Aviation Investigation Final Report

Location:	Roxbury, New York	**Accident Number:**	NYC02LA103
Date & Time:	May 27, 2002, 14:50 Local	**Registration:**	N36322
Aircraft:	Taylorcraft BC-12D	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot and passenger boarded the airplane, and departed. About 2 hours into the flight and approximately 15 minutes from the pilot's planned destination, the airplane encountered a downdraft. When the airplane entered the downdraft, indicated air speed (IAS) was between 85 and 95 mph, and the airplane was approximately 600 feet above an approaching ridge. The pilot applied full throttle, and slowed the airplane to its best rate-of-climb airspeed. With the engine operating at full power, the pilot was unable to arrest the descent. The airplane continued to descend until it impacted trees. The pilot did not encounter any turbulence or other downdrafts before the accident. Winds aloft were forecasted to be approximately 6 knots for 3,000 feet, and thunderstorms were forecasted to begin about 1700. Before the accident, the pilot saw a possible thunderstorm about 20 miles to the northwest of the accident site.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The airplane encountering an unanticipated downdraft that exceeded the climb performance of the airplane.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE

Findings
1. (C) WEATHER CONDITION - DOWNDRAFT

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

Findings
2. TERRAIN CONDITION - MOUNTAINOUS/HILLY

Factual Information

On May 27, 2002, about 1450 eastern daylight time, a Taylorcraft BC-12D N36322, was substantially damaged when it impacted terrain while in cruise flight near Roxbury, New York. The certificated private pilot and passenger were not injured. Visual meteorological conditions prevailed for the personal flight that departed Bloomsburg Municipal Airport (N13), Bloomsburg, Pennsylvania, destined for Freehold Airport (1I5), Freehold, New York. No flight plan was filed, and the flight was conducted under 14 CFR Part 91.

According to the pilot, earlier in the day, he and his passenger departed Freehold, New York, and flew to Bloomsburg, Pennsylvania. After landing, the airplane remained at Bloomsburg for about 1 hour. It was serviced with fuel, and the pilot rechecked weather. The pilot was advised that the winds aloft for the return trip to Freehold were forecasted to be approximately 6 knots at 3,000 feet msl, and that thunderstorms were forecasted to develop after 1700.

The pilot and passenger reboarded the airplane. The engine started on the first attempt, and the pilot taxied the airplane short of runway 26 where he completed the engine run up checks. No engine anomalies were identified, and the pilot taxied the airplane onto the runway for departure. Once airborne, the pilot turned the airplane to the northeast, and climbed to an initial altitude of 2,000 feet msl. Because the airplane was not equipped with an electrical system, or a handheld GPS, the pilot used a combination of dead reckoning and pilotage to navigate back to Freehold. As the flight progressed toward higher terrain, the pilot continued to climb in order to maintain 700 to 1,000 feet agl.

About 2 hours into the flight and approximately 15 minutes from the pilot's planned destination, the airplane encountered a downdraft. At the time of the encounter, indicated air speed (IAS) was between 85 and 95 mph, altitude was approximately 3,700 feet msl, and the airplane was approaching a 3,100-foot ridge at a 30-degree angle. Upon entering the downdraft, the airplane developed a high rate of descent. The pilot applied full throttle, and slowed the airplane to its best rate-of-climb airspeed, which was 60 mph. With the engine operating at full power, the pilot was unable to arrest the descent. The airplane continued to descend until the right wing struck a tree. It then rolled inverted, and impacted the ground.

The pilot added that he did not encounter any downdrafts prior to the one associated with the accident, nor did he encounter any turbulence. When asked if there was any convective activity in the vicinity of the accident site, the pilot responded "no," but that he did see a possible thunderstorm about 20 miles to the northwest of the accident site just prior to the accident. In addition, the pilot stated that visibility en route varied between 5 to 8 miles, and sometimes was greater than 20 miles, and that the ceiling was broken between 5,000 feet agl to 8,000 feet agl.

The pilot held a private pilot certificate with a single engine land rating. His last third-class medical certificate was dated November 30, 2000, and contained no waivers or restrictions. The pilot had a total flight experience of approximately 90 hours; with 40 hours of that being in the accident airplane make and model. In addition, the pilot had approximately 10 hours of mountain flying experience.

A weather observation was taken about 1 minute after the accident at the Albany International Airport (ALB), Albany, New York, which was located 48 miles to the northeast of the accident site, and approximately 2,700 feet lower in elevation. According to the observation, the wind was 090 degrees at 5 knots, visibility was 8 miles, sky was clear, temperature was 79 degrees Fahrenheit, dew point was 61 degrees Fahrenheit, and the altimeter setting was 30.13 inches of mercury.

Another weather observation was taken about 5 minutes after the accident at the Sullivan County International Airport (MSV), Monticello, New York, which was located 44 miles to the southwest of the accident site, and approximately 1,600 feet lower in elevation. According to the observation, the wind was 190 degrees at 6 knots, visibility was 10 miles, a few clouds at 800 feet, temperature was 72 degrees Fahrenheit, dew point was 59 degrees Fahrenheit, and the altimeter setting was 30.18 inches of mercury. In addition, the remark section of the observation noted lighting distant to the southwest, and that thunderstorm activity began at 1456.

An upper atmosphere sounding was taken at 5,000 feet pressure altitude about 5 hours before the accident over ALB. According to the sounding, the wind was approximately 200 degrees true at 5 knots, temperature was 55 degrees Fahrenheit, and dew point was 48 degrees Fahrenheit. In addition, all the sounding within approximately 300 miles to the west of the accident site recorded wind speeds of 10 knots or less.

According to the pilot, he weighed approximately 175 pounds, the passenger weighed approximately 125 pounds, baggage totaled approximately 5 pounds, and fuel remaining was approximately 24 pounds, which made the operating weight at the time of the accident about 1,030 pounds. The maximum gross weight for the airplane was 1,200 pounds.

Pilot Information

Certificate:	Private	**Age:**	52,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	November 30, 2000
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	November 28, 2001
Flight Time:	83 hours (Total, all aircraft), 38 hours (Total, this make and model), 57 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Taylorcraft	**Registration:**	N36322
Model/Series:	BC-12D	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	6402
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	July 23, 2001 Annual	**Certified Max Gross Wt.:**	1200 lbs
Time Since Last Inspection:	41 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2491 Hrs at time of accident	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	A-65-8
Registered Owner:	John A. Bensen	**Rated Power:**	65 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MSV,1403 ft msl	**Distance from Accident Site:**	44 Nautical Miles
Observation Time:	14:55 Local	**Direction from Accident Site:**	202°
Lowest Cloud Condition:	Few / 8000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.18 inches Hg	**Temperature/Dew Point:**	22°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bloomsburg, PA (N13)	**Type of Flight Plan Filed:**	None
Destination:	Freehold, NY (1I5)	**Type of Clearance:**	None
Departure Time:	12:50 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	42.283332,-74.56472

Administrative Information

Investigator In Charge (IIC):	Muzio, Dave
Additional Participating Persons:	Jeff Wasileski; FAA/FSDO; Albany, NY
Original Publish Date:	June 25, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=54786