



National Transportation Safety Board Aviation Accident Final Report

Location:	Chico, California	Accident Number:	LAX01LA304
Date & Time:	September 22, 2001, 20:05 Local	Registration:	N911NT
Aircraft:	Aerospatiale AS350BA	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal, 1 Serious, 1 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

During a steep approach to a confined landing zone, the helicopter encountered a brown out condition due to dust and dirt clouds formed by the rotor downwash, and the helicopter collided with trees during an attempted go-around. After circling the landing area twice the pilot approached the landing zone from the west to the east. Ground witnesses and the onboard flight nurses said the approach was completely normal until the helicopter neared the ground. About 30 feet above the ground there was a dirt/dust condition created from the helicopter's rotor blades and the witnesses lost sight of the helicopter. One flight nurse, who was using night vision goggles to assist the pilot with ensuring that the landing zone was clear, told investigators that as the dust cloud formed their outside vision was completely obscured. The flight nurse asked the pilot if he could see anything, but the pilot did not respond. The medical crew estimated that the pilot started to go around about 15 feet above the ground, and during the go-around the helicopter drifted about 90 feet to the south and impacted trees. Witnesses recalled hearing the engine power up and then heard the helicopter impact trees. During the engine power up and go-around, no problems were heard with the engine. The on board medical crew said that they did not perceive any mechanical difficulties with the helicopter.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inadequate in-flight decision and delay in initiating a go-around during an encounter with brown out conditions, which led to his failure to maintain alignment of the helicopter with the intended go-around flight path and a resulting collision with trees.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: GO-AROUND (VFR)

Findings

1. WEATHER CONDITION - WHITEOUT
2. LIGHT CONDITION - NIGHT
3. OBJECT - TREE(S)
4. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND
5. (C) GO-AROUND - DELAYED - PILOT IN COMMAND
6. (C) PROPER ALIGNMENT - NOT MAINTAINED - PILOT IN COMMAND
7. VISUAL/AURAL PERCEPTION - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On September 22, 2001, at 2006 Pacific daylight time, an Aerospatiale AS350BA helicopter, N911NT, collided with trees after an aborted landing, and came to rest on its side at a ballpark in Butte Meadows, Chico, California. The helicopter, owned and operated by the Enloe Medical Center, was destroyed in the impact sequence. The commercial pilot was fatally injured; one flight nurse sustained serious injuries; and the other flight nurse was not injured. Visual meteorological conditions prevailed for the flight that had departed the Enloe Medical Center at 1947 as a positioning flight under the provisions of 14 CFR Part 91 to pickup a traffic accident victim for transport to the hospital. A company visual flight rules (VFR) flight plan had been filed. The flight was scheduled to terminate at the hospital.

According to dispatch records from the hospital, a call came into the hospital at 19:42:29, concerning an automobile accident. At 19:43:15, the flight crew went on standby page, and at 19:43:23, the flight crew received a "go" page. The flight departed from the hospital at 19:47:59, and arrived on scene at the ballpark at 20:05:04.

Ground witnesses, who were assisting with landing, stated that the helicopter's approach appeared normal. About 30 feet above ground level (agl), their vision became obscured due to dust and dirt kicked up by the main rotor blades of the helicopter. Witnesses reported that because of the dirt and dust they did not see the impact sequence. However, they heard the engine power up, and depart towards the east, and then heard the impact. The witnesses stated that prior to the dirt/dust storm they did not see or hear any deficiencies with the helicopter. During the engine power up and go-around, the witnesses did not hear any problems with the engine.

The National Transportation Safety Board investigator interviewed one of the flight nurses. The flight nurse stated that he was sitting behind the pilot using a pair of handheld Night Vision Goggles (NVG) to assist in making sure that the landing area was clear. He indicated that the approach was normal and there were no discrepancies with the helicopter or engine that he could identify.

About 10-12 feet above ground level (agl), during the flare for landing, their vision became obscured by a dirt/dust storm (brown out) initiated by the main rotor blades. The flight nurse stated that he kept asking the pilot if he could see anything, but did not receive a response. He heard the engine power up, with no problem, and then remembers hitting trees.

In the operator's statement (NTSB Form 6120.1/2; Pilot/Operator Aircraft Accident Report), the crew made an unsuccessful attempt to contact the incident commander on the ground. The pilot circled the intended landing site two times and then setup for an approach from west to east. The landing zone was in a confined area, and a steep angle approach was made. In the written report, the incident commander indicated that he lost sight of the accident helicopter about 25-30 feet above the ground due to dust kicked up by the main rotor blades. The flight nurses reported that the helicopter became engulfed in the dust and they estimated that the

pilot started to pull pitch "somewhere around 12-15 feet above the ground." The operator stated that the intent was to do a "vertical go around." The flight nurses stated that the helicopter drifted 85-90 feet south of the intended landing site. One flight nurse stated that she saw a tree coming into the window prior to the impact.

According to the operator, the helicopter came to rest on the front right side, upside down. The landing area was mountainous with large ponderosa pines and cedar trees. The elevation at the landing zone was 4,200 feet mean sea level. The landing zone area was 300 x 100 yards in size, and the operator had been utilizing the landing zone since 1985, with a total of 76 landings at the site.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed the pilot held a commercial pilot certificate with ratings for airplane single engine land and multiengine land, rotorcraft-helicopter, and instrument airplane and helicopter. He also held a mechanic certificate with ratings for airframe and power plant.

The pilot held a second-class medical certificate issued on November 16, 2000. It had the limitations that the pilot shall possess glasses that correct for near and intermediate vision.

According to the Pilot/Operator Aircraft Accident Report, the operator reported the pilot's flight time as 17,163 hours total time, with 1,398 total hours in make and model helicopter. The operator indicated that the pilot had logged 87.6 hours in the last 90 days, and 26.9 hours in the last 30 days, and 1.7 hours in the last 24-hour period.

According to American Eurocopter, the pilot had completed factory training on September 11, 2001, at their facilities in Grand Prairie, Texas. Training was conducted in an Aerospatiale AS350 helicopter.

According to the operator's training records, the pilot completed Night Vision Goggle (NVG) training on June 15, 2001.

AIRCRAFT INFORMATION

The helicopter was an Aerospatiale AS350BA, serial number 1556. A review of the helicopter's logbooks revealed a total airframe time of 7,786.9 hours on September 21, 2001, the day before the accident. On June 8, 2001, an annual/500-hour inspection was conducted; the airframe total time was reported as 7,438.1 hours. The last 100-hour inspection was conducted on September 5, 2001, at an airframe total time of 7,742.3 hours.

The helicopter was equipped with a Turbomeca Arriel 1B engine, serial number 4836. Total time on the engine on September 21, 2001, was 4,762.1 hours; at the annual inspection the engine total time was 4,413.9 hours.

Examination of the helicopter's logbooks revealed no unresolved maintenance discrepancies against the helicopter prior to departure.

MEDICAL AND PATHOLOGICAL INFORMATION

According to the Butte County Coroner's office, the pilot was pronounced deceased at 2143 at the Enloe Medical Center by the trauma surgeon due to full cardio arrest and massive trauma. An autopsy and toxicological analysis were not conducted. The FAA Civil Aeromedical Institute, Oklahoma City, Oklahoma, did not conduct a toxicological analysis due to a lack of specimens.

ADDITIONAL INFORMATION

According to the Operations Specifications approved by the FAA for Enloe Medical Center, the flight nurses are considered to be crewmembers and wear night vision goggles. An approved training program is in place.

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	54, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	November 16, 2000
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 7, 2000
Flight Time:	17163 hours (Total, all aircraft), 1398 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aerospatiale	Registration:	N911NT
Model/Series:	AS350BA	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1556
Landing Gear Type:	Skid	Seats:	4
Date/Type of Last Inspection:	September 5, 2001 100 hour	Certified Max Gross Wt.:	4630 lbs
Time Since Last Inspection:	44.6 Hrs	Engines:	1 Turbo shaft
Airframe Total Time:	7786.9 Hrs as of last inspection	Engine Manufacturer:	Turbomeca
ELT:	Installed, not activated	Engine Model/Series:	4386
Registered Owner:		Rated Power:	640 Horsepower
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:	Enloe FlightCare	Operator Designator Code:	NTQA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	OVE, 192 ft msl	Distance from Accident Site:	4 Nautical Miles
Observation Time:	19:53 Local	Direction from Accident Site:	350°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.82 inches Hg	Temperature/Dew Point:	27° C / 12° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Chico, CA	Type of Flight Plan Filed:	Company VFR
Destination:		Type of Clearance:	None
Departure Time:	19:47 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 Fatal, 1 Serious, 1 None	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 1 Serious, 1 None	Latitude, Longitude:	39.734722,-121.85028

Administrative Information

Investigator In Charge (IIC):	Cornejo, Tealeye
Additional Participating Persons:	Richard Conte; Federal Aviation Administration; Sacramento, CA
Original Publish Date:	June 8, 2005
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=53499

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).