



National Transportation Safety Board Aviation Accident Final Report

Location:	Palmer, Alaska	Accident Number:	ANC22LA001
Date & Time:	October 10, 2021, 13:20 Local	Registration:	N555EL (A1); FA3P4CAK37 (A2)
Aircraft:	ROBINSON HELICOPTER COMPANY R44 II (A1); DJI AIR IIS (A2)	Aircraft Damage:	Substantial (A1); Destroyed (A2)
Defining Event:	Collision with terr/obj (non-CFIT)	Injuries:	4 None (A1); 1 None (A2)
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled - Sightseeing (A1); Part 107: Small UAS (A2)		

Analysis

The pilot of the helicopter reported that, while conducting an air tour flight he made about a 90° right turn near a scenic area, when he heard a faint “ting” sound. He stated that there was no indication of a mechanical failure or malfunction and the helicopter continued to operate normally, so he continued the flight. After shutdown he noticed damage to one of the main rotor blades and concluded that the helicopter had collided with an uncrewed aerial vehicle (UAV). The helicopter sustained substantial damage to the main rotor blade.

The pilot of the unmanned aircraft system (UAS) reported that while flying his UAV near a scenic area a red helicopter suddenly appeared and collided with the UAV.

14 CFR Part 107.37 Operations near aircraft, right of way rules, states in part:

(a) Each small unmanned aircraft must yield the right of way to all aircraft, airborne vehicles, and launch and reentry vehicles. Yielding the right of way means that the small unmanned aircraft must give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear.

(b) No person may operate a small unmanned aircraft so close to another aircraft as to create a collision hazard.

Probable Cause and Findings

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

The unmanned aircraft pilot's failure to yield the right of way to the helicopter.

Findings

Personnel issues (A1)	Monitoring other aircraft - Pilot of other aircraft
Personnel issues (A2)	Monitoring other aircraft - Pilot

Factual Information

History of Flight

Maneuvering-low-alt flying (A1)	Collision with terr/obj (non-CFIT) (Defining event)
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Pilot Information (A1)

Certificate:	Commercial; Flight instructor	Age:	29, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	5-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	
Instructor Rating(s):	Helicopter; Instrument helicopter	Toxicology Performed:	
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	January 7, 2021
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	June 7, 2021
Flight Time:	1252 hours (Total, all aircraft), 1020 hours (Total, this make and model), 1188 hours (Pilot In Command, all aircraft), 106 hours (Last 90 days, all aircraft), 21 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Pilot Information (A2)

Certificate:	None	Age:	50
Airplane Rating(s):	None	Seat Occupied:	None
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Unknown	Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information (A1)

Aircraft Make:	ROBINSON HELICOPTER COMPANY	Registration:	N555EL
Model/Series:	R44 II	Aircraft Category:	Helicopter
Year of Manufacture:	2005	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	10665
Landing Gear Type:	High skid	Seats:	4
Date/Type of Last Inspection:	October 6, 2021 100 hour	Certified Max Gross Wt.:	2500 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	3760.4 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	C126 installed, not activated	Engine Model/Series:	IO-540-AE1A5
Registered Owner:		Rated Power:	245 Horsepower
Operator:		Operating Certificate(s) Held:	Rotorcraft external load (133), Commuter air carrier (135), Agricultural aircraft (137)

Aircraft and Owner/Operator Information (A2)

Aircraft Make:	DJI	Registration:	FA3P4CAK37
Model/Series:	AIR IIS	Aircraft Category:	Unknown
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	None	Serial Number:	3YTSJ4T0030A8A
Landing Gear Type:	None	Seats:	
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	
Airframe Total Time:		Engine Manufacturer:	
ELT:	Not installed	Engine Model/Series:	
Registered Owner:		Rated Power:	
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PAAQ, 230 ft msl	Distance from Accident Site:	18 Nautical Miles
Observation Time:	00:53 Local	Direction from Accident Site:	310°
Lowest Cloud Condition:		Visibility	7 miles
Lowest Ceiling:	Overcast / 2500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	70°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.69 inches Hg	Temperature/Dew Point:	4°C / 3°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	Palmer, AK (A1); Palmer, AK (A2)	Type of Flight Plan Filed:	Company VFR (A1); None (A2)
Destination:	Palmer, AK (A1); Palmer, AK (A2)	Type of Clearance:	None (A1); None (A2)
Departure Time:		Type of Airspace:	Class G (A1); Class G (A2)

Wreckage and Impact Information (A1)

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	3 None	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	4 None	Latitude, Longitude:	61.40406, -148.60457(est)

Wreckage and Impact Information (A2)

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	61.40406, -148.60457(est)

Administrative Information

Investigator In Charge (IIC):	Banning, David		
Additional Participating Persons:	Patrick Teagarden; FAA; Anchorage, AK		
Original Publish Date:	August 12, 2022	Investigation Class:	4
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=104098		

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