

Accident to the CENTRAIR - SNC34C registered F-CIHH

on 2 June 2020

at Ploërmel-Loyat (Morbihan)

⁽¹⁾ Except where otherwise indicated, the times in this report are in local time.

Time	Around 15:55 ⁽¹⁾
Operator	Planeurs de Brocéliande
Type of flight	Instruction
Persons on board	Pilot and instructor
Consequences and damage	Instructor severely injured, glider destroyed
<i>This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in August 2021. As accurate as the translation may be, the original text in French is the work of reference.</i>	

Winch launch abort exercise at very low height, hard landing, in instruction

1 - HISTORY OF THE FLIGHT

Note: the following information is principally based on statements and data recorded by the FLARM computer on board the glider.

The pilot, seated in the front seat, was receiving winch launch training with the instructor, seated in the rear seat. Winch launch abort exercises at various heights were planned to complete the pilot's training.

During the take-off from runway 10⁽²⁾ for a winch launch abort exercise at low height, the instructor released the cable at a height that he estimated to be less than 30 m. The glider's speed was between 100 and 110 km/h. The pilot applied a nose-down input on the stick and the glider's pitch attitude decreased. The pilot was unable to flare and the glider touched down hard on the runway centreline, near the runway mid-point, with a nose-down attitude. It ran for about 30 m before coming to a stop.

Despite suffering a severe back injury, the instructor managed to alight the glider unaided.

2 - ADDITIONAL INFORMATION

2.1 Pilot information

The 65-year-old pilot held a sailplane pilot licence (SPL) as well as a sailplane instructor rating FI(S). He also held a Private Pilot Licence - Aeroplanes (PPL(A)). He had logged 2,975 sailplane flight hours. In 2020, he had flown 20 minutes on 29 May with the instructor as part of his winch launch training.

The pilot had not performed a winch launch for almost 40 years. He had arrived at the club at around 10:30 for the morning briefing given by the instructor.

⁽²⁾ Grass runway measuring 800 m long and 50 m wide.

He indicated that the glider had not stalled between the release and the landing. He added that the glider's pitch attitude had decreased after his nose-down input on the stick after being released. The descent profile had noticeably increased and the pilot considered that he had had no way of flaring. He was unable to remember the speed at the time of release. After the glider came to rest, he had observed that the air brake control was pulled.

2.2 Instructor information

The 66-year-old instructor held a sailplane pilot licence (SPL), a sailplane instructor rating FI(S) issued in 1996, as well as an examiner authorisation FE(S). He had logged a total of 5,335 flight hours, of which 3,010 hours as an instructor, 17 hours in the last three months, and 3 hours in the previous 24 hours.

The instructor reported that, since becoming an instructor, he had conducted eight to ten winch launch abort exercises at low height each year. He added that the first winch launch abort exercises with the pilot at the start of the afternoon had gone well. Approximately 15 minutes had passed between each flight to get the glider back on the runway and to perform the pre-take-off checks (CRIS). He estimated that the pilot's actions after the release of the cable at low height had been consistent with what was required in this type of exercise. He had observed that the speed had not increased after the pilot's nose-down action. The instructor added that he had extended the air brakes once on the ground.

He stated that there had been strong uplifts and downdrafts with a northeasterly wind in the afternoon. He specified that, at the time of take-off, there had been a light wind whose direction had been variable, with the windsock turning 90° in less than two seconds. According to him, the absence of acceleration and the high vertical speed after the release can be explained by a tailwind gust at the time of or shortly after the release.

2.3 Meteorological information

The meteorological conditions were as follows: visibility greater than 10 km, no clouds, temperature 26 °C.

The average wind recordings (two minutes) from the automatic station at Ploërmel, located less than 6 km south-south-west of the aerodrome, showed that there had been a northeasterly wind until 16:00, then a northerly wind for a few minutes, before changing to a westerly wind from 16:15. The recorded wind strength was between 5 and 12 km/h from 15:50 to 16:00. It then increased to approximately 13 km/h at 16:05.

At Rennes-Saint-Jacques airport located 50 km east of Ploërmel aerodrome, the wind at 16:00 was of 8 kt from 350°, varying from 290° to 020°.

At Vannes Meucon aerodrome, located about 40 km south-west of Ploërmel aerodrome, the wind at 16:00 was of 4 kt from 350°, varying from 280° to 080°.

2.4 Glider information

The Centrair SNC34C is a glass fibre, two-seater, mid-wing glider. The air brakes extend from the upper surface of the wing. Its empty weight is approximately 350 kg and its maximum weight is 540 kg. At this weight, the stall speed in a straight line without the air brakes is 70 km/h.

The demonstrated maximum crosswind component at take-off is 18 km/h.

The flight manual indicates that in the event of a winch system failure, the pilot must push the stick to adopt the free flight attitude, pull the hook release control several times, and depending on the altitude and conditions (obstacle-free surroundings, slope, wind, etc.):

- Below 50 m: land straight ahead;
- Above 50 m: land straight ahead, or possibly land downwind after a turn-around in light winds;
- Above 100 m: perform a reduced aerodrome circuit and land into the wind.

2.5 Winch launch abort training

According to the glider winch launching manual produced by the safety and training commission of the French Gliding Federation (FFVP):

- The most frequent incidents during winch launch operations are unexpected winch launch aborts (cable breakage, winch failure, untimely release, pilot or winch operator intentionally aborting the operation, etc.).
- Winch launch abort exercises at very low height (below 50 m) should not be performed with a student-pilot at the controls as these can lead to a hard landing.
- Winch launch training for pilots who have almost exclusively performed towed take-offs should be considered as learning new skills and the training should be carried out in full.

2.6 Similar occurrences

Between 2011 and 2020, nine accidents occurred during aborted winch launches. One of these accidents occurred in instruction during a winch launch abort exercise at very low height⁽³⁾.

⁽³⁾ https://www.bea.aero/fileadmin/uploads/tx_elydrappports/BEA2018-0599.pdf

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 a winch launch abort exercise at very low height in instruction, the pilot and instructor were surprised by the steep descent profile after the release of the cable, which can be explained by a tailwind component at the time of take-off. In the immediate vicinity of the ground, the pilot's action on the stick to flare did not prevent a hard landing with a nose-down attitude.

Contributing factors

The following factors may have contributed to the hard landing:

- The release at a very low height during a winch launch abort exercise.
- The potentially critical management of aborted winch launches at low height, particularly when training for these situations, characterized by dynamics that leave little time to react between the aborted winch launch and the landing.

Safety lessons

Winch launch abort exercises at low height

The F-CIHH accident shows that the instructor's and pilot's experience was not sufficient to prevent a hard landing. Training in these winch launch abort operations remains nevertheless essential. In its glider winch launching manual, the FFVP recommends the prohibition of winch launch abort exercises at very low height (below 50 m) with a student-pilot at the controls (See [paragraph 2.5](#)).

The gliding club has decided that from now on, winch launch abort exercises will be carried out in a flight simulator.