
BHPA Incident Report: GBR-2021-20230

INCIDENT

Aircraft Type:	Paraglider, model "Q-Light" (s/n QLi-L-R-0513) manufacturer Triple Seven (777), size "L" (100-120kg total weight in flight). Harness: Sup Air "Strike 2" pod harness fitted with "X-Two 110" emergency parachute by X-Dream Fly in an integrated pocket. EN 966 certified open face helmet. 2m band radio and headset.
Certification:	EN-C class for a total weight in flight range of 100-120kg
Location:	Aspres La Longeagne Pré des Nonnes, Aspres-sur-Buëch, France.
Date and Time:	12 th September 2021, 12:30 UTC.
Type of Flight:	Cross country flight.
Persons Involved:	Pilot A.
Injuries:	Fatal.
Nature of Damage:	Damage to the equipment sustained in the incident or subsequent evacuation.
Pilot's Rating/Licence:	BHPA Paragliding Pilot (Hill) rating, obtained in 2016.
Pilot's Age:	58
Pilot's Experience:	Pilot's personal logbook review.
Information Sources:	A translation of a preliminary investigation report compiled by French Gendarmerie Nationale of the Hautes Alpes region of France (provided by the British Consulate) which included a translated statement (from French original) provided to French Police by Witness B (a French National). A video compiled by a French expert from footage taken from Pilot A's chest-mounted video camera (included as part of the French report). Statements by Pilot C and Witness D; Pilot C's tracklog; local meteorological information from Balises Meteo (France); paraglider inspection reports from independent service centres; visual inspection of the flying equipment; Pilot A's personal flying logbook.

The objective of this investigation is to prevent future accidents and incidents. It does not seek to ascertain blame or apportion legal liability for claims that may arise.

The report is presented in de-gendered format, replacing gender specific pronouns with "they/them" in the singular form.

All times in this report are UTC unless otherwise stated.

1.0 Synopsis.

Pilot A was making a cross country flight from the “Chabre” paragliding site near the town of Laragne-Montéglin in the Hautes Alpes region of southeastern France. Pilot A flew to Aspres La Longeagne, a mountain approximately 30km north of Chabre, and commenced soaring the ridge in conditions described by a local hang glider pilot witness as gusty. Pilot A was seen to be soaring close to the hillside when they experienced a departure from normal flight that resulted in a turn at speed into the hill, leading to an impact on the steep rock face. The emergency services attended, however Pilot A died from injuries they sustained.

2.0 History of the flight.

At approximately 11:00 UTC (13:00 local time) Pilot A, a “Pilot” rated BHPA member launched their paraglider from a hang gliding and paragliding mountain site known as Chabre, near the town of Laragne-Montéglin in the Hautes Alpes region of southeastern France. The weather was reported to be clear with thermic conditions and winds from the south or south-southeast.

After gaining height by soaring on the Chabre ridge, Pilot A flew in a northerly direction for approximately 25km using thermic lift. They gained height on a ridge on the west of the Aspres valley before turning on a northeasterly heading and flying across the valley towards the Aspres La Longeagne mountain, a further 6km away. This is a southeasterly to southwesterly curving rock ridge north of the village of Aspres-sur-Buëch. Pilot A was seen to be soaring close to the mountaintop ridge (known as La Longeagne - Pré des Nonnes) in conditions described by a hang glider pilot witness as gusty. Pilot A’s paraglider entered a spin which Pilot A attempted to correct. This led to a further departure from normal flight and a turn at speed into the hill where Pilot A impacted the steep rock face. The emergency services attended, however Pilot A died from the injuries sustained.

The French Public Prosecutor requested an investigation that was undertaken by the Hautes Alpes Gendarmerie and they commissioned a report by a French expert. Some of Pilot A’s equipment was returned to the UK soon after the incident. The Prosecutor did not release any further information until June 2022, when it issued a report (in French). Pilot A’s onboard camera, their camera footage and their tracklog information was not provided, despite requests to the French authorities. The UK Coroner helpfully provided a translation into English of the French investigation report.

3.0 Focus.

Based on the information available, the Investigation considered Pilot A’s equipment; their experience and currency; the flying area and local flying conditions; and the part of Pilot A’s flight immediately prior to the impact with the ground.

3.1 Pilot A’s equipment.

3.1.1 Pilot A’s weight was not available to the Investigation so it cannot be ascertained whether Pilot A was flying within the certified weight range for the size of paraglider (100-120kg total weight in flight).

3.1.2 In its user manual the manufacturer Triple Seven does not provide any recommendation on the level of pilot skills required for safe operation of the Q-Light paraglider other than stating it is “not recommended for less experienced pilots than the C class”.

The paragliding flight safety characteristics standard EN 926-2 states that C class paragliders have

“...moderate passive safety and potentially dynamic reactions to turbulence and pilot errors. Recovery to normal flight may require precise pilot input.”

Further, C class paragliders are:

“Designed for pilots familiar with recovery techniques, who fly “actively” and regularly, and understand the implications of flying a glider with reduced passive safety.”

The BHPA publishes further guidance to its pilots on the piloting skills required to fly a C class wing:

“For pilots who are Advanced Pilot rated, have several hundred hours logged (many of these in thermic conditions), have completed SIC courses, are flying 10 or more hours a month, and enjoy dealing with large asymmetric collapses, etc.”¹

It is evident that the wing was still new to Pilot A, and they had little or no prior experience of its behaviour in the conditions often found around alpine mountain locations at the time of year the incident flight took place. The Investigation determined that the paraglider type was a factor in the incident.

- 3.1.3 Pilot A's paraglider was examined by an independent service centre. They identified several worn and damaged upper suspension lines, which they attributed to the incident. They identified that the fabric strength met the specified requirements and was not of concern.

It was not possible for the service centre to assess the suspension line lengths, as the main lines had been cut in the post-incident recovery. They were able to measure a number of individual lines against the manufacturer's line specification and found that these lines conformed to the manufacturer's specified lengths. They determined that it was likely that the glider was flying in accordance with the manufacturer's specification. It was therefore likely that it conformed to the tested sample achieving the EN-C class rating under the EN 926-2 standard.

The service centre noted that significant areas of damage were present, consisting of multiple small holes and some larger tears to the wing material and its internal bracing. Internal cell wall or bracing damage can be the result of a previous forceful impact of the glider on its leading edge. The Investigation determined that Pilot A was suitably qualified and experienced to be able to identify damage (such as that found in the cell bracings) in their daily equipment inspection, and would not have flown the wing having identified such damage. On the balance of probability, the damage to the wing occurred during the incident or subsequent recovery by the emergency services.

- 3.1.4 The independent expert measured the air permeability (colloquially referred to as “porosity”) of the paraglider wing top and bottom surfaces. The leading edge material of the top surface of the wing was constructed from a different brand of material than other parts, and was found to exhibit unexpected readings in several areas. The expert identified that the time taken to draw air through the material during the tests was much lower than would normally be expected on a wing of such little use and age. The results were reported to the BHPA, and the decision was taken for a second independent service centre to perform air permeability tests with their own testing equipment. The results from the second test revealed similar (but not identical) readings. The BHPA Flying and Safety Committee published a Safety Advisory, recommending that pilots owning wings made of the same material have the air permeability checked if not already established².
- 3.1.5 The Investigation reviewed the incident video footage and witness statements provided. Whilst it could not rule out the possibility that the air permeability of the leading edge was a contributory factor, it took the view that given the nature of the incident it was highly unlikely to have been the precipitating factor that led to the incident, or a factor that prevented recovery of the paraglider, given the prevailing meteorological conditions.

¹ https://www.bhpa.co.uk/pdf/En_PG_Classes.pdf

² <https://www.bhpa.co.uk/safety/advisory/index.php?doc=sc015.pdf>

- 3.1.6 The Investigation considered the harness type used by Pilot A. Pilot A was known to have acquired the harness at the end of June 2021. The “Strike 2” is a pod type harness, stated by the manufacturer Sup Air as “intended for experienced pilots who are fully trained in the practice of paragliding.”³. Witness C (a long-standing friend of Pilot A) stated that Pilot A had first bought a pod type harness about five years ago. The Investigation determined that Pilot A was therefore familiar with the pod harness flying, although the specific pod harness used in the incident was relatively new to the pilot.
- 3.1.7 The harness was visually inspected. There were areas of tearing and laceration predominantly to the left-hand side of the harness, suggesting this side took the brunt of the initial impact force. Several areas were cut, and the Investigation determined that this would have been performed by the emergency services during the evacuation of Pilot A.
- 3.1.8 The emergency parachute was visually inspected. It was delivered to the BHPA in its inner container, already extracted from the harness’ outer container. The Investigation determined that within the limits of the visual inspection the packed emergency parachute was appropriate to the size of the harness container and was capable of deployment.

3.2 Pilot A’s experience and currency.

- 3.2.1 Pilot A became a BHPA member in March 2015 and achieved their Club Pilot rating in September that year. Pilot A maintained a logbook of their flying experience which recorded 172 flights, from obtaining their Club Pilot rating to the trip to France on which the incident occurred. The logbook recorded nearly 250 hours’ airtime with the majority of this obtained prior to 2020. In 2020 Pilot A logged 13 hours 19 minutes total for the year.
- 3.2.2 Pilot A had flown in New Zealand, Turkey and France, and had logged many flights in thermic conditions, with some involving cross-country flights of over 30km. A statement provided by Witness C (a fellow pilot and a long-time friend of Pilot A) noted that Pilot A was a very good pilot. Witness C stated that they both flew most weekends or as often as they could.
- During 2021 Pilot A logged nearly 30 hours’ airtime before their trip to France. The majority of this airtime was on an Advance Iota paraglider (EN B), although Pilot A undertook several flights on an Ozone Delta 4 paraglider (EN C) on which they completed a 30km cross country flight and achieved a high-ranking result in a local competition.
- 3.2.3 The last three entries in Pilot A’s logbook were on the incident paraglider, which they first flew on 23rd August 2021. Pilot A logged 1 hour 20 minutes airtime on this paraglider before travelling to France.

Pilot A did not log flights made on the trip in France in their logbook, so the Investigation cannot comment on the exact airtime they accumulated on this trip prior to the incident flight.

From the evidence available, the Investigation determined that Pilot A was suitably qualified and experienced to undertake cross country flights. In respect of Pilot A’s currency, it is evident that they had flown regularly in the preceding months, however they had very little experience on the incident wing, especially in thermic conditions.

It is not known whether Pilot A had undertaken training in recovery from departures from normal flight and advanced glider control (known amongst pilots as “S.I.V”). This does not appear in Pilot A’s logbook. It is apparent, however, that even if Pilot A had trained in advanced manoeuvres and recovery techniques, it was not on a C Class paraglider which reacts dynamically to turbulence and pilot errors and may require precise pilot input to recover to normal flight.

³ <https://www.supair.com/document/notices/NOTICE-STRIKE2-EN.pdf>

The Investigation determined that Pilot A's lack of experience on EN C Class paragliders was a significant factor in the incident.

3.3 The flying area and local conditions.

3.3.1 Aspres La Longeagne (Pré des Nonnes) is a crescent shaped mountain ridge to the northwest of the village of Aspres-sur-Buëch (see Fig. 1). Its maximum altitude is approximately 5100ft. The southern slopes are steep and forested. The ground drops away more gently to the north. The incident site is just below the ridge-top, on a steep south-southwesterly facing section of the slope, with rocks and low scrub vegetation, but bare of trees. Below this is a near vertical rockface (described by the emergency services as being approximately 30m high). At the foot of this rockface is a sloping forested area, which descends to the valley bottom. The area is shown in more detail on Fig. 2.

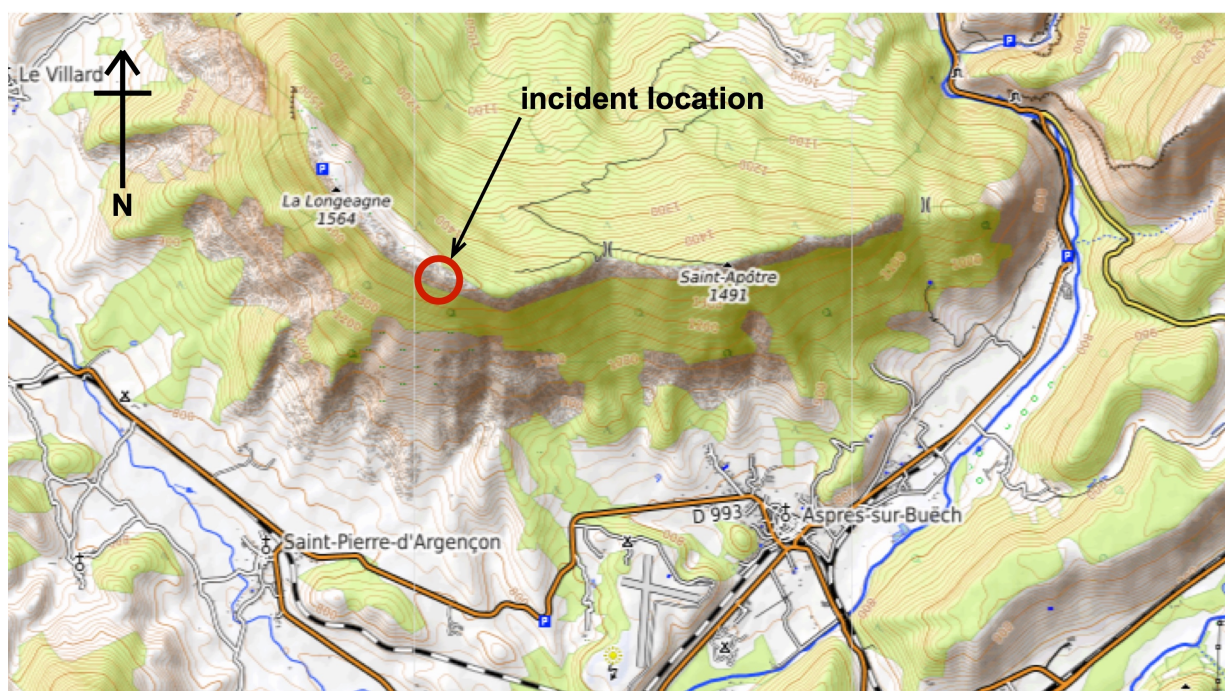


Fig. 1. Location of incident site.

The ridge is a well-known hang gliding and paragliding site. The launch area (used by hang gliders on the incident day) is identified on Fig. 2. The French Freeflying Association⁴ notes that southeasterly to southwesterly winds are favourable, and that during spring and summer (between the hours of 14:00 and 16:00) conditions that may be strong, making take-off difficult at the hillside.

3.3.2 The meteorological forecast showed that an area of high pressure sat over the region of France in question, and the winds were forecast to be light and from the south-southeast. It is of note that Pilot A's flight took place during the time of day when thermic activity is known to be at its strongest. The local temperature was recorded as 27 °C. The average wind in the Aspres La Longeagne area was recorded as approximately 15km/h from the south, with gusts up to 37km/h.

Stills from the video taken by Pilot A's chest mounted camera show well-spaced cumulus clouds. High altitude winds were evidently from the north. It is apparent that good thermic lift was present on the incident day, and strong areas of sinking air would be expected.

Pilot C launched from Chabre shortly before Pilot A and flew a similar route towards Aspres-sur-Buëch. They stated Pilot A was 15km downwind (ahead of Pilot C, during the flight). They described the conditions during the flight as "reasonable and getting weaker". They stated they

⁴ https://federation.ffvl.fr/sites_pratique/voir/1391

experienced no strong winds and very little turbulence during the flight.

- 3.3.3 The conditions at the incident location were described by Pilot B, a local hang glider pilot. They stated that their “hang gliding colleagues were shaken up during their flights... conditions were not good for a paraglider because there were too many gusts of wind.”

The meteorological conditions were noted by the pilot of the emergency services helicopter to be “tricky” with thermals and gusts of wind “that complicated the approach.”

The Investigation determined that the conditions on the day were suitable for experienced pilots, well versed in handling their paraglider in the rapidly rising and sinking air expected with alpine thermic activity. Care would have to be taken when flying close to the mountainside due to turbulence associated with these conditions.



Fig 2. The incident location and flying area. Photograph taken from the emergency services helicopter (image extracted from the French Preliminary Investigation report).

3.4 The incident.

- 3.4.1 The Investigation considered the portion of the flight immediately prior to the impact. As Pilot A's electronic flight instrument was not available to the Investigation, the evidence considered was the translated French Preliminary Investigation report, which contains a basic analysis of GPS tracklog data on Pilot A's electronic flight instrument by a French expert, and a witness statement from Witness B.

- 3.4.2 After launching from Chabre at around 13:00 local time, Pilot A soared the southerly face of the Chabre mountain, gaining sufficient altitude above the mountain to be able to fly over the back of the mountain and commence a cross-country flight. This is evident from Pilot A's tracklog presented in the French expert's report. The duration of flight between Chabre and La Longeagne Pré des Nonnes was calculated from Pilot C's tracklog, and estimated to be approximately one hour. The airspeeds of the two pilots' aircraft may differ slightly, and the route and duration spent circling in thermals would also differ.

- 3.4.3 During the flight, Pilot A evidently spoke to a number of other pilots over their radio. Pilot A's transmissions were picked up by the microphone on their video camera, which was recording during the flight. The incoming transmissions from the other pilots would have been relayed to

Pilot A's headset, and were therefore not picked up by the camera. A transcript of Pilot A's radio transmissions was produced by a French expert. This is of limited use because the times of the transmissions were not made available. Pilot C stated that they were one of the pilots with whom Pilot A corresponded, and in their statement they were able to provide context to the transcribed radio messages.

- 3.4.4 The French report listed as part of its radio transmission transcript a message "Yeah, the hangies are all on the crowd." The Investigation determined that this comment was in reference to the hang gliders, and the transmission was "the hangies (colloquial term for hang gliders) are all on the ground". The Investigation considered that this would tie with the statement from Pilot B, who stated that the hang gliders rigged on the take-off area had not launched because of the gusty conditions at the site. In a later comment, Pilot A can be heard transmitting that "it is quite windy here actually". The Investigation determined that on the balance of probability, Pilot A was referring to the conditions in the valley in front of the incident ridge, or on the ridge itself.
- 3.4.5 Pilot A arrived at the south-southwesterly facing ridge of Aspres La Longeagne Pré des Nonnes and started soaring it close to the mountainside, evidently in light lift and searching for stronger lift to climb away from the ridge. Witness D stated that Pilot A had soared the ridge for approximately 20 minutes before the incident happened.
- 3.4.6 The video taken from Pilot A's chest mounted camera shows 1 minute 50 seconds of the flight, including the departure from normal flight. The video finishes before Pilot A's impact with the ground. The video shows Pilot A flying along the La Longeagne Pré des Nonnes ridge. No other airborne aircraft are visible for the duration of the recording, however a number of hang gliders rigged at the launch area can briefly be seen. The cumulus clouds visible earlier in the flight had decayed, however thermic lift is still present. The variometer in Pilot A's electronic flight instrument can be heard indicating areas of sinking and rising air.
- 3.4.7 On the video, Pilot A is first seen below the ridgetop, at similar level to the tree line. Pilot A is in descending flight, but then encounters an area of strong thermic lift which enables them to climb up the ridge. The area of thermic lift is not wide, and Pilot A makes a 180° turn away from the hill to re-engage with the rising air which takes them above ridgetop height. It is evident that Pilot A was attempting to thermal above the ridge in order to extend their cross-country flight, rather than gliding to a suitable landing area in Aspres-sur-Buëch.
- 3.4.8 Pilot A is seen to tighten their left turn. The paraglider then enters a left-hand spin (through 180°) which Pilot A attempts to correct by application of the right-hand control. The right-hand wingtip is briefly seen in a collapsed state as Pilot A rotates rapidly to the right. The video then ends with the paraglider facing the hillside. This evidently led directly to Pilot A's paraglider descending rapidly to the ground.
- 3.4.9 The Investigation determined from the available evidence that Pilot A was flying in proximity to the hillside searching for consistent thermic lift to sustain their flight. Whilst making a series of turns in an attempt to stay in the strongest area of lifting air, Pilot A inadvertently induced their paraglider to enter a spin by increasing a left control input to tighten the turn. Pilot A then made a deep control input on the right-hand side to try to recover normal flight. It is evident that this action stalled the right-hand side of the wing and brought about a rapidly descending turn to the right, which Pilot B witnessed and stated as "gaining speed during [their] descent" such that Pilot A hit the ground with significant force.

The Investigation concluded that Pilot A's over-control in the sporadic but moderate or strong thermic conditions was the precipitating factor that led to the departure from normal flight. Their lack of piloting experience on this wing and their proximity to the ground were significant factors that led to the impact before any attempt at recovering normal flight could be successfully made.

The Investigation determined from the video footage that a successful emergency parachute deployment may have been possible in the instant that the departure from flight first occurred. However, as they were turned towards the hillside as the incident developed, Pilot A's rapidly reducing proximity to the ground would have made a full parachute deployment unlikely.

4.0 Findings

The Investigation determined from the available evidence that Pilot A lost control of their paraglider through incorrect application of the controls when flying in thermic conditions, bringing about a departure from normal flight to which they were unable to recover before impacting the ground and sustaining fatal injuries. Pilot A's lack of piloting experience on their paraglider in the prevailing conditions was found to be a significant factor in the incident.

5.0 Recommendations.

The BHPA shall, through its magazine Skywings, draw members' attention to its Safety Notice of 17th September 2002 "Paraglider collapses at low level."⁵

⁵ <https://www.bhpa.co.uk/safety/notice/index.php?doc=sn029.pdf>