Aviation Investigation Final Report

Location:	Plant City, Florida	**Accident Number:**	SEA05LA076
Date & Time:	April 16, 2005, 17:55 Local	**Registration:**	N33CF
Aircraft:	Beech A36	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	6 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported the takeoff roll was normal; however shortly after takeoff during the climb he noted a reduction in the climb performance at takeoff power. He stated the airplane began to settle, eventually impacting terrain in a tail-low attitude. The pilot and the five passengers aboard the airplane were not injured and were able to exit the airplane without assistance. Post accident examination of the engine revealed no evidence of a mechanical malfunction that would have contributed to a loss of engine power. Downloaded data for the airplane's engine monitoring system revealed no evidence of an engine anomaly. Data from the accident flight were consistent with normal engine operations and no different from the values found in identically equipped and configured engine.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An engine power interruption during takeoff for undetermined reasons.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: HARD LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
2. TERRAIN CONDITION - GROUND

Factual Information

On April 16, 2005, about 1755 eastern daylight time, a Beech A36 Bonanza airplane, N33CF, sustained substantial damage following a collision with terrain shortly after takeoff from the Plant City Municipal Airport, Plant City, Florida. The airplane is owned by the pilot, and was being operated as a visual flight rules (VFR) cross-country flight under the provisions of Title 14, CFR Part 91, when the accident occurred. The airline transport pilot, and the five passengers aboard the airplane, were not injured. Visual meteorological conditions prevailed, and no flight plan was filed for the cross-country flight. The pilot's planned destination was Rock Hill (York County) Airport, Rock Hill, South Carolina.

During a telephone conversation with the NTSB IIC on April 16, the pilot reported the takeoff roll was normal; however shortly after takeoff during the climb he noted a reduction in the climb performance at takeoff power. He stated the airplane began to settle, eventually impacting terrain in a tail-low attitude.

In a written statement, dated April 21, the pilot reported that shortly after retracting the landing gear, during the initial climb out, the engine began to run rough and lose power. The pilot reported that he cycled the fuel boost pump to the low position; however, "no change in power" was noted. The pilot further reported that "…there was a question as to whether the airplane would clear the trees and [I] did not know what was on the other side - so I elected to set the airplane in a field on the airport property."

The airplane was powered by a Teledyne Continental IO-550-B engine rated at 300-horsepower. The engine was equipped with, among other things, a Tornado Alley Turbo Whirlwind turbonormalizing package.

The airplane was equipped with a J.P. Instruments EDM 700 engine monitoring system. The configuration found in the aircraft recorded, in part, exhaust gas temperature (EGT), cylinder head temperature (CHT), turbine inlet temperature (TIT), oil temperature (OIL) and fuel flow (FF) in gallons per hour. These parameters were recorded using a 6 second sample rate.

The system was removed from the wreckage and shipped to J.P. Instruments, Costa Mesa, California, to facilitate data extraction and readout. Data from 24 individual flights, the accident flight and 23 previous flights, were downloaded from the unit's internal digital memory chip.

The data file corresponding with the accident flight (file number 55) contained approximately 2.7 minutes of data. The unit began logging engine data at 21:41:16 (when the avionic bus was powered) and the last data entry was recorded at 21:43:58.

Comparison evaluation of the data from the accident flight and the most recent flight prior to the accident revealed no significant data influxes or anomalies between the two flights. The EGT's, CHT's, FF and TIT's values recorded on the accident flight were consistent with the values recorded on the previous flight.

Representatives from Tornado Alley Turbo, Inc, reviewed the data and reported that the engine values from the accident flight were consistent with normal engine operations and no different from the values found in identically equipped and configured engine installation.

Post accident engine examination by representatives from Teledyne Continental Motors and the Federal Aviation Administration revealed no evidence of a mechanical malfunction that would have contributed to a loss of engine power. In a post inspection written report from Teledyne Continental Motors, dated November 29, the representative conducting the engine examination stated, "The inspection of this modified engine did not reveal any visual abnormalities that would have prevented normal operation and production of rated horsepower."

Pilot Information

Certificate:	Airline transport	**Age:**	57,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	February 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	March 1, 2004
Flight Time:	3651 hours (Total, all aircraft), 92 hours (Total, this make and model), 46 hours (Last 90 days, all aircraft), 24 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N33CF
Model/Series:	A36	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	E-2495
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	June 1, 2004 Annual	**Certified Max Gross Wt.:**	4000 lbs
Time Since Last Inspection:	38 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2064 Hrs as of last inspection	**Engine Manufacturer:**	Teledyne Continental
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	IO-550-B
Registered Owner:	Sky King Ventures, LLC	**Rated Power:**	300 Horsepower
Operator:	Clarence O. Floyd	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	LAL,142 ft msl	**Distance from Accident Site:**	8 Nautical Miles
Observation Time:	17:50 Local	**Direction from Accident Site:**	270°
Lowest Cloud Condition:	Scattered / 25000 ft AGL	**Visibility**	15 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	30°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.18 inches Hg	**Temperature/Dew Point:**	20°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	PLANT CITY, FL (PCM)	**Type of Flight Plan Filed:**	None
Destination:	Rock Hill, SC (UZA)	**Type of Clearance:**	VFR
Departure Time:	17:55 Local	**Type of Airspace:**	

Airport Information

Airport:	PLANT CITY MUNI PCM	**Runway Surface Type:**	Asphalt
Airport Elevation:	154 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	10	**IFR Approach:**	None
Runway Length/Width:	3950 ft / 75 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	5 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	6 None	**Latitude, Longitude:**	28,-82.164169

Administrative Information

Investigator In Charge (IIC):	Hogenson, Dennis
Additional Participating Persons:	George McNeill; FAA FSDO; Tampa , FL Jason Lukasik; Teledyne Continental Motors ; Mobile , AL George Braly; Tornado Alley Turbo; Ada, OK
Original Publish Date:	March 28, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=61325