



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	EAGLE PASS, Texas	Accident Number:	FTW99LA012
Date & Time:	October 18, 1998, 06:00 Local	Registration:	N19MH
Aircraft:	Cessna 421C	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	5 Minor
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled - Air Medical (Medical emergency)		

Analysis

During takeoff climb, the twin-engine airplane encountered a strong downdraft and impacted trees and terrain. The pilot reported that while taxiing to the runway, he scanned the sky with the monochrome weather radar, which was set at the 40-mile range. 'No weather was shown behind the runway and a cell was shown 15 miles from the runway.' The takeoff roll was 'uneventful,' and the airplane was rotated at 95 knots. Climb out was accomplished at 110 knots, the engines were at maximum power, the propellers at maximum RPM, and the manifold pressure was indicating maximum. A 10-degree turn towards the Cotulla VOR was being made when at 1,500 feet msl, a sharp descent was felt with the VSI indicating an 800 ft/min rate of descent. The wings were leveled and the airspeed was slowed to 85 knots. 'The rate of descent slowed to 400 ft/min and then finally to 300 ft/min until impact...' The airplane was destroyed by fire that erupted on impact. A review of doppler weather radar images showed thunderstorms in the vicinity of the airport.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A downdraft, which exceeded the aircraft's climb performance. A factor was the thunderstorms in the vicinity of the airport.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) WEATHER CONDITION - THUNDERSTORM
2. (C) WEATHER CONDITION - DOWNDRAFT
3. (C) AIRCRAFT PERFORMANCE, CLIMB CAPABILITY - EXCEEDED
4. PROPER CLIMB RATE - NOT POSSIBLE - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: DESCENT - UNCONTROLLED

Findings

5. OBJECT - TREE(S)

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On October 18, 1998, at 0600 central daylight time, a Cessna 421C twin-engine airplane, N19MH, registered to and operated by Critical Air Medicine of San Diego, California, impacted terrain during takeoff climb from the Maverick County Memorial International Airport near Eagle Pass, Texas. The airline transport pilot, two flight nurses, the patient, and one passenger sustained minor injuries. Visual meteorological conditions prevailed, and a company VFR flight plan was filed for the 14 Code of Federal Regulations Part 135 air medical flight. The dark night flight was originating at the time of the accident, with San Antonio as its destination.

The pilot reported to the NTSB investigator-in-charge during an interview and in a written statement that while taxiing to runway 12, he scanned the sky with the monochrome weather radar, which was set at the 40-mile range. "No weather was shown behind the runway and a cell was shown 15 miles from the runway. The takeoff roll was uneventful, the runway was wet, but no hydroplaning was encountered." The airplane was rotated at 95 knots, and the landing gear was retracted after reaching a positive rate of climb. Climb out was accomplished at 110 knots, and the "engines were at maximum power, propellers RPM maximum, and maximum manifold pressure. A 10-degree turn towards the Cotulla VOR was being made, when at 1,500 feet msl, a sharp descent was felt with the VSI indicating 800 ft/min rate of descent." The wings were leveled and the airspeed was slowed to 80 knots, then increased to 85 knots, where it stayed for the remainder of the flight. "The rate of descent was slowed to 400 ft/min and finally to 300 ft/min before impact... The tail impacted first and the nose was kept up until control was no longer possible. The airplane stopped and fire enveloped the airplane very quickly outside and inside."

A flight nurse reported that during takeoff, the aircraft lifted off the runway and began to ascend. The ascent was smooth and there were "no different sounds from either engine." While attending to the patient, he heard a loud metal bang and had a falling sensation that lasted 1-2 seconds. He then saw a bright yellow flash to the right side of the airplane, proceeded by another yellow flash to the left side of the airplane. He felt the airplane still in forward motion, but with a "heavy turbulence" feeling and a noise that sounded like a "machine gun." After the aircraft came to a stop, the flight crew, patient and passenger exited the burning airplane. The fire destroyed the airplane.

According to FAA records, the pilot telephoned the San Angelo AFSS twice the evening before the flight and was provided with a preflight weather briefing each time. At 0429, the pilot telephoned the San Angelo AFSS to file an IFR flight plan to San Antonio and was provided an update on weather.

A review of doppler weather radar site images from the Del Rio, Texas (KDFX) WSR-88D radar at 0551, 0557, and 0603 on October 18, 1999, showed thunderstorms in the vicinity of the

Eagle Pass airport.

Pilot Information

Certificate:	Airline transport; Commercial	Age:	38,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	February 5, 1998
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	2095 hours (Total, all aircraft), 120 hours (Total, this make and model), 1320 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N19MH
Model/Series:	421C 421C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	421C1008
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:	October 9, 1998 Continuous airworthiness	Certified Max Gross Wt.:	7450 lbs
Time Since Last Inspection:	18 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	4071 Hrs	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	GTSIO-520-N
Registered Owner:	CRITICAL AIR MEDICINE, INC.	Rated Power:	375 Horsepower
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:	CRITICAL AIR MEDICINE	Operator Designator Code:	IBUA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Unknown	Visibility	10 miles
Lowest Ceiling:	Overcast / 5000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	21°C / 19°C
Precipitation and Obscuration:	Light - None - Rain		
Departure Point:	(5T9)	Type of Flight Plan Filed:	Company VFR
Destination:	SAN ANTONIO (SAT)	Type of Clearance:	None
Departure Time:	06:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	MAVERICK COUNTY MEM INTL 5T9	Runway Surface Type:	Asphalt
Airport Elevation:	878 ft msl	Runway Surface Condition:	Wet
Runway Used:	12	IFR Approach:	
Runway Length/Width:	5500 ft / 100 ft	VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	3 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	2 Minor	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	5 Minor	Latitude, Longitude:	28.700841,-100.490684(est)

Administrative Information

Investigator In Charge (IIC): Wigington, Douglas

Additional Participating Persons: JESUS M CAVAZOS; SAN ANTONIO , TX

Original Publish Date: August 18, 2000

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=45115>

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](#).