



Accident to the SPORTINE AVIACIJA - LAK17 - B FES/JET MINI registered LY-GRO

on 2 August 2021

at Serres-La Bâtie Montsaléon (Hautes-Alpes)

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

Time	Around 17:30 ⁽¹⁾
Operator	Private
Type of flight	Cross country
Persons on board	Pilot
Consequences and damage	Pilot fatally injured, glider destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in July 2022. As accurate as the translation may be, the original text in French is the work of reference.	

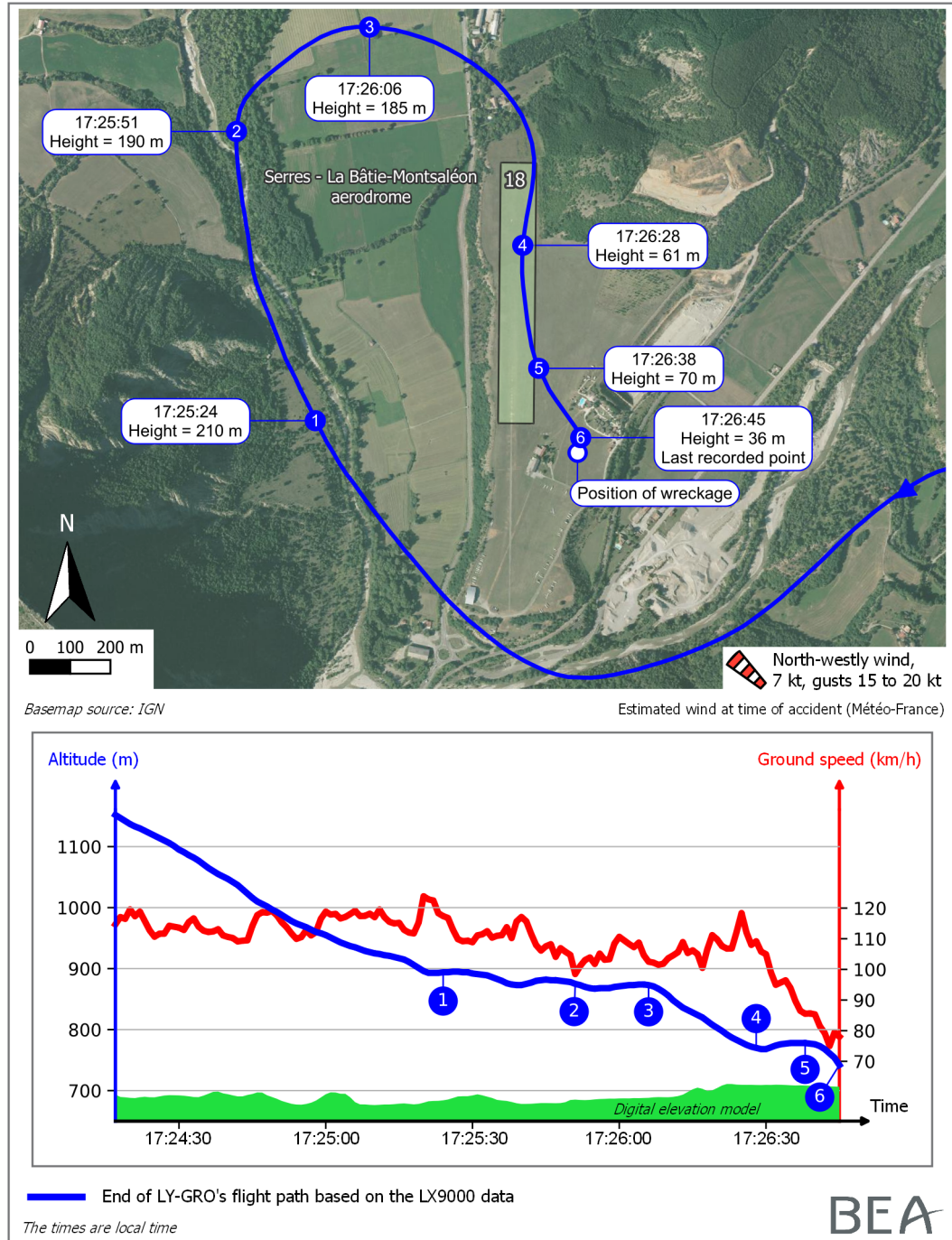
Loss of control during a pull-up while landing with a tailwind, collision with ground

1 - HISTORY OF THE FLIGHT

Note: the following information is principally based on statements, and data from the LX9000 computer installed on board the glider.

The pilot took off at around 15:00 from Serres-La Bâtie Montsaléon aerodrome for a flight to Pic de Bure. On returning at around 17:00, he flew spirals to the south-east of the aerodrome to lose altitude. He joined the beginning of the downwind leg for runway 18 at a height of around 200 m (see [Figure 1](#), point ①). He turned right (see [Figure 1](#), ②) and then continued the descent (see [Figure 1](#), ③) to intercept the runway centreline and the final approach slope. The rate of descent increased up to 5 m/s and the glider's airspeed went from 100 to 120 km/h⁽²⁾. The pilot corrected the flight path after overshooting the runway centreline. The glider was then aligned on the runway centreline, at a height of 60 m, 200 m after the threshold of runway 18 (see [Figure 1](#), ④), with an airspeed of 110 km/h. Ten seconds later, the glider deviated to the left of the runway while its altitude increased. During this gain in altitude, the airspeed dropped from 110 to 85 km/h (see [Figure 1](#), ⑤). A friend of the pilot saw the glider make left and right roll movements before entering an autorotation and colliding with the ground.

⁽²⁾The approach speed recommended by the flight manual is 95 km/h.



Source: LX 9000

Figure 1: end of flight path of accident flight

2 - ADDITIONAL INFORMATION

2.1 Glider information

2.1.1 Airworthiness

⁽³⁾ Front Electric Sustainer.

The LAK 17B-FES⁽³⁾ MINI is a self-launching glider with a wingspan of 13.5 m, designed and built by the Lithuanian company, Sportine Aviacija. It is equipped with an electric motor associated with a twin-blade propeller, positioned in the nose of the glider, and powered by batteries situated in the fuselage aft of the cockpit.

The LAK 17B-FES/JET MINI registered LY-GRO was a prototype derived from the LAK 17B-FES MINI. It was also equipped with a turbojet positioned in the upper part of the fuselage, behind the cockpit, and the associated equipment (controls in cockpit, fuel tanks in

wings, etc.). It was classed as “experimental” by the Lithuanian civil aviation authority which had issued a Lithuanian special certificate of airworthiness in April 2019, renewed in April 2021. At the time of the accident, and since test flights carried out in 2020, the turbojet and its computer had been removed from the glider.

According to the Lithuanian special certificate, flights in a state other than Lithuania required an authorization from the state of the operator. The DGAC had not issued a permit for the operation of LY-GRO in French airspace.

2.1.2 General

At the time of the accident, LY-GRO belonged to Sportine Aviacija. The friend of the pilot - who witnessed the accident - was in the process of purchasing it (see paragraph 2.6.1). The manufacturer indicated that it had lent the glider to the pilot on 28 May 2021 for the summer season. The pilot had transported the glider by land to Serres-La Bâtie Montsaléon aerodrome in June.

The glider had logged 48 flight hours since its entry into service in 2019.

The flight manual indicated a stall speed of between 80 and 83 km/h in the landing configuration and recommended a speed of 95 km/h in approach.

LY-GRO was a light, “racing” type glider, considered as sharp and agile, equipped with high-lift flaps. In the opinion of several instructors and pilots, a certain flight experience of around 300 flight hours was required to fly it.

2.1.3 Centre of gravity

LY-GRO, as for the certified version LAK 17B FES MINI, was equipped with an eight-litre water-ballast tank situated in the vertical stabilizer, designed to optimise the glider’s centre of gravity. The flight manual specifies that the maximum authorised weight of water is 6 kg. On the certified version, external graduations are visible on the skin of the vertical stabilizer indicating the quantity of water in the tank. These graduations did not exist on the vertical stabilizer of LY-GRO.

According to witnesses, there were three litres of water in the tank during the previous flight and the tank had not been drained after the flight. The tug pilot saw the accident pilot add four more litres before his flight.

Balance calculations show that the glider’s centre of gravity was well beyond the aft limit with seven litres of water in the vertical stabilizer and a pilot weighing between 70 and 80 kg⁽⁴⁾. This quantity of water was appropriate for a pilot weighing more than 110 kg. A pilot who had flown on the glider and who weighed approximately 70 kg, indicated that the centre of gravity was optimal with three litres of water.

⁽⁴⁾ Approximate weight of pilot.

2.2 Site and wreckage information

The wreckage was located at around 120 m east of the runway, 50 m after the threshold of runway 36. It was complete and grouped over a radius of around five metres. The damage observed on the structure showed that the glider had probably collided with the ground with a nose-down attitude. After the front section of the fuselage and the leading edge of the left wing had collided with the ground, the glider bounced aftward and the right wing struck the ground.

The flight controls were continuous before the collision with the ground. The damage on all the flight controls was the result of the collision with the ground or actions by the

rescue services. The examination of the speedbrakes seemed to show that the latter were symmetrically extended at the time of the collision with the ground. The position of the flaps could not be determined.

The damage observed on the electrical propulsion system was the result of the collision with the ground. The condition of the propeller blades indicated that the latter were not rotating on striking the ground.

The water ballast tank situated in the vertical stabilizer was found empty due to the damage to the glider.

The examination of the wreckage did not reveal any technical anomaly prior to the accident.

2.3 Pilot information

The pilot, of Lithuanian nationality, held a glider pilot license (SPL) issued by the DSAC on 15 June 2021. He had received training from the Association Aéronautique Verdon Alpilles (AAVA) at Vinon sur Verdon (Var), from January to May 2021 before joining the Eagles Alpine Soaring Academy at Serres-La-Bâtie Montsaléon aerodrome.

According to several people, he had discovered gliding in 2019 with a friend based at Serres-La-Bâtie Montsaléon aerodrome (see paragraph [2.6.1](#)). He had been a passenger several times in the two-seat glider that his friend owned, taking off from Serres-La-Bâtie Montsaléon.

At the time of the accident, he had logged around 90 flight hours, around 40 h of which in solo flight, approximately 20 h of these in LY-GRO. After his practical examination at the end of his training, he had carried out:

- three flights with LY-GRO on 29, 30 and 31 May in Lithuania;
- one flight on 14 June on the LS4 out of and back to Vinon aerodrome, during which he had carried out an off-airfield precautionary landing;
- three flights with LY-GRO out of and back to Serres-La-Bâtie Montsaléon aerodrome on 26, 27 and 28 June, for a duration of 6 h, 4 h and 30 min, and 5 h respectively. These were the only three approaches that the pilot had carried out in solo to this aerodrome. The flight paths downloaded from the LY-GRO LX9000 show three approaches roughly similar to that of the accident flight to runway 18 with respect to the turn and approach heights.

2.4 Meteorological information

The meteorological conditions estimated by the met office, Météo-France were:

- northwesterly surface wind of 7 kt with gusts between 15 and 20 kt;
- visibility greater than 10 km;
- few to scattered cumulus;
- temperature 22°C.

According to Météo-France, given the strength of the gusts at ground level and the vertical profile of the air mass, the presence of convective uplifts (due to diurnal heating) resulting in moderate ground turbulence, was very probable.

2.5 Aerodrome information

2.5.1 General

Serres-La Bâtie Montsaléon aerodrome is a restricted-use, uncontrolled aerodrome. Its reference altitude is 710 m. It has a grass runway oriented 18-36 measuring 650 x 90 m. The VAC chart specifies that the runway is curved lengthwise.

The aerodrome operator indicated that the air patterns are particular at the site due to the aerodrome being on a plateau and the mountainous environment. The terrain close to the aerodrome could also cause uplifts, particularly in the summer.

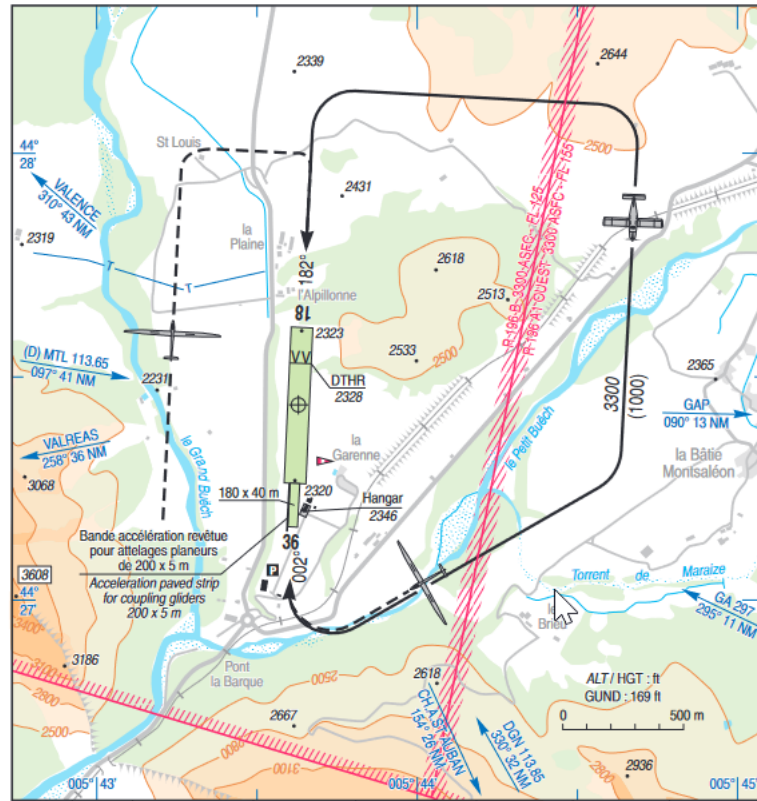


Figure 2: excerpt from Serres-La-Bâtie Montsaléon aerodrome VAC chart

2.5.2 Recommended practices

The aerodrome operator explained that pilots frequently choose to land on runway 18 even if there is a north wind. This enables the pilots, after landing, to directly access the parking area situated to the south of the aerodrome. He specified that this practice is neither recommended nor taught and that it requires the pilot to offset the base leg to the north in order to extend the final approach.

In the Welcome Pack that Eagles-Alpine Soaring Academy distributes to each pilot, it is recommended to land on runway 36 when the north wind exceeds 10 kt.

Figure 3 shows the club's recommended circuit to land on runway 18 in easterly or southeasterly wind conditions in order to avoid strong downdrafts on final. The accident flight path in white shows that the downwind leg was not at a sufficient distance from the runway and that the turn onto the base leg was too early.

CONSEILS POUR ATERRISSAGE EN PLANEUR PISTE SUD (18)

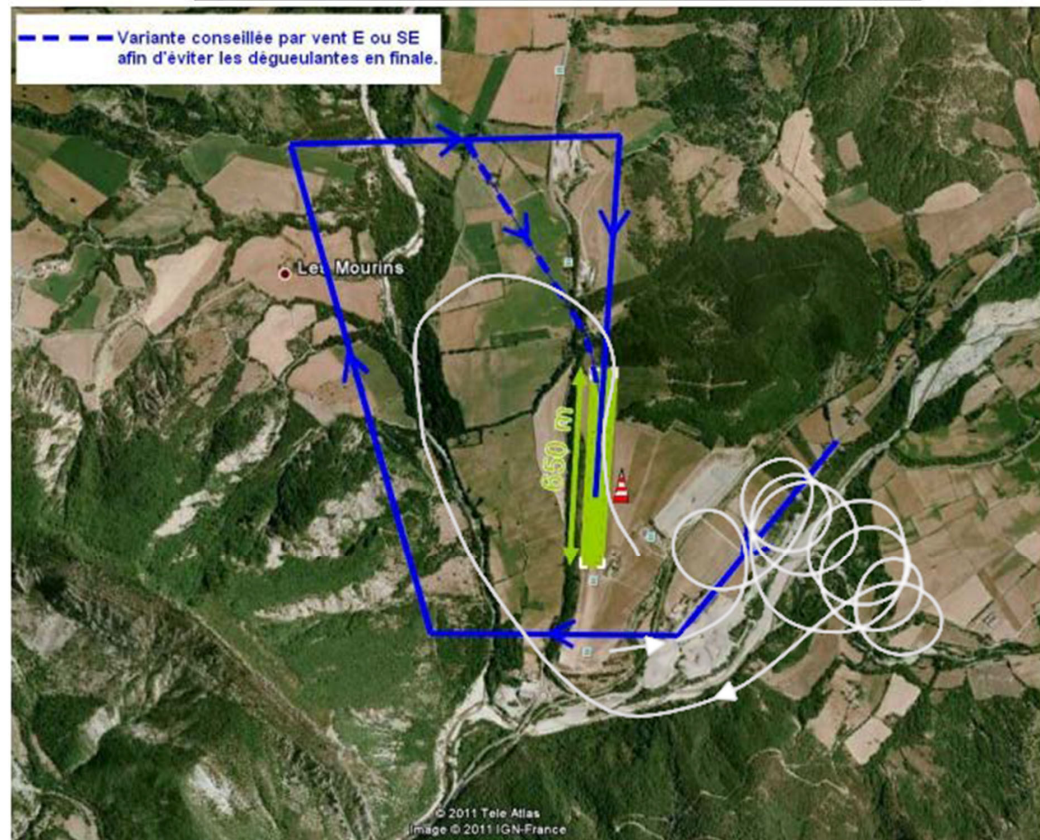


Figure 3: recommended circuit to land on runway 18 in the Eagles-Alpine Soaring Academy Welcome Pack (in blue) and flight path of LY-GRO (in white)

2.6 Statements

2.6.1 Pilot's friend

The pilot's friend had logged around 6,000 flight hours. He had been a member of Eagles Alpine Soaring Academy for more than ten years. He explained that the day before the accident, he had driven with the pilot of LY-GRO to Montluçon (a journey of more than five hours) where a gliding championship was to take place, to deliver a glider to a participant. They returned to Serres-La-Bâtie the day of the accident and in the afternoon, decided to go flying.

He indicated that he had landed around 20 minutes before the pilot, on runway 18. He was in radio contact with him and gave him flight information, notably wind information. He saw the glider gain altitude above the runway and then make left and right roll movements before entering an autorotation. He described the glider as being very reactive. According to him, the pilot had not sufficiently taken into account the drift generated by the northerly wind in the base leg.

2.6.2 Aerodrome operator

The aerodrome operator was also a tug pilot, glider pilot and instructor at the aerodrome. He indicated that the day of the accident, the pilots present at the daily briefing at around 10:00, were reminded to land on runway 36 given the wind. He specified that neither the accident pilot nor his friend had attended the briefing. He added that all new club members were mentored by instructors or experienced pilots and that the pilot's mentor was his friend.

In his opinion, the pilot might have been hampered by thermal updrafts and downdrafts during the approach, in particular after drifting and drawing closer to the hill situated to the north-east of runway 18. The aerodrome operator had flown in LY-GRO and considered that the pilot did not have sufficient experience to use this glider.

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

On returning from a cross-country flight, the pilot decided to land on runway 18 with a northwesterly wind of more than 10 km/h and gusts reaching close to 40 km/h. The airspeed during the approach was greater than the recommended speed of 95 km/h. The pilot turned early to join the final which obliged him to adopt a steep slope on starting the descent and led to an increase in airspeed. He did not sufficiently take into account the transverse drift generated by the wind and found himself on the left of the runway centreline on coming out of the turn. The glider's excessive airspeed, reaching 120 km/h, combined with the tailwind, left little time for the pilot to correct his flight path on final. Given the remaining runway distance and the speed of the glider when he aligned on the centreline, the pilot carried out a pull up and gained altitude possibly with a view to carrying out an adapted circuit to land on the runway in use. During this climb, the speed of the glider quickly dropped until the glider stalled.

Contributing factors

The following factors may have contributed to the high, fast arrival on final:

- Probably limited flight preparation due to the pilot arriving at the airport a short time before the flight and not having attended the morning briefing.
- An inappropriate flight path in the aerodrome circuit (choice of runway, downwind leg close to runway, premature turn, inappropriate management of speed) with insufficient consideration given to the wind conditions which left the pilot little time to stabilize the glider on final.
- The pilot's possible confidence in himself associated with a sense of competition linked to the influence of his friend with whom he exchanged on the radio and who had landed on runway 18 a few minutes before him.

The following factors may have contributed to the loss of control during the pull up while landing:

- Inadequate speed management which led to the initiation of an autorotation at a low height.
- Decreased stability due to the glider's probable aft centre of gravity with a full ballast tank in the vertical stabilizer, which may have contributed to the entry into the spin.
- The pilot's small amount of experience, especially on this type of glider designed for more experienced pilots and his small amount of experience of this aerodrome in solo flight.