



Accident to the SCHLEICHER - ASH25
registered **F-CLMR**
on 14 March 2022
at Volonne

Time	Around 13:25 ¹
Operator	Centre Savoyard de Vol à Voile Alpin
Type of flight	Instruction
Persons on board	Instructor and pilot under instruction
Consequences and damage	Glider substantially damaged

This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in December 2022. As accurate as the translation may be, the original text in French is the work of reference.

Collision with terrain during mountain flight, in instruction

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements made by the instructor and the data extracted from the aeroplane's FLARM.

In the context of a flight organised by the *Centre Savoyard de Vol à Voile Alpin*, the instructor and the pilot under instruction arrived at Château-Arnoux - Saint-Auban aerodrome the day before the accident.

The pilot under instruction, accompanied by the instructor, carried out a towed take-off at 13:11. After using updrafts around the Durance river dam and reaching an altitude of 1,470 m, he headed north, passing onto the lee side of the terrain where the glider encountered a strong downdraft. The instructor took over the controls and followed the ridge line of Ruth mountain at an altitude of about 1,200 m. The altitude of the terrain overflown increased, and the glider came closer to the ground. The instructor turned to the right, the glider lost altitude, hit the branches of a tree and collided with the ground 30 m further on.

The crew, uninjured, used the glider's radio to report the accident on the Château-Arnoux-Saint-Auban frequency and were rescued by helicopter about 45 minutes later.

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

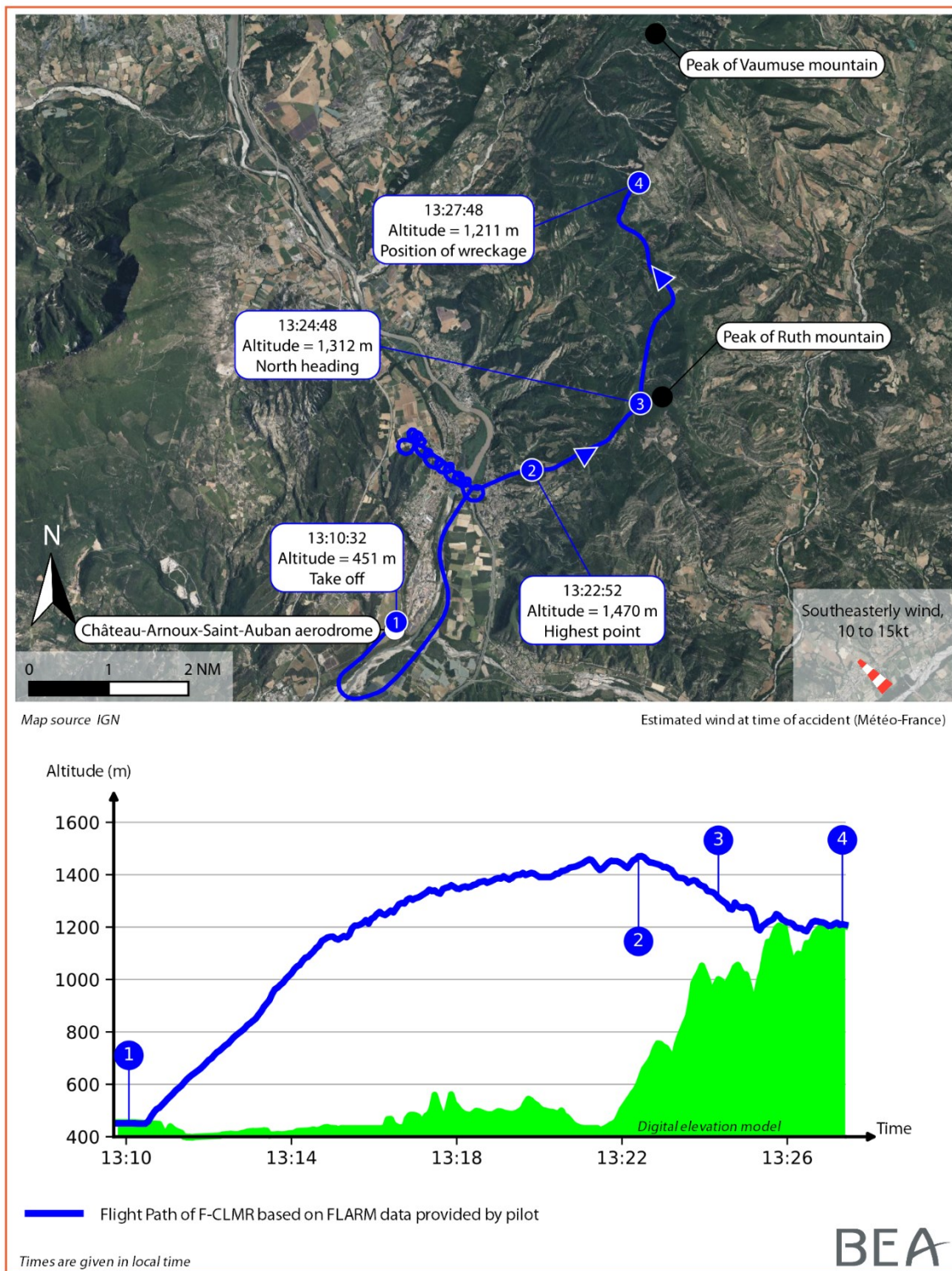


Figure 1: flight path of glider

2 ADDITIONAL INFORMATION

2.1 Instructor's experience

The 72-year-old instructor held a glider pilot licence (SPL) as well as towed, self-launch, motor glider and winch ratings. He had logged 4,180 glider hours, including 2,125 hours as pilot-in-command, 1,931 hours as glider instructor, and 48 h 30 min on the ASH-25 in 2021. His last flight was on 7 October 2021 on the ASH-25.

He also held an Airline Transport Pilot Licence (ATPL(A)) (he could no longer exercise the commercial transport privileges), with valid SEP, mountain "wheels" and towed ratings and a microlight pilot licence with Class 3 fixed-wing and passenger approvals. He had logged approximately 20,000 aeroplane flight hours.

2.2 Experience of pilot under instruction

The 37-year-old pilot under instruction held a glider pilot licence (SPL) and a winch rating. He did not hold a towed rating.

Note: despite contacting him several times, it was not possible to obtain information from him. Information about his experience was provided by the instructor (see paragraph 2.4).

2.3 Meteorological information

During the morning briefing, the weather forecast provided to the pilots indicated a southerly wind which could turn southeasterly, an unstable air mass, a ceiling at around 2,000 m, overcast, risk of rain.

The instructor indicated that both he and the pilot under instruction had attended the morning briefing provided by the chief pilot of the National Gliding Centre (CNVV) at Saint-Auban. During the flight, as indicated during the briefing, the weather was sunny and they did not encounter any visibility problems.

The weather conditions estimated by Météo-France at the site at the time of the accident were a south-easterly wind of 10 to 15 kt, with gusts between 20 and 25 kt at ground level, visibility greater than 10 km, no precipitation, numerous low clouds with a ceiling between 1,200 m and 1,500 m, temperature 6°C.

The accident site was in an area of moderate turbulence.

2.4 Instructor's statement

The instructor stated that this was one of the first flights of the year. He considered the pilot under instruction to be experienced, since the latter had stated he had already flown about 280 h in the Alps. He added that this pilot had no experience on the ASH 25. At the beginning of the flight, the pilot under instruction was at the controls.

The instructor reported that the pilot used a first updraft without difficulty. On reaching the top of this first updraft, the instructor suggested that, in order to find more updrafts, the pilot should fly to the southern part of the Vaumuse mountain where a cumulus cloud was developing. He reported that the glider encountered a strong downdraft when passing onto the lee side of the Ruth Mountain ridge, which is oriented roughly north-south. The instructor then decided to take the controls to accelerate and quickly return to the windward side of the ridge, which he estimated he flew over at a height of between 180 m and 150 m. He then turned north towards the cumulus cloud, slope soaring along the ridge and at a height he estimated to be between 50 m and 100 m. He added that a large drift to the left (20° to 30°) confirmed a southeasterly wind of 20 to 25 kt.

The instructor indicated that he realised that the height was decreasing due to the increasing altitude of the terrain flown over and that they should turnaround. He explained that he had two options:

- Either turn left back over the ridge which, given the steepness of the western slope, would rapidly increase his margin in relation to the ground but with the certitude of finding the strong downdrafts encountered previously and of it being somewhat difficult to return to Saint-Auban with sufficient height margins.
- Or turn right in the upper part of a fairly long valley oriented southeast, on the windward side, over moderately sloping but sunny terrain with little vegetation, which he felt was conducive to the development of thermal lift.

He said that this second option seemed safer and would allow them to return to Saint-Auban on the windward side of the Vaumuse-Ruth-Pylônes ridge if necessary. He remembered starting his right turn with a vertical speed of about +2.5m/s which became negative a few seconds later. The glider then collided with the top of an oak tree and hit the ground some 30 m further on, in the middle of broom bushes, which quickly brought it to a rest.

In retrospect, the instructor felt that he was overconfident in flying too close to the terrain and that his analysis of the local air situation did not reflect the reality of the situation.

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

While the pilot under instruction was heading towards an area where they expected to find thermal lift under a cumulus cloud, the glider encountered strong downdrafts when it arrived on the lee side of the mountain it was flying over. The instructor took the controls and continued the flight towards the cumulus following a rising ridge. As the glider's height decreased, he decided to turn towards the upper part of a valley where he thought he would encounter an updraft.

During the turn, the glider lost height and collided with a tree and then the ground.

Contributing factors

The following factors may have contributed to the collision with the vegetation:

- Following a path close to the terrain with an insufficient margin above the ridge line. This choice of path may be related to the resumption of flying after a period of inactivity and may also be explained by an overconfidence of the very experienced instructor and an erroneous interpretation of the air conditions.
- Late diversion into the valley to avoid rejecting the flight.

Safety lessons

The CNVV [Safety in Mountain Flying manual](#) published in 2012 provides basic recommendations on mountain flying.

Margin in relation with the terrain

The manual addresses in particular, the technique of flying close to the terrain and reminds pilots that it is essential to maintain height according to the gradient of the terrain and to be wary of hidden gradients. This event highlights the fact that an environment conducive to updrafts - a windward slope well exposed to the sun - does not guarantee their presence and shows the need to maintain a sufficient height margin in these conditions.

Recent experience

The manual recommends that pilots assess their own gliding skills through critical self-analysis, including aspects of recent training. It reminds pilots that even the most experienced pilots may make an omission, misjudge or be clumsy and that they should be the first to be wary of overconfidence which can lead to incomplete decision making.

When searching for thermal lift, increasing height margins on resuming flights at the beginning of the gliding season or more generally after a significant period of not flying is a way of improving safety.

BEA Safety Investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liability.