



National Transportation Safety Board Aviation Accident Factual Report

Location:	Blacksburg, VA	Accident Number:	NYC08LA005
Date & Time:	10/06/2007, 1307 EDT	Registration:	N26VT
Aircraft:	Pelt Mad Max II Special	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

On October 6, 2007, at 1307 eastern daylight time, an amateur-built Mad Max II Special gyroplane, N26VT, was substantially damaged when it impacted trees and terrain during a forced landing near Blacksburg, Virginia. The certificated private pilot/builder was seriously injured, and the passenger was fatally injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight, which originated at Virginia Tech Executive Airport (BCB), Blacksburg, Virginia. The personal flight was conducted under 14 Code of Federal Regulations Part 91.

During a telephone interview, the pilot described some of the maintenance history of the gyroplane, and recounted the events of the accident flight. According to the pilot, he originally built the gyroplane in 2001, and at that time it was a single seat configuration. Between 2006 and 2007, he converted the gyroplane to a two seat configuration, and performed work on the engine, which included replacing "everything" with the exception of the carburetor and ignition coil. At the time of the conversion, the gyroplane had accumulated 175 total flight hours. Between the conclusion of the conversion and the accident flight, the pilot stated that he had completed the required test period, and flown the gyroplane for about 20 additional flight hours. About 10 of those 20 hours were flown with a person occupying the second seat.

After takeoff on the accident flight, the pilot made a left turn about 400 feet above ground level, and in the airport traffic pattern. The engine was running normally for the first 1 to 2 minutes of the flight, when the engine "just flat out stopped." The pilot further described that the engine did not sputter prior to stopping, and that after the engine ceased producing power, the gyroplane began to sink. During the autorotative descent, the gyroplane performed as the pilot expected it to, and he attempted to diagnose the engine problem by checking the circuit breakers, all of which were nominal. Due to the trees and other obstructions below, the pilot was unable to locate a suitable forced landing site. The main rotor subsequently contacted a tree, separating it from the gyroplane, which then fell about 40 feet to the ground.

The pilot additionally stated that about one month prior to the accident, he had a problem with the engine not reaching full power. While troubleshooting the issue, the pilot replaced the spark plugs, to no avail, but the issue resolved when he replaced the spark plug wires. He had

flown the gyroplane about 10 hours since that time. He did not mention any other maintenance activities that he had performed during the interview.

During a telephone interview, the passenger's mother stated that she received a phone call from the passenger on the morning of the accident flight. The passenger stated that she and the pilot would be delayed for their scheduled fly-over. The passenger further described that the gyroplane was having a problem "lifting properly," and that the pilot was checking the spark plug wires. The passenger also called a friend to advise her of the delay, and stated that they were "having problems getting the [gyroplane] up to full power."

A pilot was performing an instrument approach to BCB in an airplane around the time of the accident. According to the airplane pilot, he initially transmitted his position and intentions on the airport UNICOM frequency. The pilot heard a reply from the accident pilot, who stated that he was maneuvering in the area for photography. The accident pilot stated that he would watch for and stay clear of the airplane pilot. When the airplane pilot was about 2 miles from the runway, he heard the accident pilot call "engine out" over the radio. While on short final approach, the airplane pilot observed black smoke rising about 1/2-mile from the runway.

Several witnesses observed the gyroplane during the final portion of the flight. They reported that the engine was "stalled," or had "cut-off." One witness stated that the engine was "smoking" and that it "backfired once and shut off." One witness stated it appeared that the pilot was attempting to land in a residential yard. Another witness watched the gyroplane "fly over tree line, stall, then fall to ground." They all responded to the scene in order to render assistance, and found the gyroplane engulfed in flames.

The pilot held a private pilot certificate with a rating for rotorcraft-gyroplane. His most recent Federal Aviation Administration (FAA) third class medical certificate was issued on January 22, 2007. On that date the pilot reported 175 total hours of flight experience.

An FAA inspector examined the wreckage on October 10, after it had been recovered to BCB. The inspector established flight control continuity, and described that the gyroplane was "severely" burned. Valvetrain continuity could not be established, as the timing belt of the Subaru EJ-122 automotive engine was burned, but the crankshaft and both overhead camshafts were able to rotate. Removal of the engine heads and examination of the engine interior revealed no signatures consistent with pre-ignition or detonation. All 4 Bosch part number FR9DPX spark plugs were removed, and appeared "new" with a "slight heat discoloration" of the ground electrode.

The oil sump, cooler, and filter all contained oil, and examination of the oil filter revealed no evidence of any metallic particles. The 4-barrel carburetor was melted by fire, but both of the throttle arms and the accelerator pump arm were free to move. The carburetor mounting bolts remained attached, but were secured "loose[ly]."

Measurement of the rotor system revealed that each blade was 13 feet long, forming a 26-foot rotor diameter.

According to the FAA, the gyroplane was built by the pilot, and its experimental airworthiness certificate was issued on July 21, 2001. Examination of weight and balance information revealed that the basic empty weight of the gyroplane was 673 pounds. In May 2007, the pilot installed a second seat into the gyroplane. The updated basic empty weight of the gyroplane in the two-seat configuration was 708 pounds. The gyroplane had a fuel capacity of 14 gallons.

Review of the gyroplane's maintenance records revealed that the most recent condition inspection was completed on June 2, 2007.

The weather conditions reported at BCB, about 1 nautical mile southwest of the accident site, at 1300, included winds from 090 degrees at 7 knots, 10 statute miles visibility, scattered clouds at 3,800 feet, a broken ceiling at 5,000 feet, temperature 73 degrees Fahrenheit, dewpoint 64 degrees Fahrenheit, and an altimeter setting of 30.30 inches of mercury.

Pilot Information

Certificate:	Private	Age:	43, Male
Airplane Rating(s):	None	Seat Occupied:	Front
Other Aircraft Rating(s):	Gyroplane	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With Waivers/Limitations	Last FAA Medical Exam:	01/01/2007
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	175 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Pelt	Registration:	N26VT
Model/Series:	Mad Max II Special	Aircraft Category:	Gyroplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	0302A
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	06/01/2007, Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	80 Hours as of last inspection	Engine Manufacturer:	Subaru
ELT:	Not installed	Engine Model/Series:	EJ-22
Registered Owner:	On file	Rated Power:	
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	BCB, 2132 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1300 EDT	Direction from Accident Site:	180°
Lowest Cloud Condition:	Scattered / 3800 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 5000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	90°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.3 inches Hg	Temperature/Dew Point:	23° C / 18° C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Blacksburg, VA (BCB)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	EDT	Type of Airspace:	

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:	37.215556, -80.391111

Administrative Information

Investigator In Charge (IIC):	Dennis J Diaz
Additional Participating Persons:	Darren Brown; FAA/FSDO; Richmond, VA
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/ .