



National Transportation Safety Board Aviation Accident Final Report

Location:	LEVELLAND, TX	Accident Number:	FTW98LA202
Date & Time:	05/01/1998, 1430 CDT	Registration:	N459U
Aircraft:	Cessna 150M	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Minor, 1 None

Flight Conducted Under: Part 91: General Aviation - Instructional

Analysis

The flight instructor (CFI) and student pilot reported that during an instructional flight, the airplane encountered a severe downdraft that it was unable to out climb, while in the traffic pattern. This occurred after the flight departed from runway 17 to practice takeoffs and landings in the traffic pattern. The CFI reported that after turning crosswind, while the engine was still operating at full takeoff power, the airplane encountered a severe downdraft, which resulted in a rate of descent that exceeded 1,000 feet per minute. The CFI turned the airplane away from high tension power lines as he maneuvered the airplane towards a plowed field to the east-southeast of the airport. The CFI reduced power before the airplane impacted the ground in a landing attitude with the flaps retracted. The operator stated that virga and dust devils were observed in all quadrants near the time of the accident. An FAA inspector also observed signs of downdrafts and virga while en route to the accident site. On a previous flight, the operator experienced 'strong up and downdrafts due to the highly unstable weather pattern.' The density altitude was calculated by the investigator-in-charge to be 5,600 feet.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inaccurate weather evaluation, subsequent encounter with a severe downdraft, and failure (or inability) to compensate for the wind (downdraft) condition. The high density altitude was a related factor.

Findings

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

Findings

1. (C) WEATHER EVALUATION - INACCURATE - PILOT IN COMMAND(CFI)
2. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
3. (C) WEATHER CONDITION - DOWNDRAFT
4. (C) COMPENSATION FOR WIND CONDITIONS - INADEQUATE

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On May 1, 1998, at 1430 central daylight time, a Cessna 150M airplane, N459U, was destroyed upon impact with the ground following an encounter with a downdraft while in the traffic pattern near Levelland, Texas. The flight instructor sustained minor injuries and the student pilot was not injured. The airplane was owned by a private individual and was being operated by Levelland Aviation of Levelland, Texas, under Title 14 CFR Part 91. Visual meteorological conditions prevailed for the instructional flight for which a flight plan was not filed. The local flight was originating at the time of the accident.

According to the operator, the airplane departed from runway 17 to practice takeoffs and landings in the traffic pattern. The flight instructor reported that after turning crosswind, while the engine was still operating at full takeoff power, the airplane encountered a severe downdraft, resulting in a rate of descent exceeding 1,000 feet per minute, which the flight instructor stated that the airplane was not capable of out climbing. The flight instructor turned the airplane to avoid the north-south high tension power lines to the east of the airport, as he maneuvered the airplane towards a plowed field to the east-southeast of the airport.

The flight instructor further stated that he reduced the engine power prior to impacting the soft plowed field perpendicular with the 14-inch high rows. The airplane impacted the ground on a northeasterly heading in the landing attitude with the flaps in the retracted position. The nose landing gear collapsed and the airplane nosed over coming to rest in the inverted position.

The operator stated that virga and dust devils were observed on all quadrants near the time of the accident. While responding to the accident site, the FAA inspector also observed numerous clouds which were producing virga and downbursts by evidence of the dust and dirt being blown in localized areas, below or adjacent to the cloud formations.

In a previous flight, the operator also experienced "strong up and downdrafts due to the highly unstable weather pattern." The density altitude was calculated by the investigator-in-charge at 5,600 feet.

The 20 year old flight instructor, who is a citizen of India, had accumulated a total of 400 flight hours. The 88 hour student pilot receiving instruction was a citizen of Saudi Arabia. The operator stated that both were very proficient in the English language.

Examination of the wreckage by the FAA inspector revealed that the engine assembly, with the propeller still attached, separated from the airframe. The nose landing gear was torn off the fuselage and the vertical fin was crushed. The tail section of the airplane separated from the fuselage aft of the cockpit.

The 1976 model Cessna was equipped with shoulder harnesses for both occupants, and they both reported wearing them at the time of the accident. The airplane's ELT was found in the armed position, and was activated by the ground impact.

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	20, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	07/23/1997
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	400 hours (Total, all aircraft), 152 hours (Total, this make and model), 262 hours (Pilot In Command, all aircraft), 130 hours (Last 90 days, all aircraft), 77 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N459U
Model/Series:	150M 150M	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	150-78407
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	04/27/1998, 100 Hour	Certified Max Gross Wt.:	1600 lbs
Time Since Last Inspection:	14 Hours	Engines:	1 Reciprocating
Airframe Total Time:	5042 Hours	Engine Manufacturer:	Continental
ELT:	Installed, activated	Engine Model/Series:	O-200-A
Registered Owner:	STEVEN C. BERNSTEIN	Rated Power:	100 hp
Operator:	STEVEN C. BERNSTEIN	Operating Certificate(s) Held:	None
Operator Does Business As:	LEVELLAND AVIATION	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	LBB, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1356 CDT	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 8000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	9 knots / 14 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	130°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	27° C / 1° C
Precipitation and Obscuration:			
Departure Point:	(Q24)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1430 CDT	Type of Airspace:	Class G

Airport Information

Airport:	LEVELLAND MUNICIPAL (Q24)	Runway Surface Type:	Asphalt
Airport Elevation:	3508 ft	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	6100 ft / 75 ft	VFR Approach/Landing:	Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	HECTOR R CASANOVA	Report Date:	10/30/1998
Additional Participating Persons:	STANLEY P HINDS; LUBBOCK, TX		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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