

Accident to the AVIAKIT Vega 912 T identified 84FK

on 15 August 2020

at Saint-Martin-de-Londres (Hérault)

⁽¹⁾ Except where otherwise indicated, the times in this report are in local time.

Time	Around 09:00 ⁽¹⁾
Operator	Private
Type of flight	Cross-country
Persons on board	Pilot and one passenger
Consequences and damage	Pilot and passenger fatally injured, microlight destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in April 2021. As accurate as the translation may be, the original text in French is the work of reference.	

Collision with vegetation during a low pass, loss of control, collision with the ground

1 - HISTORY OF THE FLIGHT

Note: the following information is principally based on statements.

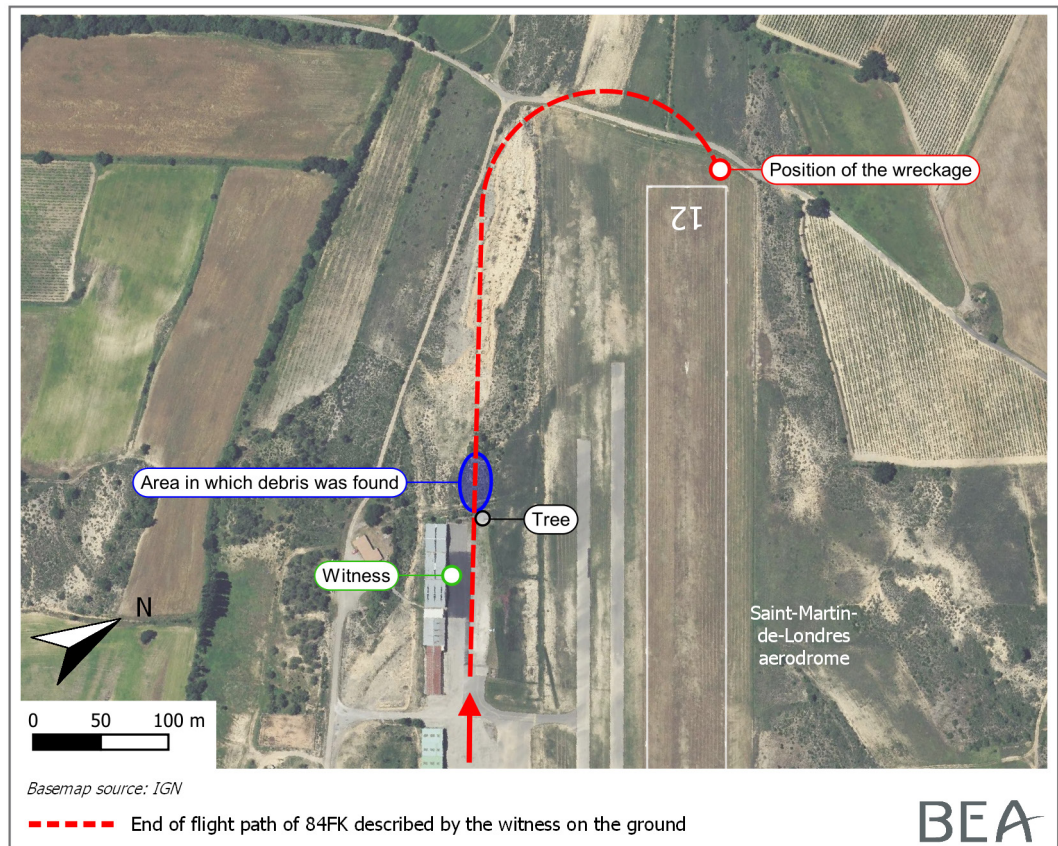
The pilot, accompanied by his partner, took off from the microlight strip at Saint-Drézéry (Hérault) bound for the microlight strip at Villefranche-de-Panat (Aveyron) at around 08:45. The flight was coordinated with the pilot of a second microlight that took off shortly after.

The route took them close to Saint-Martin-de-Londres aerodrome (Hérault) where the *Centre de Vol à Voile Montpellier Pic Saint Loup* gliding centre, where the pilot of 84FK was a member, is based. The pilot of the second microlight stated that, during the flight, the pilot of 84FK had informed him via radio of his intention to fly over the aerodrome.

A witness on the ground, who had been opening the doors on the runway side of a hangar at the aerodrome, saw 84FK fly over at a height that he estimated to be between 5 and 15 m, coming from the east, on a path parallel to the runway and over the paved apron in front of the hangars (see [illustration](#)).

As it was flying between the hangars and a tree, the microlight hit the tree with its right wing. A section of the wing broke off. After the collision with the tree, the witness saw the microlight adopt a nose-up attitude and gain altitude before turning right after reaching a height of around 50 m. During the right turn, when the microlight's path was in the direction of the centreline of runway 12, the witness saw the microlight tilt onto its right side and fall with a path that he estimated to be, from where he was standing, in a spin and practically vertical.

The microlight collided with the ground near the threshold of runway 12 and caught fire.



End of the path

2 - ADDITIONAL INFORMATION

2.1 Aeronautical experience of the persons on board

Note: The two persons on board the microlight held a microlight pilot licence. The investigation was unable to establish with certainty who had control of the microlight at the time of the accident. The pilot of the second microlight, who knew the two persons on board 84FK, thought that the pilot flying was the owner of the microlight, given the type of manoeuvre made that day.

The first occupant of the microlight was its owner. He had purchased it in September 2019. The 62-year-old owner held a microlight pilot licence issued in 2008, as well as fixed wing microlight, ultralight gyroplane, passenger transport and fixed wing microlight instructor ratings.

He also held a sailplane pilot licence (SPL) issued in 2008, and an aerobatic rating. He flew gliders at the *Centre de Vol à Voile Montpellier Pic Saint Loup*, based at Saint-Martin-de-Londres aerodrome. He was a member of the club's Prevention and Safety Committee.

The second occupant of the microlight was the partner of the first occupant. Aged 55, she held a microlight pilot licence issued in 2017, along with a fixed wing rating.

It was not possible to determine the total number of flight hours logged by both occupants of the microlight.

2.2 Examinations on site

Parts corresponding to a section of the microlight wing were found in the axis of the flight path described by the witness on the ground, approximately 15 m from the tree (see [illustration](#)). The debris found included a section of fabric from the lower surface marked with the microlight's identification number.

A branch on the tree was found to be broken off at a height of around 10 m.

The distance between the tree and the hangar was estimated to be 22 m. The tree was 120 m from the edge of the runway.

The wreckage was not dispersed. The wreckage was almost entirely burned.

2.3 Meteorological information

At the time of the accident, the meteorological conditions in the region were those of a barometric swamp with a light wind at ground level.

The conditions estimated at the accident site were a light northeasterly wind below 5 kt, CAVOK.

The sun was three quarters behind the microlight when it was heading north-west to Saint-Martin-de-Londres aerodrome.

2.4 Communication and radar recordings

The microlight was equipped with a transponder. Its path was detected and recorded by the radars in the region. However, the manoeuvres near Saint-Martin-de-Londres aerodrome were out of the radar's range and therefore not recorded. The last point detected at 08:59 was at *Col de Fambetou*, approximately 2 km from the aerodrome, at an altitude of 900 ft, i.e. a height of approximately 80 m.

No radio communication pertaining to the accident flight was recorded by the FIS systems in the region. The Saint-Martin-de-Londres A/A frequency was not recorded.

2.5 Statements

The pilot of the second microlight was surprised by the fact that the pilot of 84FK flying ahead of him did not fly over the runway. He did not see the collision with the tree but saw the microlight enter a right turn. He estimated that the turn was very sharp and that the microlight had a bank angle of nearly 90°. According to him, the microlight was at a height of 20 to 30 m during the turn when it entered a snap roll towards the ground. He thought that the pilot of 84FK had decided to land on runway 12 following the collision with the tree.

The witness on the ground stated that the noise of the microlight's engine had seemed normal during the sequence of events and he did not note any specific noise that would indicate a loss of power.

2.6 Study of similar occurrences

The BEA contributed to the Aviation Safety Report 2018⁽²⁾ published by the DGAC along with a study on risk-taking in light aviation during the execution of dangerous manoeuvres not necessary for normal flight.

The findings of the study covering the period from 2004 to 2018 established that, in France, taking all categories of aircraft together, the BEA had recorded at least 120 accidents which occurred during unnecessary manoeuvres for normal flight management, denoting clear risk taking by the pilot. At least 70 of these accidents had caused the death of 120 people, i.e. 13.5 % of light aircraft fatalities over the period.

The study identified a number of factors contributing to the taking of risks, including:

- level of risk awareness for a pilot in a given situation;
- level of knowledge and the capacity to understand and anticipate a risk situation;
- deformation of the risk awareness due to deterioration in health, fatigue or the effects of psychoactive substances;
- the desire to 'put on a show' for people on the ground or for the passenger;
- thrill seeking.

The study's conclusion suggested adapting some of the risk management processes applicable to commercial aviation, such as TEM (Threat and Error Management), to light aviation. The systematic taking into account of threats and errors could result in pilots making a better assessment of their safety margins, in particular when they are about to expose themselves to flight situations such as flying at low height.

The study also reiterated that, in all cases, most of the established rules are in place to reinforce the safety margins and that no pilot should disregard them.

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

During a cross-country flight bound for Villefranche-de-Panat microlight strip, the microlight pilot decided to fly over Saint-Martin-de-Londres aerodrome at low height. He knew this aerodrome well as he flew gliders there. He chose to take a path in the immediate vicinity of the hangars and any people present on the ground. During this manoeuvre, the right wing of his microlight collided with a tree and a section of the wing broke off. The pilot probably attempted to land on runway 12. During the right turn, the pilot lost control of the microlight, which hit the ground near the runway threshold.

The straight, climbing section of the flight path seemed to indicate that the pilot was still controlling the microlight.

It was not possible to determine if the loss of control was associated with a steep bank turn to come back to the runway, to a deterioration in the microlight's aerodynamic properties caused by loss of the right aileron and a section of the wing or to the combination of both of these elements.

Safety lessons

Low-height flyovers can be compared to manoeuvres such as a touch-and-go or a low height go-around. This can result in the pilot underestimating the risk and provide a false sense of safety to some pilots, in particular experienced pilots.

Outside risk-taking situations such as those pertaining to the occurrence, low-height manoeuvres imply a significant reduction in the safety margins due to a closer proximity to identified or unidentified obstacles, and less time available to react to an unanticipated event during the manoeuvre.