



⁽¹⁾ Provisional identification.

⁽²⁾ Except where otherwise indicated, the times in this report are in local time.

⁽³⁾ The pilot died a few days later.

⁽⁴⁾ A second Charente prefecture order of 8 July 1993, authorised the creation of an airfield, for private use, reserved for gyroplanes, on the same strip.

⁽⁵⁾ The prefectural order of 1992 draws attention to the presence of bushes five to six metres in height bordering the left side of the end section of the runway.

Accident to the GAZ'AILE 2 identified W16US⁽¹⁾

on 15 April 2017

at the La Broue microlight strip (Charente)

Time	Around 11:00 ⁽²⁾
Operator	Private
Type of flight	Test flight
Persons on board	Pilot
Consequences and damage	Pilot fatally injured ⁽³⁾ , microlight destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in November 2020. As accurate as the translation may be, the original text in French is the work of reference.	

Collision with vegetation then the ground during take-off, fire, during test flight

1 - HISTORY OF THE FLIGHT

Note: the following information is principally based on observations made two days after the accident by the investigators and on the statement of a member of the association of which the pilot of the W16-US was a member.

The pilot took off from a private runway for a test flight with a view to obtaining the definitive identification card for his microlight. During initial climb, the microlight struck a line of trees located to the left of the centreline. Off balance, it collided with the ground with a high nose-down attitude. It turned upside down and caught fire upon impact. Conscious but severely injured, the pilot was rescued from the wreckage by a witness to the accident.

2 - ADDITIONAL INFORMATION

2.1 Site and wreckage information

The private La Broue strip, for microlights only, was created by order of the Charente prefecture on 14 September 1992⁽⁴⁾. It has an unpaved runway with a magnetic heading of 030°/210° that is 300 m long and 30 m wide. Although the climb-out area of runway 21 is kept clear by the owners, there were trees of more than 10 m in height⁽⁵⁾ along the left side of the runway on the day of the accident. These trees formed a hedge of around 10 m, which constituted an obstacle for microlights taking off from runway 21.

Some debris from the left wing was found in the trees and on the road below.

The main wreckage was lying upside down, in the opposite direction to take-off, in a wheat field, 100 m south of the end of runway 21, slightly to the left of the centreline. The wreckage was spread over about 20 m and was completely burnt. The propeller hub and the engine made a crater approximately 1 m in diameter and 30 cm deep. The fuel tank had exploded. No smell was detected.

The investigation did not find damage prior to impact. It was not possible to determine the continuity of the flight control linkages or the flap setting.

However, the following was noted:

- All the carbon propeller blades had failed under bending loads. No sign of rotation was visible.
- It was not possible to determine the power output of the power unit.

2.2 Pilot information

The 57-year-old pilot held a microlight pilot certificate and a fixed wing microlight rating issued on 15 May 2008. He had logged approximately 700 flight hours in a microlight, according to the statements.

2.3 Meteorological conditions estimated by Météo-France

- wind 280° / 5 to 10 knots;
- CAVOK;
- temperature 10°C;
- dew point temperature 4°C;
- QNH 1,023 hPa.

2.4 Microlight information

The Gaz'aile 2 is an amateur-built microlight made principally of wood and carbon.

The flight manual indicates that the take-off distance is 250 m with a low-pitch propeller. It is equipped with an underslung carbon tank under the instrument panel.



Source: <https://forum-ulm-ela-lsa.net/>

Gaz'aile 2

⁽⁶⁾ The investigation was unable to determine the stage of test flights the pilot was at.

The provisional microlight identification card, issued on 12 October 2016 by the French civil aviation directorate for the south-west (DSAC SO) and valid until 11 October 2017, indicated:

- the provisional identification (W16-US);
- the name of the manufacturer (the pilot who died in the accident);
- that it was equipped with a BMW K 1,100 cc engine of 74 kW (100 hp);
- that the registered location was Dorgeville (Charente);
- that the location for performing flight tests⁽⁶⁾ was Saint-Jean-d'Angély aerodrome (Charente Maritime).

2.5 Statements

2.5.1 Pilot's friend

A member of the *Delta Club Charentais* association, the pilot's friend was at the private airfield when the pilot of the W16-US was preparing for his flight. They exchanged a few words before the friend set off for home. When he was driving his car to the west of the strip, he saw some black smoke. He drove immediately to the site of the accident. He pulled the still-conscious pilot out of the burning microlight. The pilot told him that the controls had stopped responding⁽⁷⁾. The emergency services arrived extremely quickly and the pilot was transported by air to the University Hospital of Bordeaux.

⁽⁷⁾ He repeated this statement to the emergency services.

2.5.2 Another member of the association

He explained that the pilot had equipped his Gaz'aile with a BMW 100 hp engine and stated that he had recently replaced the original propeller with a high-pitch propeller to obtain a faster cruising speed. This modification altered the microlight's performance, including the extension of the take-off distance. He also indicated that the pilot had slightly modified the engine's longitudinal axis downwards to eliminate contact with the cowling. He and other members of the association had remarked that the take-off run distance was significant. He stated that the pilot had, until this point, flown his test flights from Saint-Jean-d'Angély – Saint-Denis-du-Pin aerodrome, which has an 850 m long runway. The pilot had decided to complete his last test flights from La Broue as it was closer to his home, and despite being aware that the runway was shorter. His friends at the association had been unable to make him change his mind.

3 - CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation. They are in no way intended to apportion blame or liability.

Scenario

The pilot decided to perform a test flight from the La Broue microlight strip despite it having a shorter runway than the runway at Saint-Jean-d'Angély – Saint-Denis-du Pin aerodrome. The available runway length probably led the pilot to make the rotation at low speed, which did not allow him to have effective control of the path during the initial climb. The prevailing crosswind from the right accentuated these control difficulties.

Contributing factors

The following factors contributed to the accident:

- The underestimation of the modification of performance at take-off associated with the changed propeller that had resulted in a reduction in the obstacle clearance margin.
- The insufficient correction of the effects of the crosswind that had led the pilot to veer left of the runway centreline.
- The lack of maintenance of the vegetation located immediately to the left of the climb-out area indicated in the private airfield's approval conditions.