



Accident to the PIPER PA28-181 Archer II
registered **F-GFGO**
on 16 February 2020
at Creissels

Time	Around 12:10 ¹
Operator	Aéroclub d'Angoulême
Type of flight	Cross country
Persons on board	Pilot and three passengers
Consequences and damage	Pilot and passengers fatally injured, aeroplane destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation. As accurate as the translation may be, the original text in French is the work of reference.	

Loss of control in flight in adverse weather conditions for visual flight, collision with the ground

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements, radar data, data from a portable GNSS computer, radio communication recordings and surveillance cameras installed on wind turbines near the accident site.

The flight bound for Millau-Larzac aerodrome (Aveyron) was part of an excursion organised by the Angoulême flying club. The eight people who took part in this excursion were equally divided between two aeroplanes departing from Angoulême-Brie-Champniers aerodrome (Charente): a PA28 registered F-GFGO and a Cessna 172 registered F-HYZY. They had planned to meet at Millau-Larzac aerodrome for lunch. The pilot of the PA28 took off at around 10:30, followed by the pilot of the Cessna 172 at around 10:45.

The two aeroplanes followed different flight paths. The pilot of the PA28 navigated using ground references at an altitude of between 3,000 ft and 4,000 ft, while the pilot of the Cessna 172 took a direct path to Millau-Larzac aerodrome at FL055.

On arrival north of the town of Millau (Aveyron), the weather conditions had deteriorated with the presence of a low cloud layer.

At 12:05, the PA28 arrived at the Millau viaduct² (see Figure 1, point ①), about three minutes before the Cessna 172.

At 12:08:54 (see Figure 1, point ②), the pilot of the PA28 entered the cloud layer at an altitude of 3,200 ft (height of 600 ft) and lost control of the aeroplane in less than 10 s. The aircraft adopted a

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

² Located 9 NM north-west of Millau-Larzac aerodrome.

steep nose-down attitude and collided with the ground at 12:09:07, 5 NM north-west of Millau-Larzac aerodrome.

A few minutes later, while he was in the vicinity of the accident site but unaware of it, the pilot of the Cessna 172 diverted to Cassagnes-Bégonhès aerodrome (Aveyron).

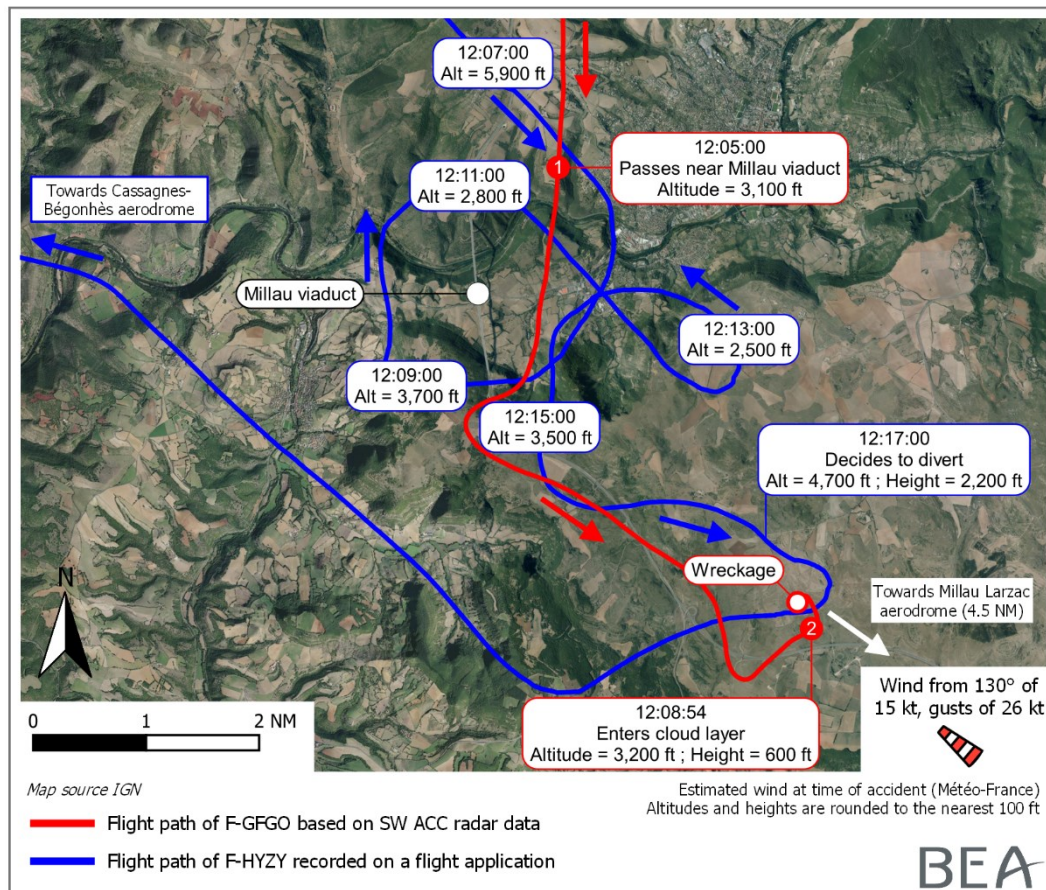


Figure 1: flight paths of the PA28 and the Cessna 172 on approach to Millau-Larzac aerodrome

2 ADDITIONAL INFORMATION

2.1 Read-out of video recordings

The following information is principally based on videos taken from a wind farm located about 4 NM north-west of Millau-Larzac aerodrome and about 1 NM south of the accident site. Each of the six wind turbines is equipped with 12 remote surveillance cameras. The final path of F-GFGO was filmed and the recordings were retrieved and analysed by the BEA.

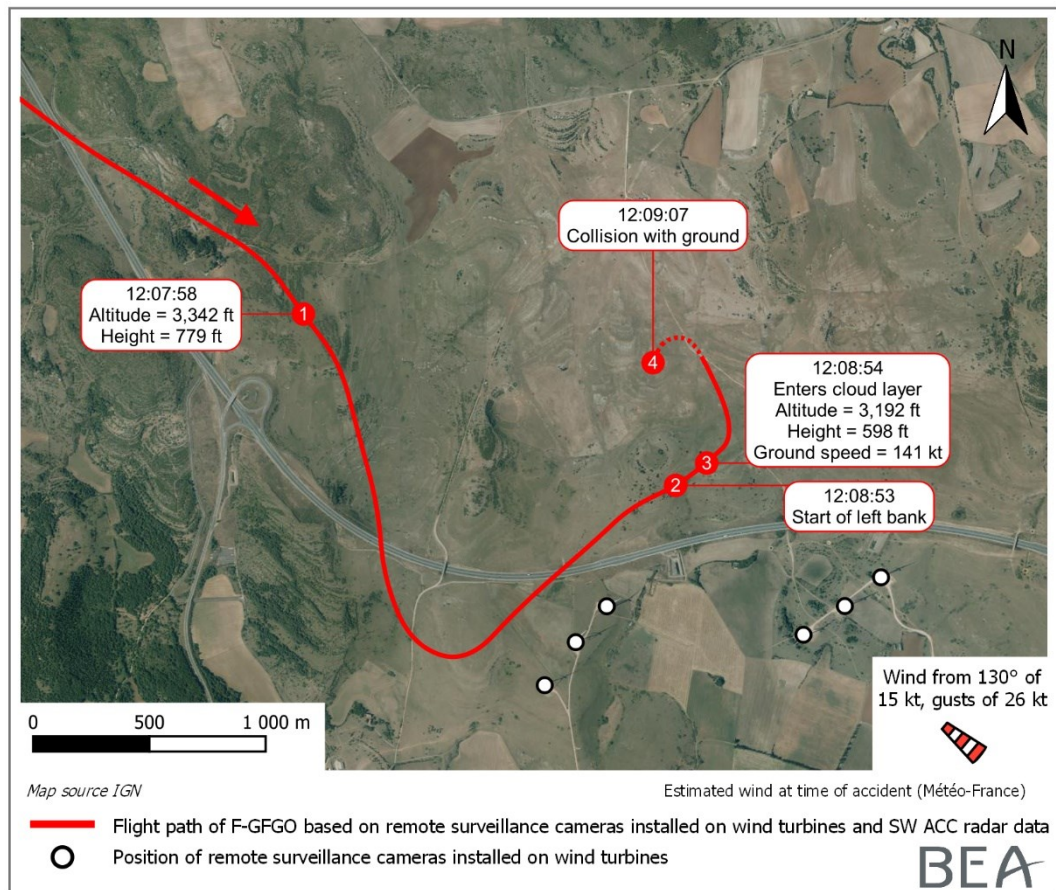


Figure 2: flight path of the PA28 near the accident site

The analysis of the images from the remote surveillance cameras determined that the PA28 entered the cloud layer at an altitude of 3,192 ft, a height of 598 ft and a ground speed of 141 kt (see Figure 2, point 3).

After entering the cloud layer, the PA28 could not be seen by the cameras for 10 s.

When it became visible again as it emerged from the cloud layer, the PA28 had a steep nose-down path. It was not possible to determine the aeroplane's attitude during this fall.

Following the collision with the ground, a plume of black smoke was visible from 12:09:18.

2.2 Site and wreckage information

The wreckage was found on a rocky plateau at an altitude of 2,515 ft. The wreckage was complete and not dispersed. After initial contact with the ground, the aeroplane turned over and caught fire. All of the damage observed was the result of the collision with the ground and of the fire which ensued.

The flight control linkages were continuous. Observations of the power unit showed that the engine was delivering power.

2.3 Aeroplane information

The Piper PA28-181 Archer II registered F-GFGO was equipped with a 180 hp Lycoming O-360-A4M engine. The aeroplane was not equipped for IFR flight. The initial flight endurance was about 4 h, taking into account a consumption of 38 l/h³, for an expected flight time of approximately 1 h and 45 min.

2.4 Meteorological information

2.4.1 Regional situation

The analysis made by the French met office (Météo-France) described the regional situation as an anticyclonic barometric swamp. A low-level south-easterly wind around the Mediterranean brought low clouds to the Grands Causses region located south of the Massif Central.

2.4.2 Meteorological information available during flight preparation

On his arrival at the Angoulême flying club the morning of the day of the accident, one of the passengers of the Cessna 172 logged on to the aeroweb website and printed out a meteorological file including several copies of the SIGWX chart, TAF and METAR report, including one for the pilot of the PA28 and one for the pilot of the Cessna 172. It was this file that was used by the two pilots to prepare their flights. The exact content of the meteorological file was not retrieved during the investigation.

³ Consumption indicated on the flying club's checklist for F-GFGO for a cruise speed of 65 %, i.e. an engine speed of approximately 2,450 rpm. The flight manual was destroyed in the accident.

The significant weather chart (SIGWX) for 09:00 UTC, made available from 07:00 UTC, was as follows:

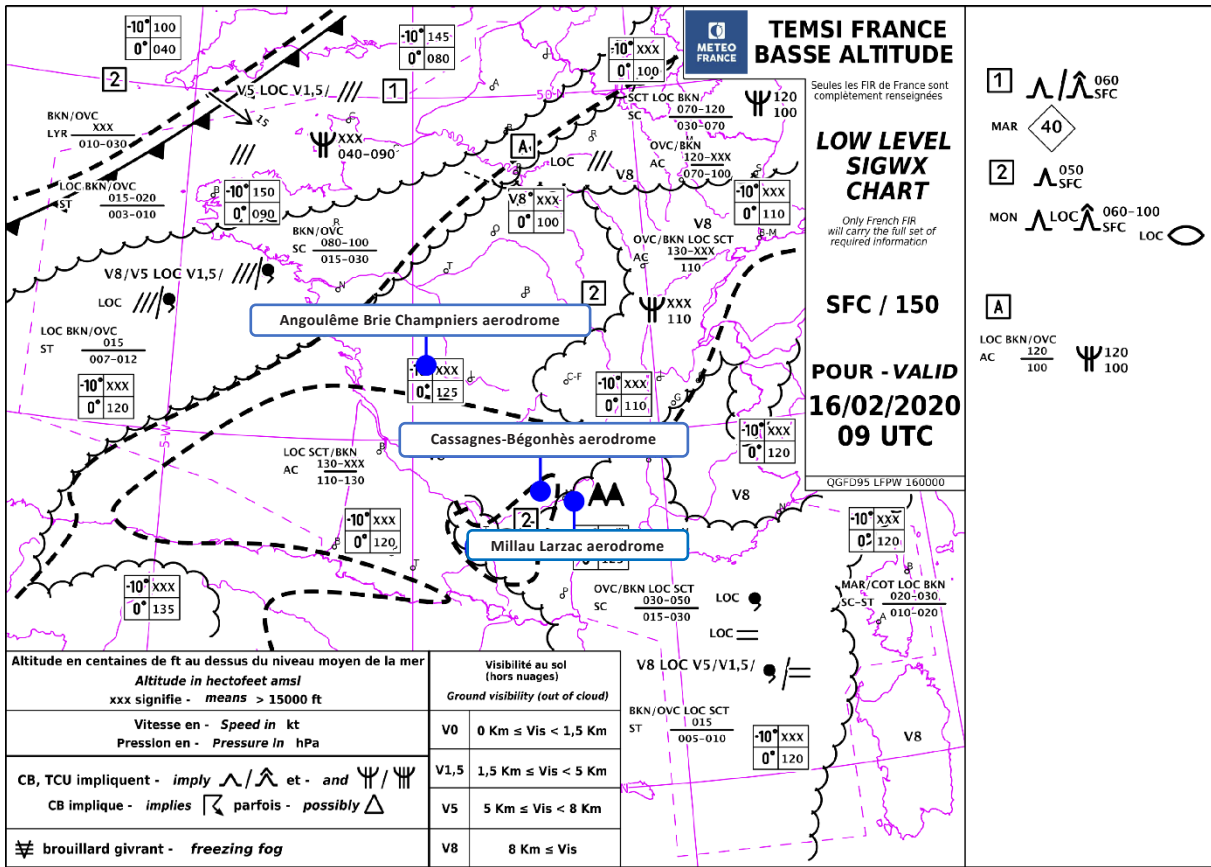


Figure 3: SIGWX chart (Source: Météo-France)

This chart shows that Millau-Larzac aerodrome was located in an area with:

- visibility greater than 8 km but locally between 1.5 and 8 km;
- local presence of drizzle and mist;
- mountain obscuration⁴;
- 5 to 8 oktas (locally 3 to 4 oktas) of stratocumulus with a base between an altitude of 1,500 ft and 3,000 ft and a top between an altitude of 3,000 ft and 5,000 ft;
- 5 to 8 oktas (locally 3 to 4 oktas) of stratus with a base between an altitude of 500 ft and 1,000 ft and a top at an altitude of 1,500 ft.

⁴ According to the Météo-France technical guide used to produce France low level SIGWX charts, the conditions for the application of the “mountain obscuration” symbol are the presence over an extended area of a layer of BKN or OVC clouds with a base lower than:

- 3,000 ft for the Jura and Vosges massifs;
- 5,000 ft for the Alps, Corsica, the Massif Central and the Pyrenees.

There are no METAR reports and TAFs for Millau-Larzac aerodrome. The METAR reports and TAFs for the nearest aerodromes were as follows:

- Rodez-Aveyron aerodrome (Aveyron), located 39 NM north-west of Millau-Larzac aerodrome:
 - o the METAR reports for 08:00, 08:30 and 09:00 UTC indicated CAVOK, with no marked change expected within two hours of the report;
 - o the TAF for 05:00 UTC, valid from 06:00 UTC until 06:00 UTC the next day, forecast CAVOK.

- Montpellier-Méditerranée aerodrome (Hérault), located 42 NM south-east of Millau-Larzac aerodrome:
 - o the METAR for 09:00 UTC indicated: wind from 060° at 8 kt, visibility 9 km, 5 to 7 oktas with a base at 600 ft agl, 5 to 7 oktas with a base at 1,100 ft agl, 8 oktas with a base at 2,100 ft agl, temperature 10 °C, dew point temperature 10 °C, QNH 1026 hPa with, temporarily visibility of 2,000 m light rain and mist;
 - o the TAF for 08:00 UTC, valid from 09:00 UTC until 09:00 UTC the next day, forecast: wind from 060° at 10 kt, visibility 5,000 m, mist, 5 to 7 oktas with a base at 500 ft agl, 8 oktas with a base at 1,000 ft agl with, temporarily from 09:00 UTC until 09:00 UTC the next day a visibility of 2,000 m light rain and mist.

The wind and temperature charts (WINTEM) for 09:00 UTC, 12:00 UTC and 15:00 UTC, all three of which were made available at 00:00 UTC, showed that no major change was expected with respect to the direction and intensity of the warm airstreams from the Atlantic and cold airstreams from the Mediterranean. In addition, the TAF messages presented above did not show any notable change over the day. All these elements could indicate that the scalloped area incorporating Millau-Larzac aerodrome (see Figure 3) was unlikely to be resorbed.

To conclude, the meteorological information available at the time of flight preparation showed that adverse weather conditions for visual flight were forecast for the approach to Millau-Larzac aerodrome.

2.4.3 Estimated meteorological conditions at accident site

The meteorological conditions estimated by Météo-France at the time of the accident were as follows: wind from 130° at 15 kt, gusts up to 26 kt, visibility greater than 10 km under the stratus layer but locally less than 2,000 m, 6 to 8 oktas of stratus with a base between 300 ft and 400 ft agl and a top at approximately 2,500 ft agl, 4 to 6 oktas of cirrus with a base at 25,000 ft agl, temperature 8 °C, dew point temperature 7 °C, QNH 1022 hPa.

According to the statements of the people on board the Cessna 172, the situation was CAVOK from the beginning of the flight until about 15 NM north-west of Millau-Larzac aerodrome. For the rest of the flight, a low-level stratus layer (see Figure 4) was present. This layer was also present at Millau-Larzac aerodrome.



Figure 4: meteorological situation near the accident site.

On this recording taken from the wind farm, F-GFGO is visible just before it enters the cloud layer (Source: remote surveillance camera)

2.5 Pilot information

The 51-year-old pilot held a Private Pilot Licence - Aeroplanes (PPL(A)) issued in 2015 along with a night flight rating issued in November 2017. He had logged 401 flight hours, five hours of which in the previous three months, three hours of which on the PA28. He had logged 10 flight hours at night, two hours of which in the previous three months (flown on the DR400 in dual flight).

2.6 Passenger information

The 61-year-old passenger seated in the front right seat held a Private Pilot Licence - Aeroplanes (PPL(A)) along with a night flight rating. He had logged 1,119 flight hours. He had never flown with the pilot before. He planned to fly the PA28 for the return flight.

The other two passengers were the pilot's father and a teenager who held a French Aeronautical Initiation Certificate (BIA) and had just joined the Angoulême flying club.

2.7 Statements

2.7.1 Cessna 172 pilot

He explained that the club excursion was discussed several weeks in advance, with the aim of making a round trip to Millau-Larzac aerodrome in the day. He specified that no flying club briefing was given before the day of the excursion. On the day of the accident, one of the Cessna 172 passengers printed several copies of a meteorological file, including one for the PA28 pilot and one for himself. The flight preparation was carried out in two groups at the flying club from 09:00. These two groups, made up of the people who would fly in each aeroplane, worked independently. There was no joint briefing between the two groups, or joint analysis of the meteorological file. In addition, there was no common diversion strategy.

He specified that both the pilot and the passenger in the front right seat of the PA28 enjoyed navigating using ground references. The PA28 pilot informed him of his intention to make a non-direct flight using visual references.

He added that he heard the PA28 pilot's first contact message on Millau-Larzac aerodrome's A/A frequency, during which, according to him, he announced himself for landing. The Cessna 172 pilot then asked the PA28 pilot for information about the cloud ceiling, but he did not receive any answer.

When he diverted to Cassagnes-Bégonhès aerodrome, he estimated the cloud layer base to be 300 ft agl.

2.7.2 Cessna 172 passengers

The passengers, who were members of the flying club, included the treasurer and another teenager who held his French Aeronautical Initiation Certificate (BIA) and had also just joined the flying club.

The treasurer explained that he coordinated the club excursion with the PA28 pilot and that both aeroplanes had planned to pass over the Millau viaduct on the outbound leg to Millau-Larzac aerodrome. He reported that he was the one who printed the meteorological file.

He added that the Millau viaduct was in a gap in the cloud layer and that a little later, after descending to an altitude thought to be sufficiently low, they decided without any hesitation to climb back up and divert, as Millau-Larzac aerodrome was not visible and the cloud layer was too low. He said that they did not feel in danger at any time and were more concerned with choosing a new destination.

He said he regretted not having implemented a common diversion strategy for both aeroplanes.

2.7.3 Other pilots in flight

An instructor and a student-pilot were carrying out a flight from Brive-Souillac airport (Corrèze) bound for Millau-Larzac aerodrome at the time of the accident. The instructor explained that during the flight preparation, he and the student-pilot identified that Millau-Larzac aerodrome was on the edge of an area where the weather situation was difficult. They planned to turn around if the adverse weather situation was confirmed on the approach.

The instructor indicated that the sky was clear at the start of the flight. He and the student-pilot began to encounter a cloud layer about 20 NM north-west of Millau-Larzac aerodrome. They anticipated that the layer might prevent them from reaching their destination and decided to continue the flight “on top” by climbing to 5,000 or 5,500 ft.

On reaching a point north-west of the town of Millau, there was a large gap in the cloud and they took advantage of this to descend to 3,500 ft. Just before reaching the Millau viaduct, also in the gap, the FIS officer in Montpellier with whom they were in radio contact gave them traffic information about the PA28, which was 2 NM ahead of them and which they could see.

On reaching the wind farm, the instructor estimated that it was not possible to continue as the cloud layer was too low. He then took the controls to climb to 5,500 ft again through a small gap in the cloud layer, while looking at his artificial horizon because he could not see anything outside. He and the student-pilot then diverted to Brive-Souillac airport.

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

As part of a two-aeroplane club excursion, the PA28 pilot undertook a flight with adverse weather conditions for visual flight forecast at destination. On reaching a point about 5 NM from the destination, the cloud cover was more than 5 oktas. At a height of around 600 ft, the aeroplane entered the cloud layer and the pilot lost control in less than 10 s. When the PA28 emerged from the cloud layer, at low height, it was on a very steep nose-down path. The pilot was unable to avoid a collision with the ground.

Contributing factors

The following factors may have contributed to the cloud layer being entered and to the loss of control:

- continuing the flight to the destination aerodrome which was close by, despite the onset of adverse weather conditions for visual flight;
- the decision to undertake the flight to an aerodrome where adverse weather conditions for visual flight were forecast. An exchange between the pilots of the two aeroplanes on the feasibility of the flight after studying the meteorological file might have made it possible to discuss the relevance of this decision.

Safety lessons

Flying club excursion

This event is a reminder of the importance of flight preparation, particularly in the context of a flying club excursion. In June 2021, the French Aeronautical Federation (FFA) published a practical information sheet⁵ for flying club managers pertaining to safety within the context of group excursions.

Get-home-itis

This event also illustrates the importance of diverting in adverse weather conditions. In the “Get-home-itis, pressure caused by the carrying of passengers and the ‘group effect’” section of its [accidentology safety lessons 2021](#) for light aeroplanes, the BEA addresses the get-home-itis phenomenon more broadly, with three other similar accidents. The FFA also describes this phenomenon in more detail in its “Practical Guide” No 28 of July 2020⁶, published for its members.

The BEA investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liabilities.

⁵ [List of FFA practical information sheets.](#)

⁶ [List of Practical Guides issued by the FFA.](#)