



Aviation Investigation Final Report

Location:	Boonville, North Carolina	Accident Number:	ERA22LA290
Date & Time:	June 23, 2022, 10:55 Local	Registration:	N2158T
Aircraft:	Schweizer 300 C	Aircraft Damage:	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Flight test		

Analysis

The pilot stated that he was at an enroute altitude of 1,500 ft mean sea level (500 ft above ground level), tuning a radio to the destination frequency, when he looked up there was a “drone hovering” in the path of the helicopter. He reported that it struck the main rotor disk at the 2 o’clock position and it “disintegrated.” The pilot evaluated the helicopter for vibrations or damage and elected to return to the departure airport, which was 3.5 miles away. He subsequently landed the helicopter without issue and during the postflight examination, he noted substantial damage to one of the main rotor blades. A sample was taken at the site of the main rotor blade damage and tested negative for bird DNA. A search for the unmanned aerial system was performed, however, no device was located. No Low Altitude Authorization and Notification Capability (LAANC) authorizations were requested for the area at the time of the accident. Additionally, no operational waivers had been filed with the Federal Aviation Administration for unmanned aerial system operations in the area at the time of the accident.

Probable Cause and Findings

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

The helicopter’s impact with a non-biological object, which resulted in substantial damage to a main rotor blade.

Findings

Environmental issues

Debris/dirt/foreign object - Effect on equipment

Factual Information

History of Flight

Maneuvering-low-alt flying	Collision with terr/obj (non-CFIT) (Defining event)
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Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	53, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Unknown
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine; Helicopter; Instrument airplane; Instrument helicopter	Toxicology Performed:	
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	April 1, 2022
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	April 1, 2022
Flight Time:	14000 hours (Total, all aircraft), 2000 hours (Total, this make and model), 11500 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	Registration:	N2158T
Model/Series:	300 C	Aircraft Category:	Helicopter
Year of Manufacture:	2008	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	S1913
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2050 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	1800 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	HIO-360-D1A
Registered Owner:	On file	Rated Power:	190 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:	UKF,1303 ft msl	Distance from Accident Site:	15.5 Nautical Miles
Observation Time:	11:35 Local	Direction from Accident Site:	257°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	130°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.97 inches Hg	Temperature/Dew Point:	0°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Boonville, NC	Type of Flight Plan Filed:	VFR
Destination:	Winston Salem, NC (INT)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Airport Information

Airport:	ELKIN MUNI ZEF	Runway Surface Type:	Asphalt
Airport Elevation:	1067 ft msl	Runway Surface Condition:	Dry
Runway Used:	7/25	IFR Approach:	None
Runway Length/Width:	4000 ft / 75 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	36.26025,-80.71911(est)

Administrative Information

Investigator In Charge (IIC):	Kemner, Heidi
Additional Participating Persons:	Hazen Rowe; FAA/FSDO; Greensboro, NC
Original Publish Date:	November 1, 2022
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=105374

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](#).