The sole purpose of safety investigations is the prevention of aviation accidents and incidents.

The Commission does not apportion blame or liability. The investigation is independent and separate from any judicial and administrative proceedings.

Any use of this Report for purposes other than prevention of accidents and occurrences may lead to wrong conclusions and interpretations.

PRELIMINARY REPORT

of

State Commission on Aircraft Accidents Investigation

dated 13 September 2024

from the investigation of an aviation accident

2024-0074

OCCURRENCE NUMBER

Cessna Aircraft Company

27 August, near EPZE

This Preliminary Report was issued by the State Commission on Aircraft Accidents Investigation on the basis of information available on the date of its issue.

This Report presents the circumstances of the aviation occurrence concerned and safety recommendations, if issued.

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1. Course of the occurrence

On 27 August 2024, a student pilot (hereinafter referred to as the "student") in training for the PPL(A) was scheduled to fly ten flights in the traffic circuit in the area of the Żerniki aerodrome (EPZE) on a Cessna 152, SP-KCC registration marks. The student, under the supervision of an instructor pilot, performed a pre-flight inspection of the aircraft and refueled it to a level of 60 liters.

At approximately 17:40 hrs LMT, the instructor and student took off for two circuit test flights. After completing these flights, the instructor left the aircraft and took his place at the designated observation point, and the student took off to perform the next circuit flights.

The student performed subsequent circuit flights under the supervision of the instructor, alternating between the asphalt and grass runways. During take-off for the eighth circuit, the student noticed a power drop and uneven engine operation, as well as a different engine sound than usual. The student determined that, compared to previous flights, the aircraft reached a lower speed and flight altitude. After reaching an altitude of 400-450 ft AGL, the aircraft did not climb. Five seconds after performing this action, at an altitude of approximately 400 ft AGL, the engine turned off. The student observed a drop in flight speed, with nose down pitch, and the propeller windmilling. Then, the student felt a slight loss of control and was convinced that the aircraft could stall. In the situation, the student lowered the aircraft's speed to approximately 70 kt (aircraft landing speed) by reducing the flight altitude.

The unusual engine sound also worried the instructor, who ordered the student to check the composition of the mixture (rich), turn off the carburettor heating and set the throttle lever (full RPM) via radio on the ŻERNIKI RADIO frequency. The student did not acknowledge the commands, but in a later conversation confirmed that these actions had been carried out.

Then the instructor ordered the student to make a left turn, and after making sure that he would not reach the aerodrome, he ordered him to make an emergency landing in an unconventional area. The instructor did not see the touchdown itself due to the characteristic of the terrain, but noticed that the airplane overturned and heard the student that he was on the ground and nothing happened to him. He then ordered the student to turn off the electrical devices and move away from the airplane.

As a landing area, the student chose a field covered with short grass and plants. Wanting to avoid a small elevation, he landed the aircraft abeam to the left, while at the same time he turned left and applied brakes with maximum force. After contact with the ground, the aircraft covered a distance of about 80 m and overturned (Fig. 1).

Fig. 1. The aircraft after overturn [source: SCAAI]

According to the air traffic controller at EPKS TWR, the pilot was correctly performing traffic circuit flights in Cessna 152 from RW 05 on the EPZE landing site located in the EPKS MCTR space. At 18:21 hrs LMT, the student reported that he would perform an emergency landing. At that time, the aircraft was making a left turn at a low altitude and after a while disappeared behind the trees. After about 10 minutes, the rescue services (that had been notified) arrived and secured the scene. The flight path is shown in Fig. 2

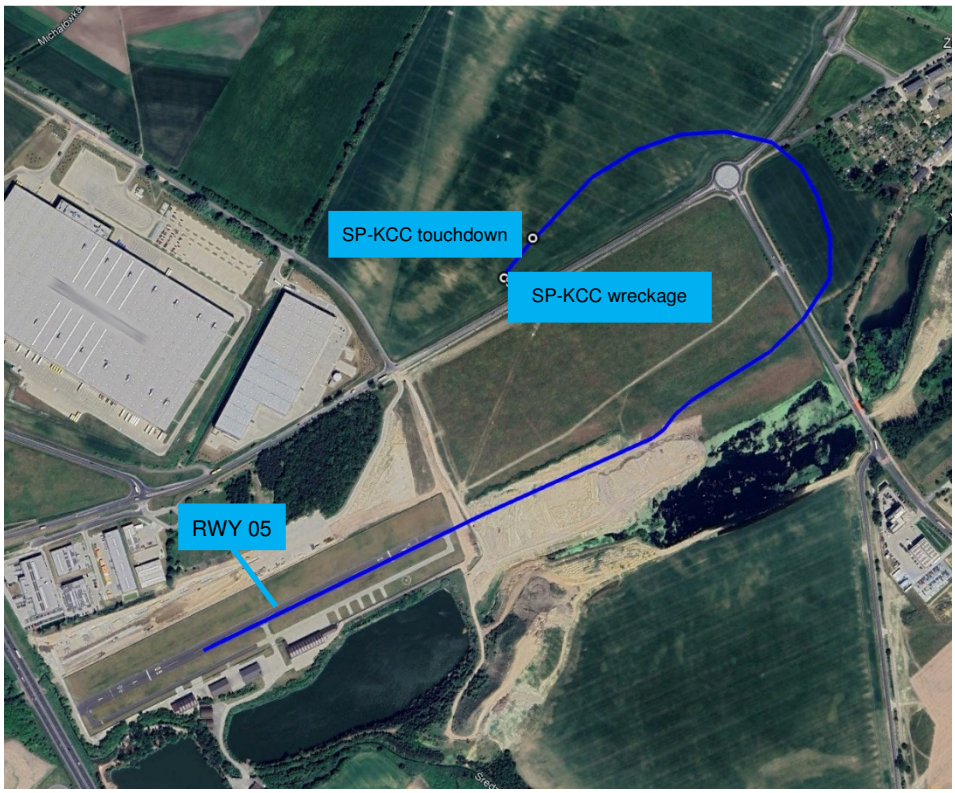

Fig. 2. The flight path of the aircraft from take-off to the point of collision with the ground [source: SCAAI]

2. Injuries to persons

Table 1. Summary of the number of injuries.

Injuries	Crew	Passenger	Total in the aircraft	Others
Fatal	-	-	-	-
Serious	-	-	-	-
Minor	-	-	-	-
None	1	-	1	-
TOTAL	1	-	1	-

3. Aircraft damage

The airplane sustained substantial damage.

The wings (deformation of: front and rear spars, ribs, leading edge nose covering), propeller and vertical stabilizer and rudder were damaged.

4. Other relevant information

4.1 Crew information

The student began training for the PPL(A) aircraft pilot license on 10 July 2021.

The student was approved for his first solo flight on 10 October 2021, with 32 hours of flight time.

Flight time in 2021: 39 hours.

Flight time in 2022: 18 hours.

Flight time in 2023: 14 hours.

Flight time in 2024: 27 hours.

Total flight time since the beginning of training: 106 hours.

The training was conducted with breaks lasting several months under the supervision of five instructors.

The instructor (supervising the flights on the day of the incident) was a holder of CPL(A) and had the valid ratings and medical certificate

4.2 Aircraft information

Airframe serial number 15285773:

Last 400-hour maintenance performed on 16 July 2024 with 11,066 hours of flight time since the start of operation.

Lycoming engine serial number L22894-15:

Last 400-hour maintenance performed on 16 July 2024 with 11,393 hours of engine operation since the start of operation and after the last major overhaul 1,599 hours

Last major overhaul performed on 6 January 2021 at LOMA-AIR BVBA Belgium.

Sensenich/72CKS6-0-54 propeller:

Last 400-hour maintenance performed on 16 July 2024 with 2,594 hours of flight time since the start of operation and after the last major overhaul 698 hours

5. Activities undertaken by the SCAAI Investigation Team

The SCAAI Investigation Team performed the following activities:

1) The aircraft and accident site were inspected.
2) The student pilot and witnesses of the accident were interviewed.
3) Fuel condition and quality were checked.
4) Photographic documentation was made.
5) The technical documentation of the aircraft and flight training was checked.

At this stage of the investigation, no aircraft malfunctions or other factors that could have contributed to the occurrence were detected.

6. Safety recommendations

None.

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