Aviation Investigation Final Report

Location:	Parkville, Missouri	**Accident Number:**	CHI06FA154
Date & Time:	June 12, 2006, 19:11 Local	**Registration:**	N292HH
Aircraft:	Piper PA-32R-301T	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane experienced an in-flight break-up during a visual approach to runway 01L. Radar data indicated the airplane crossed the flight path twice of a Boeing 737 that was landing on parallel runway 01R. The first time N292HH crossed the path of the Boeing 737 was about 1910:48 at an altitude of about 3,900 feet msl at an airspeed of 158 KCAS. The Boeing 737 had been at the same geographic point approximately 2-minutes and 9-seconds prior, at an altitude of about 5,500 feet msl. The second time N292HH crossed the flight path of the Boeing 737 was about 1911:25 at an altitude of about 3,300 feet msl at an airspeed of 183 KCAS. The Boeing 737 had been at the same geographic point approximately 1-minute 55-seconds prior at an altitude of 3,900 feet msl. The Boeing was on a north-northwesterly heading at the time and N292HH was on a northwesterly heading. After crossing the flight path N292HH continued to the west of the Boeing 737's path. The last radar contact with N292HH was at a point 0.32 miles west of the flight path of the Boeing 737. The last radar contact was at 1911:34 at an altitude of 3,128 feet msl with an airspeed of 183 KCAS. All of the wreckage was located in one open field. The left wing, both the left and right sides of the stabilator, along with portions of the right wing flap and aileron separated in-flight. According to the Pilot's Operating Handbook the never exceed speed (Vne) for N292HH was listed as being 189 KCAS. The handbook showed the maximum structural cruising speed as 165 KCAS. The design maneuvering speed (Va) was listed as being 132 KCAS at 3,600 pounds and 104 KCAS at 2,230 pounds. The inboard sections of the left and right sides of the stabilator along with the separated section of the left wing spar were sent to the NTSB Material Laboratory for examination where it was determined that all of the separations were as a result of overload. FAA Advisory Circular (AC) 90-23F addresses Aircraft Wake Turbulence. AC 90-23F states, "Flight tests have shown that the vortices from larger (transport category) aircraft sink at a rate of several hundred feet per minute, slowing their descent and diminishing in strength with time and distance behind the generating aircraft. Pilots should fly at or above the preceding aircraft's flight path, altering course as necessary to avoid the area behind and below the generating aircraft." AC 90-23F also states, "WHETHER OR NOT A WARNING OR

INFORMATION HAS BEEN GIVEN, HOWEVER, THE PILOT IS EXPECTED TO ADJUST AIRCRAFT OPERATIONS AND FLIGHT PATH AS NECESSARY TO PRECLUDE SERIOUS WAKE ENCOUNTERS." According to the hourly weather observations taken prior to and after the accident the winds were from the northeast between 9 and 10 knots.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improperly planned approach which resulted in the encounter with wake turbulence while the airplane's airspeed exceeded maneuvering speed. This encounter resulted in the subsequent loss of aircraft control and the in-flight separation of the left and right sides of the stabilator and the left wing.

Findings

Occurrence #1: VORTEX TURBULENCE ENCOUNTERED
Phase of Operation: APPROACH

Findings
1. (C) AIRSPEED(VA) - EXCEEDED - PILOT IN COMMAND
2. (C) PLANNED APPROACH - IMPROPER - PILOT IN COMMAND
3. (C) WAKE TURBULENCE - ENCOUNTERED - PILOT IN COMMAND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: APPROACH

Findings
4. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #3: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. (C) FLIGHT CONTROL,STABILATOR - OVERLOAD
6. (C) FLIGHT CONTROL,STABILATOR - SEPARATION
7. (C) WING - OVERLOAD
8. (C) WING - SEPARATION

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
9. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On June 12, 2006, at 1911 central daylight time, a Piper PA-32R-301T, N292HH, experienced an in-flight break-up during a visual approach to runway 01L at the Kansas City International Airport (MCI), Kansas City, Missouri. The pilot and pilot-rated passenger were fatally injured. The airplane was destroyed. The 14 CFR Part 91 personal flight was operating in visual meteorological conditions and an instrument flight rules (IFR) flight plan had been filed. The flight originated from the Grand Glaize Airport, (K15), Osage Beach, Missouri, at approximately 1825.

According to family members, the pilot and passenger departed K15 and were flying to MCI to pick up additional passengers with the intention of returning to K15.

Records indicate N282HH was fueled with a total of 30 gallons prior to its departure from K15. Personnel at K15 reported the pilot requested that 15 gallons of fuel be added to each wing. The person who fueled the airplane stated that he did not know how much fuel was in each wing, but that the 15 gallons did not top off the fuel tanks.

At 1745, the pilot contacted the Wichita, Kansas, Flight Service Station to file an IFR flight plan with a departure time of 1830 cdt. The pilot stated he was planning on an en route time of 45 minutes with 3 hours of fuel onboard.

At 1825, N292HH contacted Mizzu Approach Control and requested an IFR clearance to MCI.

At 1827, N292HH was identified on radar and issued a climb to an altitude of 7,000 feet.

At 1830, N292HH was issued a climb to 8,000 feet and was handed off to Kansas City Approach Control.

At 1857, N292HH was told to expect the instrument landing system (ILS) approach to runway 01L. The pilot was also issued the current wind condition, being 040 degrees at 8 knots.

At 1900, N292HH was instructed to descend and maintain 5,000 feet. N292HH acknowledged this transmission.

At 1902, N292HH was instructed to fly a heading of 280 degrees. N292HH acknowledged this transmission.

At 1906, N292HH was instructed to descend to and maintain 4,000 feet. N292HH

acknowledged this transmission.

At 1907, N292HH was informed of a Boeing 737, which was located at 2 o'clock and 6 miles from their position, southbound turning westbound and descending out of 5,500 feet. N292HH stated they were looking for the traffic.

At 1908, N292HH descended below their assigned altitude of 4,000. The controller asked N292HH to verify their altitude. N292HH replied, "(unintelligible) four thousand hotel hotel."

At 1909, the controller informed N292HH that the traffic was no longer a factor and asked N292HH to report their flight conditions. N292HH responded that they were in visual meteorological conditions. N292HH was then instructed to turn right to a heading of 300 degrees and to expect a visual approach to runway 01L. N292HH acknowledged this transmission.

At 1910, N292HH was instructed to descend and maintain 3,000 feet and to report having the airport in site. N292HH acknowledged this transmission.

At 1911, N292HH reported having the airport in site. The controller then cleared N292HH for the visual approach to runway 1L and instructed the pilot to contact the tower. The pilot acknowledged the transmission.

At 1911:29, N292HH reported, "Kansas City tower uh two niner two hotel hotel (unintelligible)." The controller responded by clearing N292HH to land. This was the last communication between N292HH and air traffic control.

One witness reported hearing the engine noises change several times; as if it was going from a high power setting to a low power setting. He stated he looked to the south-southwest and saw pieces of debris and what looked like a wing falling from the sky. He reported he then looked further west and saw the fuselage with part of a wing "spiraling" to the ground. This witness was a licensed pilot.

Another witness reported hearing fluctuating engine noises. He reported he then saw the airplane spiraling down with a wing missing prior to it going out of sight.

A third witness reported hearing an airplane passing by followed by a "loud boom." He stated he looked up the airplane "took an immediate nose dive twirling as [it] went straight down." This witness continued to report, "Pieces of the plane appeared to be following as it went down."

PERSONNEL INFORMATION

The pilot held a private pilot certificate with airplane single-engine land and instrument airplane ratings. The Federal Aviation Administration (FAA) issued the private pilot certificate on

August 14, 2004, and the pilot's instrument rating was issued on March 4, 2005. FAA records indicate the pilot received a third-class medical certificate on November 4, 2003. The medical certificate contained the limitation, "Must Wear Corrective Lenses."

The pilot's family provided copies of the pilot's logbooks. According to these records, the pilot had a total flight time of 579.8 hours all of which were in single-engine land airplanes. The last entry in the logbook that had flight times associated with it was on May 27, 2006. There are several entries prior to this date that did not have either an aircraft make and model, or an aircraft registration number associated with them. According to the entries that did list a make and model, the pilot had a total of 42.6 hours of flight time in a PA-32R-301T. The logbook indicated the pilot received his last flight review on April 6, 2006.

FAA records show the pilot-rated passenger held a private pilot certificate with single-engine land and instrument ratings. The FAA issued the private pilot certificate on March 16, 2005, and the pilot's instrument rating was issued on September 21, 2005. FAA records indicate the pilot received a third-class medical certificated on June 15, 2004. The medical certificate did not contain any limitations.

AIRCRAFT INFORMATION

The accident airplane was a Saratoga II TC, PA-32R-301T, serial number 3257114. The airplane was manufactured in 1999 and was registered to the current owner in May 2006.

Logbook records indicate the last annual inspection performed on the airframe and engine was on June 17, 2005. At the time of this inspection the hobbs time was listed as 280.7 hours and the airframe total time was listed as 1,272.3 hours. The last inspection recorded in the airframe logbook was on October 11, 2005, at a hobbs time of 416.5 hours.

The airplane was equipped with a 300 horsepower, Lycoming TIO-540-AH1A engine, serial number L-10317-61A. According to the engine logbook the last entry was dated February 14, 2006, at a hobbs time of 548.7 hours, and a total engine and airframe time of 1,540.3 hours.

METEOROLOGICAL INFORMATION

The local weather reported at MCI was as follows:

At 1853: Wind 050 degrees at 8 knots, 10 statute miles visibility, scattered clouds at 3,000 feet agl, broken clouds at 20,000 feet agl, temperature 22 degrees Celsius, dew point 14 degrees Celsius, altimeter 30.14 inches of mercury.

At 1930: Wind 060 at 8 knots, 10 statute miles visibility, scattered clouds at 3,000 feet agl, broken clouds at 20,000 feet agl, temperature 22 degrees Celsius, dew point 14 degrees Celsius, altimeter 30.14 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The National Transportation Safety Board's (NTSB) on-scene investigation began on June 13, 2006.

All of the wreckage was located in an open field. A global positioning system (GSP) receiver recorded the position of the main wreckage as 39-degrees 11-minutes 23.3-seconds north latitude, 94-degrees 43-minutes 30.2-seconds west longitude. The main wreckage consisted of the fuselage, engine, propeller, right wing, and empennage minus the left and right sides of the stabilator. The forward cockpit section was found inverted and the aft fuselage/empennage was on its left side. The engine and propeller were buried in the terrain under the main wreckage. The nose gear assembly was separated and located alongside the main wreckage.

The fuselage was partially separated between the cockpit seats and the middle seats. The annunciator light panel was broken. Most of the annunciator lights were recovered and inspected. The oil pressure light was the only light in which both bulbs were stretched and broken. The filament in one of two Low Buss Volt lights was slightly stretched, but not broken. Both of the bulb filaments for the Gear Warning light bulbs were slightly stretched and intact. Both of the bulb filaments for the Baggage Door light bulbs were stretched and intact. The remaining bulbs on the annunciator panel did not have stretched filaments. The bulb filaments for all three landing gear down and locked positions lights were stretched and broken.

The fuel selector lever sustained impact damage. The selector valve was removed for inspection. The selector was found positioned on the left fuel tank. The selector filter was in place and was free of contaminates. The flap handle was in the up position. The flap motor and actuator sustained impact damage. The throttle quadrant controls were all pushed forward against the instrument panel. The instrument panel sustained substantial impact damage. The hour meter sustained impact damage and was not readable. The elevator pitch trim was in the full nose up position; however, the trim cables had been pulled when the structure separated.

The right wing remained attached to the fuselage at the carry-through spar. The leading edge of the wing was compressed rearward to the main spar along its entire length. The entire right flap was separated from the wing. A 4-foot 9-inch outboard section of the right flap was found approximately 1,728 feet from the main wreckage on a bearing of 170 degrees from the main wreckage. The outboard leading edge of the flap was crushed downward. The inboard section of the flap was found with the main wreckage. The inboard section of this portion of the flap was bent downward. The outboard flap hinge was not located. The center flap hinge remained attached to the wing and the inboard hinge was attached to the inboard section of the flap that was located with the main wreckage. The inboard 4-foot 2-inch section of the right aileron separated from the wing and was located approximately 1,879 feet from the main wreckage on a bearing of 180 degrees from the main wreckage. Both aileron hinges were attached to the wing. The bottom surface of the aileron was bowed upward. The right aileron

control rod was separated at the aileron rod end. Both of the aileron control cables were attached to the bellcrank. The balance cable was intact up to the left wing root where the separated end of the cable exhibited broomstraw signatures. The control cable was also intact to the wing root where it was cut during the extrication process. The inboard section of the cut cable remained attached to the control wheel chain. The roll servo bridal cable was still engaged.

The forward section of the empennage was crushed to the right. The aft tail cone, just forward of the vertical stabilizer, was crushed inward on both sides. Both the rudder and the vertical stabilizer sustained crush damage. The rudder remained attached to the vertical stabilizer at all hinge points. The rudder stops bolts were intact and undamaged. The rudder cables were secured at the rudder bellcrank and forward to where the fuselage was partially separated. Both cables exhibited broomstraw signatures.

Both sides of the stabilator separated at the center attach beam, just outboard of the center hinge. The hinge was intact and secured. The stabilator attach beam was cocked to the left.

Both of the upper stop bolts were intact and bent outward with the bolt heads resting on the hinge structure. The lower bolts were intact and pushed inward. A portion of the right stabilator skin remained attached to the center beam. The balance tube was intact to the stabilator center spar section and the balance weight was in place and secure. Both the upper and lower stabilator control cables were attached to the balance tube. The cables were separated in the aft cabin area. Both cables exhibited broomstraw signatures. The forward portion of the cables was secured to the T-bar at the lower pedestal where they were cut during the extraction process. The inner shaft in the pitch trim drum was fully extended from the bottom of the drum, which corresponded to an 8-degree, full nose up trim setting.

The right side of the stabilator was located approximately 1,972 feet from the main wreckage on a bearing of 145 degrees from the main wreckage. The trim tab was attached to the stabilator. Slight buckling was visible mid-span on the stabilator. The buckling was located aft of the forward spar at a point aligned with the outboard end of the trim tab to the mid-span portion of the trim tab. A section of the inboard top stabilator skin remained attached to the center carry through spar, which remained attached to the empennage. Blue paint transfers were visible on the bottom inboard section of the stabilator.

The left stabilator was located approximately 1,945 feet from the main wreckage on a bearing of 165 degrees from the main wreckage. The left stabilator separated from the empennage at the center attach point. The stabilator was intact. Diagonal crush lines were visible from mid-chord at the root and traveling outboard and rearward to the outboard end of the trim tab. The outboard end of the stabilator was bent upward. The trim tab was pulled away from the stabilator at the inboard hinge. The portion of the trim tab that was pulled away was bent upward as was the inboard aft section of the stabilator. The tab remained attached to the stabilator at the two outboard hinges. The inboard leading edge of the stabilator was bent downward.

The left wing separated from the fuselage and was found lying inverted in the same field as the main wreckage. This wing was located approximately 2,081 feet from the main wreckage on a bearing of 135 degrees from the main wreckage. The wing separation was at the wing root. The flap remained attached to the wing. The aileron remained attached to the wing with the outboard 18-inches of aileron bent upward. The leading edge of the wing was slightly crushed from the position of the fuel filler cap inboard. An impact mark, which was approximately 11-inches wide and 9-inches deep, was visible on the leading edge of the wing. The skin at this mark was bent up and rearward. The outboard half of the top of the wing was slightly buckled. Eight scrape marks which covered a distance of 3 1/4 -inches were located on the leading edge of the wing. A slice in the wing skin was located in the upper inboard portion of the wing surface. Both aileron cables were secured at the aileron bellcrank, which was in place. Both cables were separated at the wing root and they exhibited broomstraw signatures. The inboard section of the aileron cable remained attached to the control wheel chain in the cockpit. The landing gear was intact and in the retracted position. The pitot tube was in place. Fuel was present in the wing and the fuel cap was secured in place.

The engine was buried approximately 4-feet into the terrain. Approximately 3-inches of one propeller blade was visible above the ground. Two of the propeller blades were twisted and the third blade was bent rearward approximately 110 degrees. The propeller remained attached to the engine. Cylinder numbers 2, 4, and 6 sustained impact damage. The valve covers were removed and the valves were intact. The crankcase was cracked between the number 1 and 3 cylinders and forward of the number 2 cylinder. The engine could not be rotated by hand. The top spark plugs, with the exception of the number 2, which was broken, were inspected and showed evidence of normal wear. A boroscope examination of the cylinders and pistons showed normal wear. Both magnetos sparked when turned by hand. The turbocharger was free to rotate by hand. The oil filter and fuel screen were free of contamination. All of the fuel injector nozzles were clear except for the #2 nozzle, which was packed with dirt; and the number cylinder 2 injector line, which had separated from the engine.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the Jackson County Medical Examiner's Office, in Kansas City, Missouri, on June 13, 2006.

A Forensic Toxicology Fatal Accident Report was prepared for both the pilot-in-command and the pilot-rated passenger by the FAA Civil Aeromedical Institute, Oklahoma City, Oklahoma.

The results for the pilot revealed Pseudoephedrine was detected in the urine sample. Pseudoephedrine is a decongestant often known by the trade name Sudafed and is found in many multi-symptom over-the-counter medications. All other tests performed on the pilot were negative.

The results for the pilot-rated passenger indicated that 24 (mg/dL, mg/hg) of Ethanol was

detected in the liver. A note on the toxicology report states, "The ethanol found in this case is from sources other than ingestion." All other tests performed on the pilot-rated passenger were negative.

TESTS AND RESEARCH

The two mating fractured ends of the left wing main spar and the fractured ends of both the left and right stabilators were sent to the NTSB Materials Laboratory for examination. The metallurgist who examined the parts reported that all of the fractures on the submitted components were typical of overstress separations. He continued to report that there was no evidence of fatigue cracking, corrosion, or other preexisting damage. The Material Laboratory Factual Report continued to state that the examination of the wing spar fracture surfaces revealed necking down deformation on the upper portion of the spar and "significant" downward bending on the lower portion of the spar consistent with downward loading of the wing.

The examination of the mating surfaces from the left stabilator revealed compression buckling on the upper portions of the spar, which is consistent with upward loading of the left side of the stabilator. Examination of the mating surfaces from the right stabilator revealed compression buckling on the upper and forward sides of the spar, consistent with forward/upward motion of the right stabilator.

Radar data was retrieved and examined for the period between 1900:02 and 1911:34. The data begins with N292HH at an altitude of 8,100 feet above mean sea level (msl) at a calibrated airspeed of 134 knots (KCAS). The last radar contact with the airplane was at 1911:34 when the airplane was at an altitude of 3,128 feet msl with an airspeed of 183 KCAS.

The radar data indicated that N292HH crossed the flight path of the Boeing 737 that was approaching to land on runway 01R. The flight paths crossed twice during the visual approach. The first time the paths crossed was about 1910:48 when N292HH was at an altitude of about 3,900 feet msl at an airspeed of 158 KCAS. The Boeing 737 had been at the same geographic point approximately 2-minutes and 9-seconds prior at an altitude of about 5,500 feet msl.

The second time N292HH crossed the flight path of the Boeing 737 was about 1911:25 when N292HH was at an altitude of about 3,300 feet msl at an airspeed of 183 KCAS. The Boeing 737 had been at the same geographic point approximately 1-minute 55-seconds prior at an altitude of 3,900 feet msl. The Boeing was on a north-northwesterly heading at the time and N292HH was on a northwesterly heading. After crossing the flight path, N292HH's path continued to the west of the Boeing 737's path. The last radar contact with N292HH was 0.32 miles west of the flight path of the Boeing 737.

According to the Pilot's Operating Handbook the never exceed speed (Vne) for the N292HH was listed as being 189 KCAS. The handbook indicates the maximum structural cruising

speed as 165 KCAS. The handbook notes, "Do not exceed this speed except in smooth air and then only with caution." The design maneuvering speed (Va) is listed as being 132 KCAS at 3,600 pounds and 104 KCAS at 2,230 pounds. The handbook notes, "Maneuvering speed should not be exceeded while operating in rough air."

FAA Advisory Circular (AC) 90-23F addresses Aircraft Wake Turbulence. This information can also be found in Chapter 7, Section 3 of the Aeronautical Informational Manual. AC 90-23F states, "Every aircraft in flight generates a wake. Historically, when pilots encountered this wake the disturbance was attributed to "prop wash." It is known, however, that this disturbance is caused by a pair of counter-rotating vortices trailing from the wing-tips. The vortices from large aircraft pose problems to encountering aircraft. For instance, the wake of these aircraft can impose rolling moments exceeding the control authority of the encountering aircraft. Further, turbulence generated within the vortices encountered at close range can damage aircraft components and equipments and cause personal injuries. The pilot must learn to envision the location of the vortex wake generate by larger (transport category) aircraft and adjust his/her flight path accordingly."

AC 90-23F also states, "Tests with large aircraft have shown that the vortices remain spaced a bit less than a wingspan apart, drifting with the wind at altitudes greater than a wingspan from the ground."

AC 90-23F states, "Flight tests have shown that the vortices from larger (transport category) aircraft sink at a rate of several hundred feet per minute, slowing their descent and diminishing in strength with time and distance behind the generating aircraft. ... Pilots should fly at or above the preceding aircraft's flight path, altering course as necessary to avoid the area behind and below the generating aircraft."

AC 90-23F continues to state, "Pilots are reminded that in operations conducted behind all aircraft, acceptance of instructions from air traffic control (ATC) in the following situations in as acknowledgement that the pilot will ensure safe takeoff and landing intervals, and accepts the responsibility for providing wake turbulence separation.

(1) Traffic information,
(2) Instructions to follow an aircraft, and
(3) The acceptance of a visual approach clearance.

AC 90-23F states, "WHETHER OR NOT A WARNING OR INFORMATION HAS BEEN GIVEN, HOWEVER, THE PILOT IS EXPECTED TO ADJUST AIRCRAFT OPERATIONS AND FLIGHT PATH AS NECESSARY TO PRECLUDE SERIOUS WAKE ENCOUNTERS."

According to the hourly weather observations taken prior to and after the accident the winds were from the northeast between 9 and 10 knots.

ADDITIONAL INFORMATION

Parties to the investigation included the FAA, Piper Aircraft, and Textron Lycoming.

A Release of Wreckage form was mailed to the pilot's family on October 17, 2006. A signed release was not returned to the NTSB. Another Release of Wreckage form was sent to the pilot's family via certified mail on December 19, 2006.

Pilot Information

Certificate:	Private	**Age:**	35,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3	**Last FAA Medical Exam:**	November 1, 2003
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 1, 2006
Flight Time:	579 hours (Total, all aircraft), 43 hours (Total, this make and model), 451 hours (Pilot In Command, all aircraft), 85 hours (Last 90 days, all aircraft), 17 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N292HH
Model/Series:	PA-32R-301T	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3257114
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	June 1, 2005 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1272 Hrs as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	TIO-540-AH1A
Registered Owner:	HCG Aviaiton, LLC	**Rated Power:**	300 Horsepower
Operator:	Thomas D. Leonardson	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	MCI,1026 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	18:53 Local	**Direction from Accident Site:**	102°
Lowest Cloud Condition:	Scattered / 3000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	Broken / 20000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	50°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.13 inches Hg	**Temperature/Dew Point:**	22°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Osage Beach, MO (K15)	**Type of Flight Plan Filed:**	IFR
Destination:	Kansas City, MO (MCI)	**Type of Clearance:**	
Departure Time:	18:25 Local	**Type of Airspace:**	

Airport Information

Airport:	Kansas City International MCI	**Runway Surface Type:**	
Airport Elevation:	1026 ft msl	**Runway Surface Condition:**	
Runway Used:		**IFR Approach:**	Visual
Runway Length/Width:		**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	39.187221,-94.721664

Administrative Information

Investigator In Charge (IIC):	Sullivan, Pamela
Additional Participating Persons:	Marvin Trease; FAA; Kansas City, MO James Wesley; FAA; Kansas City, MO James Wildey; NTSB; Washington, DC Michael C McClure; Piper; Vero Beach, FL Troy R Helgeson; Lycoming; Williamsport, PA
Original Publish Date:	August 30, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63919