



Date: January 30, 2024

To: Timothy LeBaron, Director, Office of Aviation Safety [REDACTED]

From: Dennis Diaz, Chief - Office of Aviation Safety - Eastern Region

Subject: Request Change to Core Data and Sequence of Events Coding Supporting ERA24LA079

The original report for this investigation was published on January 25, 2024. The published investigation report omitted the core data fields documenting the unmanned aerial system (UAS) and UAS pilot associated with this case. The proposed revisions add these data fields and modify the defining event from "Approach - Collision with terr/obj (non-CFIT)" to "Approach - Midair collision." Also added is an event sequence for the UAS of "Maneuvering - Midair collision" and accompanying duplicate findings codes associated with the UAS. This revised narrative report also adds additional information obtained from the drone operations manager of the company who contracted the UAS pilot.

With your approval, the Office of Aviation Safety will republish this report with the above proposed revisions.

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Dennis Diaz
Chief - Eastern Region
National Transportation Safety Board
Office of Aviation Safety

Attachments: Copy of ERA24LA079 Final Report (published January 25, 2024)
Copy of Revised analysis narrative with tracked changes



Aviation Investigation Final Report

Location:	Daytona Beach, Florida	Accident Number:	ERA24LA079
Date & Time:	December 30, 2023, 14:04 Local	Registration:	N828AK
Aircraft:	ROBINSON HELICOPTER R44	Aircraft Damage:	Substantial
Defining Event:	Collision with terr/obj (non-CFIT)	Injuries:	3 None
Flight Conducted Under:	Part 91: General aviation - Other work use		

Analysis

The pilot of the helicopter reported that while flying at an indicated altitude around 200 to 300 ft, while on approach to land at an off-airport landing zone, he saw a black “drone” [unmanned aerial system (UAS)] in front of his windscreen. He attempted to avoid the UAS but was unable and the UAS impacted the main rotor resulting in substantial damage to a main rotor blade. The pilot reported that there were no preaccident mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

The UAS operator reported that he was conducting operations over a construction site. The area was inside of the class C airspace of a nearby airport and the UAS operator was using a Federal Aviation Administration Certificate of waiver or authorization (COA) that had been previously obtained by the construction company who hired him. The UAS operator reported that he was flying at an altitude of 180 ft, and that before the flight he had not realized that this altitude was above the maximum altitude of 150 ft imposed by the COA. The COA also required the UAS operator to notify the air traffic control tower at the nearby airport at least 15 minutes prior to the proposed start time of any operations. The UAS operator stated, and a review by the of contact records by the air traffic control tower confirmed, that no call was received from the UAS operator notifying them of the operation.

Probable Cause and Findings

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

The UAS operator's failure to operate within the limitations of the COA that he was using to operate inside class C airspace, which resulted in a collision between the UAS and the helicopter.

Findings

Personnel issues	Decision making/judgment - Pilot of other aircraft
Personnel issues	Knowledge of procedures - Pilot of other aircraft

Factual Information

History of Flight

Approach	Collision with terr/obj (non-CFIT) (Defining event)
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Pilot Information

Certificate:	Commercial	Age:	29,Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	March 28, 2023
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 19, 2023
Flight Time:	342.5 hours (Total, all aircraft), 203.9 hours (Total, this make and model), 298 hours (Pilot In Command, all aircraft), 121.7 hours (Last 90 days, all aircraft), 30.3 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	ROBINSON HELICOPTER	Registration:	N828AK
Model/Series:	R44	Aircraft Category:	Helicopter
Year of Manufacture:	2007	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1689
Landing Gear Type:	None; Skid	Seats:	4
Date/Type of Last Inspection:	December 11, 2023 100 hour	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:	5 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	4964 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	O-540-F1B5
Registered Owner:	OLD CITY HELICOPTER SALES LLC	Rated Power:	
Operator:	Tunica Helicopters LLC	Operating Certificate(s) Held:	None
Operator Does Business As:	Leading Edge Helicopters	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DAB,26 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	13:53 Local	Direction from Accident Site:	27°
Lowest Cloud Condition:	Few / 5000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	14 knots / 19 knots	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	30.11 inches Hg	Temperature/Dew Point:	15°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Daytona Beach, FL	Type of Flight Plan Filed:	None
Destination:	Daytona Beach, FL	Type of Clearance:	VFR
Departure Time:		Type of Airspace:	Class C

Airport Information

Airport:	DAYTONA BEACH INTERNATIONAL DAB	Runway Surface Type:	
Airport Elevation:	34 ft msl	Runway Surface Condition:	Dry
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 None	Latitude, Longitude:	29.163165,-81.07824(est)

Administrative Information

Investigator In Charge (IIC):	Young, Joshua
Additional Participating Persons:	Mitch Salley; FAA/FSDO; Orlando, FL
Original Publish Date:	January 25, 2024
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=19358/

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](#).

Revised Analysis Narrative (w/ Tracked Changes)

The pilot of the helicopter reported that while flying at an indicated altitude around 200 to 300 ft, while on approach to land at an off-airport landing zone, he saw a black “drone” [unmanned aerial system (UAS)] in front of his windscreen. He attempted to avoid the UAS but was unable and the UAS impacted the main rotor resulting in substantial damage to a main rotor blade. The pilot reported that there were no preaccident mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

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