



Accident to the JPM 01, “Médoc”
registered **F-PCSA**
on 6 February 2023
at Carcassonne-Salvaza aerodrome

Time	Around 13:20 ¹
Operator	Private
Type of flight	Local
Persons on board	Pilot
Consequences and damage	Pilot fatally injured, aircraft 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.	

**Reduction in engine power in initial climb, loss of control,
collision with the ground, post-impact fire**

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements and radiocommunication recordings.

The pilot took off at around 13:10 from runway 27 at Carcassonne-Salvaza aerodrome. After two runway circuits, he announced on the aerodrome’s tower frequency, during the initial climb, that he wanted to perform a circuit at low height. Twenty seconds later, he reported that he was experiencing a drop in speed. He immediately asked to return to a direct base leg.

Witnesses saw the aeroplane adopt a steep right bank angle, lose height with a steep nose-down attitude and catch fire after colliding with the ground.

2 ADDITIONAL INFORMATION

2.1 Pilot information

The 63-year-old pilot held a Private Pilot Licence - Aeroplanes (PPL(A)). He had logged around 350 flight hours, including 270 hours as pilot-in-command. He had totalled approximately three flight hours in the last six months, mainly on the Cessna 152. He had totalled 35 minutes in dual flight on the Médoc. This flight was made in November 2022. The accident flight was his first flight alone on board.

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

2.2 Aerodrome information

Carcassonne-Salvaza aerodrome is a controlled aerodrome. It has two runways 09-27, one paved with a length of 2,050 m, the other unpaved with a length of 800 m. The runway circuit is located to the north of the facilities.

The fields to the west and north of the aerodrome are suitable for an emergency landing.

2.3 Aeroplane information

The JPM 01 “Médoc” was a single-engine, two-seater aeroplane powered by an 80 hp Limbach engine (see *Figure 1*). Its empty weight was 330 kg, and its maximum weight was 550 kg. Its construction was completed in 1996.



Figure 1: JPM 01 “Médoc” aeroplane (source: [ACAPA11](#))

The pilot had co-owned F-PCSA since November 2022. The aeroplane did not fly from September 2016 to November 2022. An inspection was carried out in August 2022, as well as an airworthiness review in October 2022. During this inspection, the oil and fuel systems were examined and drained. No anomaly was identified. Six flights were made since the inspection.

On the date of the accident, the aeroplane had logged around 600 flight hours.

The engine rotation speed at take-off was approximately 3,300 rpm.

The aeroplane had a forward tank with a capacity of 46 litres and a rear tank with a capacity of 36 litres. Average fuel consumption in the runway circuit was around 12 l/h. The fuel tank selector was found in the forward tank position. It was not possible to determine the amount of fuel in each tank accurately.

There was no detailed examination of the engine. The cause of the reduction in engine power could not be determined.

2.4 Meteorological information

The estimated meteorological conditions at the accident site were as follows: wind from 290° of 2 kt, CAVOK, temperature 8°C, dew point temperature 1°C, QNH 1031.

2.5 Statements

2.5.1 Air traffic controllers

Three air traffic controllers were present in the control tower. They saw the aeroplane take off for a third circuit. They described a climb with a shallow gradient. They added that at a height they estimated to be between 100 and 150 ft, the pilot reported an engine problem. He then asked to return to base leg. They saw the aeroplane turn right with a steep bank angle. They then described a nose-down path at a steep angle prior to the impact.

They called the emergency services for assistance during the fall of the aeroplane. They estimated that around fifteen seconds elapsed between the pilot reporting the engine problem and the collision with the ground.

2.5.2 Witness on the ground

A witness on the ground, located below the aeroplane's path, indicated that he heard a drop in engine speed. He then saw the aeroplane pitch nose-down towards the ground.

2.6 Audio data analysis

Spectral analyses of radiocommunication recordings showed that, when the pilot reported the drop in engine power, the engine rotation speed was around 1,200 rpm. This corresponds to the idle speed.

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

During the third runway circuit, the pilot experienced a drop in engine power at low height. It is likely that the pilot then tried to return to the aerodrome by turning right. During this forced landing phase, the minimum flight speed was probably not maintained and the pilot lost control of the aeroplane.

The lack of flight experience on a new type of aeroplane may have contributed to the inadequate management of the aeroplane's path after the drop in engine power and may have led to the loss of control.

Safety lessons

In March 2021, the BEA published a study entitled "[Reduction in engine power at take-off](#)".

This study refers to the ENAC Instructor's Guide, which specifies that, to perform a 180° turn with a 30° bank angle, the engine power reduced and a speed of 1.3 Vs, the loss of altitude can be in the order of 800 ft depending on the aircraft. Moreover, it states that a 180° turn brings the aircraft onto an axis parallel to the runway but not onto the runway.

The study also stipulates that the immediate application of a nose-down attitude and holding the axis in the event of an engine power failure must make it possible to preserve sufficient margins in relation to the stall speed.

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