

CIAIAC

COMISIÓN DE
INVESTIGACIÓN
DE ACCIDENTES
E INCIDENTES DE
AVIACIÓN CIVIL

Report ULM A-021/2018

Accident involving a TECNAM
P-92 aircraft, registration
EC-GR6, at the aerodrome of
Benabarre (Huesca) on 22
December 2018



GOBIERNO
DE ESPAÑA

MINISTERIO
DE FOMENTO

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SUBSECRETARÍA

COMISIÓN DE INVESTIGACIÓN
DE ACCIDENTES E INCIDENTES
DE AVIACIÓN CIVIL

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NIPO Línea: 161-19-096-0

Maquetación: ASAP Global Solution S.L.

COMISIÓN DE INVESTIGACIÓN DE ACCIDENTES E INCIDENTES DE AVIACIÓN CIVIL

Tel.: +34 91 597 89 63
Fax: +34 91 463 55 35

E-mail: ciaiac@fomento.es
<http://www.ciaiac.es>

C/ Fruela, 6
28011 Madrid (España)

Foreword

This report is a technical document that reflects the point of view of the Civil Aviation Accident and Incident Investigation Commission (CIAIAC) regarding the circumstances of the accident object of the investigation, and its probable causes and consequences.

In accordance with the provisions in Article 5.4.1 of Annex 13 of the International Civil Aviation Convention; and with articles 5.5 of Regulation (UE) n° 996/2010, of the European Parliament and the Council, of 20 October 2010; Article 15 of Law 21/2003 on Air Safety and articles 1., 4. and 21.2 of Regulation 389/1998, this investigation is exclusively of a technical nature, and its objective is the prevention of future civil aviation accidents and incidents by issuing, if necessary, safety recommendations to prevent from their reoccurrence. The investigation is not pointed to establish blame or liability whatsoever, and it's not prejudging the possible decision taken by the judicial authorities. Therefore, and according to above norms and regulations, the investigation was carried out using procedures not necessarily subject to the guarantees and rights usually used for the evidences in a judicial process.

Consequently, any use of this report for purposes other than that of preventing future accidents may lead to erroneous conclusions or interpretations.

This report was originally issued in Spanish. This English translation is provided for information purposes only.

CONTENT

FOREWORD iii

ABBREVIATIONS..... v

SINOPSIS..... vi

1. FACTUAL INFORMATION 1

 1.1. History of the flight..... 1

 1.2. Injuries to persons..... 2

 1.3. Damage to aircraft..... 2

 1.4. Other damage..... 2

 1.5. Personnel information..... 2

 1.6. Aircraft information 3

 1.7. Meteorological information..... 4

 1.8. Aids to navigation 4

 1.9. Communications..... 4

 1.10. Aerodrome information 4

 1.11. Flight recorders 5

 1.12. Wreckage and impact information 5

 1.13. Medical and pathological information 6

 1.14. Fire 6

 1.15. Survival aspects 6

 1.16. Tests and research 6

 1.17. Organizational and management information 6

 1.18. Additional information..... 6

 1.19. Useful or effective investigation techniques..... 6

2. ANALYSIS..... 7

3. CONCLUSIONS 8

 3.1. Findings 8

 3.2. Causes/Contributing factors 8

4. RECOMMENDATIONS 9

Abbreviations

o'"	Sexagesimal degrees, minutes and seconds
AESA	National Aviation Safety Agency
CAVOK	Ceiling and visibility OK
Ft	Feet
h	Hours
Kt	Knots
LENA	Identifier for the aerodrome of Benabarre
m	Meters
N	North
E	East
PPL(A)	Private pilot license (airplane)
SPL	Glider license
TULM	Motorized ultralight pilot license
UTC	Coordinated universal time
VFR	Visual flight rules

Sinopsis

Owner and Operator:	Club de vuelo Albatros
Aircraft:	TECNAM P-92, registration EC-GR6
Date and time of accident:	22 December 2018, at 13:05 local time ¹
Site of accident:	Aerodrome of Benabarre (Huesca)
Persons on board:	One (uninjured)
Flight rules:	VFR
Type of flight:	General aviation. Private.
Phase of flight:	Landing. Final approach.
Date of approval:	27 February 2018

Resumen del suceso

On Saturday, 22 December 2018, a TECNAM P-92 aircraft was making a landing at the aerodrome of Benabarre (Huesca).

While on the left downwind leg for runway 28, the engine stopped. The pilot attempted to restart the engine but was unable to do so, so he continued to fly the pattern and landed on runway 28.

During the landing, the aircraft veered off the left side of the runway, impacting a marker and breaking the left main gear leg.

The pilot was not injured and exited the aircraft under his own power.

The investigation has concluded that the most likely cause of the accident was an incorrect landing maneuver with a vertical speed in excess of that recommended in the flight manual, which resulted in the loss of control of the aircraft.

¹ Unless otherwise specified, all times in this report are in local time. To obtain UTC, subtract one hour from local time.

1. FACTUAL INFORMATION

1.1. History of the flight

On Saturday, 22 December 2018 at 12:15, a TECNAM P-92 aircraft, registration EC-GR6, took off from the aerodrome of Benabarre (Huesca) to go on a local flight.

According to the pilot, he flew over the reservoir of Canelles, Benabarre and Mount Turbón for 40 minutes and then he returned to the aerodrome.

He radioed the aerodrome and was told that runway 28 was in use, with calm winds.

He joined the pattern on the left downwind leg for runway 28 at an altitude of 600 ft. At approximately the midpoint of said leg, the engine stopped.

He tried to restart it three times and, thinking he was sufficiently high up, he decided to complete the pattern and land.

During the landing he veered off the runway to the left and the left main gear leg impacted a marker at the edge of the runway, causing the leg to detach. The airplane stopped 10 m beyond the broken marker, next to an embankment.

The marker detached and was found next to the embankment, behind the airplane.

The pilot was uninjured and exited the airplane under his own power.

The only damage to the aircraft was the fracture of the bolts that fasten the left gear leg.



Figure 1. Final position of the aircraft

1.2. Injuries to persons

The pilot was not injured.

1.3. Damage to aircraft

The aircraft sustained minor damage.

1.4. Other damage

A marker was damaged.



Figure 2. Damaged marker

1.5. Personnel information

The pilot, 68, had three valid flight licenses, issued by the National Aviation Safety Agency (AESA): a private pilot license (PPL(A)), issued on 14 June 1985; a glider license, issued on 11 November 2003; and a powered ultralight pilot license, issued on 8 October 2013. He also had a valid class-II medical certificate.

He had a total of 650 flight hours, 592 of which had been as the pilot in command of powered aircraft, 28 h in ultralights and 30 h in gliders.

He had made 947 landings in powered aircraft, 30 in the last year. He had also made 90 landings in gliders and a further 35 in ultralights, 4 of them in the last month.

1.6. Aircraft information

The aircraft, a powered TECNAM P-92 ECHO-S ultralight, registration EC-GR6, is a two-seat, monocoque, high-wing airplane with a wingspan of 8.7 m, a length of 6.4 m and a height of 2.5 m. It belonged to the Albatros flight club and was used by its members.

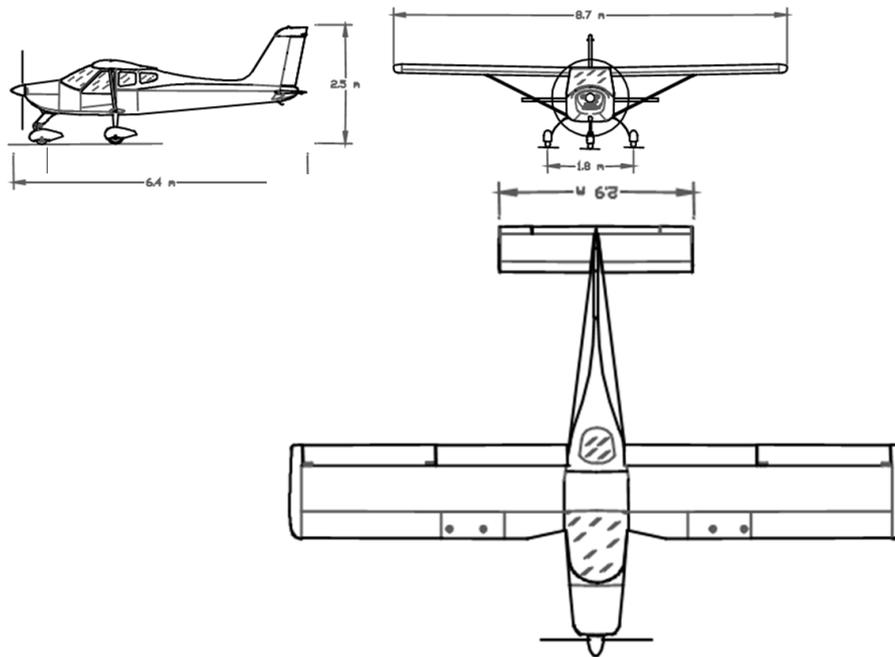


Figure 3. Views of the TECNAM P-92 aircraft

It was manufactured in 1995 and had serial number P92-E-047. Its empty weight is 283 kg and its maximum takeoff weight is 450 kg. It was equipped with a ROTAX 912 ULS engine, serial number 6775196, and a wooden propeller.

It had a special restricted certificate of airworthiness, which was issued on 14 December 2016.

The Aircraft Flight Manual contains a series of steps to follow in the event of an in-flight engine failure, one of which is to stabilize the speed at 70 kt.

The fuel valves are located on either side of the cockpit, as shown in the photos in Figure 4.



Figure 4. Fuel valves

1.7. Meteorological information

The weather conditions were CAVOK.

1.8. Aids to navigation

The flight was conducted under visual flight rules (VFR).

1.9. Communications

Not applicable to this event.

1.10. Aerodrome information

The aerodrome of Benabarre (LENA) is located south of the town by the same name (Huesca), separated from the town by national road N-320.

Its reference point is at coordinates 42° 01' 17" N - 0° 28' 52" E, at an elevation of 757 m.

It has one asphalt runway in a 10/28 orientation that is 786 m long and 18 m wide.

The aerodrome pattern is south of the runway for powered aircraft and north of it for gliders.

On the south edge of the runway are 14 markers, which are spaced approximately 60 m apart.

The first marker on the south edge is located 10 m before the start of the runway 28 threshold, and the last one 20 m past the runway 10 threshold. The last two markers are spaced 200 m apart, since this area is where the apron is located through which aircraft access the hangar.

There are 15 markers on the north edge, located at the same positions as on the south edge and spaced some 60 m apart.

Each marker consists of several drums cut in half lengthwise and joined at the base. They have an alternating red and white paint scheme.



Figure 5. Location of the markers, and close-up of one

1.11. Flight recorders

The aircraft did not have flight recorders, as they were not required by law.

1.12. Wreckage and impact information

The aircraft's left wheel impacted the ninth marker on the left side (south of the runway), breaking it, separating the two parts (half barrels) that made it up and deforming it.

As a result of the impact, the screw that secures the left leg to the underside of the fuselage broke, causing the leg to detach.



Figure 6. Broken screw

The airplane stopped 10 m past the impact point, next to an embankment. The left wingtip brushed the ground, leaving a faint mark.

There was also a small dent on the underside of the trailing edge on the left wing.

1.13. Medical and pathological information

Not applicable to this event.

1.14. Fire

There was no fire.

1.15. Survival aspects

The pilot exited the aircraft under his own power.

1.16. Tests and research

The engine was checked in the hangar and it seemed to be in good condition. It was not damaged and it had been properly maintained, so an operational test of the engine was carried out.

The engine started perfectly on the first attempt and the entire time that it was running, all engine parameters remained within normal operating values.

There was also sufficient fuel in the tanks.

1.17. Organizational and management information

The Club de Vuelo Albatros, which owns the aircraft and of which the pilot was a member, was founded over 20 years ago.

The club did tour flights of the area and training flights on unpowered aircraft. It also operates as a flight school for glider pilots.

1.18. Additional information

Some individuals who witnessed the landing reported that during the touchdown, the speed was somewhat high, though none of them could provide an approximate value for the speed.

1.19. Useful or effective investigation techniques

No special tests or research were required.

2. ANALYSIS

The investigation was unable to determine what may have caused the engine to stop, since it was in good condition, it worked correctly and it was properly maintained.

There was sufficient fuel in the tanks, which ruled out the possibility that the engine stopped due to fuel starvation at some point.

The pilot had verifiable experience on both powered and unpowered aircraft and had made a significant number of landings in all types of aircraft, which rules out a lack of proficiency on the pilot's part.

Also ruled out is the effect of the wind since, based on the information collected, there was no wind at the aerodrome when the aircraft landed.

The fact that the aircraft bounced and lost control, veering off the runway, after landing could have resulted from flying an approach at a speed that was higher than that recommended in the flight manual.

This was the feeling that some of the individuals who witnessed the landing had and who, despite being unable to quantify the landing speed, thought it was higher than recommended.

Once the aircraft was traveling on the shoulder and struck one of the markers, breaking a landing gear leg, it was impossible to regain control of the aircraft.

3. CONCLUSIONS

3.1. Findings

- The aircraft took off from the aerodrome of Benabarre to go on a local flight.
- The pilot was the only person on board.
- The aircraft's documentation was in order.
- The pilot had a valid license and medical certificate.
- The aircraft joined the downwind leg for runway 28 of the aerodrome traffic pattern.
- When at the halfway point of the downwind leg, the engine stopped.
- During the landing run, the aircraft veered off the left side and struck a marker.
- The impact broke the bolt fastening the left main gear to the fuselage, causing it to detach.

3.2. Causes/Contributing factors

The most likely cause of the accident was an incorrect landing maneuver with a vertical speed in excess of that recommended in the flight manual, which resulted in the loss of control of the aircraft

4. RECOMMENDATIONS

None.