



**State Commission on Aircraft Accidents Investigation**  
**INCIDENT 2022/6333**  
**RESOLUTION**  
**of 21<sup>st</sup> August 2023**

|                                    |  |
|------------------------------------|--|
| <b>Type and model of aircraft:</b> | Airplane, Piper PA28 / Helicopter, Sikorsky S-70 |
| <b>Registration marks:</b>         | SP-SWB / SP-YVR                                  |
| <b>Date of occurrence:</b>         | 26 <sup>th</sup> November 2022                   |
| <b>Place of occurrence:</b>        | EPML   |

After reviewing the notification and collected materials by a member of the State Commission on Aircraft Accidents Investigation (PKBWL), pursuant to Article 135 of The Act of 3rd July 2002 – Aviation Law (with later amendments) and § 18 of the Regulation of Minister of Transport of 18 January 2007 on air accidents and incidents (with later amendments), the PKBWL determined that:

**1. The course of the occurrence was as follows:**

On 26/10/2022, two pilots with FI<sup>1</sup> ratings flew a Piper PA28 aircraft with SP-SWB identification marks (referred to as "PA28"). During the flight, a check of one of the pilots' piloting techniques was conducted. The flight route was from Masłów airfield near Kielce (EPKA) to Mielec airfield (EPML). After completing the task in the zone and traffic pattern at the EPKA airfield, the pilots flew off in the direction of the EPML airfield. After establishing radio communication with AFIS<sup>2</sup> Mielec, the crew of the PA28 airplane received arrival information. After reporting the JULIETT point, the AFISO<sup>3</sup> asked to report the third right turn to RWY 26.

At the time, a Sikorsky S-70 helicopter with identification marks SP-YVR (referred to as "S-70") was conducting training flights at EPML airfield. The crew of the S-70 helicopter consisted of an instructor pilot and a trainee pilot.

Training flights on the S-70 helicopter included the execution of a runway landing approach from an imitation<sup>4</sup> of an autorotation<sup>5</sup>.

At EPML airfield, the crew generally begins this maneuver at an altitude of 2,000 ft

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<sup>1</sup> FI – Flight Instructor.

<sup>2</sup> AFIS – aerodrome flight information service.

<sup>3</sup> AFISO – aerodrome flight information service officer.

<sup>4</sup> Imitation of helicopter autorotation involves performing an autorotation approach with reduced power of the helicopter's power unit.

<sup>5</sup> Autorotation of a helicopter – the phenomena of the self-rotating of a helicopter's main rotor as a result of air streams coming in from below.

AMSL, and the beginning of the descent is only made on the landing straight and is much steeper than a typical "airplane" approach. The crew of the S-70 helicopter coordinated with the AFISO to perform a maneuver at 330 ft AMSL, which is the traffic pattern altitude for helicopters published in the AIP VFR Poland for EPML airfield (AD 4.10).

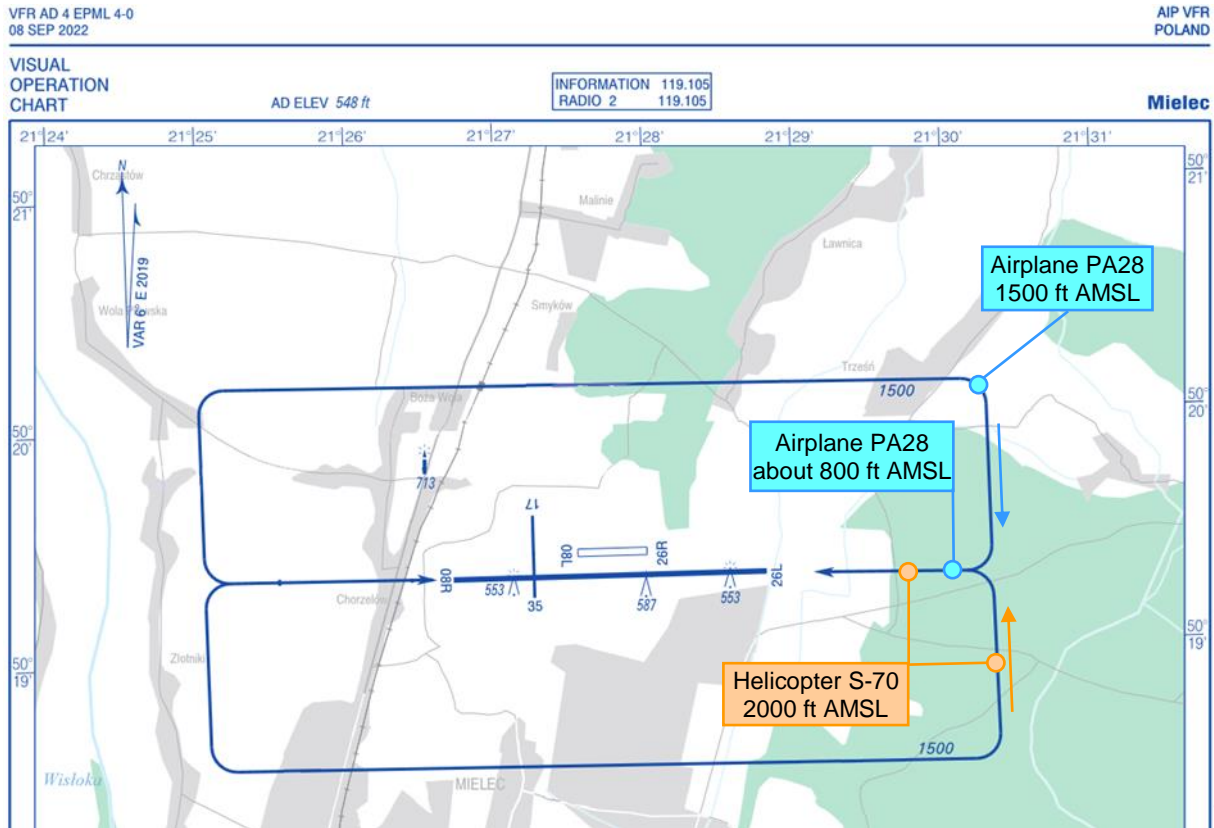


Figure 1. Sketch of the traffic situation at the time of the occurrence [source: SCAAI, PANSA]

At 12:58:50 a.m., the crew of the S-70 helicopter reported the position after the third turn in the left traffic pattern to RWY 26 and their intention to perform an autorotation landing approach. The AFISO advised that there was another helicopter on the RWY. At 12:59:10 a.m., the crew of the PA28 aircraft reported a third right turn and that they were observing the helicopter. The PA28 airplane was performing a flight at an altitude of 1500 ft AMSL. The AFISO advised the PA28 crew to fly with attention to the helicopter performing an imitation autorotation. The PA28 crew acknowledged receipt of the warning. At 12:59:45, the crew of the PA28 aircraft asked the crew of the S-70 helicopter whether it was approaching a concrete or grass strip<sup>6</sup>. The crew of the S-70 helicopter reported that it was approaching a concrete strip and would perform an autorotation with a low pass.

Both aircraft were approaching from opposite directions to the fourth turn. The S-70 helicopter was ahead at an altitude of 2,000 ft AMSL, and the PA28 airplane was below and behind it.

<sup>6</sup> Aircraft crews and the AFISO used the expression "26" when specifying a concrete-surfaced runway, and the correct designation for this runway is "26L" (two-six-left), as shown in Figure 1.

At 12:59:57<sup>7</sup>, the crew of the S-70 helicopter reported being ready to begin an imitation autorotation completed with the execution of a touch&go, and the AFISO reported that RWY 26 was clear and provided wind direction and speed. At 13:00:14, the PA28 crew reported a straight-in and the intention to make a full landing. The AFISO once again advised the PA28 crew to make an approach with attention to the helicopter and provided wind direction and speed. The PA28 aircraft was still below and behind the S-70 helicopter. The S-70 helicopter, imitating autorotation, performed the flight at a reduced advancing speed and increased descent speed. The aircraft were approaching each other. The AFIS informant did not respond to the approach of the aircraft. The crew of the S-70 helicopter spotted the aircraft below, aborted the exercise and reported the situation over the radio at 13:01:01. The AFISO relayed that the airplane was approaching to land and overtook the S-70 helicopter. The crew of the PA28 airplane did not comment on the situation and performed a fly-by landing to leave RWY 26L more quickly. The S-70 helicopter landed after making another circuit.

Analysis of the AFIS radio correspondence record shows that the PA28 crew twice acknowledged receiving information that they should maintain separation from the helicopter performing autorotation. This may have reassured the crew of the S-70 helicopter and the AFISO that the crew of the PA28 airplane was aware of what maneuver the helicopter was performing. Similarly, they may have assumed that the crew of the airplane knew they were behind the S-70 helicopter on the approach to RWY 26L.

The PA28 crew stated that they saw the S-70 helicopter performing a left traffic pattern with an altitude gain between the third and fourth turns to about 1,000 ft above the airplane's altitude. According to the PA28 crew, the S-70 helicopter was then performing a flight with a northeast course farther from the airfield than the PA28. The PA28 crew lost visual contact with the S-70 helicopter most likely in the area of the fourth turn and, being convinced that it was ahead, did not attempt to resume the contact.

## **2. Causes of the occurrence:**

- 1) Inadequate observation of the traffic situation in the airfield area by the airplane crew.**
- 2) Loss of situational awareness by the crew of the airplane after losing visual contact with the helicopter.**
- 3) No reaction of the AFISO to an unsafe approach of aircraft on the straight-in to RWY 26L.**

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<sup>7</sup> The times in the Resolution are expressed according to LMT = UTC + 2 h

**3. Contributing factors:**

- 1) Convincing the AFISO and the crew of the S-70 helicopter that the crew of the airplane knows the procedure of the helicopter's approach to landing with imitation autorotation and knows how to preserve separations.
- 2) Performing an imitation autorotation landing of a helicopter, with non-standard landing approach parameters, while conducting other standard operations in the airfield area.

**4. The Commission accepted the following preventive measures proposed by the operator:**

Mielec airfield manager obligated AFIS to inform aircraft crews of special operations requiring increased separation during each autorotation helicopter training landing.

**5. In addition, the Commission has proposed the following safety recommendations:**

Not formulated.

**Investigator-in-Charge**

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(signature on original)

**PKBWL Chairman**

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(signature on original)