

# FINAL REPORT



ACCIDENT 2022/1650

State Commission on Aircraft Accidents Investigation (PKBWL)

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# FINAL REPORT

on investigation of an occurrence of an aircraft with MTOW lower than 2250 kg

## ACCIDENT

OCCURRENCE NO – 2022/1650

AIRCRAFT – Gyroplane Autogyro Cavalon, SP-XCWA

DATE AND PLACE OF OCCURRENCE – 14 April 2022, Wałczyk Airfield



The Report is a document presenting the position of the State Commission on Aircraft Accidents Investigation concerning circumstances of the air occurrence, its causes and safety recommendations. The Report was drawn up on the basis of information available on the date of its completion.

The investigation may be reopened if new information becomes available or new investigation techniques are applied, which may affect the wording related to the causes, circumstances and safety recommendations contained in the Report.

Investigation into air the occurrence was carried out in accordance with the applicable international, European Union and domestic legal provisions for prevention purposes only. The investigation was carried out without application of the legal evidential procedure, applicable for proceedings of other authorities required to take action in connection with an air occurrence.

The Commission does not apportion blame or liability.

In accordance with Article 5 paragraph 6 of the Regulation (EU) No 996/2010 of the European Parliament and of the Council on the investigation and prevention of accidents and incidents in civil aviation [...] and Article 134 of the Act – Aviation Law, the wording used in this Report may not be considered as an indication of the guilty or responsible for the occurrence.

For the above reasons, any use of this Report for any purpose other than air accidents and incidents prevention can lead to wrong conclusions and interpretations.

This Report was drawn up in the Polish language. Other language versions may be drawn up for information purposes only.

**WARSAW 2022**

Occurrence reference number:	<b>2022/1650</b>			
Type of occurrence:	ACCIDENT			
Date of occurrence:	14 April 2022			
Place of occurrence:	Wałczyk Airfield n. Wąbrzeźno			
Type and model of aircraft:	Gyrocopter AutoGyro Cavalon			
Aircraft registration marks:	SP-XCWA			
Aircraft user/operator:	natural person			
Aircraft commander:	UAGP			
Number of victims/injuries:	Fatal	Serious	Minor	None
	-	-	-	1
Domestic and international authorities informed about the occurrence:	Polish Civil Aviation Authority, Federal Bureau of Aircraft Accidents Investigation (Germany), EASA			
Investigator-in-Charge:	Krzysztof Błasiak			
Investigating Authority:	State Commission on Aircraft Accidents Investigation (PKBWL)			
Accredited Representatives and their advisers:	Not appointed			
Document containing results:	Final Report			
Safety recommendations:	NONE			
Addressees of the recommendations:	Not applicable			
Date of completion of the investigation:	16.08.2022			

## 1. Occurrence type

Accident

## 2. Investigation authority

State Commission on Aircraft Accidents Investigation (PKBWL)

## 3. Date and time of occurrence

14 April 2022, 18:30 hr LMT<sup>1</sup>.

## 4. Take off and planned landing location

The aircraft took off and was planned to land on Wałczyk airfield n. Wąbrzeźno.

Table 1. Wałczyk airfield – basic information [source: <https://lotniska.dlapilota.pl>]

Other designation	Wąbrzeźno
Status	Airfield

<sup>1</sup> All Times in the Report are given in LMT, on the day of the accident LMT = UTC + 2h

Coordinates	N53°14'36.9" E18°59'10.5"
Radio	123.45 MHz
Elevation	285 ft
RWY	020/200, 375 x 25 m,
Comments	Grass runway, marked thresholds. Private airfield, adjacent to the owner's house.

## 5. Place of occurrence

Grass runway

## 6. Operation type

Recreational flight

## 7. Flight phase

Take-off

## 8. Flight conditions

Daylight, VFR.

## 9. Meteorological information

At the time of the accident, the following weather conditions at EPBC aerodrome (approximately 80 km from the accident site) were recorded:

- 1) No cloud cover;
- 2) Ambient temperature 17°C;
- 3) Visibility over 10 km;
- 4) Wind direction 330° at the speed of 8 kt.

## 10. Flight organizer

Private

## 11. Crew information

Male, aged 65, holder of UAGP license issued on 17 June 2021, with authorization to perform flights on an ultralight land gyroplane, valid until 30 April 2026.

At the time of the occurrence, the pilot had a valid aero-medical certificate.

Until the time of the accident, the pilot had 170 FH experience in flying gyroplane.

## 12. Injuries to persons

The pilot suffered minor injuries and did not require hospitalization.

### 13. Damage to aircraft

The accident aircraft was destroyed. The nose landing gear strut was detached from the fuselage. As a result of the collision with trees, the two-blade main rotor and the blades of the push propeller were detached and damaged. The composite fuselage of the gyroplane was deformed and cracked. As the wreckage came to rest in a depression of wet terrain, the interior of the fuselage was partially penetrated by water.



Fig. 1. SP-XCWA gyroplane at the accident site [Source: PKBWL]



Fig. 2. SP-XCWA gyroplane at the accident site [Source: PKBWL]

## 14. Course and analysis of occurrence

### 14.1. Occurrence course

On the day of the accident, the pilot prepared the gyroplane for flight and checked the weather conditions at the airfield (CAVOK). There were about 50 liters of fuel on-board. After the pre-flight check, the pilot started up the engine and after warming it up, taxied to the holding point near the threshold 02 of the Wałczyk airfield. After the test run, the pilot entered the runway and started the rotor pre-rotation. After reaching 240 RPM, the pilot started the take-off run. At the distance of 100 meters, the gyroplane reached the speed of 70 km / h. After next 50 meters, the gyroplane reached 87 km / h and began to deviate towards the left edge of the runway. At the 200 m marker, the gyroplane reached the speed of 97 km / h (still on the ground) and crossed the left edge of the runway. At the 250 m marker, the gyroplane was outside the runway, about 3 m from its left edge, and was moving at a speed of 110 km / h. After about 275 m of the take-off run, the gyroplane lifted-off, rolled to the left, and then bounced off the ground with the nose wheel, which caused that the nose landing gear separated from the fuselage. A few meters later, the gyroplane collided with a copse on the left side of the runway, then turned over to the left side and stopped in a depression of the terrain filled with water about 1 m deep with the main landing gear wheels up. The pilot shut down the engine and then left the cockpit unaided sustaining minor injuries only.

After the accident, the pilot reported to the Police station in Wąbrzeźno for a test, which proved that the pilot was not under the influence of alcohol.

The course of the occurrence was recreated on the basis of the film recorded with a camera placed inside the gyroplane involved in the accident.

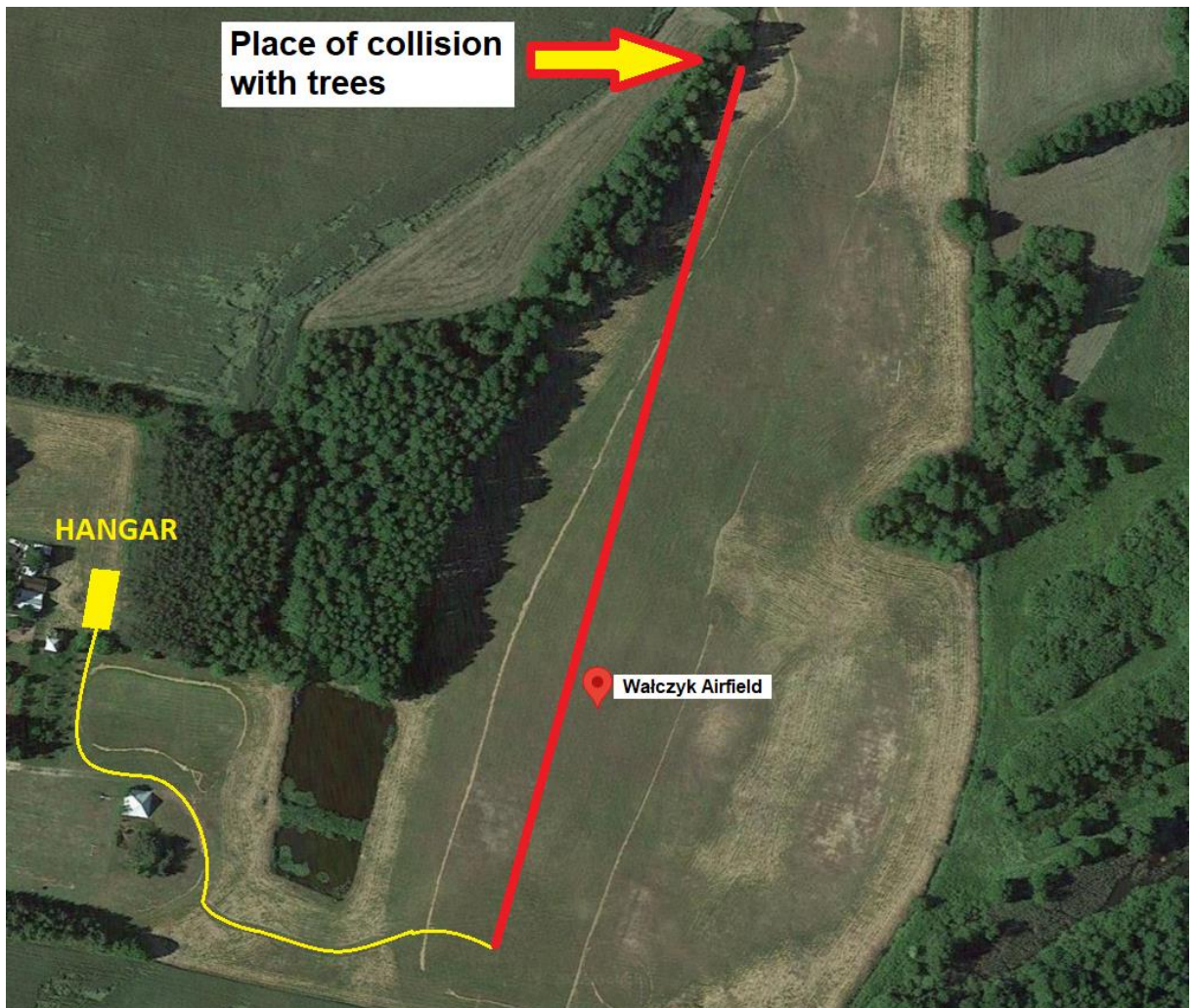


Fig. 3. Wałczyk Aerodrome – the place of the occurrence. The yellow line shows the course of taxiing of the gyroplane from the hangar to the runway. The red line shows the take-off run of the gyroplane which ended in a collision with trees. [Source: google.pl/maps]

## 14.2. Findings

### 14.2.1. Pilot

- 1) The pilot had a valid authorization to fly the accident aircraft and a valid aeromedical certificate.
- 2) The pilot had only little flight experience, he was licensed less than 10 months prior to the accident.
- 3) The pilot was rested and was not under the influence of alcohol or drugs.

### 14.2.2. Weather conditions

- 1) At the time of the accident, the weather conditions at the airfield were very good and had no influence on the occurrence and its course.

#### 14.2.3. Aircraft

- 1) The gyroplane was operated and maintained properly, its condition did not raise any concerns prior to the occurrence;
- 2) The weight and balance of the aircraft were within the prescribed limits (1 person + 50 l of fuel);
- 3) The engine parameters were correct prior to the accident.

#### 14.2.4. Survival aspects

- 1) The pilot left the gyroplane unaided with minor injuries;
- 2) No fire occurred during the occurrence.

### 15. Cause of the accident

Flying error consisting in incorrect setting the control stick during take-off run and inability to maintain the take-off run direction.

### 16. Contributing factors

Little experience of the pilot.

### 17. Safety recommendations

PKBWL has not proposed any safety recommendation after completion of the Investigation.

### 18. System changes proposals

None

### 19. Other comments

None

### 20. Attachments

None

**THE END**

*Investigator-in-Charge*

*Signature on original*

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