



Aviation Investigation Final Report

Location:	St. Matthews, South Carolina	Accident Number:	ERA09LA501
Date & Time:	September 7, 2009, 19:16 Local	Registration:	N26TK
Aircraft:	Keithley Thomas E Starduster Too	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

According to a witness, while on final approach at 200 to 300 feet above ground level, the nose of the airplane suddenly pitched up as if in a climbing right turn. Shortly thereafter, the airplane's right wing dipped and the airplane made a sharp 180 degree turn, followed by the sound of an impact. The airplane sustained substantial damage as a result of the postcrash fire. Neither flight control continuity nor engine continuity could be confirmed due to the postcrash fire.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of airplane control during approach for undetermined reasons.

Findings

Not determined	(general) - Unknown/Not determined
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Factual Information

History of Flight

Approach-VFR pattern final	Abrupt maneuver
Approach-VFR pattern final	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On September 7, 2009, at 1916 eastern daylight time, an experimental amateur-built Keithley Starduster TOO SA300, N26TK, registered to Aeroscene Incorporated, went out of control and crashed in Saint Matthews, South Carolina. The certificated private pilot and passenger were killed and the airplane was destroyed by impact forces and a postcrash fire. The flight was operated as a personal flight under the provisions of 14 Code of Federal Regulations (CFR) Part 91. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight. The flight originated from a private grass airstrip in Saint Matthews, South Carolina, at about 1900.

According to a witness, the pilot was giving rides to his friends. The pilot had given three to four short airplane rides to different people. Each flight lasted approximately 5 to 10 minutes and followed the same routine. On the final flight, all appeared normal, including the sound of the engine. The pilot initiated a crosswind turn at midfield and flew a left hand pattern, to land on a 130 degree heading towards a hangar.

The witness continued to say that the airplane turned downwind, base, and final. The airplane's transition from base to final was smooth. On final, the airplane was at a good angle, with a controlled decent. While on final at 200 to 300 feet above ground level, the nose of the airplane suddenly pitched up and to the right, "like a climbing right turn." The airplane's right wing dipped and the airplane made a sharp 180 degree turn, followed by the sound of an impact.

Witnesses attempted to extinguish the flames but were unsuccessful. The police and fire departments arrived on the scene, and the witnesses were directed to leave.

The pilot, age 47, had a private pilot certificate, with airplane single-engine land ratings. In addition, he held a third-class medical certificate issued on September 14, 2006, with a restriction that he must have available glasses for near vision. The pilot's most recent medical certificate indicated that he had accumulated 300 hours of flight time. The pilot's logbook was not recovered for examination.

The two-seat, bi-wing, fixed gear tail-wheel airplane, serial number 1745, was certificated in 1982. It was powered by a Lycoming O-320, 180-hp engine. According to a friend of the pilot, the aircraft's logbooks were in the airplane at the time of the accident. The friend further stated that the airplane's total time was about 435 hours.

Examination of the wreckage by a Federal Aviation Administration (FAA) inspector found that the wood and fabric airframe had struck several trees before impacting the ground. The wreckage came to rest against a tree where a post-crash fire totally consumed the airplane. Examination of the engine found both magnetos, the fuel pump, and the fuel servo melted. Throttle and mixture cables were in place. All flight control rods and cables were damaged from the impact, and all control attachment hardware was in place. Examination of the propeller found light bending at the tips and no leading edge damage or scoring.

An autopsy was performed on the pilot on September 9, 2009, by Newberry Pathology Associates, P.A., in Newberry, South Carolina. The autopsy findings included, "Smoke and fume inhalation." Forensic toxicology was performed on specimens from the pilot by the FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma. The toxicology report indicated that no carbon monoxide, cyanide, ethanol or drugs were detected in blood and urine samples.

Pilot Information

Certificate:	Private	Age:	47, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Front
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 With waivers/limitations	Last FAA Medical Exam:	September 14, 2006
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 300 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Keithley Thomas E	Registration:	N26TK
Model/Series:	Starduster Too SA300	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	1745
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	Condition	Certified Max Gross Wt.:	1704 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	435 Hrs at time of accident	Engine Manufacturer:	Lycoming
ELT:		Engine Model/Series:	IO-540
Registered Owner:	On file	Rated Power:	300 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dusk
Observation Facility, Elevation:	OGB,195 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	18:53 Local	Direction from Accident Site:	22°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	20°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	29°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	St. Matthews, SC	Type of Flight Plan Filed:	None
Destination:	St. Matthews, SC (PVT)	Type of Clearance:	None
Departure Time:	19:00 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	33.666667,-80.783332(est)

Administrative Information

Investigator In Charge (IIC):	Wilson, Ralph
Additional Participating Persons:	Steve Petrossian; FAA/FSDO; Columbia, SC
Original Publish Date:	November 17, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=74663

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