



National Bureau of Air Accidents and Incidents Investigation with Civil Aircraft

PRELIMINARY REPORT ON THE RESULTS OF THE INVESTIGATION INTO AN AIR ACCIDENT (A FATAL AIR ACCIDENT)

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Accident site:	Sheparivtsy village, Kolomya district, Ivano-Frankivsk region.	Number of the case/investigation:	48/2021
Date and time:	28.07.2021 10:35 UTC	AC registration number:	UR-PAMA
AC type:	WT-10 ADVANTIC	Injuries:	4 persons killed
Flight type:	Sightseeing		

Introduction

This report provides information obtained by the NBAAI at the initial stage of evidences collection. The purpose of the report is to inform the industry and the public about the progress of the investigation. The preliminary report does not contain an analysis and the conclusions about the causes of the occurrence, which will be described in detail in the Final report.

In accordance with the Third Part of Article 119 of the Air Code of Ukraine, being based on the results of the investigation, the NBAAI does not make a decision on the guilt or liability of legal entities and individuals. The sole purpose of this investigation is to prevent future aviation accidents and incidents.

According to Part Five of Article 119 of the Air Code of Ukraine, this report may not be used by administrative, official, prosecutorial, judicial bodies, insurers to establish guilt or liability.

Note: This report is a translation of the Ukrainian original investigation report. The text in Ukrainian shall prevail in the interpretation of the report.

The circumstances of the accident (Synopsis)

On July 28, at 10:35 UTC, during a sightseeing flight in the outskirts of Kolomyia town on an Aerospool WT10 aircraft, having the state and registration numbers of UR-PAMA, the aircraft collided with a private house in Shevchenko street at the village of Sheparivka, Kolomyia district, Ivano-Frankivsk region.

As a result of the fatal accident, there were killed the pilot of the aircraft - a citizen of Ukraine, two tourists - US citizens and one tourist with dual British and US citizenship (according to information received from the NTSB). The aircraft was completely destroyed and demolished by fire, and the house was severely damaged. There were no casualties on the ground.



In accordance with the requirements of Annex 13 to the Chicago Convention, the fatal accident was reported to the US and UK investigating authorities as to the States whose nationals were killed, as well as to Slovakia as the State of Design of the aircraft and to Austria as the State of Design of the aircraft engine.

By the time of the publication of the preliminary report, the NBAAI had received a confirmation from the NTSB as for the appointment of an Accredited representative and a confirmation from AAIB as for the appointment of an expert who will participate in the investigation on behalf of the USA and the UK, and that of the obligations from Bureau of Investigation of Maritime and Air Accidents of Slovakia and from Austrian air safety investigation authority to assist in the investigation by the request of the NBAAI.

Body injuries, the aircraft damages, other damages

Crew body injuries:	PIC was killed	AC damages:	The AC was completely destroyed
Passengers body injuries:	3 persons were killed	AC fire:	The AC was demolished by fire
Ground body injuries:	none	Info on the aircraft explosion:	The AC exploded upon an impact with a private house
Total body injuries:	4 persons were killed	Other damages:	The house, 2 utility rooms (barns), trees, metallic fence were damaged.
		Accident site coordinates:	48°33'05.5"N 24°59'00.7"E

Crew data, Information of the AC and of the Owner/Operator

AC manufacturer	Aerospool Ltd.	Registration No	UR-PAMA
Model/Series:	WT10 Advantic AD-006/2016	AC category:	An airplane
Amateur design:	yes	Type of works/flight operations:	Private flights
Operator:	A private entity	Air operator certificate:	none
Call sign (ICAO, IATA):	none		
Position:	PIC	Sex:	male
Pilot's license:	UA.PCL.008500 dtd 01.10.2020	Education:	No information
Date of birth:	13.07.1961	Total flying hours:	No information
Total flying hours on the AC:	No information.		

Meteorological information and the flight plan

Weather conditions at the accid site:	visual (VMC)	Time of day:	day
Altitude above sea level/terrain level:	297 m	Time of the accident:	10:35 UTC
Distance from the accident site:	4200m away from «Kolomya» airfield 4200m Azimuth 270°	Temperature/dew point:	+30° C/+18° C at 09.00 UTC +32.8° C/+17.6° C at 12.00 UTC
Cloudiness:	cumulonimbus	Direction, wind velocity/gusts:	060 degrees, 2 m/sec
Lower clouds limit:	600 m	Visibility:	20 km
Altimeter tuning:	QNH «Kolomya» airfield	Type of the provided flight plan:	a private non-commercial flight
Location of departure:	«Kolomya» airfield (UKMK)	Location of the planned landing:	«Kolomya» airfield (UKMK)

Navigational aids, communication means, flight recorders

There are no on-board flight recorders on this type of aircraft. The Acting Flight Director had been in a continuous contact with the pilot of the aircraft on 131.25 MHz frequency until the fatal accident.

Aerodrome information

Kolomyia airfield holds a valid Certificate of Release to Operation of a the permanent runway № ZPM 08-217, issued by the State Aviation Service of Ukraine on 06.06.2019. The Guidance on Performance of Flights (use of airspace) in the area of permanent "Kolomyia" airfield was approved on July 10, 2012 by the Head of the State Aviation Service of Ukraine.

ARWY (pavement - asphalt) has dimensions of 485x26m (runway 585x66m) with MH of takeoff and of landing -119 ° and 299 °. The length of free zones is 50 m on the both ends of ARWY; the width of the planned parts of the runway is 20 m on the both sides of ARWY.

The absolute altitude of the ARWY threshold with MH119° is + 294m, with MH299° - + 293m.

The airfield is operational in daylight according to the rules of visual flights, all year round.

Aerodrome CP coordinates – 48°33'03``N, 25°02'32``E.

The aerodrome elevation – 296m.

Magnetic declination + 5°E.

"Kolomyia" airfield is designed to perform training flights of the aircraft with a maximum takeoff weight of up to 5700 kg and for parachute drops.

Progress of the investigation

At the time of composing the Preliminary report, the following works had been carried out as a part of the investigation:

- they inspected the accident scene and the wreckage of the aircraft,
- there was arranged a cooperation with representatives of the National Police in Kolomyia and of Ivano-Frankivsk,
- there was made a sketch of the fatal accident scene;
- the team visited "Kolomyia" airfield, from which the aircraft took off, they collected the documents as for the airfield operations, PIC's documents and the information as for the flights performed by the pilot on the day of the occurrence, they also analyzed the structure and the actual organization of operations on the airfield,
- the team inspected technical communications means and the meteorological equipment which was installed at the airfield;
- in order to clarify the circumstances of the occurrence, they interviewed the witnesses of the accident and the employees of the airfield, in particular, those persons who on the day of the occurrence performed the functions of the air traffic controller and the assistant to the owner of the aircraft as for UR-PAMA aircraft maintenance;

- there were taken samples of the oil and the fuel, which were used to refuel the aircraft, and they were sent for testing to the laboratory of fuels and lubricants;
- Inquiries were sent to SASU, UkSATSE and UkrGMHC to obtain data on the pilot's training and his qualification, as for the registration and the airworthiness of the aircraft, about an availability of a flight clearance, meteorological information and the information on the provision of air traffic services;
- there was inspected an aircraft of similar design, its control system and the cockpit,
- the team considered several versions of the causes of the fatal accident, including:

Violation of the rules of the AC operation

During the flight, the aircraft performed an aerobatic figure "barrel", ie, rotated around its axis, while the roll of the aircraft exceeded 60°. According to AMM-WT10-01-000 dated 03.10.2017 №1 and POH-WT10-01-000 dated 03.10.2017 №5, the four-seater WT-10 Advantic aircraft is designed to perform tourist, sports and recreational flights during the daytime in visual conditions (VFR).

It is prohibited for this type of aircraft to perform aerobatic maneuvers, in particular, to deliberately bring the aircraft to a disruption of flow and stalling, a rotation of the aircraft, sharp turns with a roll of more than 60° and other complex figures.

Possible influence on the control of the aircraft by the passengers during the flight

The passengers being on board the aircraft during the flight were fastened only with seat belts, without the use of shoulder belts. According to POH-WT10-01-000 dated 03.10.2017 №5, item 4.5.5. *"Before takeoff. **The seat belts and shoulder belts should be adjusted and fastened.**"*

The aircraft systems failures

There is no information on aircraft system failures.

Aircraft engine failure

As for the nature of damage to the propeller blades (a specific fracture near the propeller sleeve) and their scattering, the engine was running until it collided with the ground.



(Picture 1 – fracture near the propeller sleeve)



(Picture 2 – a blade fragment)



(Picture 3 – a blade fragment)

An act of an unlawful interference

The information on acts or attempts to commit acts which posed a threat to the safety of flight of the aircraft, in accordance with paragraph 3.2 of the Manual for the Investigation of Air Incidents and Incidents, was sent to SASU, GPOU, National Police and to SSU.

The pilot's state of health

The pilot had a valid medical certificate of 1/2 class № 94555 being valid until 11/27/2021. There were no reports of any physical or mental abnormalities.

The impact of the environment on the accident

The weather was favorable for visual flights operation.

The investigation is ongoing. Further works will include the study and an analysis of:

- the training and the qualification of the pilot, his experience and the medical history,
- a study of the role of the human factor;
- the calculation of the weight and balance of the aircraft;
- an analysis of the engine performance based on the results of fuel test;
- an analysis of the aeronautical, the meteorological information, the information as for the airworthiness and the maintenance of the aircraft,
- a calculation of the flight trajectory and the reconstruction of the scheme of the aircraft movement;
- an analysis of "Kolomya" airfield operations;
- an analysis of the AC documents as for the flight operations and flight performance;
- other information.

If the investigation reveals critical safety issues, the NBAAI shall immediately notify the responsible authorities and parties, in order to take appropriate and timely safety measures.

The abbreviations which can be used in the text

GPOU – General Prosecutor Office of Ukraine	AAIB – Air Accident Investigation Branch
SASU – State Aviation Service of Ukraine	AMM – aircraft maintenance manual
AF – an airfield	FCL – flight crew license
PIC – the captain of the aircraft	NTSB – National Transport Safety Board
ACP – the aerodrome checkpoint	POH – pilot’s operational handbook
MH – a magnetic heading	VFR – visual flight rules
NBAAI – National Bureau of Air Accidents Investigation of Civil Aircraft	VMC – visual meteorological conditions
AC – an aircraft	QNH – q-code nautical height
SSU – Security Service of Ukraine	UTC – universal time coordinated
USA – United States of America	
UHMC – Ukrainian Hydrometeorological Center	
ARWY – an artificial runway	