

Serious incident to the CESSNA - 172 - R registered HB-TEA

on 03 September 2020
at Ecuwillens (Switzerland)

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

Time	09:26 ⁽¹⁾
Operator	Air-Fribourg Services SA
Type of flight	Solo instruction
Persons on board	Student-pilot
Consequences and damage	Aircraft slightly damaged, runway edge light destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation published in April 2021. As accurate as the translation may be, the original text in French is the work of reference.	

Runway veer-off at landing, in solo instruction

ORGANIZATION OF THE INVESTIGATION

The instructor of the incident flight is a member of the Swiss Transportation Safety Investigation Board (STSB). To ensure impartiality of the investigation, the STSB chose to delegate it to the BEA. The final report was the subject of an official consultation with the STSB.

1 - HISTORY OF THE FLIGHT

Note: the following information is principally based on statements.

On the morning of the incident, the student-pilot made three runway circuits with his instructor. They then took a 15-minute break during which they debriefed the flight.

A second dual flight was carried out. After one runway circuit, the instructor decided to allow the student-pilot to make his first solo flight. The meteorological conditions had not changed and no other aeroplane was manoeuvring in the aerodrome circuit. The instructor went to the reporting office to ensure an optimum view of the aeroplane's manoeuvres.

The runway circuit took place normally. At the time of the flare, the aeroplane came into contact with the ground with a low attitude and bounced slightly. The second time it made contact with the runway, the aeroplane veered to the left. The student-pilot attempted to correct the path using the pedals. At the same time, the instructor ordered him to use the pedals, repeating the word "foot"⁽²⁾ over the aerodrome frequency. The student-pilot did not apply sufficient input.

⁽²⁾ The Swiss
instructor and the
Dutch student-pilot
communicated
in English.

The aeroplane exited the runway to the left. It hit a runway edge light with the RH landing gear. The impact damaged the right landing gear fairing and destroyed the light.

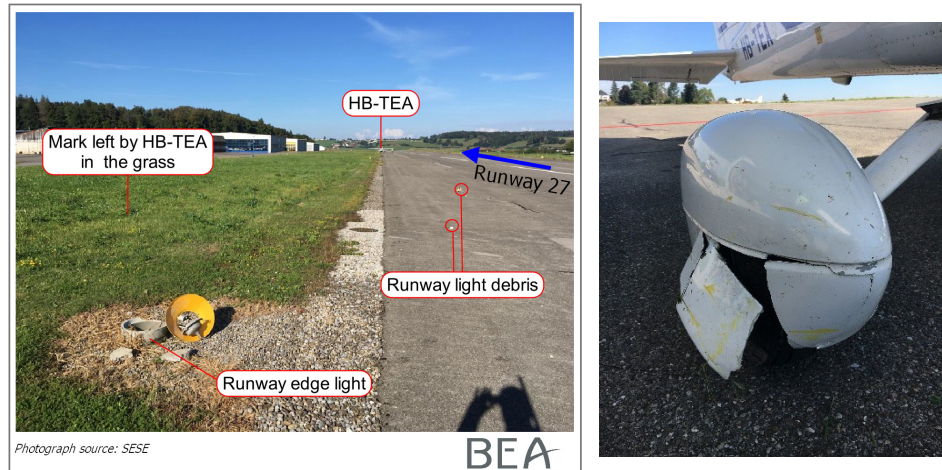


Figure 1: Damage caused to the runway edge light and to the fairing of the right landing gear wheel

⁽³⁾ The paved runway measures 800 x 23 m with a LDA on runway 27 of 800 m.

The student-pilot continued to run over the grass steering the aeroplane towards the runway. The aeroplane came to a stop approximately 500 m from the threshold of runway 27⁽³⁾.

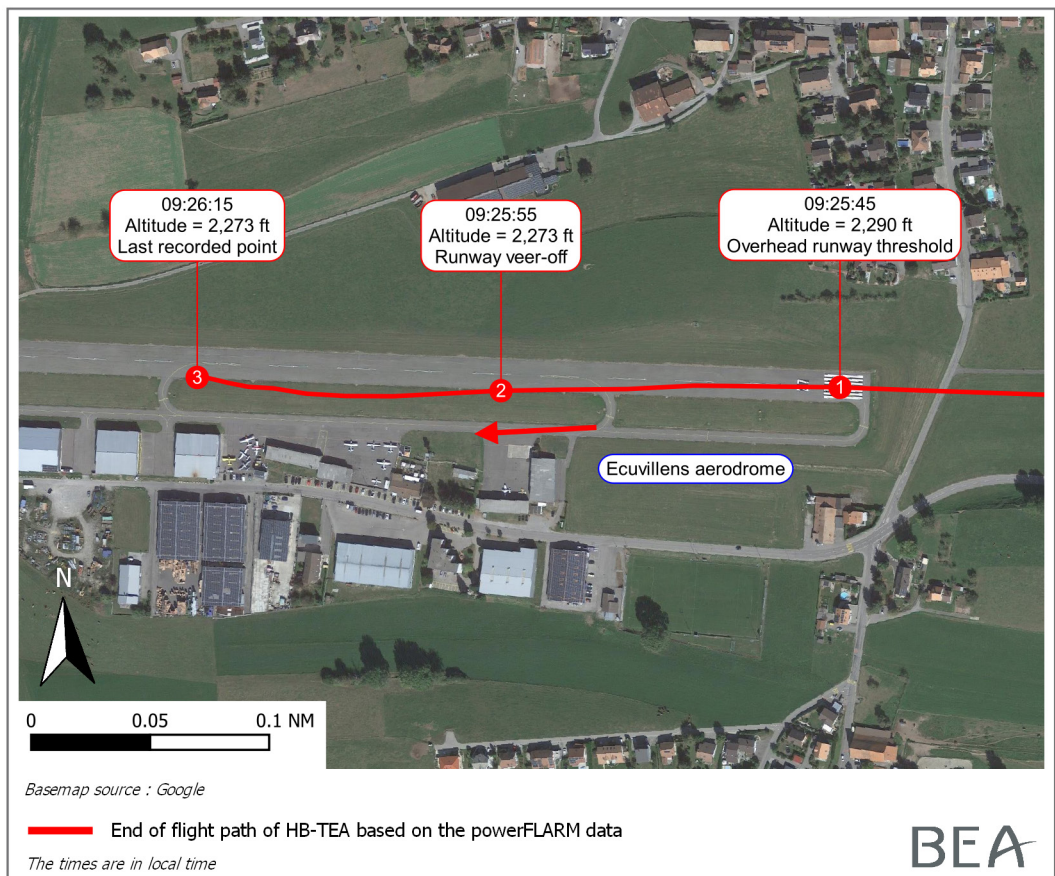


Figure 2: Path of HB-TEA during landing run

2 - ADDITIONAL INFORMATION

2.1 Student-pilot's experience and statement

The 53-year-old student-pilot started his training to obtain a Private Pilot Licence - Aeroplanes (PPL(A)) in June 2019 at the Air-Fribourg Services SA school. He had logged 39 hours in dual flight, all in the Cessna C172 R and had made 247 landings.

He had logged 19 flight hours between June and September 2019. After several months without flying, he returned to training on the 10 June 2020 and had logged almost 15 flight hours up to the end of July 2020.

After a further month without flying, he had logged 5 flight hours (41 landings) between the 1 September and the incident flight. He had therefore logged 20 flight hours in the three months preceding the incident.

The student-pilot stated that he had felt confident about making his first solo flight. He felt that his instructor had prepared him well.

He said that he had been a little surprised that the aeroplane was lighter without the instructor on board⁽⁴⁾.

He explained that he had not bounced upon landing for a long time and that he considered himself capable of dealing with this situation. In addition, he felt capable of controlling and correcting the lateral path of the aeroplane using the pedals to remain in the runway centreline.

2.2 Instructor's experience and statement

The 64-year-old instructor held an Airline Transport Pilot Licence - Aeroplane (ATPL(A)), a Flight Instructor - Aeroplane rating (FI(A)) and an Airline Transport Pilot Licence - Helicopter (ATPL(H)). He held a SEP rating that was still valid. He was also a mountain flight and aerobatics instructor. He had logged a total of 4,486 flight hours, 2,576 flight hours of which as an instructor.

The instructor had been the student-pilot's only instructor since he started his training in 2019.

The instructor stated that progress had been slow due to the student-pilot's lack of availability - he lived far from Ecuwillens aerodrome where his training was based. He travelled to the aerodrome for two to three days at a time to fly. The instructor felt that the student-pilot was not completely focused and put this down partly to the latter's work commitments. He added that he had been very hesitant about allowing him to fly solo but had decided to do so hoping that this would improve the student-pilot's motivation. He tried to motivate the student-pilot by focusing during the day of flights preceding the day of the incident on commitment and the standard required to fly solo for the first time.

The instructor stated that he should have asked another instructor to assess the student to confirm or refute his doubts before allowing him to fly solo.

2.3 Meteorological information

The meteorological conditions in the region were associated with a large area of high pressure stretching over Western Europe.

The wind recorded at the Fribourg - Posieux weather station located three kilometres from Ecuwillens aerodrome between 08:00 and 10:00 was calm.

⁽⁴⁾ The instructor weighed approximately 75 kg. The difference in weight between the flight with instructor and the solo flight had a negligible effect on the aeroplane's balance.

2.4 Read-out of recorded data

The aeroplane was equipped with a FLARM, a traffic awareness and collision avoidance system, in which its position was saved. The data recorded was read out.

The comparison between the final approach made in solo flight and the approach made with the instructor during the previous flight revealed no deviation from the path during the solo flight that would explain the runway veer-off. The approach speed was stable and corresponded to the speed recommended by the flight manual in the flight conditions.

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 landing, following a bounce due to inadequate flare management, the aeroplane veered to the left. The student-pilot made an insufficient correction using the pedals and the aeroplane exited the runway.

Safety lessons

There is always an element of risk when an instructor decides to allow a student-pilot to make their first solo flight. The instructor's assessment of the risk is based on a personal judgement of the student-pilot's ability to safely perform the solo flight.

Training does not follow a set pattern for each student-pilot and many elements, such as personal work or commitment can delay or prevent authorisation of a first solo flight. Instructors can then feel under a lot of pressure, which may influence their decision to allow a student-pilot to fly solo.

In this case, it can be wise to ask another instructor to supervise a student-pilot when there is a reluctance to allow them to fly solo, in order to obtain an independent opinion. This option can even sometimes be very positive for the student-pilot, who may respond differently to a different teaching method.

Generally, the safe performance of the first solo flight is always subject to risks that are not all within the instructor's control.

It is important to remember that, even if the instructor is still able to communicate with the student-pilot by radio, this support may be ineffective due to problems of understanding in a dynamic situation⁽⁵⁾.

⁽⁵⁾ [Accident to the Evektor SportStar RTC registered F-HDLA on 9 April 2017 at Chelles Le Pin](#)