

Accident to the SCHEMPP HIRTH - JANUS C registered F-CFAL

on 25 June 2019

at Laval Entrammes aerodrome (Mayenne)

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

Time	Around 16:00 ⁽¹⁾
Operator	Centre école de vol à voile de la Mayenne
Type of flight	Cross-country
Persons on board	2 pilots
Consequences and damage	Glider substantially damaged
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in June 2020. As accurate as the translation may be, the original text in French is the work of reference.	

Spurious air brake extension during winch launch, hard landing

1 - HISTORY OF THE FLIGHT

Note: the following information is based mainly on statements, radio communication recordings and the glider's FLARM data.

The pilot, who was seated in the front seat, took off in winch tow at 15:59 from unpaved runway 32 accompanied by one passenger, who was also a glider pilot (point ❶ on the path below). During the initial climb, he asked the winch operator to accelerate on two occasions. After being released at an altitude of approximately 430 m (point ❷), the glider lost altitude. The pilot in the rear seat suggested to the pilot in the front seat to head towards a cumulus cloud to make use of any uplift. At an altitude of 300 m, they decided to turn back to land on unpaved runway 32 and the pilot in the rear seat took control with the agreement of the pilot in the front seat. At 16:01, he announced over the radio that he was on the left-hand downwind leg to unpaved runway 32 (point ❸). The AFIS agent communicated to him a wind from 340°, at 5 kt (point ❹).

At a height of about 30 m, while still on the downwind leg, the pilot in the rear seat realised that he was too low and that he would not be able to reach the threshold of unpaved runway 32. He turned left and converged toward the mid-point of runway 32. During this turn, the glider made contact with the ground before the paved runway in the obstacle free zone at an angle of 30° in respect of the runway centreline (point ❺). It came to rest 65 m further along on the left-hand edge of the paved runway.

Both pilots evacuated the glider.

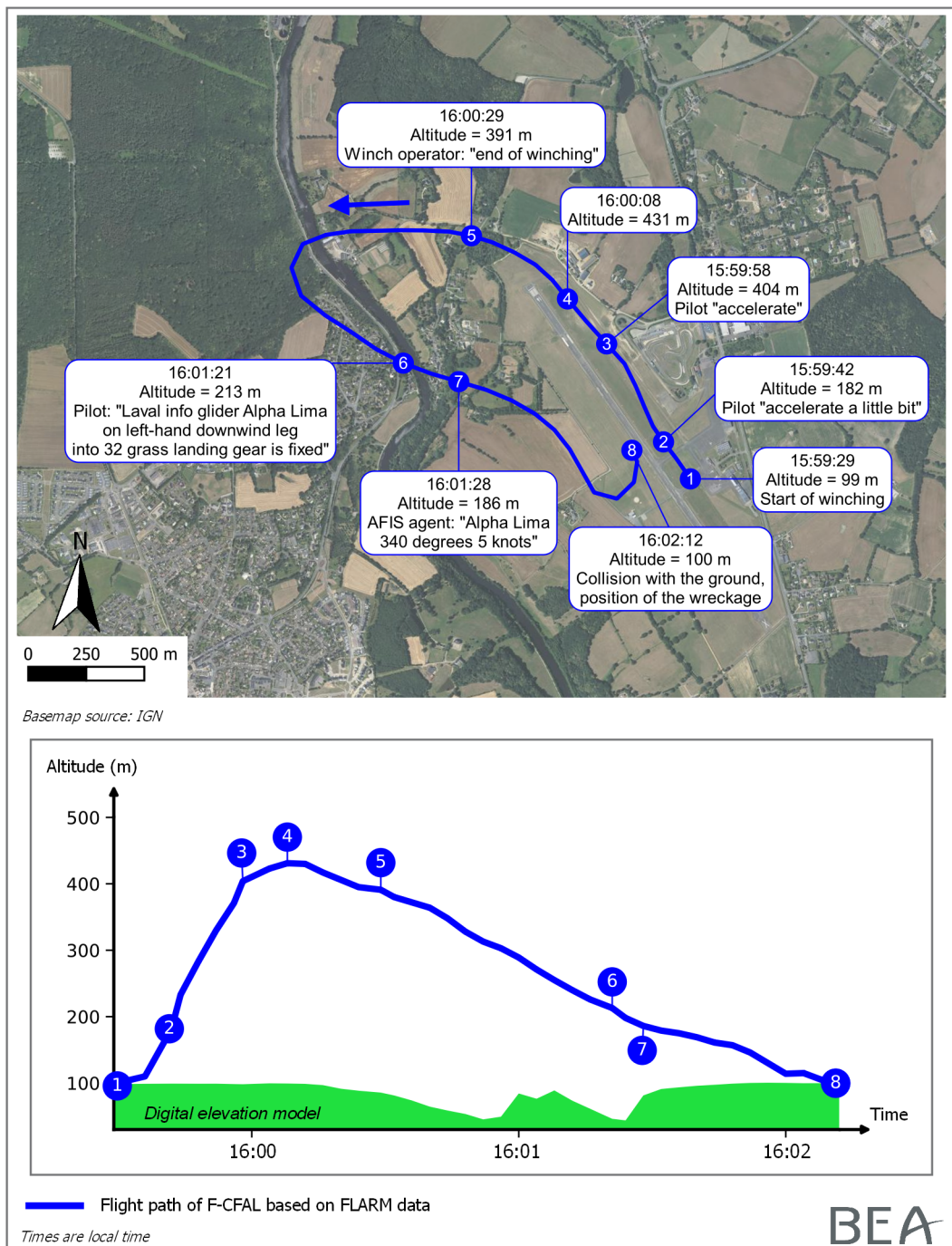


Figure 1: path

2 - ADDITIONAL INFORMATION

2.1 Glider information

The Janus C is a two-seater, mid-wing glider. It is equipped with fixed landing gear, wing flaps, upper wing surface air brakes and a tail parachute. The blue air brake control is located on the left side of the cockpit, pointing downwards. In its most forward position, the air brakes are retracted and locked. When pulled out approximately four centimetres, the air brakes are unlocked. Beyond that, the air brakes are extended according to the position of the control.

2.2 Aerodrome information

Laval Entrammes AFIS aerodrome has two parallel runways oriented 14/32. One is paved, the other is grass. QFU 32 is the preferred QFU with a right-hand pattern into the grass runway, which is 1440 m long and 75 m wide. Two taxiways, A and B, leading to the paved runway cross the grass runway. Two taxiways, A and B, leading to the paved runway cross the grass runway.

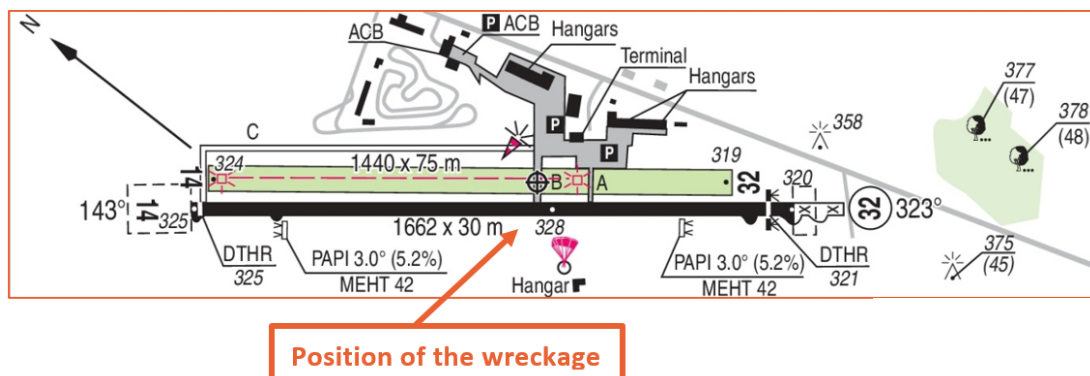


Figure 2: excerpt from the VAC

The AFIS agent was on duty at the time of the accident.

2.3 Front seat pilot information and statement

The 76-year-old pilot in the front seat held a glider pilot licence and a PPL(A) licence. He had logged 885 flight hours in gliders, 678 of which were as pilot-in-command. In 2019, he had logged 4 hours and 30 minutes, all since 18 April, including seven winch launches. As he lacked recent winch launch experience, he asked a more experienced pilot to accompany him.

He stated that he had not thought to check the position of the air brakes during the flight, which he said was difficult to estimate.

2.4 Rear seat pilot information and statement

The 84-year-old pilot in the rear seat held a glider pilot licence and a PPL(A) licence. He had logged 1,920 flight hours in gliders, including 1,796 hours as pilot-in-command. In June 2019, he had logged about eight flight hours and ten winch launches.

He indicated that he had not thought to look at the air brakes during the flight and explained that he had been primarily concerned with managing the approach and landing. He also stated that he should have landed counter QFU. He stated that the air brake control is hard to lock and that the air brakes might be considered locked although the control has not reached its stop. He noted that, after landing, the air brakes were retracted.

2.5 Statements

The winch operator explained that he had increased the winch speed twice at the request of the front seat pilot (points ② and ③). He indicated that the initial regime was normal but, based on the pilot's requests, he considered that there was a problem. After the accident, he recalled having to unlock the air brakes in preparation for the wing removal. He thought that they had locked on or after ground impact.

A pilot, who had logged approximately 40 flight hours, was present beside the winch. He indicated that he had clearly seen the orange colour of the air brakes appear after the winch release. He therefore immediately communicated this to both pilots using the winch truck radio. As the glider was moving away from him, he could no longer make out the air brakes and, as he was convinced that both pilots had taken his message into account, he did not repeat it. In hindsight, he wondered whether he had used the microphone on the truck radio properly.

2.6 Communications

The recording of the aerodrome frequency was used to reconstruct the radio exchanges from the start of the winching operation through to the accident. No message relating to the spurious opening of the air brakes was recorded. Neither the pilots nor the winch operator heard any such message.

2.7 Winch launch risks

In order to harmonise procedures and standardise the use of the winch at gliding centres, the training and safety committee of the National Gliding Centre (CNVV) wrote and circulated a winch launch guide⁽²⁾ in March 2016. This guide describes winch launch procedures, the phrasing to be used, the role of the various stakeholders (pilot and winch operator), risk analysis and emergency procedures in the event of a problem.

Spurious opening of the air brakes is one of the occurrences that can happen during the climb following a winch launch. The risk associated with this occurrence is, according to the guide, degraded climb performance. If the winching operation is cut short, increasing airspeed can be difficult and can lead to a stall. As a preventive measure, the guide recalls the need to perform rigorous pre-launch actions and safety checks. It recommends that the air brakes should be retracted smoothly as soon as they have been seen to have opened.

2.8 Similar occurrences

The accident at Laval Entrammes aerodrome is not unique. A search for similar occurrences that have been the subject of safety investigation reports identified several accidents, including one in July 2015 at Buno Bonnevaux aerodrome (Essonne) (off-field landing and collision on the ground with an obstacle⁽³⁾) and another in August 2016 in the Netherlands (hard landing⁽⁴⁾). The pilots pushed the air brake control without going all the way to the stop during the ground checks and deemed them to be locked. In both cases, the air brakes deployed during the initial climb.

⁽²⁾ Glider winch launch guide.

⁽³⁾ https://www.bea.aero/uploads/tx_elydbrapports/BEA2015-0385.pdf

⁽⁴⁾ https://www.onderzoeksraad.nl/media/attachment/2018/7/10/2749de2951b9ovv-kwartaalrapportage-luchtvaart_kw_iv_2016_en.pdf
page 13.

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

During the winch launch, the glider's air brakes deployed spuriously. Neither pilot detected this. The message from the person on the ground who attempted to inform the pilots by radio was not transmitted probably because he did not use the radio in the truck properly. The degraded performance caused by deployment of the air brakes led the two pilots on board to abort the flight. Failure to take sufficient account of the degraded performance and the path followed by the pilot in the rear seat meant that he was unable to reach the chosen runway and make a safe landing.

Contributing factors

The following factors probably contributed to the spurious extension of the air brakes during the winch launch:

- ☐ A perception that the blue air brake control was showing a certain amount of resistance during the pre-take-off checks led the front seat pilot to unintentionally leave it in an unlocked position. The pilot in the rear seat did not detect this and considered the air brakes to be locked.

The following factors contributed to the hard landing:

- ☐ Failure by the pilots in-flight to identify and manage the extension of the air brakes.
- ☐ Failure to take sufficient account of the degraded performance in respect of the glide path and the path to be adopted to reach the runway.