



**Accident** to the paramotor  
identified **26AKA**  
on 1 September 2023  
near Ribérac-Tourette aerodrome

<b>Time</b>	Around 18:50 <sup>1</sup>
<b>Operator</b>	Private
<b>Type of flight</b>	Local
<b>Persons on board</b>	Pilot
<b>Consequences and damage</b>	Pilot fatally injured, paramotor damaged

This is a courtesy translation by the BEA of the Final Report on the Safety Investigation. As accurate as the translation may be, the original text in French is the work of reference.

## Loss of control in flight, line twisting, collision with ground

### 1 HISTORY OF THE FLIGHT

*Note: the following information is principally based on the computers used by the pilot of the paramotor and the passenger in the class 6 microlight (helicopter), as well as the video recorded by the onboard Gopro camera taken by the pilot of the paramotor.*

The pilot installed a personal windsock at the paramotor strip<sup>2</sup>, located to the south of runway 05-23 at Ribérac aerodrome.

He placed the wing of his paramotor on the take-off area and then moved it several times. He delayed take-off because of a turbulent wind coming from the south-west, according to witnesses on the ground.

In preparation for take-off, the wing inflated and deviated to the left<sup>3</sup>. After setting the wing straight, the pilot then ran south-west towards trees located on the edge of the aerodrome. He made a “figure-of-eight” manoeuvre, starting from the left at low height before returning to line up parallel to the runway centreline. He then announced that he was leaving the frequency for a local flight. One of the witnesses on the ground clearly heard an increase in engine speed, but did not notice any significant increase in altitude. When the paramotor was at a height of approximately 40 m, the witnesses saw the wing twist and then fall in rotation towards the ground.

<sup>1</sup> Except where otherwise indicated, the times in this report are in local time.

<sup>2</sup> The strip location is indicated on [the VAC chart](#).

<sup>3</sup> In relation to an east-west take-off path, parallel to runway 23.



Figure 1: estimated path  
(Map source: IGN)

## 2 ADDITIONAL INFORMATION

### 2.1 Site and wreckage information

The accident site was located on a cultivated hill, approximately 200 m south of the end of runway 23 at Ribérac. The wing was intact and its lines were entangled. The trims were set in a position compatible with take-off.

### 2.2 Meteorological information

Ribérac-Tourette restricted-use aerodrome is not equipped with meteorological measuring equipment. The conditions observed at the neighbouring aerodromes at the time of the accident were:

- a calm surface wind;
- visibility and ceiling: CAVOK;
- temperature 18°C;
- QNH 1 012 hPa.

Witnesses at the aerodrome reported that the wind was around 5 kt at ground level and was blowing from the south-south-west. According to them, the wind was probably turbulent in flight because of possible thermals.

## **2.3 Pilot information**

The 59-year-old pilot held a microlight pilot certificate issued in February 2016. The investigation was unable to determine his total number of flight hours.

The members of the Jean Mermoz flying club (based at the aerodrome), who knew the pilot, described him as experienced and careful.

## **2.4 Wing information**

The pilot used two different wings: a Flex-one 28 (P) wing manufactured by Adventure, which he was using up to the accident flight, and a Spyder 26 wing manufactured by Ozone Power LTD, which he had just bought and was using during the accident flight.

The flat surface area of this wing is 26 m<sup>2</sup>. It is equipped with trims. When the trims are fully pulled down, the wing is in neutral position. This position is particularly suitable for climbing, flying in thermals and flying in turbulent conditions. The trims are released for acceleration.

The section on limitations in the wing's manual recommends carrying a weight between 80 and 140 kg.

The experts consulted by the BEA considered this wing to be a high-performance wing suitable for experienced pilots.

## **2.5 Statements**

### **2.5.1 Pilot of the class 6 microlight helicopter manoeuvring at the aerodrome**

The pilot of a microlight helicopter, who was performing a work session in ground effect, stated that he heard the pilot of the paramotor announce that he was at take-off. He saw the wing fall while he was in the parking area. He switched off the engine and then, after returning to his vehicle, drove to the accident site to try to help the paramotor pilot.

He specified that the wind, although light, was turbulent and that there were uplifts. He specified that during the landing he had made shortly before, he and his passenger had been shaken about.

He added that before the flight, the pilot of the paramotor told him that he was waiting for the weather conditions to improve before taking off.

### **2.5.2 Witness on the ground near the model aircraft hangar**

The witness saw the pilot move to the left in relation to the centreline of runway 23 and attempt a manoeuvre to the right, before finally turning left and making a turn-around close to the model aircraft runway. The witness explained that the pilot was probably trying to gain height and avoid the trees located on the south-western edge of the facilities.

He added that the wind was turbulent.

### 2.5.3 Witness on the ground near the flying club

The witness, who is also a paramotor pilot, saw the paramotor climb towards the hill after take-off. The wing was correctly inflated. After three seconds, he saw the wing close in the middle, the paramotor deviate to one side, and then heard the engine speed increase. The paramotor fell making approximately four spins. The pilot then reduced the engine power. The witness estimated that at this stage, the paramotor was at a height of approximately 50 m.

## 2.6 Read-out of recordings

### 2.6.1 Camera attached to the helmet of the paramotor pilot

Two successive videos could be retrieved. The first film covered the wing preparation, the take-off and then a circuit at low height making a left turn, and ended with the paramotor flying overhead the take-off area facing west. This film, lasting 8 minutes and 17 seconds, showed the microlight helicopter on the ground approximately 40 seconds after the paramotor pilot's take-off run.

The second film, lasting 60 seconds, started immediately after the previous film ended, and stopped when the paramotor collided with the ground.

It allowed the following to be observed, in chronological order:

- the trims were set in a position compatible with take-off;
- the pilot's left hand held the left control handle as well as the throttle lever, which was activated;
- the left control was pulled in low position until the end of the flight; the pilot's right hand did not hold the right control;
- the loss of control while turning left was sudden. The pilot was centrifuged. His right hand grabbed the left riser (without it being possible to establish a reason for this); the right lines wrapped around the left lines, which remained taut: they were "twisted". The wing, when visible in the camera's range, remained inflated;
- the paramotor made six left spins before colliding with the ground. The left riser was about 20 cm higher than the right riser, although the right lines were wrapped around the left lines;
- the pilot was not looking at the wing, his attention was drawn to the left handle; the throttle lever was released;
- there was no attempt by the pilot to move the risers apart so as to slow down and reverse the line twist.

### 2.6.2 GNSS computer on board the microlight helicopter

The pilot of the microlight helicopter was carrying out a training flight with a passenger. At 18:45, he took off from runway 23 for a left-hand, low-height (500 ft) aerodrome circuit and flew overhead the main runway before making a new circuit at 600 ft. He landed at 18:52:03 and hover taxied to the parking area, where he performed a ground work session for a few minutes before coming to a stop at 18:57.

On two occasions - the first at 18:46 (height 400 ft) and the second at 18:49:35 (height 500 ft) - the helicopter followed a path that was approximately 500 m south-south-west of the path that was later followed by the paramotor.

At the earliest, the pilot of the paramotor took off at 18:52:10, i.e. approximately 2 minutes and 35 seconds after the microlight helicopter flew overhead the runway.

Given the wind conditions described by the witnesses, the weight of the microlight helicopter and the time which elapsed between the two aircraft flying overhead the runway, it is unlikely that the turbulence generated by the microlight helicopter affected the paramotor's loss of control.

### 3 CONCLUSIONS

*The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation. They are not intended to apportion blame or liability.*

#### **Scenario**

The pilot took off and was then carried to the left of the take-off axis. He made a low-height U-turn, probably to avoid obstacles, and returned to the take-off direction, reaching a height of approximately 50 m. The wing's lines then twisted to the left, without the pilot being able to slow the rotation or attempting to use the risers or the right control.

#### **Contributing factors**

The following factors may have contributed to the pilot losing control of the wing:

- the pilot's lack of experience in flying a high-performance wing in turbulent air conditions;
- the fact that he was not holding the right control when the lines started to twist. The centrifugal force to which the pilot was instantly exposed prevented him from repositioning his hand and moving the risers apart.

***The BEA investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liabilities.***