



Accident to the B&F LIGHT AIRCRAFT FK9 MARK 4 identified 09BO

on 23 July 2019

at Calviac (Lot)

⁽¹⁾ Unless otherwise stated, all times given in this report are in local time.

Time	Around 11:50 ⁽¹⁾
Operator	Amicale des anciens de l'ALAT du sud-ouest
Type of flight	Cross-country
Persons on board	Pilot
Consequences and damage	Pilot fatally injured, microlight destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in May 2020. As accurate as the translation may be, the original text in French is the work of reference.	

Loss of control during aborted landing, collision with trees

1 - HISTORY OF THE FLIGHT

Note: the following information is mainly based on radar data and GNSS data from a tablet found on board the microlight.

The pilot took off at 09:33 from Dax aerodrome (Landes) for a cross-country flight to Calviac (Lot) private aerodrome⁽²⁾. After 35 minutes of flight, he informed the Aquitaine Information control unit that he was going to divert to Agen aerodrome (Lot-et-Garonne) because a wing leading edge protection had become unstuck. After refastening the strip, he left for his destination at 10:49. GNSS data⁽³⁾ records show that the microlight arrived in the vicinity of Calviac aerodrome at 11:46.

The pilot joined the circuit and then performed a circuit pattern for runway 17. After a stabilized approach to the displaced runway threshold, the pilot aborted the approach. During this manoeuvre, the microlight struck trees bordering the runway.

The microlight was found in the evening.

2 - ADDITIONAL INFORMATION

2.1 Examination of the site and wreckage

The wreckage was located to the east of runway 17 in a field near a row of trees perpendicular to the runway. A forest borders the runway to the west and north. A row of shrubs runs alongside the runway to the east. Based on observations, the microlight appeared to have struck the vegetation at a height of about six metres at a steep angle and in a left roll (close to 90°). It then fell to the ground. The engine was operating at the time of impact. The controls were continuous on all three axes and the flaps were extended (position undetermined).

⁽²⁾ Paved runway, 17/35, 620 x 5 m.

⁽³⁾ Global Navigation Satellite System, incorporating various systems with international coverage, including the American GPS.

An examination of the wreckage did not reveal any failure that could explain the event.
The pilot got out of the microlight after the impact.

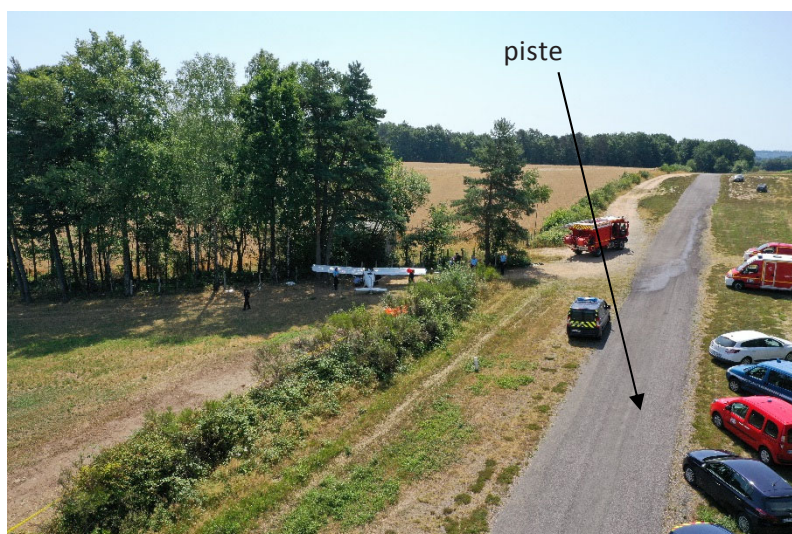


Figure 1: accident site

2.2 Examination of computers

The microlight was equipped with three on-board computers:

- an EFIS Dynon D10 A display system;
- a multi-information display (MID);
- a portable EKP IV AvMAP GNSS receiver.

All three computers were in good condition but no data had been recorded.

The pilot also had a portable tablet that he used for navigation.

After examining this tablet, two GNSS tracks from the day of the accident were recovered. The first track corresponds to the Dax - Agen flight and the second to the Agen-Calviac flight.

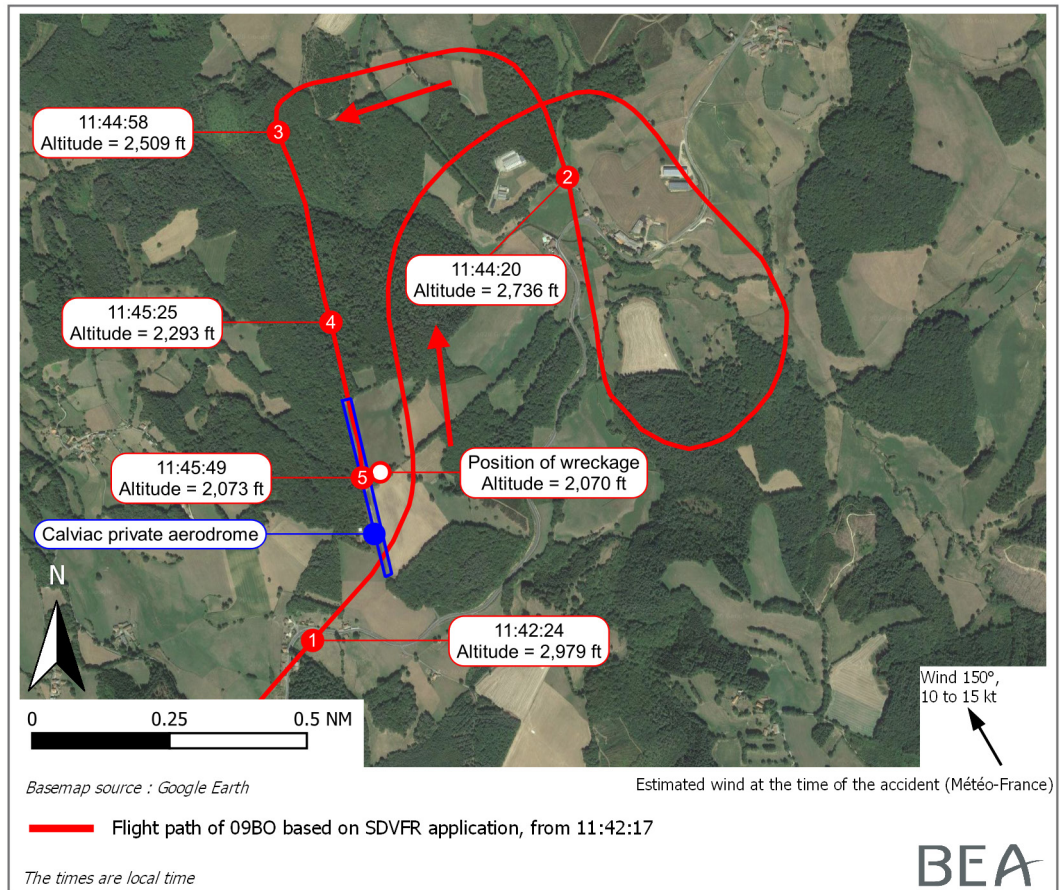


Figure 2: flight path based on GNSS data

An examination of the GNSS track shows that, after passing abeam the runway, the pilot positioned himself on a downwind leg for a circuit pattern into runway 17. From the beginning of the downwind leg, the pilot began a steady descent on an approximately 7 % slope. The ground speed on final was 90 km/h, then 70 km/h on short final. The flight path ended in the vicinity of the displaced threshold of runway 17. The recorded data show an altitude stabilization phase lasting a few seconds, which corresponds to the flare. At the end of this phase, a change in heading to the left and a slight increase in altitude can be noted.

2.3 Pilot information

The pilot was 72 years old. He had held a private pilot licence since 1995 and had logged about 1,100 flight hours in aeroplanes. He had obtained his microlight pilot licence in 2015. He had logged about 60 flight hours at the club on FK9s.

He had flown on other microlights, but the investigation was unable to ascertain his exact experience in microlights.

The autopsy report does not mention any pathology that could explain the accident.

2.4 Aerodrome information

Calviac private aerodrome has a 620-m long paved runway with a convex profile.

The aerodrome information sheet, which is available to pilots, states that:

- the runway is very narrow (five metres);
- the trees adjacent to the runway can generate special aerological conditions;
- on runway 17, a 220-m displaced threshold allows for a 7% glide path, in which case the remaining landing distance is 400 m.



Figure 3: excerpt from the aerodrome information sheet

2.5 Aircraft information

The club had purchased this microlight in March 2019. It had logged around 580 flight hours. Previously the club had another microlight of the same type.

The FK9 Mark IV is a high-wing microlight. Several instructors and the importer of the microlight indicated that, in landing configuration, with no wind, at a speed of 85 km/h, with the engine reduced, it descends on a 7% glide path. The Aero club recommended a speed of 85 km/h for landing.

The landing distance indicated in the AFM is approximately 150 m at maximum weight.

The microlight was not equipped with an emergency locator transmitter.

2.6 Summary of statements

An instructor at the Aero club indicated that the pilot had good flying experience. He did not believe that the pilot had landed at this aerodrome before. He was concerned in the evening that he had not seen him return and so he contacted the owner of the aerodrome at around 20:00.

The owner of the aerodrome indicated that the pilot had contacted him the day before the accident. He had explained the specific features of the aerodrome to him. In particular, they had discussed the presence of turbulence on final and the height of the trees, which requires an aiming point at least 200 m from the entrance to runway 17.

The owner added that he had gone to the aerodrome at about 11:30 and then at 12:15 to meet the pilot. He had stayed in the car park, from where he could not see all points of the aerodrome. When he did not see him, he assumed that the pilot had postponed his flight. In the evening, he received a call from the aero club instructor informing him that the pilot had not returned. He then went to the aerodrome and, while walking down the runway, discovered the wreckage and the pilot's body.

2.7 Meteorological conditions

The conditions estimated by Météo-France for Calviac aerodrome were as follows:

- Wind 150°, 10 to 15 kt, CAVOK, temperature 34 °C.

These conditions could result in thermal phenomena causing turbulence over the runway. The wind blowing over the forest at the end of runway 17 also generated turbulence.

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

The circuit pattern was completed in turbulent aerological conditions. Given the runway environment, the pilot had to adopt a steep approach path, probably with reduced engine power. An analysis of the flight path shows that it ended at a point near the displaced threshold. The distance remaining for a safe landing probably appeared insufficient. It is possible that the convex profile of the runway contributed to this perception.

The inspections of the site, the wreckage and the tablet suggest that, during the flare, the pilot initiated a go-around. He probably failed to control the engine effects and the flight path curved to the left towards the trees. At this point, it was no longer possible to avoid a collision.

⁽⁴⁾ During the period 2010-2017, the BEA received notification of approximately 350 landing accidents involving light aircraft. Five occurrences resulted in fatal injuries and eight in serious injuries. An aborted landing was undertaken in all five fatal accidents and in five of the eight accidents in which the occupants were seriously injured.

Safety lessons

Faced with an unexpected situation during landing (long flare, bounce, sideshift), the pilot may have to make choices in a very dynamic situation. Continue landing at the risk of damaging the microlight or take off again. A study of previous occurrences⁽⁴⁾ shows that accidents causing serious bodily harm on landing occur mainly when the pilot increases power with insufficient control over the aircraft.

During initial or recurrent training, it is important to recall the various flight mechanics phenomena that occur during an aborted approach. It is also essential to consider all the criteria to be taken into account when deciding whether an aborted approach is preferable to continuing with the landing.

The accident occurred shortly before noon, and the microlight and the pilot were found in the evening. An examination of the wreckage revealed that the pilot was alive after the impact. It is not possible to say that prompt intervention by the emergency services could have saved the pilot. However, when pilots use isolated airstrips, it may be advisable for them to inform a person of the scheduled landing time and to send notification of the landing. If the notification is not received, that person could raise the alert. This provision, which is established in Article 11 of the Order of 12 July 1963 on the conditions under which certain aircraft may land or take off in the mountains other than at an aerodrome, could be suggested to pilots that land at little-used airstrips.