



Aviation Investigation Final Report

Location:	Hebbronville, Texas	Accident Number:	CEN20FA012
Date & Time:	October 23, 2019, 08:46 Local	Registration:	N7189D (A1); N74512 (A2)
Aircraft:	Robinson R22 Beta (A1); Robinson R22 (A2)	Aircraft Damage:	Destroyed (A1); Substantial (A2)
Defining Event:	Midair collision	Injuries:	2 Fatal (A1); 1 Serious, 1 None (A2)
Flight Conducted Under:	Part 91: General aviation (A1); Part 91: General aviation (A2)		

Analysis

The two helicopters were performing deer netting operations. One helicopter was designated as a “spotter” and relayed the location of deer to the crew of the “gunner” helicopter, which then captured the deer using a gun net. The pilot of the gunner helicopter stated that the pilot of the spotter helicopter identified a deer and notified him of its location. The gunner helicopter was about 50 ft above and 100 ft behind the spotter helicopter as the gunner pilot began maneuvering toward the right and descending to capture the deer. The spotter helicopter initially turned left, then turned right again, and the spotter helicopter’s main rotor impacted the gunner helicopter’s skid and engine area, which sustained substantial damage. The spotter helicopter descended into terrain and was destroyed; the pilot and passenger onboard were fatally injured. The gunner pilot performed an emergency landing; the passenger onboard sustained serious injuries, and the pilot was not injured. Examination of both helicopters did not reveal any preimpact anomalies.

Toxicology testing of specimens from the spotter pilot identified ethanol, two prescription opioid medications, and an antidepressant medication. The measured ethanol levels were consistent with an impairing blood alcohol level well above the 0.04 g/dL regulatory limit. On its own, the ethanol level was high enough to interfere with tracking, coordination, reaction, and traffic separation tasks. Use of the prescription opioid medications, in addition to alcohol, was likely more impairing than from the use of alcohol alone. The pilot’s autopsy did reveal an intact brain aneurysm, but, as it was intact, it was unlikely to contribute to impairment.

Based on the available information, the circumstances of the accident are consistent with the failure of the spotter helicopter pilot to maintain clearance from the gunner helicopter while maneuvering. It is likely that the impairing effects from a combination of alcohol and two opioid drugs contributed to the accident.

Probable Cause and Findings

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

The failure of the spotter helicopter pilot to maintain clearance from the gunner helicopter while maneuvering. Contributing to the accident were the effects from the pilot's use of impairing drugs.

Findings

Personnel issues (A1)	Incorrect action performance - Pilot
Personnel issues (A2)	Incorrect action performance - Pilot of other aircraft

Factual Information

History of Flight

Maneuvering-low-alt flying (A1)	Midair collision (Defining event)
Maneuvering-low-alt flying (A2)	Midair collision

On October 23, 2019, about 0846 central daylight time, two Robinson R22 helicopters, N7189D and N74512, were involved in an accident near Hebbronville, Texas. N7189D was destroyed and the pilot and passenger onboard were fatally injured. N74512 was substantially damaged; the pilot was not injured, and the passenger sustained serious injuries. The helicopters were operated as Title 14 *Code of Federal Regulations* Part 91 work use flights.

The purpose of the flights was to identify and net deer. N7189D was operating as the “spotter” helicopter and was tasked with locating deer to capture and communicating the location to the gunner helicopter (N74512), which then captured the deer using a net gun.

After performing netting operations, the pilot of the gunner helicopter left the area to reload their net supply before returning to the operating area, where the pilot of the spotter helicopter had observed a doe. The gunner pilot flew to the area near the spotter helicopter and communicated via radio that he had the doe in sight. The gunner pilot estimated that he was about 100 ft above ground level (agl) about 100 ft behind the spotter helicopter, which was about 50 ft agl and about 100 ft behind the spotter helicopter. The gunner helicopter turned right and descended toward the doe while the spotter helicopter turned left and announced over the radio that he had spotted another deer. Shortly after, the gunner pilot felt an impact and brought his helicopter to a hover. He then saw the spotter helicopter descend and impact terrain. The gun operator onboard the gunner helicopter reported that their helicopter’s skids had separated. The gunner pilot then performed an emergency landing.

Two witnesses on the ground were participating in the recovery of the netted deer and saw the impact sequence. Both witnesses were equipped with radios to listen to the pilots. They stated that, after the gunner pilot radioed that he had the doe in sight, the helicopter turned right. The spotter helicopter initially turned to the left, then banked back to the right and collided with the gunner helicopter.

Pilot Information (A1)

Certificate:	Commercial	Age:	49,Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	May 24, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 11000 hours (Total, all aircraft)		

Pilot Information (A2)

Certificate:	Commercial; Flight instructor	Age:	64,Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	Helicopter	Toxicology Performed:	
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	May 29, 2019
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	August 14, 2019
Flight Time:	35471 hours (Total, all aircraft), 6500 hours (Total, this make and model), 152 hours (Last 90 days, all aircraft), 90 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Spotter Pilot

The spotter pilot held a commercial pilot certificate with a rating for rotorcraft-helicopter. On his most recent application for a Federal Aviation Administration (FAA) medical certificate, dated May 24, 2019, he reported 11,000 total hours of flight experience, and about 450 hours in the preceding 6 months.

Gunner Pilot

The gunner pilot held a commercial pilot certificate with a rotorcraft-helicopter rating and a flight instructor certificate with a rating for rotorcraft-helicopter. He reported 35,471 total hours of flight experience with about 6,500 hours in the accident helicopter make and model.

Aircraft and Owner/Operator Information (A1)

Aircraft Make:	Robinson	Registration:	N7189D
Model/Series:	R22 Beta	Aircraft Category:	Helicopter
Year of Manufacture:	2000	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	3086
Landing Gear Type:	N/A; Skid	Seats:	
Date/Type of Last Inspection:		Certified Max Gross Wt.:	1369 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	O-360-J2A
Registered Owner:	South Texas Helicopters Inc	Rated Power:	145 Horsepower
Operator:	South Texas Helicopters Inc	Operating Certificate(s) Held:	None

Aircraft and Owner/Operator Information (A2)

Aircraft Make:	Robinson	Registration:	N74512
Model/Series:	R22 Beta	Aircraft Category:	Helicopter
Year of Manufacture:	2005	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	3881
Landing Gear Type:	N/A; Ski	Seats:	2
Date/Type of Last Inspection:		Certified Max Gross Wt.:	1369 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	O-360-J2A
Registered Owner:	Smith Helicopters Inc	Rated Power:	145 Horsepower
Operator:	Smith Helicopters Inc	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KHBV, 663 ft msl	Distance from Accident Site:	6 Nautical Miles
Observation Time:	08:53 Local	Direction from Accident Site:	256°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	17 knots / 23 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.94 inches Hg	Temperature/Dew Point:	13°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hebbronville, TX (A1); Hebbronville, TX (A2)	Type of Flight Plan Filed:	None (A1); None (A2)
Destination:	Hebbronville, TX (A1); Hebbronville, TX (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 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	27.372499,-98.633331(est)

Wreckage and Impact Information (A2)

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 None	Latitude, Longitude:	27.372499,-98.633331(est)

The spotter helicopter came to rest in a field containing scrub brush and mesquite trees, on a magnetic heading of 268°, at an elevation of 580 ft mean sea level (msl). The helicopter impacted the ground in a

flat, slight left-side low attitude. The main wreckage included the main rotor, tail rotor, fuselage, tail boom, and skids.

The pilot of the gunner helicopter performed a landing on an adjacent roadway. The helicopter came to rest on a magnetic heading of 267° at an elevation of 570 ft msl. The helicopter was intact, with exception of separated skids and displaced lower frames.

The main rotor blades of the spotter helicopter contacted the skids of the descending gunner helicopter. Multiple breaks in the gunner helicopter's skids were found on left skid, cross tube assembly, and right skid. In addition, the lower frame assembly near the engine was also damaged.

Medical and Pathological Information

An autopsy was conducted on the spotter pilot by the County of Nueces, Office of the Medical Examiner. The autopsy ruled the cause of death to be the result of blunt force trauma and noted the presence of an intact saccular berry aneurysm in the pilot's brain. Testing conducted by the Medical Examiner found the presence of codeine at 18.9 nanograms per milliliter (ng/mL), ethanol at 0.088 grams per deciliter (g/dL), and tramadol at 188 ng/mL. In addition, caffeine, nicotine, and cotinine were detected.

The FAA Forensic Sciences Laboratory performed toxicology testing on specimens from the pilot. Specimens were positive for the following substances:

- Ethanol – 101 mg/dL blood (subclavian), 104 mg/dL vitreous, 121 md/dL urine
- Methanol – detected in blood, vitreous, and urine
- Codeine – 7 mg/dL urine, 20 ng/mL blood, 7,279 ng/mL urine
- Morphine – negative in blood, 1,226 ng/mL urine
- Tramadol – 220 ng/mL blood, negative in urine
- Desmethyltramadol – detected in blood and urine
- Citalopram – detected in blood, inconclusive in urine
- N- desmethylcitalopram – detected in blood and urine
- Acetaminophen – detected in blood and urine

- Ranitidine – detected in blood and urine

Ethanol is the intoxicating alcohol in beer, wine, and liquor. It can impair judgment, psychomotor performance, cognition, and vigilance, and at high enough levels can cause diminished consciousness and death. Codeine is an opiate used by itself or in combination with acetaminophen or similar products for the management of mild pain. It is habit forming and may impair mental and/or physical abilities to perform potentially hazardous tasks such as flying. Tramadol is a narcotic analgesic and carries a warning that it can impair mental and/or physical ability required for the performance of potentially hazardous tasks; desmethyltramadol is its active metabolite. Citalopram is an atypical antidepressant in the group of drugs known as selective serotonin reuptake inhibitors; N-desmethylocitalopram is its active metabolite. This drug can also impair mental and/or physical abilities. Ranitidine is an antihistamine used in the treatment of excessive acid secretion from the stomach.

Administrative Information

Investigator In Charge (IIC):	Liedler, Courtney
Additional Participating Persons:	Clifford Carpenter; FAA FSDO; San Antonio, TX Thom Webster; Robinson Helicopters; Torrence, CA
Original Publish Date:	March 4, 2022
Last Revision Date:	
Investigation Class:	Class 3
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=100475

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](#).