



Accident to the JMB AIRCRAFT VL3
identified **88PP**
on 16 October 2021
at Beaune-Challanges aerodrome

Time	Around 18:15 ¹
Operator	Private
Type of flight	Local
Persons on board	Pilot, 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. As accurate as the translation may be, the original text in French is the work of reference.	

Loss of control in initial climb, collision with ground

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements.

The pilot and passenger got ready for a local flight on board a flex-wing microlight belonging to the Beaune-Challanges aerodrome flight training school. On the arrival of another member of the club, realising that the flex-wing microlight had already been reserved by the latter, the pilot decided, in agreement with the passenger, to use the VL3 which he owned.

Several witnesses indicated that at the end of the take-off on runway 02², the microlight climbed steeply and then stalled shortly after passing over the end of the runway.

The witnesses reported movements similar to a left-hand spin. The microlight collided flat with the ground and caught fire. Witnesses at the aerodrome immediately tried to intervene, but, due to the intense flames, were unable to assist the two occupants. Several explosions followed, one of which was very loud. The latter was accompanied by the projection of the airframe parachute rocket which came to a stop at around 300 m from the wreckage in a neighbouring field outside the perimeter of the aerodrome.

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

² The paved runway measures 910 X 30 m.

2 ADDITIONAL INFORMATION

2.1 Site and wreckage information

The wreckage was located in a field of low crops located on the axis of runway 02³ of Beaune-Challenges aerodrome. It was around 315 m from the end of runway 02, offset to the left of the runway centreline by around 120 m (see **Figure 1**).

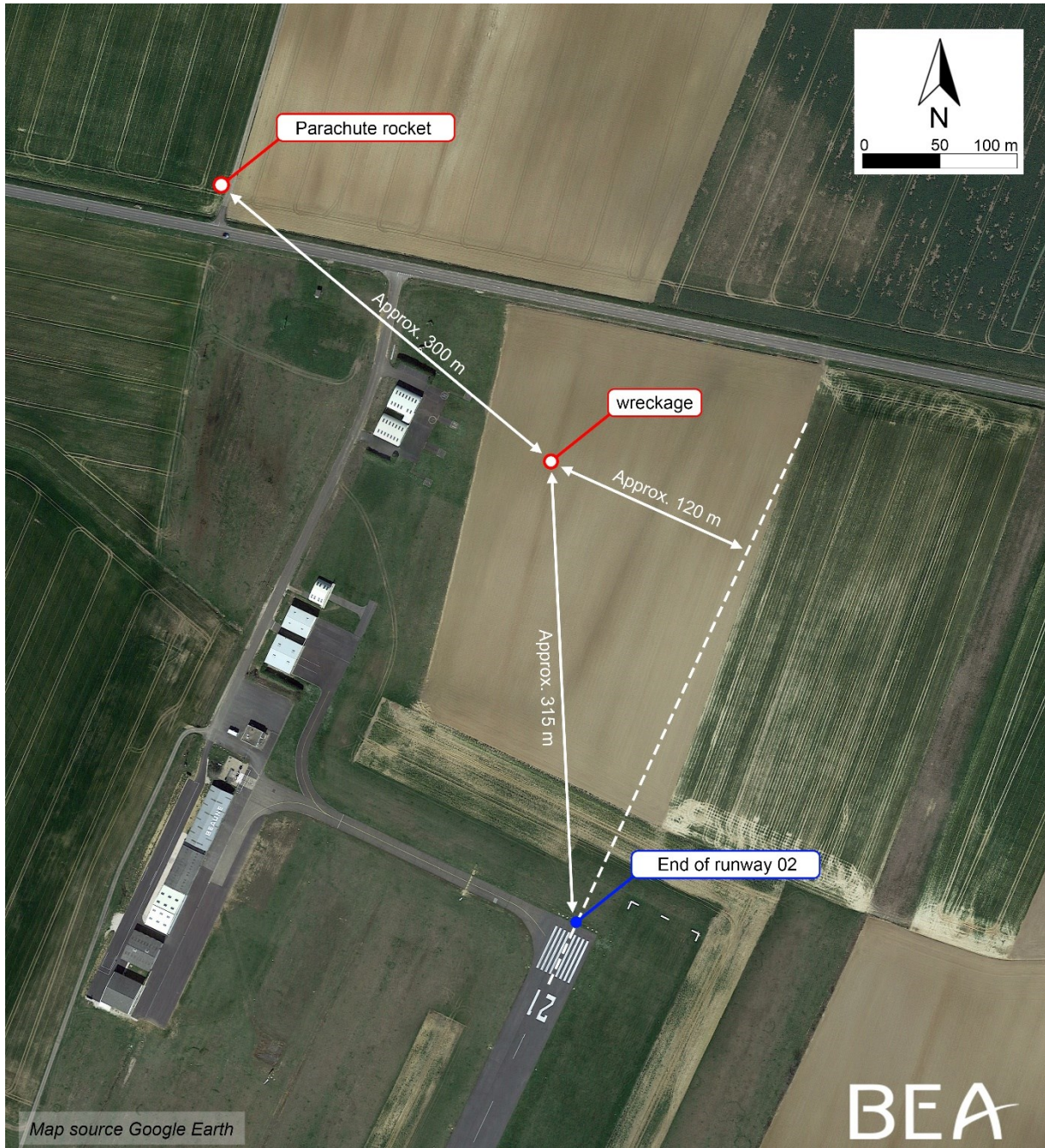


Figure 1: overview of site

³ The VAC chart dated 17 June 2021 in force at the time of the accident indicated runway 02/20. However, the runway marking indicated 03/21.

The wreckage of the microlight was complete and grouped together. It was lying on its belly on a 073° heading. It was almost completely consumed by the post-impact fire.

The examination of the site and the deformations of the wreckage made it possible to conclude that the underside of the microlight struck the ground almost flat, and that the microlight did not bounce. The landing gear and flaps were retracted and the engine was operating at the time of the collision with the ground. Despite the fire, the continuity of the controls of the three axes of the microlight could be confirmed.

The airframe parachute rocket was found at around 300 m north-west of the wreckage. The parachute activation handle was still in its housing. The activation of the rocket was the result of the fire and not a deliberate action by the pilot or passenger.



Figure 2: photo of parachute rocket (source: BEA)

The damage to the onboard equipment and the mobile phones of the occupants was such that they could not be read out and no data was recovered.

2.2 Meteorological information

According to the French met office, Météo-France, the weather conditions at the accident site at 18:00 were the following:

- CAVOK;
- wind from 060° at 5 kt, without turbulence;
- temperature 17°C, dew point 7°C;
- QNH 1020 hPa.

2.3 Occupant information

2.3.1 Pilot

The 58-year-old pilot held a valid aeroplane Private Pilot Licence (PPL(A)) along with a valid SEP rating. His logbook was not found. For the revalidation of his licence in March 2021, the pilot declared a total experience of 172 aeroplane flight hours and having flown 16 h in the last 12 months including 9 h as pilot-in-command.

He held a microlight pilot certificate with the fixed-wing and flex-wing ratings. He started class 6 microlight helicopter training five months before the accident. The investigation was unable to determine the number of microlight flight hours he had performed. However, it was stated that he flew his VL3 on a very regular basis since its acquisition in 2017.

He had learnt to fly aeroplanes in the 1980s at the Beaune flying club. He spent numerous years in this association before suspending his flying activity, to then take it up again after a long break, by flying microlights. He had been president of the microlight flight training school but left this post a few months before the accident.

2.3.2 Passenger

The 65-year-old passenger was following fixed-wing microlight training in the flight training school where the pilot was a member. She had not yet been authorised to carry out solo flights but had successfully passed the theoretical part of the microlight certificate. She regularly flew as a passenger. This was not her first flight with the pilot.

2.3.3 Medical and pathological information

The autopsy performed on the pilot's body revealed that he had a diffuse coronary artery disease. The information collected during the investigation did not show any specific monitoring of the pilot for this disease. It is possible that the pilot was not aware of it.

Coronary artery disease, or coronary insufficiency, is characterised by a narrowing of the coronary arteries. The proportion of this disease in the population increases with age, and it can appear before the age of 50⁴. When it can be detected from symptoms or screening tests, it is commonly treated by the control of cardiovascular risk factors and anti-clot drugs with or without the use of stents. The pilot can usually retain or regain the prerogatives of his licence. Coronary artery disease may, however, remain asymptomatic and go completely unnoticed due to the progressive nature of the deterioration of the coronary artery system.

Particular phases of flight, such as the take-off, which place increased demands on the body (leading to the secretion of adrenaline), are likely to accelerate ventilation and the heart rate. Faced with this extra workload, the heart muscle may malfunction because of insufficient irrigation of the coronary arteries due to them being made narrower by arteriosclerosis and/or clot formation.

2.4 Microlight information

The VL3 is a fixed-wing, composite microlight. 88PP was fitted with a Rotax 912 ULS engine with a variable-pitch propeller, flaps and a retractable landing gear. It was equipped with an airframe parachute.

2.5 Statements

2.5.1 Persons present close to the accident

The passenger of the flex-wing microlight, the aircraft that the pilot had initially planned to fly, stated that despite the change of aircraft, the owner of the VL3 had shown no signs of being annoyed. He did state, however, that he had been surprised by the rapidity with which the fixed-wing microlight had left the apron. While the pilot of the flex-wing microlight carried out the pre-

⁴ [Accident to the Stampe SV4 registered F-PTTL on 4 July 2020 at Marcé.](#)

flight inspection, this passenger was sat in the rear of this microlight from where he had a very good view of the take-off of the VL3. He estimated that the microlight reached a height of around 100 m before entering a left-hand spin. He specified that he did not hear an explosion but saw the aircraft immediately burst into flames on colliding with the ground. After what he thought was five minutes, he heard, without seeing, the airframe parachute rocket. The sound was familiar to him due to his past military career.

A pilot who had seen the microlight take-off and the end of the climb, stated that in his opinion, the engine was operating up to the collision with the ground. He thought that the microlight had reached a height of between 200 and 300 m.

2.5.2 Instructor of SEP revalidation flight

This instructor stated that the pilot regularly offered to accompany him on board his microlight, mainly during cross-country flights. He had known the pilot for nearly 40 years as he had been an instructor at the Beaune flying club where the pilot had been a trainee. In his opinion, it was very unlikely that the pilot had left the controls to his passenger.

3 CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation.

Scenario

Following a sudden change of microlight, the pilot and passenger boarded the pilot's VL3 in order to carry out a local pleasure flight.

During the initial climb, the microlight adopted a steep nose-up attitude until a loss of control and the start of a left-hand spin. Given the low height that had been reached, the pilot could not recover control of the microlight before the collision with the ground. The microlight then burst into flames causing the activation of the airframe parachute pyrotechnic device.

The investigation was unable to determine why the microlight took a steep nose-up attitude nor why the pilot did not let the stick move forward in time to maintain an angle of attack that was compatible with the flight.

It is possible that the attitude taken was the result of an uncontrolled manoeuvre or a pilot incapacitation linked to the presence of a heart disease. Furthermore, the investigation was not able to exclude the possibility of a technical malfunction.

Safety lessons

Piloting and coronary artery disease

In the event of a diagnosed coronary artery disease, pilots should be aware that they run an increased risk of incapacitation, particularly when subjected to stressful conditions, hypoxia or accelerations.

In the absence of a diagnosis, the insidious nature of coronary artery disease and some of its risk factors such as high blood pressure and diabetes should lead all pilots to be particularly attentive to any warning signs and, failing that, to actively check for this disease, particularly from the age

of 40 onwards. This precaution is all the more important if the pilot carries passengers or engages in aerobatic activities or activities involving third parties, such as instruction, towing gliders, parachute drops and any form of aerial work.

Risks associated with the untimely activation of an airframe parachute on the ground

This accident highlights the risk of an additional accident due to the untimely activation of an airframe parachute. This risk is increased if there is a post-impact fire or if the wreckage is handled. The uncontrolled firing of an airframe parachute rocket can cause serious or fatal injuries to people in the vicinity of the wreckage.

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