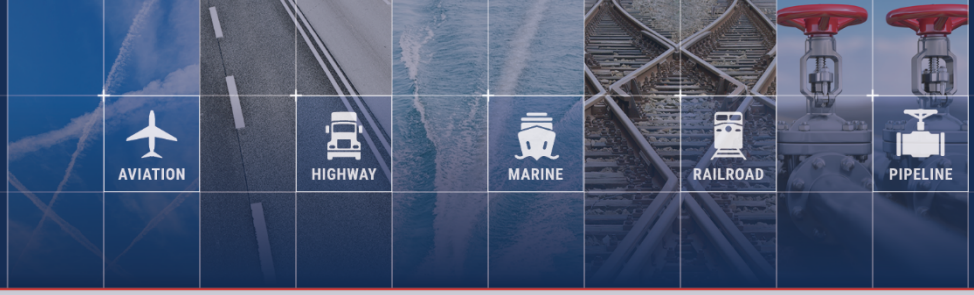

Aviation Investigation Final Report

Location:	Post, Texas	**Accident Number:**	CEN11LA067
Date & Time:	November 14, 2010, 15:45 Local	**Registration:**	N2268U
Aircraft:	Brantly B-2B	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	1 Fatal, 1 Serious, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While attempting to take off from a private airfield, the helicopter did not lift at the expected airspeed. The helicopter continued along the ground, increasing in speed but without climbing. The helicopter's skid then contacted the ground and the helicopter rolled over. A postaccident inspection of the wreckage did not reveal any preimpact anomalies. A review of the helicopter's weight and balance revealed that the helicopter was operated over the maximum gross weight and forward of the recommended center of gravity.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's decision to operate the helicopter over the maximum gross weight and forward of the recommended center of gravity.

Findings

Aircraft	Directional control - Not attained/maintained
Aircraft	Maximum weight - Capability exceeded
Aircraft	CG/weight distribution - Capability exceeded

Factual Information

History of Flight

Prior to flight	Aircraft loading event
Takeoff	Loss of control in flight (Defining event)
Takeoff	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On November 14, 2010, approximately 1545 central standard time, a Brantly B-2B helicopter, N2268U, was substantially damaged upon impact with terrain while attempting to take off from the Beach Ranch Airport (2TE7), Post, Texas. The commercial pilot was fatally injured and the pilot-rated passenger was seriously injured. The helicopter was registered to and operated by a private individual under the provision of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which operated without a flight plan. The local flight was originating at the time of the accident.

In a telephone interview with the passenger he reported that the pilot was flying the helicopter in order to demonstrate its flight condition. The passenger had flown Brantly helicopters previously, but had not flown one recently so he planned to remain a passenger the entire flight. The passenger reported that the helicopter did not pass though effective translational lift (ETL) at the expected airspeed. The helicopter continued along the ground increasing in ground speed but was not climbing. He added that the engine sounded normal.

According to a statement provided by an eyewitness, the owner sat in the right seat and the passenger was seated in the left seat. The helicopter performed a rolling style take off and had only reached a few feet elevation before the helicopter "twisted" and pitched slightly downward. The "toes" of the helicopter skids began scraping along the ground as the helicopter continued forward. The helicopter traveled past the take off area and into tall grass. The witness then observed the helicopter pitch sharply over as if the skids had hit an obstacle. The helicopter hit the ground nose-first, and rolled over. The witness remarked that the winds were "light from the southwest."

PERSONNEL INFORMATION

The pilot, age 66, held an airline transport pilot certificate for airplane multi-engine land. The pilot also held a commercial pilot certificate for airplane single engine land, airplane single engine sea, helicopter, and glider. The pilot was issued a second class airman medical certificate issued on July 22, 2008 with limitations for the possession for glasses for near and intermediate vision. On that day, the pilot reported having accumlated 35,620 total hours with

50 hours logged in the previous six months.

Comparing tachometer times from the pilot's initial entry of removal of main rotor blades at a tachometer time of 1,613.5 and the estimated 1,657 hours reported by the responding FAA inspector implies that the pilot could have logged at least 43.5 hours in a Brantly helicopter.

AIRCRAFT INFORMATION

The two-seat helicopter, serial number 430, was manufactured in 1964. It was powered by a 180 horsepower Lycoming IVO-360-A1A engine, serial number L-168-58. Review of copies of maintenance records showed an annual inspection was completed on July 29, 2010, with a recorded tachometer time of 1,637.5 hours.

METEOROLOGICAL INFORMATION

At 1546 an automated weather reporting station at Winston Field Airport (SNK), Snyder, Texas, located 33 nautical miles southeast of the accident site reported winds from 180 degrees at 10 knots gusting to 16 knots, visibility 10 miles, clear skies, temperature 67 degrees Fahrenheit (F), dew point 32F, and a barometric pressure of 29.86 inches of Mercury. Of note, three amateur weather reporting sites located within 15 miles of the accident site all reported winds from the southwest at approximately 8 mph gusting to 11 mph.

WRECKAGE AND IMPACT INFORMATION

The helicopter departed a helipad located at the airfield and followed along runway 11 (2,600 feet by 50 feet turf/dirt strip). The wreckage was located north of the runway in low lying vegetation. An examination of the helicopter and engine conducted by responding Federal Aviation Administration (FAA) inspectors did not reveal any anomalies. FAA inspectors collected 14 gallons of fuel from the fuel tank. Fuel was found under the helicopter and it is unknown how much fuel drained from the tank before the helicopter was moved to the upright position.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot on November 16, 2010 by the office of the South Plains Forensic Pathology, Lubbock, Texas as authorized by the Justice of the Peace, Garza County, Texas.

Forensic toxicology was performed on specimens from the pilot by the FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. The toxicology report stated no carbon monoxide, cyanide, or ethanol was detected in specimens. The report noted the following:

Quinine detected in Urine

Quinine detected in Blood

ADDITIONAL INFORMATION

Weight and Balance

The helicopter is certificated to a takeoff gross weight of 1,670 pounds with an associated center of gravity between +104.3 to +107 inches. Utilizing the most recent weight and balance record, the weight of the pilots, 14 gallons of fuel, engine oil, a recently installed GPS unit, and pilot equipment, the estimated weight of the helicopter was at least 1674 pounds, with an associated center of gravity of 103.1 inches.

Pilot Information

Certificate:	Airline transport; Commercial	**Age:**	66,Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Glider; Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):		**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	July 22, 2008
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 35620 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Brantly	**Registration:**	N2268U
Model/Series:	B-2B	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	430
Landing Gear Type:	Skid	**Seats:**	2
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	1670 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	LYCOMING
ELT:		**Engine Model/Series:**	IVO-360-A1A
Registered Owner:	BEACH PAUL A	**Rated Power:**	180 Horsepower
Operator:	BEACH PAUL A	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	SNK,2430 ft msl	**Distance from Accident Site:**	33 Nautical Miles
Observation Time:	15:46 Local	**Direction from Accident Site:**	158°
Lowest Cloud Condition:	Clear / 15000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	10 knots / 16 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	180°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.86 inches Hg	**Temperature/Dew Point:**	18°C / 0°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Post, TX (2TE7)	**Type of Flight Plan Filed:**	None
Destination:	Post, TX	**Type of Clearance:**	None
Departure Time:	15:45 Local	**Type of Airspace:**	

Airport Information

Airport:	Beach Ranch Airport 2TE7	**Runway Surface Type:**	Dirt;Grass/turf
Airport Elevation:	2303 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	11	**IFR Approach:**	None
Runway Length/Width:	2600 ft / 50 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Fatal, 1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious, 1 None	**Latitude, Longitude:**	33.228054,-101.135276

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Gordon Morris; FAA FSDO; Lubbock, TX
Original Publish Date:	October 17, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=77794