



**Accident** to the JMB Aircraft VL3E  
identified **49ADC**  
on Sunday 30 July 2023  
close to Cholet-Le Pontreau aerodrome

<b>Time</b>	Around 18:30 <sup>1</sup>
<b>Operator</b>	Fly2M
<b>Type of flight</b>	Local
<b>Persons on board</b>	Pilot, passenger
<b>Consequences and damage</b>	Passenger fatally injured, pilot seriously 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.

**Pilot incapacitation on final, go-around, loss of control,  
collision with ground**

**1 HISTORY OF THE FLIGHT**

*Note: the following information is principally based on statements, the read-out of the avionic computers<sup>2</sup> and the radio-communication recordings.*

The Sunday preceding the accident, the pilot carried out a commercial sightseeing flight for the passenger. Due to the adverse meteorological conditions, the pilot curtailed the flight. On the day of the accident, the plan was for the pilot and the passenger to take off from Cholet-Le Pontreau aerodrome and fly over the passenger's home, a route which they had not been able to take during the first flight. The pilot took off at 17:47, flew over the passenger's home after a flight time of around 20 min and then headed back to Cholet. At 18:19, the pilot checked in on the Cholet A/A frequency. He extended the landing gear shortly before passing overhead the aerodrome and then joined the end of the RH downwind leg for runway 21<sup>3</sup>. At 18:27:48, the pilot emitted the last radio message of the flight, indicating that he was on final for runway 21 for a full stop landing. He then started the final at an altitude of around 930 ft<sup>4</sup> and continued it with a mean slope of 10% at a speed of between 47 and 55 kt. The microlight touched down on the runway at a speed of around 50 kt (see Figure 1, point ①) and the pilot rejected the landing. During the climb, the microlight made a LH turn with a high bank angle reaching around 35° at the last recorded point (point ②). At this point, the microlight was at a height of around 160 ft. It had a nose-up pitch with a rate of climb of around 900 ft/min and an indicated airspeed of 53 kt.

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

<sup>2</sup> The microlight was equipped with a GARMIN G3X EFIS. The recorded data was read out.

<sup>3</sup> Paved runway measuring 1,380 m x 45 m.

<sup>4</sup> The glossary of abbreviations and acronyms frequently used by the BEA can be found on its [web site](#).

Witnesses 3 and 4 indicated that they then saw the microlight take a steep LH bank and pitch down towards the ground. The wreckage was found in a stretch of water at around 400 m to the LH side of the threshold of runway 21.

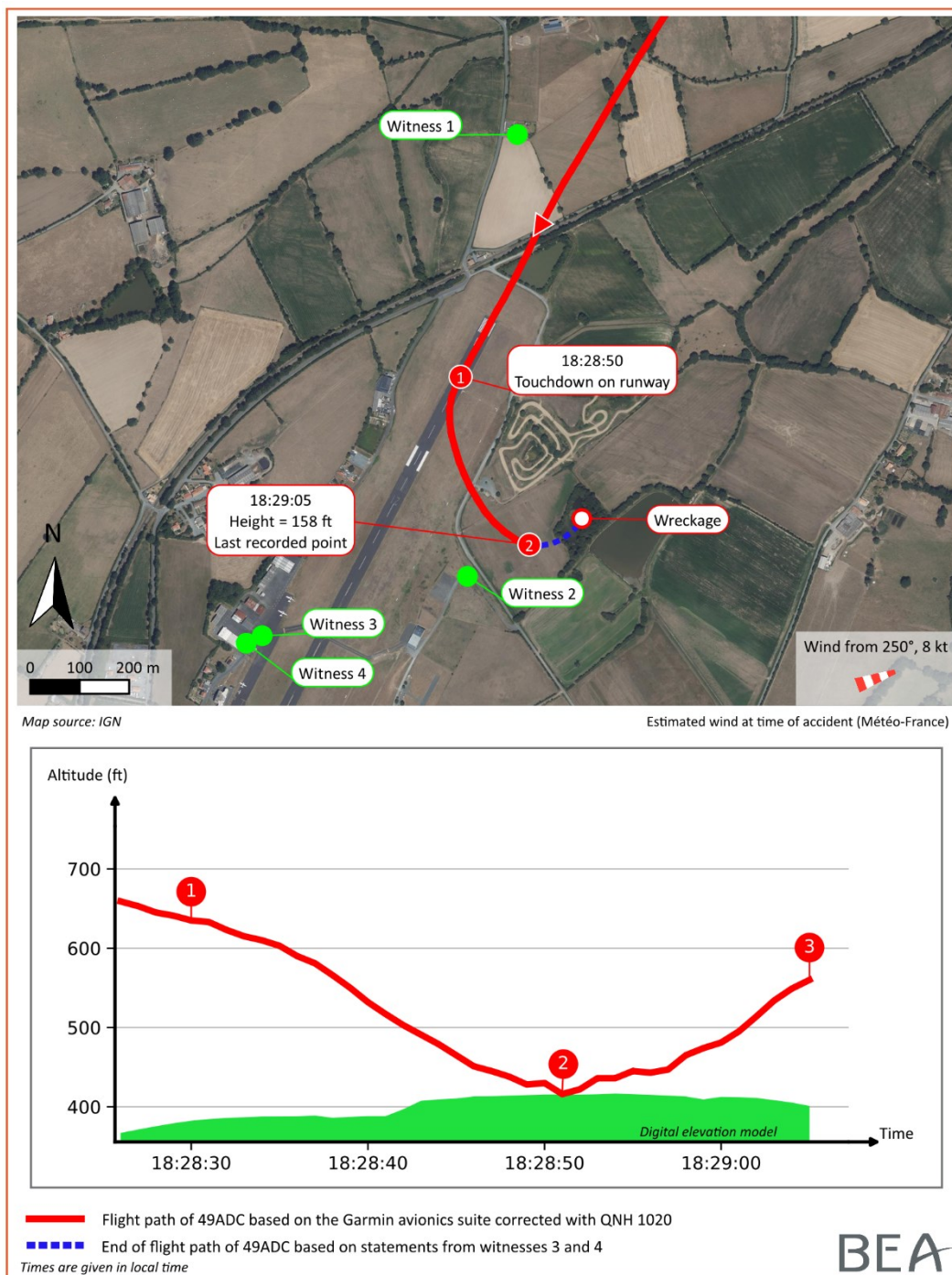


Figure 1: microlight's path at end of flight

## 2 ADDITIONAL INFORMATION

### 2.1 Examination of site and wreckage

The stretch of water in which the wreckage was found submerged was surrounded by vegetation. Marks in the vegetation south of the wreckage indicated that the final flight path of the microlight was on a northerly heading. The microlight then made a U-turn around its yaw axis given its final position oriented south.



*Figure 2: photo of wreckage from west bank  
(Source: Brigade de Police Aéronautique de Rennes)*

The wreckage was complete except for a propeller blade which was not found.

At the time of the collision, the landing gear was retracted<sup>5</sup> and the flaps were extended to the 2nd detent<sup>6</sup> (38°). The elevator and rudder control linkages were continuous. Certain damaged parts of the aileron and flap control linkages were analysed: the damage was probably caused by the collision. The engine was operating at the time of the collision with the vegetation. The safety pin of the airframe parachute had been removed. The parachute had not been activated nor was it triggered by the impact.

The examination of the wreckage did not reveal any anomaly which could explain the accident.

### 2.2 Microlight information

#### 2.2.1 Characteristics and maintenance

The microlight was a VL3 Evolution equipped with a Rotax 912 ULS engine and a composite, variable-pitch Woodcomp propeller. It had been purchased by the pilot and his associate in 2022 and put into service on 15 March 2022. The microlight had logged approximately 214 flight hours at the time of the accident. The 200-h maintenance inspection had been carried out by JMB Aircraft in Belgium on 12 June 2023.

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<sup>5</sup> The manufacturer indicated that around 10 s was required for the landing gear to retract.

<sup>6</sup> The flaps can be deployed at 15°, 38° or 55°.

The microlight was owned and operated by the company Fly2M. The company's main activities were the lease of the microlight, introductory flights and sightseeing flights. The pilot and his associate were the company managers.

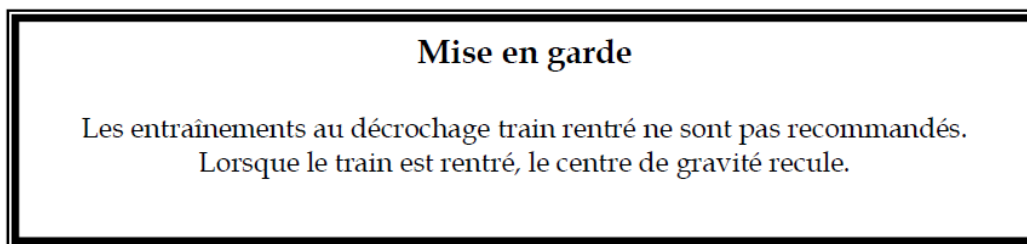
### 2.2.2 Airframe parachute

The microlight was equipped with a Galaxy GRS airframe parachute, model GRS 6 473 SD 96 m<sup>2</sup>. The flight manual specifies that for this model, the minimum height for the complete deployment of the parachute in horizontal flight is 150 m, i.e. around 500 ft. The [manufacturer's website](#) indicates for this parachute model, a minimum safety height of 80 m (262 ft) at a horizontal speed of 90 km/h. The height at the last recorded point of 158 ft was below these two heights.

### 2.2.3 Stall speeds

The flight manual indicates a stall speed of 43 kt with the flaps extended to 38°, the wings level and the engine in idle. The stall speed for the last recorded bank would have been 48 kt and the recorded speed at this point was 53 kt. At the end of the flight, the microlight was therefore manoeuvring at a speed and bank angle likely to generate a stall phenomenon.

In addition, the movement of the gear doors during the retraction of the landing gear caused additional drag and moved the centre of gravity to the aft. With two people on board, the centre of gravity may have been at its rear limit. The risk of a loss of control is greater and flying at speeds close to the stall speed should be avoided in this configuration. The flight manual warns that stall training with the landing gear retracted is not recommended as when the landing gear is retracted the centre of gravity moves to the aft:



*Figure 3: excerpt from VL3E flight manual (Source: JMB Aircraft)*

The statements are consistent with the left wing having stalled.

## 2.3 Meteorological information

The meteorological conditions estimated by Météo-France, at the time of the accident were as follows:

- stratocumulus ceiling at around 4,000 or 5,000 ft (4 to 6 octas);
- surface visibility greater than 10 km;
- wind from 250° of 8 kt, with gusts at 15 kt;
- temperature 22°C, dew point 12°C;
- QNH 1020 hPa;
- no precipitation or significant phenomenon.



## 2.4 Pilot information

### 2.4.1 Experience and ratings

The pilot, 50 years old at the time of the event, held an aeroplane Private Pilot Licence (PPL (A)) obtained in 2011 along with SEP, MEP and night flight ratings. He also held a microlight pilot certificate along with the microlight fixed-wing rating obtained in 2021. The pilot indicated that he had logged approximately 500 aeroplane flight hours principally on the Piper PA28, Mooney 20 and Diamond DA62.

He added that he had logged around 100 microlight flight hours on the VL3E of the accident and on a TL Sting S4 for his training. He had attended the first day of the practical flight training on the VL3 organised by JMB Aviation after purchasing a new aircraft. The training, spread over two days, included around five flight hours on the VL3 and simulator sessions. The first day of the training included around three flight hours. The pilot and his associate had flown around 10 h together on the VL3 before the pilot flew as pilot-in-command.

The pilot had flown around 60 h as pilot-in-command on the VL3 including 26 h in the six months preceding the accident and 5 h in the preceding month. The day of the accident, he had carried out a private flight of approximately 30 min and a commercial flight of approximately 15 min with the microlight.

The pilot had planned to become a commercial pilot. He had been declared fit in the admission class 1 medical examination in September 2018 on completion of a thorough cardiological check-up. On his application form, he stated that he had a family history of epilepsy and had recently been hospitalised. For his subsequent class 1 and 2 medical examinations, he did not declare any medical history on the application forms. His class 1 medical fitness certificate was renewed in July 2019. On the date of the accident, the pilot held a valid class 2 medical fitness certificate without limitations obtained in January 2023. This certificate was not, however, mandatory for flying a microlight.

### 2.4.2 Statement

The pilot indicated that in 2018, he had lost consciousness at the wheel of his car and, when he came around, his vehicle was in a ditch. He added that that same year, following severe pain in his chest and left arm, he went to the emergency department. The examinations carried out at the hospital and by other specialists did not reveal any significant anomaly.

The pilot described himself as being sporty, regularly cycling and running. He said he had cycled for two hours on the Thursday before the accident. He explained that he had felt pain in his chest and left arm, which he could no longer close. He stated that he was tired, but no more so than usual because, as a company director and tradesman, he had an intense professional activity, with long working days.

Over the following days, the pain eased and on the day of the accident, he felt that his condition would allow him to fly and take passengers. He explained that when he was too tired to pilot, he contacted his partner to let him know that the flights have been cancelled. He indicated that the flights carried out on that same day before the accident flight had been uneventful.

The beginning of the accident flight had proceeded normally. The pilot said that a few minutes before the final, he felt intense fatigue with palpitations and a chest pain. He recalled being on the downwind leg and explained that he let the microlight turn towards the aerodrome as if something was preventing him from steering it. He described the impression of having been tetanised on the controls, his gaze fixed on the screen of the Garmin G3X, as if he were in a film.

On final, he remembered finding it increasingly difficult to see the EFIS screen, describing a visual blur. He then saw the runway, which seemed to be oscillating from right to left. He then described losing his vision, a "total black screen", and recalled regaining consciousness while in hospital.

The pilot explained that, in the event of a go-around, he usually retracted the flaps to 15° first, followed by the landing gear<sup>7</sup>.

## 2.5 Determining aero-medical fitness

### 2.5.1 General principle

Determining class 1, 2 or LAPL medical fitness involves a risk analysis designed to detect medical and physiological contraindications to safe flight.

When additional specialised examinations are requested by the Aero-Medical Centre (AeMC) or the Aero-Medical Examiner (AME), they are carried out in healthcare facilities whose purpose is to detect pathologies. As a result, the desire to cure patients may dominate over the analysis of their aero-medical risks. This is particularly the case when a pilot is subject to disorders such as vertigo or certain forms of epilepsy, considered benign in terms of medical care, but which can represent a significant risk in flight.

When a pilot is subject to this type of disorder, aero-medical advice is required to assess the risk and compatibility with flying. The [investigation report into the accident to the helicopter registered F-HLBT](#), published by the BEA in 2020 illustrates the consequences that certain benign problems in everyday life can have in flight (sudden vertigo in this case).

### 2.5.2 Organisation of medical examinations and obligations of AeMC and AME

To obtain a class 1, 2 or LAPL medical fitness certificate, pilots must first complete an application form, in accordance with the regulations<sup>8</sup>. On this form, pilots applying for these medical certificates must tick 46 boxes concerning the general and family history of which they are aware. A "Remarks" box allows the applicants to give details of their history. An AME issuing a class 2 medical certificate does not necessarily have access to previous certificates or application forms. In France, there is currently no shared management system for these documents.

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<sup>7</sup> This procedure is the one described in the flight manual, section 4.3.16.

<sup>8</sup> Commission regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew ([Version in force on the day of the accident](#)). See Annex VI (Part ARA) ARA.MED.135 and Annex IV (Part MED) MED.A.025.

Points (6) to (8) of GM1 MED.A.025 indicate that an AME shall provide the applicant with the medical certificate application form and instructions on how to complete it. The AME is expected to go through the form with the pilot, helping the pilot to understand the importance of the various sections and checking that the form is completed correctly.

The [download link for this form](#) does not currently contain instructions on how to complete it. (These instructions are indicated in AMC1 of part ARA.MED.135 (a)), but they are not translated into French).

In France, the licencing authority flight crew medical expertise centre organises regular training for AMEs. They are told that the application form should be used as the basis for the interview between the AME and the pilot. It is explained to the AMEs that, in practice, it is often up to them to fill in the "Remarks" box, based on what the applicants have ticked off beforehand about their background. However, this is not an obligation for AMEs.

Finally, paragraph MED.A.020 states that a pilot shall not exercise the privileges of his licence and ratings when he is aware of any decrease in his medical fitness which might render him unable to safely exercise those privileges. However, this provision does not constitute an obligation to declare any health event.

### 3 CONCLUSIONS

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

#### Scenario

The pilot carried out a flight from Cholet-Le Pontreau aerodrome to fly over the passenger's home. On returning to Cholet, he suffered a medical incapacitation on final which greatly reduced his ability to pilot. The microlight touched down on the runway followed by a go-around. During the initial climb, the microlight banked with a high angle and low speed close to a stall situation. The microlight probably stalled and then collided with the vegetation and the surface of the water.

#### Contributing factors

The following factors may have contributed to the pilot's in-flight incapacitation:

- the persistence of an incapacitating condition of unknown origin despite extensive cardiological check-ups and repeated medical referrals;
- the pilot not seeking a new aeromedical opinion<sup>9</sup> following recent symptoms, with a view to assessing the risk associated with an aeronautical activity.

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<sup>9</sup> This opinion can be given by a federation doctor, an AME or an AeMC

The following factors may have contributed to no overall consideration being given to the pilot's medical condition during class 1 and 2 medical fitness examinations:

- incomplete compliance with the provisions set out in Regulation (EU) No [1178/2011](#) (see paragraph 2.5.2). A dialogue between the AME and the pilot, when filling in the medical certificate application form, could have meant that the pilot's medical history was better taken into account;
- no shared management system for the medical fitness file.

## Safety lessons

### Raising pilot awareness with respect to medical aspects

In the [thematic review of microlight reports published in 2023](#), the BEA goes into more detail about medical aspects, already covered in [2021](#). In particular, it is indicated that if pilots *“don't ask whether their state of health is compatible with the planned flight, [they] may be unaware that the safety of the flight is at stake and that they and their passengers are exposing themselves to a major risk.”*

A [federation doctor](#) is available to help members of the French microlight federation (FFPLUM) assess this compatibility. The FFPLUM has published a check-list “Ma Forme” in its editorial [BSV No 56](#). There is also a check-list in their safety bulletin [Mémo Sécurité](#). In February 2024, an article in [revue ULM Info](#) No 125 was devoted to raising awareness among pilots, with advice on lifestyle and diet, and particularly on the importance of rest and quality sleep.

Pilots also need to be made aware of the role of aero-medical check-ups, and the particular importance of declaring their medical and family history.

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