

## Accident to the RANS S-6ES Coyote II identified 57BOI

on 23 April 2018

at Channay-sur-Lathan (Indre-et-Loire)

<sup>(1)</sup> Except where  
otherwise indicated,  
times in this  
report are local.

<b>Time</b>	Around 19:10 <sup>(1)</sup>
<b>Operator</b>	Channay-sur-Lathan UFOLEP sports centre (CLSUCL)
<b>Type of flight</b>	Instruction
<b>Persons on board</b>	Student-pilot
<b>Consequences and damage</b>	Student-pilot fatally injured, microlight destroyed

This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in March 2022. As accurate as the translation may be, the original text in French is the work of reference.

## Loss of control during go-around, collision with the ground, in solo instruction

### 1 - HISTORY OF THE FLIGHT

*Note: the following information is principally based on the instructor's statement.*

The instructor and the student-pilot carried out a local flight instruction session departing from the microlight strip at Channay-sur-Lathan. At the end of this flight, the student-pilot made three aerodrome circuits on runway 27<sup>(2)</sup> in dual control, the last of which without input from the instructor.

The student-pilot then performed aerodrome circuits from the same runway, in solo flight supervised by the instructor via radio. Having performed a first touch-and-go, he announced his intention to make a full-stop landing after the second circuit.

On very short final, when the microlight was over the runway, the student-pilot announced a go-around. On applying power, the microlight deviated to the left of the centreline. At a height that the instructor evaluated to be around 20 m, the microlight, with a steep nose-up attitude, stalled on the right side then struck the ground with a steep nose-down attitude.

### 2 - ADDITIONAL INFORMATION

#### 2.1 Examination of site and wreckage

The microlight struck the ground in a grass field south of the strip, approximately 200 m from the start of runway 27 and approximately 100 m from the runway centreline.

The wreckage was complete and not dispersed. The microlight made contact with the ground with a nose-down attitude of more than 60°, without any bank. The structure of the front section of the fuselage was significantly distorted.

<sup>(2)</sup> Unpaved runway  
09/27, measuring  
350 x 20 m.

<sup>(3)</sup> Diamond wing with a surface area of 116 sq ft (10.78 m<sup>2</sup>) proposed by Rans Aircraft as an alternative to the "standard" wing with a surface area of 155 sq ft (14.42 m<sup>2</sup>). This permits a higher cruise speed but, in exchange, increases the wing loading and, according to the importer, the stall speed by approximately 10 km/h.

<sup>(4)</sup> This equipment is not an option proposed by Rans Aircraft.

The examination of the flight control linkages showed that they were continuous prior to the impact. The flaps were extended and symmetrical but it was not possible to determine their exact position.

The examination of the engine and the failures of the three propeller blades indicated that the engine was operating on impact with the ground. There was a strong smell of fuel in the vicinity of the wreckage but no fire had broken out.

The emergency parachute on board the microlight had not been deployed.

## 2.2 Microlight information

57BOI was a microlight with a tube-and-fabric structure and a fixed tricycle landing gear. It was equipped with a 100 hp Rotax 912 flat-four engine equipped with a LAD Aéro injection system.

The instrument panel comprised analogue dials and a Dynon Avionics EFIS-D100 flight information system displaying the flight parameters, installed in front of the pilot in the left seat. A label affixed to the left of this system indicated a stall speed "VS 65 km/h". The stall speed in landing configuration (VSO) indicated on its identification card was 61 km/h.

The high wing installed on the microlight was the "116 wing"<sup>(3)</sup> version. The microlight, which had totalled around 270 flight hours in 2016, had been purchased from a private seller. Since its purchase, vortex generators<sup>(4)</sup> had been installed on the upper surface of the wing at the initiative of the club. According to the club, these vortex generators lowered the stall speed by around 10 km/h. According to the instructor, the installation of the vortex generators also reduced the intensity of the vibrations at the onset of stall.

The check-list on board recommended extending the flaps to the first detent position for take-off, the second detent position for landing and the third detent position for landing with a strong head wind.

This microlight was not equipped with a stall warning system. The installation of a stall warning system is not compulsory on this category of aircraft.

## 2.3 Student-pilot information

The 63-year-old student-pilot had started his training in 2016. He had flown a total of approximately 50 flight hours in instruction flight and around two hours in supervised solo flight since he was signed off for solo flight in December 2017. The accident flight was the eighth of these solo flights, all performed in aerodrome circuits.

He had to wear prescription glasses when flying due to presbyopia.

## 2.4 Meteorological and sun position information

The automatic METAR report at 19:00 for Tours-Val de Loire airport (Indre-et-Loire), located around 35 km to the east of the accident site, indicated:

- a wind from 280° of 7 kt, varying from 220° to 320°;
- visibility greater than 10 km;
- FEW clouds at an altitude of 4,350 ft;
- temperature of 19 °C;
- QNH 1019 hPa.

The instructor estimated the wind speed to be 3 kt at the time of the accident.

At the time of the accident, the position of the sun<sup>(5)</sup> was at an azimuth of 268° which placed it on the centreline of runway 27, and at 19° above the horizon.

## 2.5 Instructor's statement

He was the only instructor of the student-pilot. He stated that the student-pilot's progress had been slow and had put this down to the latter's age. He stated that all of his instruction sessions had been on 57BOI and comprised solely handling and aerodrome circuit exercises. He explained that these circuits were flown on runway 09/27 comprising less obstacles than circuits of runway 03/21. He did not consider the student-pilot to be ready to sit the exam yet.

He considered the student-pilot to be rigorous. He specified that the check-list used for flights was that defined by the club.

He stated that he had deemed the exercise session that they had just completed together to be satisfactory and that, considering the meteorological conditions, he had authorised the student-pilot to perform a series of solo aerodrome circuits under his supervision. He added that before authorising a solo flight, he always carried out a 20-minute session in dual flight.

He remembered that, on the day of the accident, the student-pilot had been wearing non-tinted prescription glasses. During the briefing before the solo flight, he had brought up the potential visual hindrance due to the position of the sun on final and had suggested using the other QFU, which the student-pilot had not done.

When the accident occurred, he was in the vicinity of the club's hangars, approximately 350 m from the threshold of runway 27. According to him, the first touch-and-go had been performed without any particular problem. He stated that the student-pilot had then announced his intention to make a full-stop landing. He estimated that the slope and the speed had been correct during the approach.

He remembered hearing the noise of the engine throughout the approach sequence with an acceleration in speed before the impact.

## 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

The student-pilot was flying aerodrome circuits on runway 27, in solo instruction flight supervised by his instructor. At the end of the second approach, before the wheels touched down, he initiated a go-around. During this manoeuvre, the microlight adopted a steep nose-up attitude and deviated to the left. At low speed with a high angle-of-attack, the microlight stalled asymmetrically and collided with the ground, to the left of the runway, with a steep nose-down attitude. The low flight height at the time of stall did not enable the pilot to regain control of the aircraft and to avoid collision with the ground.

### Contributing factors

The following factors may have contributed to the loss of control:

- Inadequate consideration probably given to the engine effects at low speed when increasing power.

[\(6\) Accident to the Cirrus SR22 registered PH-SJN on 28 July 2020 at Nancy-Essey \(Meurthe-et-Moselle\)](#)

[\(7\) Accident to the FK Light FK9 Mark 4 identified 09BO on 23 July 2019 at Calviac \(Lot\)](#)

[\(8\) Accident to the Evektor SportStar RTC registered F-HDLA on 09 April 2017 at Chelles Le Pin \(Seine-et-Marne\)](#)

[\(9\) DSAC Guide "La Supervision des vols solo" \(Supervision of solo flights\)](#)

- ❑ The performance of aerodrome circuits on runway 27, placing the student-pilot, who was not wearing tinted glasses, into the sun on final. It is possible that the position of the sun hindered the pilot's vision on final and during the go-around.
- ❑ The limited experience of the student-pilot.

### Safety lessons

The management of the application of power during the landing sequence is a situation that can place pilots in difficulty. Several reports published by the BEA<sup>(6)(7)</sup> highlight this topic and show that, of the accidents which occurred during landing, those resulting in serious bodily injury had mostly occurred when engine power was increased with insufficient control of the aircraft.

Solo flights are a major phase of a pilot's training. Student-pilots are expected to reproduce a known sequence and partially automated actions in a familiar context that is supposed to be mastered. An unexpected or non-nominal situation can place a student-pilot, who does not necessarily have the resources to manage the situation, in difficulty, as shown in a BEA report on an accident that occurred in 2017<sup>(8)</sup>. In 2021, the French civil aviation safety directorate (DSAC) published a best practices guide for instructors, pertaining to the supervision of solo flights<sup>(9)</sup>.