Aviation Investigation Final Report

Location:	Williamsburg, Virginia	**Accident Number:**	NYC07LA027
Date & Time:	November 12, 2006, 11:25 Local	**Registration:**	N9430K
Aircraft:	Piper PA-32R-300	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

During the takeoff roll, the pilot lifted the nose wheel of the airplane off the runway early in order to "lessen ground drag on the nose." As the airplane reached 100 feet, and at an airspeed near rotation speed, the airplane encountered a wind gust of approximately "negative 30 knots." The airplane was then "hit from [the] top by wind," and subsequently impacted trees off the departure end of the runway. The pilot stated that if he had the chance to do the accident flight again, he would not have attempted the departure due to the winds. Witnesses described that as the airplane lifted off from the runway, it was moving "abnormally slow" and was "not climbing very quickly." It then climbed a "short distance" into the air before being "pushed down." It then gained altitude, but did not climb above the height of the trees beyond the departure end of the runway. The airplane flew in a wings level attitude, straight into the tree line, and moments later erupted in flames. The weather reported at the time of the accident consisted of gusting winds and rain. Examination of radar information revealed level 3 convective activity just west of the airport around the time of the accident. Examination of the airframe and engine did not reveal evidence of any preimpact mechanical malfunctions or failures.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper decision to depart into adverse weather conditions. Contributing was the gusty wind conditions.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
2. (F) WEATHER CONDITION - GUSTS
3. (C) FLIGHT INTO KNOWN ADVERSE WEATHER - CONTINUED - PILOT IN COMMAND

Factual Information

HISTORY OF FLIGHT

On November 12, 2006, at 1125 eastern standard time, a Piper PA-32R-300, N9430K, was destroyed when it impacted trees shortly after takeoff from Williamsburg-Jamestown Airport (JGG), Williamsburg, Virginia. The certificated private pilot was seriously injured, and the passenger was fatally injured. Instrument meteorological conditions (IMC) prevailed, and an instrument flight rules (IFR) flight plan was filed for the personal flight, destined for Albert Whitted Airport (SPG), St. Petersburg, Florida. The flight was conducted under 14 CFR Part 91.

A review of Flight Service Station communication information revealed that the pilot received an IFR clearance to St. Petersburg about 1115. The pilot also advised the briefer that he intended to depart from runway 31.

During an interview with a Federal Aviation Administration (FAA) inspector, the pilot described the events that led up to the accident. The weather around the time of the accident was IMC, and the winds were gusting. After starting and taxing the airplane, the pilot contacted flight service to obtain an IFR clearance. When the pilot received the clearance, he was advised that he had 5 minutes to depart.

Prior to beginning the takeoff, the pilot knew that he would have to "climb out early due to the short runway." He went on to explain that he lifted the nose wheel of the airplane off the runway early in order to "lessen ground drag on the nose." He stated that "at Vr and approximately 100 feet, airspeed started decreasing." The airplane encountered a wind gust, "of approximately negative 30 knots." He had to increase the pitch angle in order to fly away from the ground. About this time the airplane was "hit from [the] top by wind." The airplane subsequently impacted trees and became engulfed in flames.

The pilot described that if he had the chance to do the accident flight again, he would not have attempted the departure due to the winds. Additionally, he described other aggravating circumstances such as the up slope of the runway and the fuel load of the airplane.

Two witnesses observed the airplane during the takeoff, and both provided similar written statements. According to the witnesses, as the airplane lifted off from the runway it was moving "abnormally slow," and was "not climbing very quickly." It then climbed a "short distance" into the air before being "pushed down" about 10 to 15 feet. It then gained altitude, but did not climb above the height of the trees beyond the departure end of the runway. The airplane flew in a wings level attitude, straight into the tree line, and moments later erupted in flames.

One of the witnesses described the weather at the time of the accident as rainy and windy, and that conditions worsened throughout the day.

The accident occurred during the hours of daylight at 37 degrees 14 minutes north latitude by 76 degrees 42 minutes west longitude.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with ratings for airplane single and multi engine land, and instrument airplane. On his most recent application for an FAA third class medical certificate, dated August 2, 2006, the pilot reported 2,140 total hours of flight experience.

AIRPORT INFORMATION

JGG was comprised of a single 3,204-foot-long by 60-foot-wide asphalt runway, oriented in a 13/31 configuration. Runway 31 sloped upward 0.8-percent. Numerous obstructions were located beyond the departure end of runway 31 including a dirt mound and a tree line. A 111-foot-tall tree was located 1,850 feet from the departure end of the runway, 249 feet left of the runway centerline, and required a 14:1 slope to clear.

WRECKAGE AND IMPACT INFORMATION

According to an FAA inspector, the airplane came to rest lodged in a tree about 1,900 feet beyond the departure end of runway 31, and about 40 feet above the ground. A majority of the airplane was damaged by fire.

Both wings were intact, but both right wing fuel tanks, and the inboard left fuel tank were burned. The left outboard fuel tank remained intact, and was full of fuel. Examination of the flight controls did not reveal evidence of any preimpact abnormalities. The flap handle was found in the 10-degree detent. Both main landing gear were in the down position, and the nose landing gear was separated from the airframe.

Immediately below the airplane were tree branches cut at 45-degree angles, including a branch 8 inches in diameter. Both propeller blades exhibited s-bending and chordwise scratching. Examination of the engine revealed the accessory section was damaged by fire. Crankshaft and valvetrain continuity were confirmed. Rotation of the crankshaft produced compression on all cylinders, which was verified using the thumb method. The fuel injector screen and fuel flow divider screen were absent of debris. Debris was found in the compressor sections of both turbo chargers. The turbochargers did not initially rotate, but once freed with a wrench, both rotated freely.

AIRCRAFT INFORMATION

The accident airplane was manufactured in 1976. The engine was equipped with an

aftermarket dual turbocharger system, which was installed in 1979. According to maintenance records, the airplane's most recent annual inspection was completed on April 30, 2006, at 2,674 total aircraft hours.

METEOROLOGICAL INFORMATION

The weather conditions reported at JGG, at 1120, included winds from 350 degrees true at 16 knots, gusting to 24 knots, visibility 5 statute miles, scattered clouds at 900 feet, a broken ceiling at 1,400 feet, an overcast ceiling at 2,100 feet, temperature 52 degrees Fahrenheit, dewpoint 52 degrees Fahrenheit, and an altimeter setting of 29.72 inches of mercury.

The weather reported at Newport News/Williamsburg International Airport, (PHF), Newport News, Virginia, about 12 nautical miles southeast, included winds from 330 degrees, at 16 knots, gusting to 23 knots, visibility 1 3/4 statute miles in heavy rain, overcast clouds at 600 feet, and an altimeter setting of 29.68 inches of mercury.

According to radar reflectivity images generated by the National Weather Service WSR-88D weather radar located in Wakefield, Virginia, at 1147, level 3 convective weather was present immediately west of the airport.

ADDITIONAL INFORMATION

Examination of fueling records revealed that the airplane was "topped off" with 46.3 gallons of fuel at 0926 on the day of the accident.

A surveillance camera located at JGG captured video of the accident airplane as it taxied to runway 31, and again about 20 minutes later during the takeoff roll. The weather conditions depicted on the video generally matched those described by the pilot, with gusting winds and rain. No obvious mechanical abnormalities were apparent with the airplane during the visible portions of the taxi or takeoff roll.

Pilot Information

Certificate:	Commercial	**Age:**	56,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):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Without waivers/limitations	**Last FAA Medical Exam:**	August 1, 2006
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	October 1, 2004
Flight Time:	2140 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N9430K
Model/Series:	PA-32R-300	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	32R-7680406
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	April 1, 2006 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	2674 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	TIO-540
Registered Owner:	Engenius Inc	**Rated Power:**	300 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:	JGG,49 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	11:20 Local	**Direction from Accident Site:**	130°
Lowest Cloud Condition:	Scattered / 900 ft AGL	**Visibility**	5 miles
Lowest Ceiling:	Broken / 1400 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	16 knots / 24 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	350°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.71 inches Hg	**Temperature/Dew Point:**	11°C / 11°C
Precipitation and Obscuration:			
Departure Point:	Williamsburg, VA (JGG)	**Type of Flight Plan Filed:**	IFR
Destination:	St. Petersburg, FL (SPG)	**Type of Clearance:**	IFR
Departure Time:	11:25 Local	**Type of Airspace:**	

Airport Information

Airport:	Williamsburg-Jamestown Airport JGG	**Runway Surface Type:**	Asphalt
Airport Elevation:	49 ft msl	**Runway Surface Condition:**	Wet
Runway Used:	31	**IFR Approach:**	None
Runway Length/Width:	3204 ft / 60 ft	**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious	**Latitude, Longitude:**	37.239166,-76.715835

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	Elwyn Jordan; FAA/FSDO; Richmond, VA George Hollingsworth; Piper Aircraft; Staunton, VA
Original Publish Date:	November 29, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=64850