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PRELIMINARY REPORT

of

State Commission on Aircraft Accidents Investigation

dated 25 January 2025

from the investigation of a serious incident

2024-0138

OCCURRENCE NUMBER

Reims Aviation S.A., Cessna FA150L, SP-KIK

8 December 2024, Watorowo (EPWT)

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.



State Commission on Aircraft Accidents Investigation
ul. Puławska 125, 02-707 Warszawa



Correspondence address:

ul. Chałubińskiego 4/6
00-928 Warszawa



kontakt@pkbwl.gov.pl



24h Duty Phone: +48 500 233 233



<https://www.pkbwl.gov.pl>

1. Course of the occurrence

On 8 December 2024 dual training flights with the student-pilot were planned. The flights were performed with Cessna FA150L Aerobat, SP-KIK registration marks and were supposed to include, among others, emergency situations and emergency landings without power (exercise 11). The flights were also supposed to include touch-and-go operations.

Beginning of flights were scheduled at 8:00 hrs LMT¹, however due to adverse weather conditions they were delayed to approximately 9:00 hrs. In the day of occurrence the air temperature was low (3°C), the cloudiness was 8/8 (stratocumulus) and the air humidity was high (81%); the weather conditions have been described in details in chapter 4.1.

Before take-off, the pre-flight check was performed with supervision of the instructor. The aircraft was filled with fuel – the usable amount of fuel was about 85 liters. The fuel samples have been checked and no water nor contamination was observed. The student sat on the left seat, the instructor – on the right one. Both crew members buckled and regulated the seatbelts independently.

Eight circuit flights were performed within exercise 10 of the training program, i.e. training flight patterns and flights with limited use of instruments. The flight appeared to be uneventful. As the instructor claimed, he paid attention to the use of carburetor heating during power reduction and descending, due to the weather conditions. The flights were performed using runway 08, with slight crosswind from the starboard side.

The circuit training flights lasted 1h 10 minutes. As the student's physical state was good and he was not tired, the instructor decided to conclude the 8th pattern with touch and go. After take-off he wanted to perform a simulation of engine malfunction, as a part of emergency situations training. The simulation should include controlling the airspeed and selection of the place of intended emergency landing. After that, the aircraft should initiate climbing phase, with the flap setting of 10°.

As the aircraft flew to 600ft AMSL (about 300ft AGL) from the runway, the instructor commanded the student to reduce power. Shortly after reduction of power, the engine started to work unevenly and eventually turned off. At that moment the airspeed was about 70kt and the aircraft approached the power line located on the extension of the runway, with the height of about 10m. The instructor took command and tried to restart the engine. The first attempt was unsuccessful. During the second try the engine started but stopped again during power increasing.

While restarting the engine, the instructor decided to fly above the power line, thus he pitched the nose up with airspeed reduction. Shortly after that, the aircraft turned right, pitched down and then collided with the ground.

¹ All times in this Report are given as LMT. On the day of the occurrence LMT = UTC + 2h

The aircraft stopped in the distance of 26 m behind power line, rotated about 140° - 160° versus take-off direction, with the pitch angle of about 35° nose down. The crew left the aircraft unaided



Fig. 1. Cessna-150 SP-KIK at the site of accident. The white arrow indicates take-off direction

Pilots at the aerodrome, next to office of FTO observed the accident. One of them noticed that the engine noise was down and he didn't hear sound of increasing power. Thus he informed FTO staff and after that, going to the accident site, he called the emergency number. The fire brigade and medical rescue services were informed. The injured people (the crew) were taken to the hospital.

2. Injuries to persons

Table 1. Summary of the number of injuries.

Injuries	Crew	Passenger	Total in the aircraft	Others
Fatal	-	-	-	-
Serious	-	-	-	-
Minor	2	-	2	-
None	-	-	-	-

TOTAL	2	-	2	-
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3. Aircraft damage

The aircraft were destroyed. All the damage was caused by the impact of collision with the ground. No malfunctions, which could occur before that, were observed.

Aircraft damage:

- Breaking of the fuselage behind the cockpit, tearing the fuselage's skin on its left side and crumple its skin on the right side;
- Damage of the starboard wing fittings;
- Bending the outer part of the starboard wing (about ½ of the aileron span), from the leading edge;
- Break down the front landing gear leg (towards aircraft's aft part);
- Damage of the engine bed

The aircraft damage has been presented in photographs below.



Rys. 1. Breaking of the fuselage behind the cockpit



Rys. 2. Damage of the starboard wing fittings



Rys. 3. Bending the outer part of the starboard wing (about $\frac{1}{2}$ of the aileron span), from the leading edge



Rys. 4. Crumple of the port wing leading edge



Rys. 5. Bending of the fuselage seeing from the compressed (crumpled) side. Notice the broken down leg of front landing gear below the fuselage and damaged mounting of the starboard wing.



Rys. 6. The propeller bent along the shaft axis. Engine cowlings were destroyed during rescue operation (to disconnect electric installation)

4. Other relevant information

4.1. Weather conditions

As there is no weather station directly next to the accident site, weather data has been collected from a few sources:

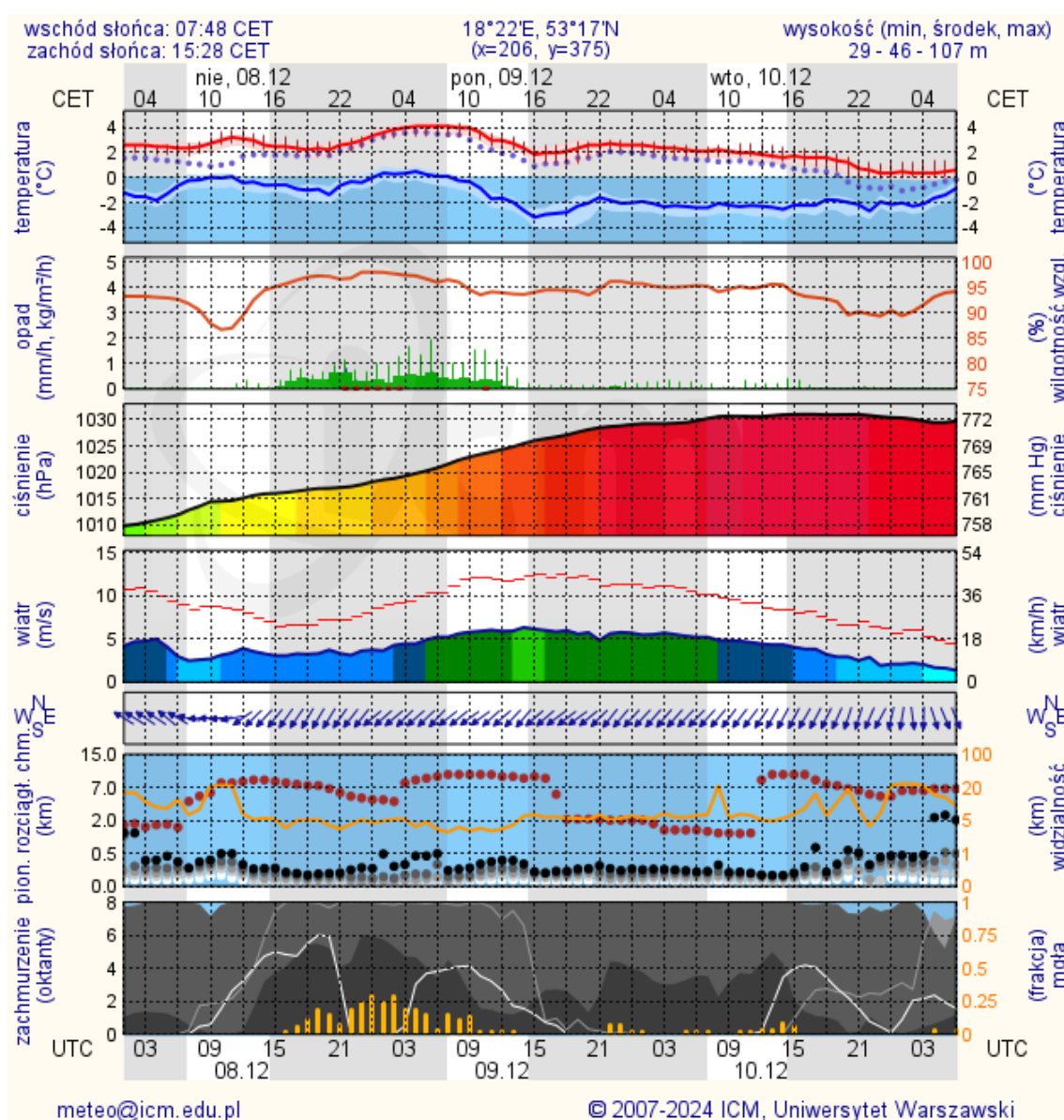
- 1) Weather measurement from the weather station in Toruń (distanced about 40 km from the accident site);
- 2) Weather forecast for Chełmno (distanced about 7 km from the accident site);
- 3) GAMET General Aviation METeorological forecast

The weather at the time of accident (according to measurements taken in Toruń weather station at 10:00) was as follows:

- Cloud base 470m AGL;
- Visibility 13 km;
- Cloudiness 8/8;
- Low level clouds 8/8, Stratocumulus opacus;
- Wind direction 110°;
- Wind speed 4 m/s;
- Air temperature 2.9°C;

- Relative humidity 81%;
- Dew point 0°C;
- Pressure on weather station level 1005.9 hPa;
- Pressure on the means sea level 1014.9°C;
- No rainfall

Due to significant distance from the weather station and the accident site, the figure below presents the general weather forecast for Chełmno that is located nearby the accident site.



Rys. 7. Weather forecast for Chełmno, 7km from the accident site
[source: www.meteo.pl]

Prior the take-off, the crew acquainted with the GAMET forecast, read at 8:03, valid from 4:00 to 10:00. The forecast indicated following warnings:

- SFS VIS: between 4:00 and 10:00 visibility locally limited to 3000m due to mist, drizzle or snow grains. East from 18°E line, between 7:00 and 10:00, the visibility may be furtherly limited to 1200 m due to a mist;
- SIG CLD: From 4:00 to 10:00 cloudiness broken (BKN) with the cloud base 500 ft AMSL (above mean sea level) and cloud top 1500ft AMSL;
- ICE: from 7:00 to 10:00, east from 15°E line moderate icing from FL070 to FL070 (i.e. for flight altitude between 1000ft and 7000ft AMSL)

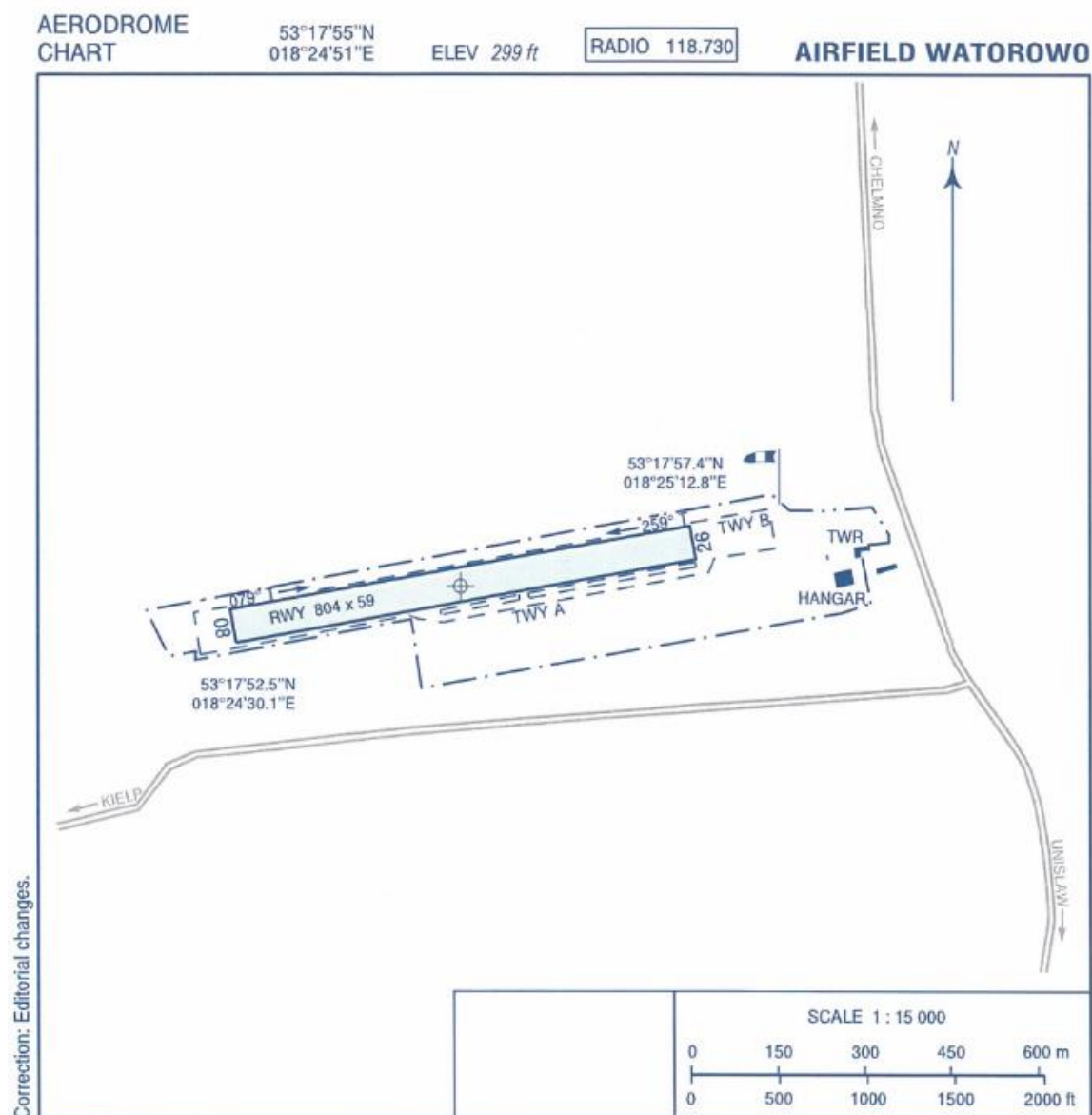
Other statements of this forecast included:

- Wind close to the ground: from 4:00 and 7:00 – direction of 120°, speed of 10kt; from 7:00 to 10:00 – direction of 90°, speed of 10 kt;
- Weather on altitude 1000 ft AMSL: wind direction of 100°, wind speed of 15 kt, air temperature vary from +3°C (north-western area) to 0°C (south-eastern area);
- Weather on altitude 2000 ft AMSL: wind direction of 110°, wind speed of 18 kt, air temperature -1°C;
- Weather on altitude 3300 ft AMSL: wind direction of 120°, wind speed of 15 kt, air temperature -1°C;
- Weather on altitude 5000 ft AMSL: wind direction of 120°, wind speed of 15 kt, air temperature -2°C;
- Weather on altitude 10000 ft AMSL: wind direction of 130°, wind speed of 15 kt, air temperature -6°C;
- Cloudiness broken or scattered (BKN/SCT), stratocumulus, cloud base of 1500 ft and cloud tops of 7000 ft
- Freezing level on latitude of 1200 ft AMSL, locally temperature close to 0°C in the layer between 2000 ft AMSL and 4000 ft AMSL.

4.2. Aerodrome

Watorowo aerodrome (EPWT) is owned by ATO Adriana Aviation. The aerodrome is located in Watorowo, nearby Chełmno, between Bydgoszcz and Grudziądz. On the aerodrome the VFR traffic is permitted, for aircraft below MTOW of 5700kg. For fixed wing aircrafts the minimum visibility is 2000 m and minimum cloud base – 660 ft (during daytime; at night these values are 5000 m and 1650 ft respectively). The aerodrome has grassy runway with the length of 804 m and width of 59 m, on the direction 79°/259°. The coordinates of aerodrome are: N53°17'54.5" E18°24'48.6". Elevation is 299 ft AMSL. On the eastern side of aerodrome are the headquarters of ATO with a hangar.

The aerodrome is surrounded by cornfields. On its eastern side runs a road connecting the villages of Brzozowo and Dorposz Szlachecki. The terrain obstacles are individual trees and the power line with the height of about 10 m. Buildings of Waterowo village, as well as buildings possessed by the ATO are located south from the runway. On the western side of the aerodrome cornfields are located that are divided by a dirt road. There is no high obstacles on a distance of approximately 1 km – to the buildings of Kiełp village, west from the runway and slightly south from runway extension.



Rys. 8. Scheme of the EPWT aerodrome [source: AIP Poland]

5. Activities undertaken by the SCAAI Investigation Team

The SCAAI Investigation Team:

- 1) Performed the inspection of the aircraft wreckage and the accident site;
- 2) Collected statements of the instructor and the witnesses. The condition of student didn't allow to collect his statement.
- 3) Checked the condition and amount of fuel.
- 4) Collected the weather information from measurements and forecasts
- 5) Took the photo documentation.
- 6) Verified the technical documentation of the aircraft and the flight training documentation.

No damage caused by different reasons than collision with ground has been observed.

6. Safety recommendations

None.
