



Aviation Investigation Final Report

Location:	ALBANY, Texas	Accident Number:	FTW99FA172
Date & Time:	June 19, 1999, 21:50 Local	Registration:	N233TK
Aircraft:	KEEN GLASAIR I	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The 4,600-hour private pilot was making a night cross country flight. Witnesses in a vehicle driving northeast bound observed the green navigation light and landing light of the airplane. The airplane was flying parallel to the highway heading northeast, at an estimated altitude of approximately 50 feet agl. The witnesses continued to observe the lights of the airplane after it passed their vehicle, at a distance of about 100 yards off the left side of the road. The witnesses reported that they observed the airplane 'abruptly initiate a near vertical climb' and subsequently observed the lights of the airplane descending toward the ground as if the airplane was 'corkscrewing.' The wreckage of the airplane came to rest 30-feet from the base of a power line that crossed the airplane's flight path. There was no evidence found indicating that the airplane had contacted the power line. No anomalies were found with the engine or airframe that could have prevented normal flight operations. Toxicology was positive for fluoxetine (an anti-depressant).

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadvertent stall while performing an evasive maneuver to avoid colliding with powerlines. Factors were the night light condition and the pilot's decision to fly at low altitude.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: CRUISE

Findings

1. (F) LIGHT CONDITION - NIGHT
2. (F) LOW ALTITUDE FLIGHT/MANEUVER - PERFORMED - PILOT IN COMMAND
3. OBJECT - TOWER
4. OBJECT - WIRE, TRANSMISSION
5. (C) MANEUVER TO AVOID OBSTRUCTIONS - PERFORMED - PILOT IN COMMAND
6. (C) STALL/SPIN - INADVERTENT - PILOT IN COMMAND
7. USE OF INAPPROPRIATE MEDICATION/DRUG - PILOT IN COMMAND

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

Findings

8. TERRAIN CONDITION - OPEN FIELD

Factual Information

HISTORY OF FLIGHT

On June 19, 1999, at 2150 central daylight time, a Keen Glasair I homebuilt airplane, N233TK, was destroyed upon impact with the ground following a loss of control while maneuvering near Albany, Texas. The non-instrument rated private pilot, sole occupant of the airplane, was fatally injured. The airplane was registered to and operated by the pilot. Night visual meteorological conditions prevailed throughout the area for the Title 14 Code of Federal Regulations Part 91 personal flight. The 198-nautical mile cross country flight originated from the Clark Municipal Airport (SEP), near Stephenville, Texas, at approximately 2120. The airplane was en route to the Town and Country Airpark (F82), near Lubbock, Texas.

An eyewitness driving northeastbound on state highway 351, observed the green navigation light and landing light of the airplane. The witness and her two children observed the airplane in cruise flight, flying parallel to the highway in a northeast direction, at an estimated altitude of approximately 50 feet agl. The witnesses continued to observe the lights of the airplane after it passed their vehicle, at a distance of about 100 yards off the left side of the road.

The witnesses reported that they observed the airplane "abruptly initiate a near vertical climb" and subsequently observed the lights of the airplane descending toward the ground as if the airplane was "corkscrewing." The corkscrewing ceased as they observed the glow of the red and green navigation lights and the landing light descending towards the ground. The witnesses did not see or hear the impact. They added that they did not see any "sparks, flashes, or any sign of a post-impact fire."

PERSONNEL INFORMATION

The 70-year old private pilot owned a ranch near the community of Bluffdale, approximately 15 miles northeast of the airport at Stephenville. The pilot used the airplane to commute to and from his home in Lubbock and his ranch in Bluffdale. The airplane was kept in a T-hangar at the Town and Country Airport, near Lubbock, Texas. A relative of the pilot stated that the pilot was very familiar with the route of the flight, "having flown it hundreds of times."

The pilot's most recent FAA third-class medical certificate, which was valid for 12 months following the month of the physical exam, was issued on February 2, 1998, with a limitation, "must wear corrective lenses." According to FAA records, the pilot again applied for a medical certificate on January 20, 1999. This application was denied. The reason for the denial was not established.

The pilot earned his private pilot certificate on June 11, 1979. On the application form

submitted by the pilot at the time of his last medical examination on January 20, 1999, the pilot reported that he had accumulated a total of 4,600 flight hours, of which 75 were accumulated in the preceding 6 months.

An employee at the Town and Country Airpark reported to the NTSB investigator-in-charge (IIC) that he "had never seen the airplane being flown at night." The licensed mechanic who had been performing the maintenance on the airplane reported that the pilot told him that "he always planned to arrive at his destination before sundown because he did not care to fly at night."

The airport manager for the departure airport (SEP) reported that runway 14-32 had been closed for over three months due to reconstruction. Based on the prevailing winds for the early evening, he estimated that the flight departed from runway 21 during the early evening hours. He added that runway 03-21 is not equipped with runway lights.

AIRCRAFT INFORMATION

The builder of the experimental category airplane died soon after completing the airplane. The airplane was then sold by the builder's estate to the pilot. An airworthiness certificate had been issued on December 7, 1984, and the airplane was registered to the pilot on May 11, 1989.

The most recent condition inspection was completed on August 2, 1998, at a total time of 1,000 hours. At the time of the accident, the airframe had accumulated 1,037 hours of flight time. The engine, a 150-horsepower Lycoming O-320-E2D, had accumulated 1,400 hours since new.

The airplane was originally equipped with a tailwheel. The builder of the airplane was involved in a landing mishap soon after completing the airplane, and subsequently converted the landing gear to a tricycle configuration.

The side-by-side 2-place airplane was equipped with navigation lights and a landing light; however, it was not equipped with instrument lights or an anti-collision light. The airplane was equipped with VHF communication and navigation radios, including a transponder and a Morrow II GPS.

METEOROLOGICAL INFORMATION

At 2153, the recorded weather conditions at the Abilene Municipal Airport, located 20 nautical miles southwest of the accident site, were winds from 140 degrees at 10 knots, visibility 10 statute miles, sky clear, temperature 27 degrees C (81 degrees F), dew point 17 degrees C (63 degrees F), and altimeter setting 30.00 inches of Mercury.

According to the U.S. Naval Observatory, sunset occurred at 2049 CDT, and the end of civil

twilight occurred at 2117 CDT. The phase of the moon was described as "waxing crescent with 39% of the Moon's visible disk illuminated." Moonrise occurred at 1242 CDT.

WRECKAGE AND IMPACT INFORMATION

The accident site was located approximately 9 miles west southwest of the city of Albany, Texas. The wreckage of the airplane was located at approximately 0830 on June 20, 1999, when a pilot driving along the highway noticed "what appeared to be the tail of an airplane sticking out." The airplane came to rest in a pasture approximately 1/4 mile west of the highway, on a measured heading of 260 degrees. The accident site was located within a half mile of the centerline of the direct course route between the pilot's destination and point of departure.

The engine was found partially buried in the ground in a 35 degree nose down attitude. The forward portion of the engine case sustained impact damage and was cracked. Most of the engine accessories separated from the engine. The propeller hub was still attached to the propeller crankshaft. Both blades of the wooden propeller were severed and splintered.

The top of the engine cowling, the magnetic compass, the outboard portions of both propeller blades and pieces of clear plexiglass were found forward of the resting place of the wreckage, directly under powerlines. The plexiglass pieces were identified as portions of the windshield/canopy of the airplane.

The airplane came to rest 30 feet from high voltage powerlines. The powerlines, aligned on a heading of 060-240 degrees, were suspended by steel towers/insulators. There were 3 towers between the accident site and the highway. The powerlines were depicted on the sectional chart. The powerlines were inspected by personnel from the regional TU Electric office in Graham, Texas, for evidence of damage or signatures of impact with the airplane. No evidence was found on any of the wires or towers from Tower #61 to the highway. A representative of the power company reported that no power interruptions/trips were reported on that specific line on the night of the accident.

The pilot's seat belt was found separated from its mounting bracket on the airframe. All three landing gears separated from the airframe. The flaps were found in the retracted position.

The airplane was equipped with dual flight controls. Flight control continuity was established from the cockpit area to the elevator, ailerons, and rudder. Continuity of the engine control cables (throttle, mixture, carburetor heat) could not be established due to the damage incurred by the instrument panel and cockpit.

There was no fire. The grass area forward of the resting place of the wreckage was chemically burned consistent with the fuel vaporization due to the rupturing of the header and wing tanks at impact.

The VHF receiver/transmitter was found tuned to 122.8 (Unicom frequency for the departure airport). All flight and engine instruments were destroyed. The altimeter was found set to 30.00 inches.

No flashlight was found in the cockpit. No sectional charts or maps were found in the wreckage.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy and toxicological tests were requested and performed. The autopsy was performed by the Tarrant County Medical Examiner's Office on June 21, 1999. Toxicological tests performed by the FAA's Civil Aeromedical Institute in Oklahoma City, Oklahoma, were positive for 0.007 (ug/ml, ug/g) fluoxetine detected in liver, 0.145 (ug/ml, ug/g) norfluoxetine detected in liver, 0.008 (ug/ml, ug/g) fluoxetine detected in kidney, 0.026 (ug/mL, ug/g) norfluoxetine detected in kidney.

The 164 (mg/dL, mg/hg) ethanol detected in kidney fluid; 3 (mg/dL, mg/hg) acetaldehyde detected in liver, and the 15 (mg/dl, mg/hg) ethanol detected in muscle, were considered to be the result of post mortem production due to putrefaction.

ADDITIONAL DATA

The wreckage was released to the owner's representative upon completion of the investigation.

Pilot Information

Certificate:	Private	Age:	70, Male
Airplane Rating(s):	Single-engine land; Multi-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:	Yes
Medical Certification:	Class 3 Invalid Medical for flight	Last FAA Medical Exam:	January 20, 1999
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	4600 hours (Total, all aircraft), 1000 hours (Total, this make and model), 4500 hours (Pilot In Command, all aircraft), 2 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	KEEN	Registration:	N233TK
Model/Series:	GLASAIR I GLASAIR I	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	233K
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	August 3, 1998 Annual	Certified Max Gross Wt.:	1700 lbs
Time Since Last Inspection:	37 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1037 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-320-E2D
Registered Owner:	WILLIAM N. RENFROW	Rated Power:	150 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	ABI ,1790 ft msl	Distance from Accident Site:	20 Nautical Miles
Observation Time:	21:53 Local	Direction from Accident Site:	190°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	27°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	STEPHENVILLE , TX (SEP)	Type of Flight Plan Filed:	None
Destination:	LUBBOCK , TX (F82)	Type of Clearance:	None
Departure Time:	21:20 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	32.720249,-99.289535(est)

Administrative Information

Investigator In Charge (IIC):	Casanova, Hector
Additional Participating Persons:	FRANK J GENTILE; FORT WORTH , TX
Original Publish Date:	April 6, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=46584

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).