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INVESTIGATION REPORT

Accident to the STEMME S-10V registered F-CAOT

on 5 August 2020
at Dingy-Saint-Clair (Haute-Savoie)

Time	Around 15:55[1]
Operator	Private
Type of flight	Local
Persons on board	Pilot and one passenger
Consequences and damage	Pilot and passenger injured, glider destroyed

This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in April 2021. As accurate as the translation may be, the original text in French is the work of reference.

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

In-flight collision with a cable

Note: the following information is principally based on the pilot's statement and FLARM data.

1 - HISTORY OF THE FLIGHT

The pilot, in the left seat, accompanied by a passenger, took off without assistance from Chambéry - Challes-les-Eaux aerodrome (Savoie) at around 14:00. He used the uplifts around the aerodrome for about an hour, then flew north towards Lake Annecy and on to Lachat mountain, flying along the rock face on the south side of Parmelan mountain. He flew close to the Parmelan refuge at around 15:48. He turned around after Lachat mountain. While flying back along the rock face on the south side of Parmelan summit, the left wing of the glider struck the cable of the lift[2]. The glider became unstable and entered a flat spin, colliding with the tree-covered mountain slope below the rock face.

[2] The height of the cable from the ground is approximately 120 m at this point.

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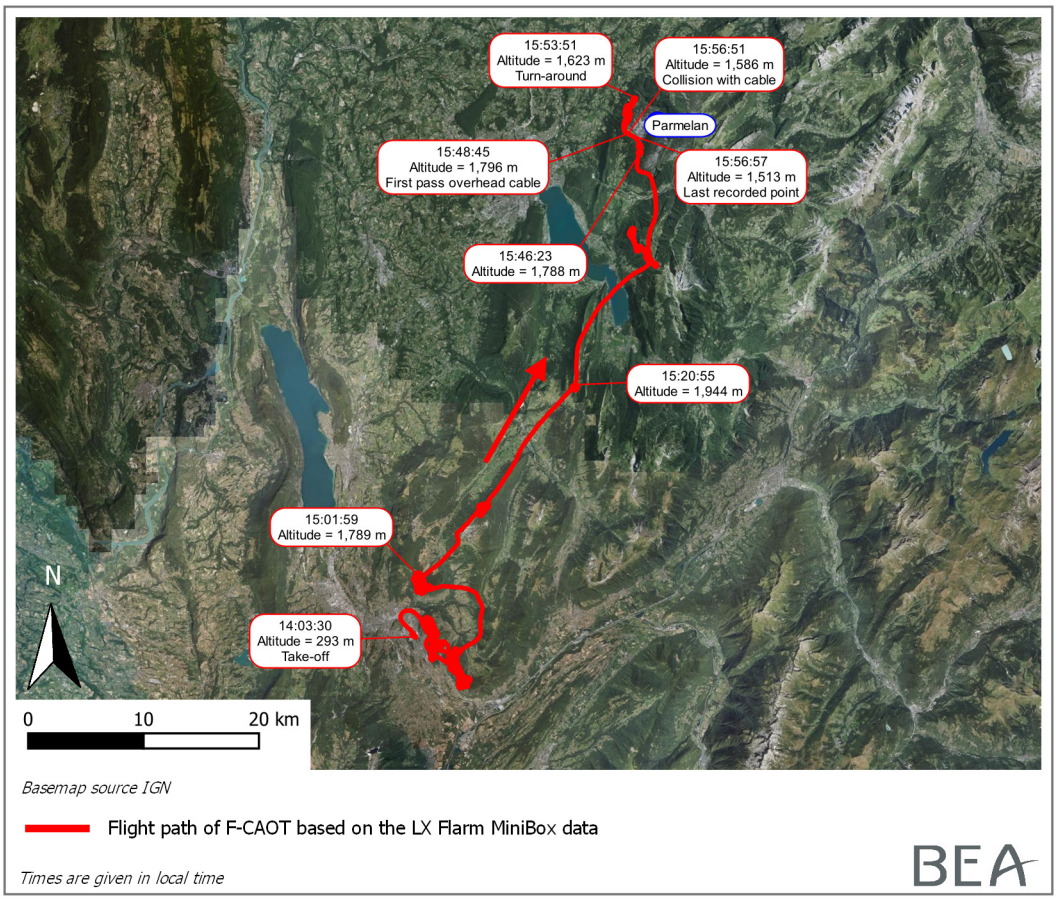

Figure 1: Path

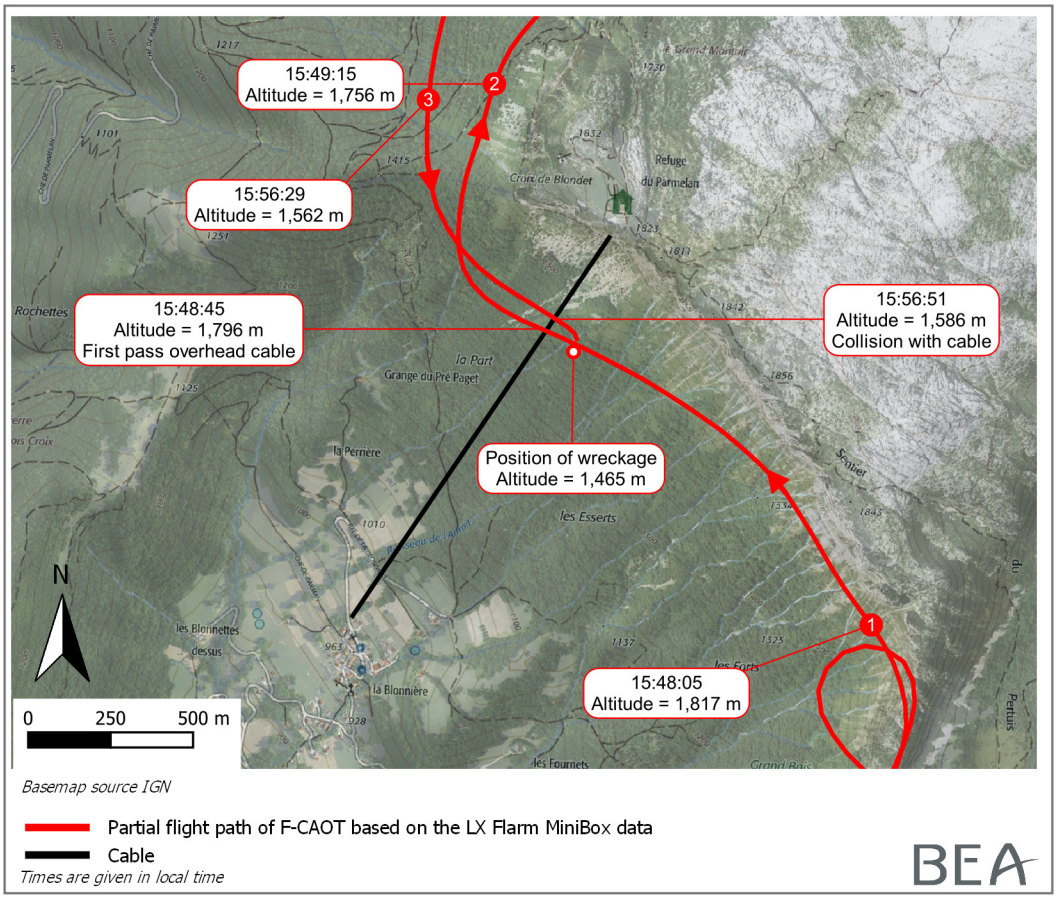

Figure 2: Detail of the path near the cable

2 - ADDITIONAL INFORMATION

The Stemme S-10V is a self-launching glider consisting of a combustion engine located behind the occupants and a folding propeller installed in the front cone.

The glider was equipped with a FLARM. Reconstruction of the path above was possible based on data from the computer read-out. The obstacle database was not present in the FLARM.

The 61-year-old pilot held a glider private pilot licence (SPL) and a microlight pilot licence with fixed wing microlight and passenger transport ratings. He had logged 1,526 flight hours in gliders, of which 22 hours were in the three months preceding the accident, all in F-CAOT.

The pilot stated that he had arrived the day before at Chambéry - Challes-les-Eaux aerodrome from Montbéliard. He was using the 2020 edition of the gliding map for the Northern Alps region with a scale of 1:250,000. The Parmelan refuge lift cable was indicated on the map. He said that this was his first flight in the region.

Being unfamiliar with the region, he had agreed with a pilot based at the aerodrome who also owned a STEMME S10 to make an introductory flight of the region with two gliders. He took off after the other glider and followed it throughout the flight.

The pilot explained that he had not seen the cable either when he flew past the refuge on the outbound leg or on the return leg.

The pilot stated that he had not been aware of the existence of an obstacle database for the FLARM.

The cable stretched between the Parmelan refuge and the village of La Blonnière in the valley below was not equipped with any particular system to improve its detection by pilots.

The order of 25 July 1990[3] indicates in article 2 in application of paragraph 3 of article R244-1 of the civil aviation code that the marking (day and/or night) of installations may be imposed when the height at any point above the ground or water is greater than 50 m in mountainous areas.

The cable of the Parmelan lift, which reaches a height of 120 m above the ground at its highest point, was originally equipped with markings. However, over time these markings had deteriorated. In 2009, the owner of the cable had sent a letter to the DSAC-CE (the French Civil Aviation Safety Directorate - Central East) asking if the markings were necessary. In 2010, the DSAC-CE had replied by e-mail that the markings were not required and that the addition of a cable to hold the markings above the suspension cable could constitute an additional hazard. The owner of the cable therefore removed the markings without replacing them. The DSAC-CE had sent a request to the FIS to reference this cable in the list of air navigation obstacles (AIP ENR5) with the wording "*unmarked cable*".

[3] Relating to installations requiring authorisation to be established outside areas with airspace constraints (version in force on the day of the accident).

3 - CONCLUSION

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 flying along the rock face of Parmelan mountain, the pilot passed close to the cable for the first time without seeing it. On the return leg, the glider was lower, below the ridge line and closer to the cliff wall. It is likely that the pilot could not see either the refuge or the pylon and was therefore not alerted to the presence of the cable.

The collision of the left wing with the cable destabilised the glider and led to the in-flight loss of control.

Contributing factors

The lack of a cable marking system may have contributed to the pilot's failure to detect the cable.

Safety lessons

Taut cables (thin obstacles) represent a hazard for air navigation, especially in mountainous areas where there is a great deal of activity (helicopters, gliders, paragliders) at low height or close to the terrain. The identification and marking of cables on aeronautical charts and FIS documentation (AIP ENR5) may not be sufficient to ensure safety during flights. Visual observation and detection of cables during VFR flights, one principle of which is the "see and avoid" rule, is the only reliable method of avoiding collisions with obstacles. As such, markings are currently the most effective means of enabling pilots to identify and detect obstacles in their flight path. The managers and/or owners of such installations are responsible for maintaining the markings in good condition when required by air navigation safety regulations.

The FLARM has a database of obstacles including cables that can be used to alert the pilot during flight. This database is available as an option (for a fee) for download to the FLARM. The Parmelan cable was referenced in the database.

Within the FFVL (French Federation of Free Flight), the "*Sites et Espaces de Pratique*" committee has created a database, via a website www.parazones.com, which contains a non-exhaustive list of the aerial obstacles along with flight sites, types of activities, danger zones and points of interest. The enrichment of this database relies on the active contribution of pilots. This free access site is open to all aeronautical stakeholders.

Actions taken following the accident

The DSAC-CE re-examined the Parmelan cable case and contacted the owner in order to define the requirements for installing markings in accordance with the regulations in force.

The manager has arranged to have new cable markings installed in conjunction with maintenance operations scheduled for the first half of 2021.