BEA
Bureau d'Enquêtes et d'Analyses
pour la sécurité de l'aviation civile

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SAFETY INVESTIGATION REPORT

Accident to the Guerin G1 identified **76OX** on Thursday 6 October 2022 at Lurcy-Lévis aerodrome

Time	Around 10:30[1]
Operator	Aéroclub Jean-Pierre Chamignon
Type of flight	Instruction
Persons on board	Instructor and student-pilot
Consequences and damage	Instructor and student-pilot 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, collision with the ground after take-off, fire, in instruction

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on a statement.

The student-pilot, accompanied by an instructor, took off at approximately 10:30 from runway 24L[2] at Lurcy-Lévis aerodrome for a cross-country flight bound for Moulins aerodrome (Allier). This was one of the last flights in the student-pilot's training to obtain his microlight pilot licence.

A witness saw the microlight in climb, which he described as normal. Busy with his work, he lost sight of it before glimpsing a release of smoke a few seconds later. He went to the site and found the wreckage on fire.

The wreckage of the microlight was found 300 m after the end of runway 24, offset to the left of the take-off axis.

[1] Except where otherwise indicated, the times in this report are in local time.
[2] Unpaved runway measuring 670 m x 30.

Figure 1 : aerial view of the accident site (Source: BGTA, BEA annotations)

2 ADDITIONAL INFORMATION

2.1 Examination of the wreckage

The accident site was a flat field free of any obstacles.

The microlight collided with the ground with the left wing tip, then it spun to the left before catching fire (see **Figure 2**).

Figure 2: aerial view of the wreckage (Source: BGTA, BEA annotations)

The examination of the wreckage was limited due to the damage caused by the fire. The continuity of the flight control linkages could not be checked and it was not possible to determine the position of the flaps or establish whether the engine was delivering power at the time of impact.

No particular anomaly which could explain the accident was identified during the examination of the wreckage.

The microlight's airframe parachute deployed upon impact.

2.2 Meteorological information

The METAR reports at 10:00, 10:30 and 11:00 for Nevers aerodrome (Nièvre), located 32 km north-north-east of Lurcy-Lévis, indicated a wind varying from 330° to 040° of 5 kt and a CAVOK situation, a temperature of 15°C and a dew point temperature of 11°C.

Analysis by Météo-France:
At the site and at the time of the accident, the cloud base was at a probable height of between 700 ft and 2,200 ft. The visibility was probably 8 km with some light rainfalls, which then reduced visibility to around 5 km. There was a steady northerly wind of 5 to 9 kt.

2.3 Pilot information

2.3.1 Instructor information

The 72-year-old instructor held a microlight pilot licence issued in 1986 along with fixed-wing, paramotor and flex-wing ratings, as well as fixed-wing and flex-wing instructor ratings. He renewed his instructor rating on 24 June 2021. He had logged approximately 2,100 flight hours on microlights and regularly flew the G1 microlight.

Before that, he held a Private Pilot Licence - Aeroplanes (PPL(A)) issued in 1968, and then a Commercial Pilot Licence - Aeroplanes (CPL(A)) issued in 1983 along with Single-Engine Piston (SEP) and Multi-Engine Piston (MEP) class ratings. In addition, he held a night rating, a parachute drop rating, an advanced aerobatic rating, mountain "wheel" and "skis" ratings and a glider towing rating.

He also held the single-engine and multi-engine aeroplane class instructor ratings (CRI-A) as well as a Flight Examiner - Aeroplane (FE-A) certificate.

The instructor had logged approximately 18,800 flight hours on aeroplanes.

2.3.2 Student-pilot information

The investigation had little information about his aeronautical licences and experience.

The 72-year-old student-pilot reportedly flew and held a PPL(A) issued abroad. On his return to France, he reportedly flew microlights on various platforms with a view to obtaining his microlight pilot licence.

A record of flight hours from the Lurcy-Lévis flying club indicated that in the previous six months, the student-pilot had logged 20 flight hours in 22 instruction flights. The accident flight was one of the last flights in his training.

2.4 Medical aspects

2.4.1 Instructor's aeronautical medical check-up

On 26 November 1996, following a health problem, the Percy flight crew medical examination centre (CPEMPN) issued the instructor with a class 1 medical certificate with a waiver, which allowed him to continue flying under the privileges of his commercial pilot licence.

On 8 January 2013, following a decision by the French civil aviation medical council (CMAC), the Percy CPEMPN declared him unfit for class 1, 2 and LAPL pursuant to paragraphs MED.B.010 (cardiology) and MED.B.090 (oncology) of European Regulation (EU) No 1178/2011 known as "PART-MED". He was required to resubmit his file after six months and to undergo additional examinations (echocardiography, rhythm holter and renal function assessment), which he did not do.

In 2022, he joined the French Microlight Federation (FFPLUM) and presented a medical certificate attesting to his medical fitness to fly microlights, established by his general practitioner (who was not a specialist in aviation medicine).

2.4.2 Post-accident medical examinations

The instructor's autopsy revealed that the left anterior descending artery was more than 80% blocked.

The analyses revealed that the instructor was taking a complex medication therapy in connection with a previous disease.

3 CONCLUSIONS

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

Scenario

Shortly after take-off, the microlight collided with the ground with a steep left bank angle. In the absence of direct onlookers and usable data, the investigation was unable to determine the circumstances of this loss of control.

The impairment of the cardiac function of the 76OX instructor under the combined effect of his medication therapy and advancing age - without it being possible to confirm that this factor contributed to the event - led the BEA to question the instructor's ability to deal with an unexpected situation. An actual failure or piloting error by students - who, by nature, have not yet acquired all the automatisms - may require instructors to react quickly, which will strain their body and may cause an incapacitation.

Safety lessons

Medical aspects and implication for third parties[3]

In its "Safety Lessons General Aviation" section, the BEA identified the "Medical aspects" topic as part of its 2023 and 2024 safety lessons for microlights.

Pilots can become so accustomed to the symptoms they experience that they no longer perceive their alert function (muscle weakness, palpitation, etc.) and do not reconsider their activities. The fact that complications are unpredictable should encourage pilots to be cautious, particularly when flying activities involve third parties. The accident to 03AEN on 11 September 2019 also illustrates the unpredictable nature of an incapacitation. Following a heart operation, the pilot corrected his cardiovascular risk factors by adopting a healthy lifestyle and was subject to regular heart and aeronautical medical check-ups. However, the pilot probably suffered an incapacitation during take-off while making his ninth glider tow flight.

Heart disease is a potential source of incapacitation, particularly because of adrenergic reactions related to factors such as accelerations, emotions and effort. When pilots who are passionate about their flying activities are declared medically unfit for flying, they should bear in mind the reasons that led to this decision and assess the consequences in order to adapt their microlight flying activities, particularly when these involve third parties, so as not to jeopardise their safety.

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

[3] Passengers, student-pilots, parachute dropping or glider towing.