, four-stroke, 33 HP engine customized by ParaZoom. The whole thing weighs 85 kg. Price 11,999 euros.
3. With the bike option for 1,299 euros, the pilot can pedal to transform his machine on the road. In contrast to the Flyke, you still have control of the front wheel during take off, as with any standard trike.
<http://www.trio-star.de/cms/index.php?lang=de>





Tom in his Triostar optimised for travel.

1. LED tail light
2. Anti-collision strobe
3. Smoke generator
4. Front LED headlight
5. Extra 5 litre fuel tank.
6. Bag
7. Bicycle pedals
8. Bicycle handlebars
9. Transfer pump for the fuel tank

THE CUSTOMISED TRIOSTAR

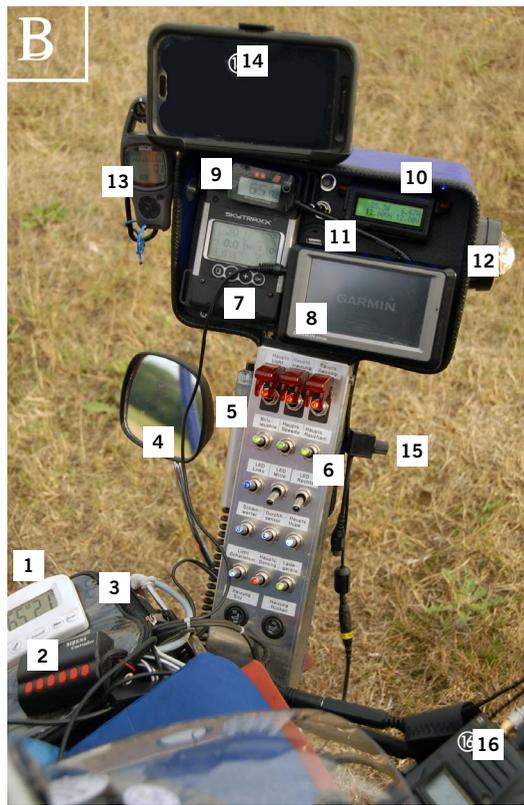
INSPECTOR GADGET'S FLYING BICYCLE

Thomas Bockholt, paramotoring enthusiast and friend of the manufacturer Jens Hicken, regularly uses his Triostar for vol bivouac. On rainy weekends he continues to transform his trike into a highly equipped aircraft. Here are some technical details...

By Günther Böcksteiner

B: Cockpit

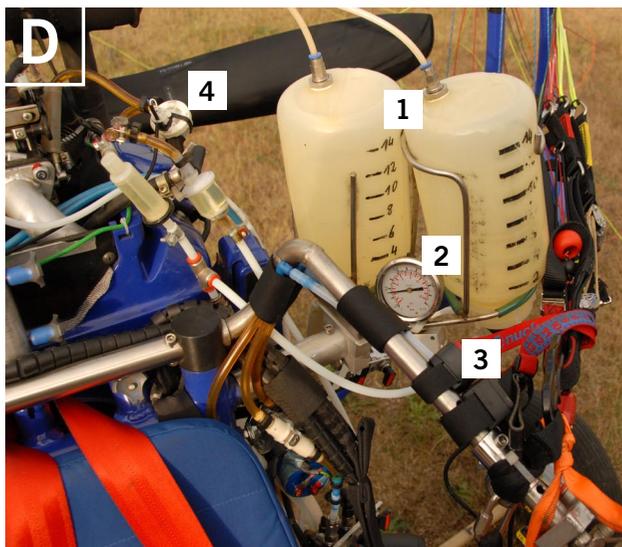
1. Chronometer
2. Multi tone horn
3. Bag
4. Rear view mirror
5. Smoke generator control
6. Electronic control panel
7. Skytraxx instrument (backup GPS)
8. Primary GPS Garmin Aera 500 (with mapping and MP3 player)
9. Oil temperature gauge
10. Voltage and current indicator
11. USB sockets
12. Front bike lighting
13. Air speed indicator
14. Smartphone (backup GPS)
15. Temperature regulator for heated clothes
16. Radio



C: The electronics control panel in detail, everything is correctly labelled...

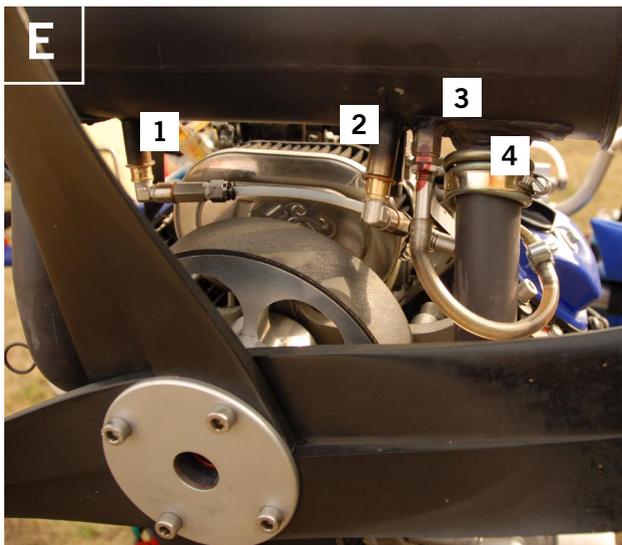
D: The sophisticated fuel system

1. Competition fuel tanks (2x2 litres with gauge showing time left)
2. Fuel pressure indicator
3. PTT radio button.
4. Fuel flow sensor



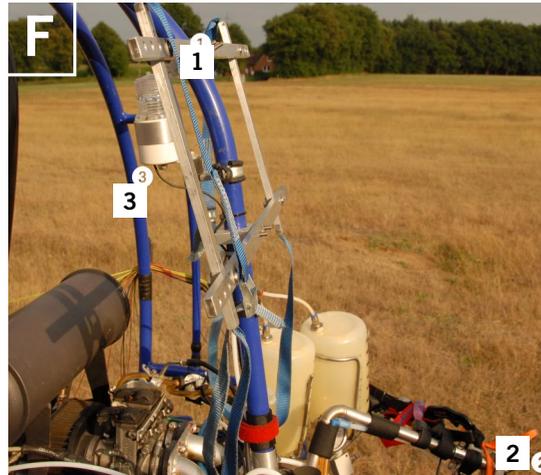
E: For special effects, the smoke system

1. Left smoke oil injector
2. Right smoke oil injector
3. Additional injector
4. Smoke oil pre-heater



F: For camping

1. Canopy attachment in bicycle mode
2. Bottle opener
3. Anti-collision strobe



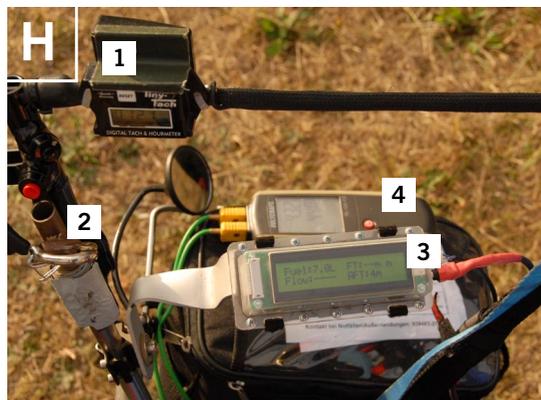
G: Motor warning lights and travel enhancement

1. Exhaust temperature gauge
2. Fuel flow gauge
3. Rear view mirror
4. Navigation light and anti collision strobe
5. Camping bag (tent, sleeping mat, sleeping bag, stove)
6. Mirror to see the level of the fuel tank
7. Helmet with Sennheiser noise cancelling system and MP3 player
8. GoPro
9. Vertex FTA230 radio



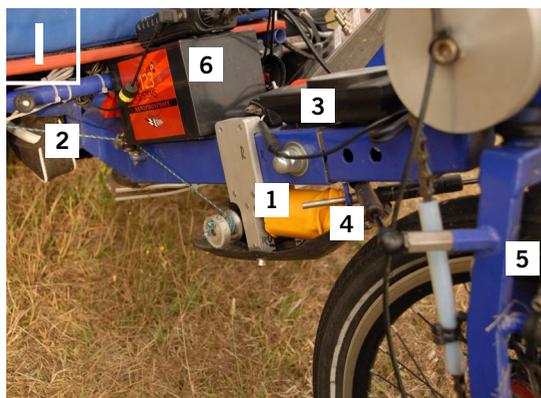
H: Other details

1. Tiny Tach rev counter
2. Hook for anti torque strap
3. Flow meter
4. EGT (exhaust temperature left and right)



I: Other more or less useful details

1. Acceleration system activated by an electric motor
2. Tool kit
3. Air temperature
4. Steering shock absorber
5. Backup brake system
6. Backup battery





On the road, the frame for the paraglider bag allows the glider to be attached to the cage. The frame is detachable and turns into a camping chair. A big bag for camping equipment. Price 139 Euro, www.parazoom.de





The all important bottle opener so you can enjoy a beer after landing...



The bivouac has been put up for the night and Tom and Jens haven't had to give up all their home comforts...



Air Navigation

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WERE TO STAY

A few ideas for portable shelters for vol bivouac...



Oscar Mistri who works for Polini has designed an ultra light tent (380g) which uses the cage of the paramotor as a frame.

Price: 120 euros

www.xgeneration.beepworld.it

Why not a simple tarpaulin for summer trips?

Photo : Franck Simonnet

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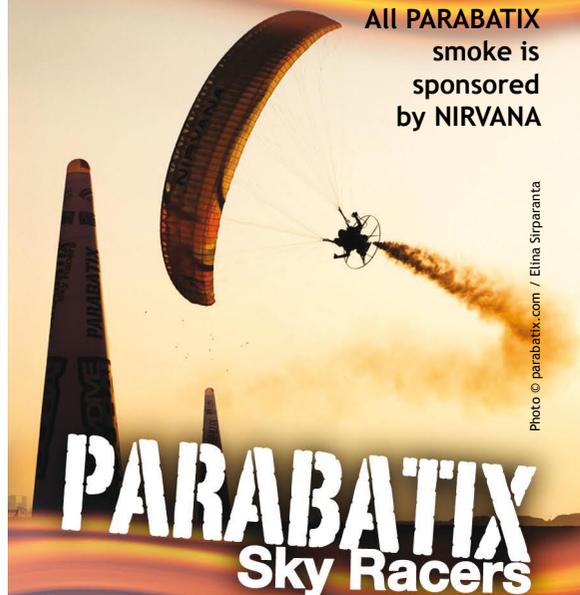


Photo © parabatix.com / Elina Sijparanta

PARABATIX Sky Racers

SMOKE SYSTEM FOR PARAMOTORS BY NIRVANA



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The company Ripair based at Talloiries, near Annecy, developed a lightweight tent specially designed for hike and fly by paraglider. Unfortunately, it is no longer available but Phiphi promises that a new version will be out soon.
www.ripair.fr



Here's an interesting solution, Thomas Heil put together a tent using the motor and the hoop of his Miniplane...



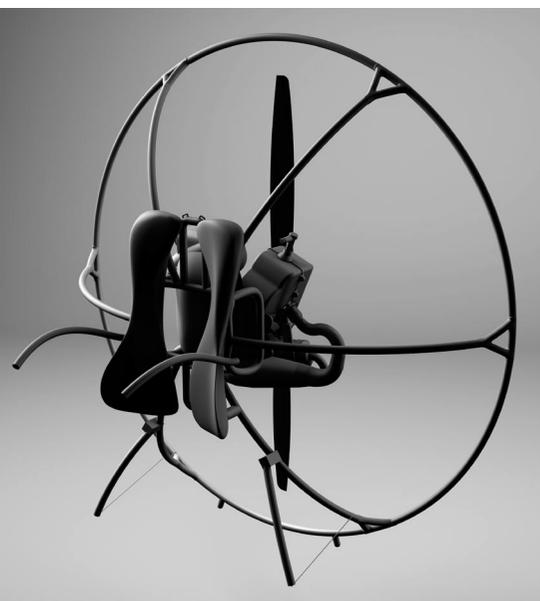
The same pilot had already discovered an effortless technique for transporting his equipment along the road; a belt connects the shaft of the motor to a wheel on the ground. This way, the pilot has a paramotor which transports itself, looking a bit like a motor mower...

THE LIGHTER THE BETTER

Paramotor equipment is getting lighter and lighter, but the idea isn't that new...



1. At the end of the 1990s, an Austrian manufacturer produced a paramotor which weighed less than 15 kg, based on a Husqvarna chainsaw motor. Dismantled, it takes up very little space.
2. You could easily separate the motor from the fuel tank...
3. ...which was made up of a simple plastic pouch which looked very similar to an intravenous drip bag...



On their new travelling motor, due to come out this year, Fresh Breeze are going to work with similar flexible reservoirs. A big advantage when travelling by plane, is that you can take a new pouch with you, which you then leave behind after your trip, ensuring fewer problems getting on the plane... (although officially, any type of motor, once it has turned, even just for a minute, is considered dangerous and can't travel in the hold of a passenger airline).



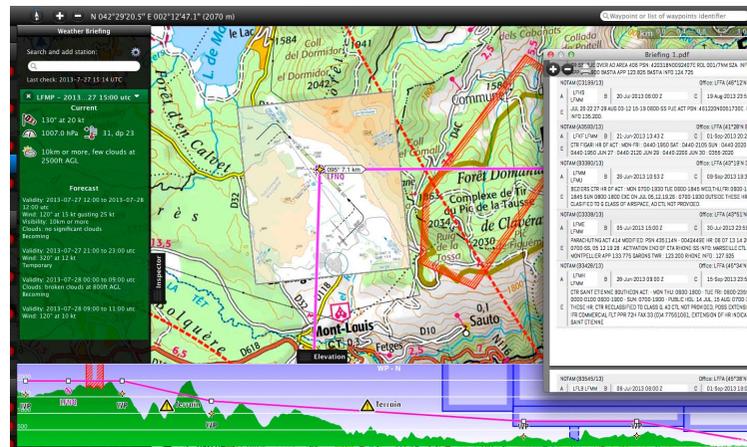
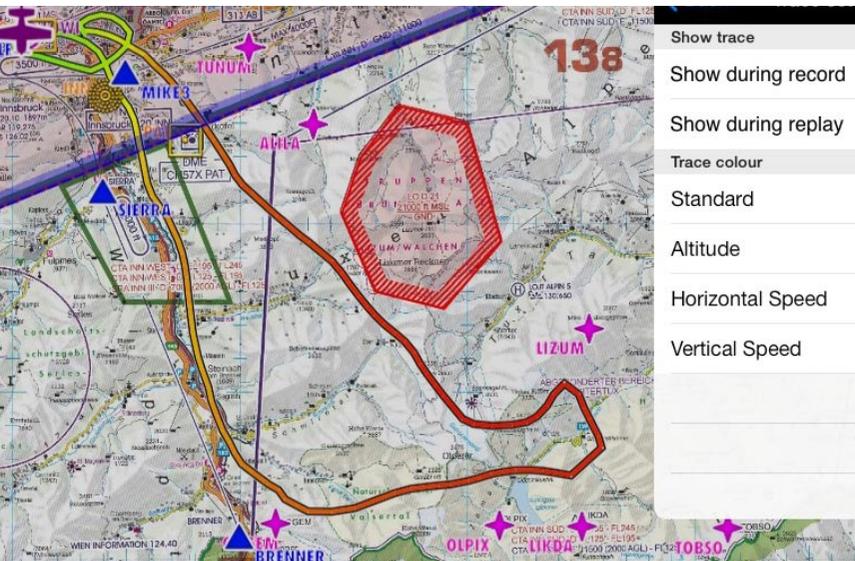
Simple but effective: Increasing the autonomy of a paramotor with an extra jerry can attached to the chassis...
Photo : Philippe Devanne



Here's a good example of how it's possible to make modern paramotors lighter. The cage on the Flyproduct's Rider series has only one hoop, and the rods are made of carbon fibre which is a very light material, but strong nevertheless. We tested a version using Vittorazi's Moster, which weighs 23kg. The Rider is also available with a Top 80 motor, this version brings the paramotor weight down to 20 kg. Yet compared to a Miniplane, the cage is much more stable. On a lot of machines like Flyproduct's Rider range, it is now possible to quickly remove the fuel tanks by undoing the Velcro strap. Thus, the pilot can go off to the nearest petrol station more easily...



ELECTRONIC MAPPING



Left: An improvement in Air Nav Pro is that the track log is coloured according to altitude or speed. Above: After comfortably planning your route on Air Nav for Mac, you can transfer it onto an iPad or iPhone.



ASI's Flynet 2 and Flytec's Sensbox are compatible with the app Air Nav Pro and give it an accurate variometer.

www.asinstrument.ch

Just out, the Flytec 7000 can display airspace and topographical maps on its touch-sensitive screen.



During a flight on a paramotor, it is important to know where you are on the map. There are lots of applications for smartphones and tablets which you can easily use in the air to see precisely where you are on an air map (for airspace) or topographic map (if you are just touring, amongst other things). One of the most successful applications is without doubt Air Nav Pro for the iPhone/iPad (44 euros) or Android (20 euros). It also exists for OS X (Mac) for 40 euros. This latter solution isn't really intended to be taken flying but it is very good for planning a flight on the big screen of a MacBook for example. Then the routes chosen can be synchronised with the application Air Nav Pro on an iPhone or on an iPad which can be taken flying. Airspace information which is available free, (and you only need to download it once before the flight), adapts well to our needs – and is displayed on the map of your choice. For this, it is possible to obtain IGN 1:100000 maps of France. You can combine the application with the vario ASI Flynet 2 (simple Bluetooth) or with Flytec's Sensbox (Bluetooth LE, starting from the iPhone 4S or the iPad 2). The smartphone or tablet are thus transformed into stand-alone flying instruments with, in addition, nice big touch sensitive screens...

New amongst other things in the Air Nav Pro application is the ability to record the flight track and display it on the screen, live or as a replay, with four colour modes; the track can stay in black and white, or the colour can change according to altitude, horizontal speed or climb/sink rate.

Another improvement is that, if the pilot goes off the flight plan initially envisaged, it is now possible to quickly modify it taking account of his current position. This is very useful for the rest of us paramotor pilots who rarely respect precise flight plans.

www.xample.ch

THE MAPPING ON THE NEW FLYTEC

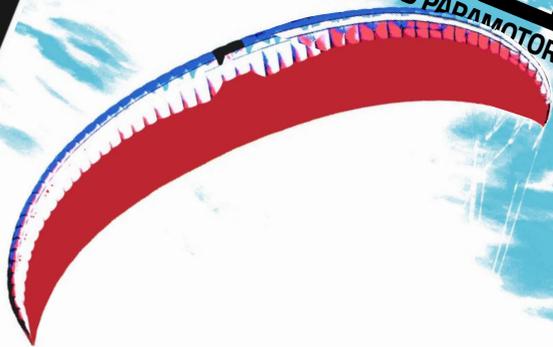
On the touch screens of the new instruments in the Flytec 7000 series, it will also be possible to show airspace maps as well as topographical maps (which you will be able to download from the Flytec server). Nonetheless, the instrument will be equally compatible with Air Nav Pro, transmitting the precise values from the barometric sensor to the vario function of the Air Nav Pro.

We are looking forward to testing this new instrument and to introducing it in detail on the pages of **FREE.AERO**

<http://www.flytec.ch/en/products.html>

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