



Aviation Investigation Final Report

Location:	Indiana, Pennsylvania	Accident Number:	ERA22LA304
Date & Time:	July 10, 2022, 10:50 Local	Registration:	N326AL
Aircraft:	Arion Lightning	Aircraft Damage:	Substantial
Defining Event:	Aircraft wake turb encounter	Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot of the light sport airplane reported that he was flying to an uncontrolled airport to attend an airshow later during the day. The destination airport traffic pattern was busy with several airplanes in the traffic pattern and a flight of three north of the airport. The pilot entered the traffic pattern by overflying the airport and crossing midfield onto a left downwind leg. At that point, a life flight helicopter reported 2.5 miles southwest. The pilot subsequently heard a report from the helicopter again and asked him where he was. The helicopter stated that he was on the right base leg for runway 11 and number two to land. The pilot of the airplane announced turning to final for runway 11. He was over the threshold at 20 ft above ground level when he saw the helicopter cross the runway several hundred feet ahead of him. The airplane then encountered the rotor wash, rolled right inverted and struck the runway, coming to rest on the runway.

The pilot of the helicopter reported that he departed his home base about 2.5 miles from the airport to attend an airshow public relations event at the airport. He entered a right base leg for runway 11 and stated intentions to land No. 2 as there were four airplanes in the traffic pattern and airplane No. 3 (the accident airplane) was turning from left downwind to left base. The helicopter approached the runway numbers, sidestepped north to taxiway A1, and landed at a predesignated position on the taxiway for the airshow. After shutting down, the pilot was told by ground personnel that the airplane following him was involved in an accident.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The airplane pilot's inadvertent encounter with rotor wash/turbulence during short final approach, which resulted in a loss of control in flight.

Findings

Personnel issues	Aircraft control - Pilot
Aircraft	Lateral/bank control - Attain/maintain not possible
Environmental issues	Wake turbulence - Effect on equipment

Factual Information

History of Flight

Approach-VFR pattern final	Aircraft wake turb encounter (Defining event)
Approach-VFR pattern final	Loss of control in flight
Uncontrolled descent	Collision with terr/obj (non-CFIT)

Pilot Information

Certificate:	Private	Age:	58, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	4-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	BasicMed With waivers/limitations	Last FAA Medical Exam:	January 19, 2021
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 2, 2021
Flight Time:	776 hours (Total, all aircraft), 79 hours (Total, this make and model), 638 hours (Pilot In Command, all aircraft), 17 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Arion	Registration:	N326AL
Model/Series:	Lightning LS1	Aircraft Category:	Airplane
Year of Manufacture:	2010	Amateur Built:	
Airworthiness Certificate:	Special light-sport (Special)	Serial Number:	99
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	May 7, 2022 Annual	Certified Max Gross Wt.:	1320 lbs
Time Since Last Inspection:	13 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	455 Hrs at time of accident	Engine Manufacturer:	Jabiru
ELT:	C126 installed, activated, did not aid in locating accident	Engine Model/Series:	3300A
Registered Owner:	On file	Rated Power:	120 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KIDI, 1419 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	10:55 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear	Visibility:	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots / None	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	130°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.16 inches Hg	Temperature/Dew Point:	23°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Rostraver, PA (FWQ)	Type of Flight Plan Filed:	None
Destination:	Indiana, PA	Type of Clearance:	None
Departure Time:	10:20 Local	Type of Airspace:	Class G

Airport Information

Airport:	Indiana County Airport IDI	Runway Surface Type:	Asphalt
Airport Elevation:	1419 ft msl	Runway Surface Condition:	Dry
Runway Used:	11	IFR Approach:	None
Runway Length/Width:	5502 ft / 100 ft	VFR Approach/Landing:	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	40.631061,-79.101526(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Daniel Welms; FAA/FSDO; Pittsburg, PA
Original Publish Date:	November 3, 2022
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=105441

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).