



Aviation Investigation Final Report

Location:	GREAT BEND, Kansas	Accident Number:	CHI99FA164
Date & Time:	May 23, 1999, 10:05 Local	Registration:	N8252S
Aircraft:	Piper PA-28RT-201T	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported smoke in the cockpit to air traffic control while in cruise flight. Radar and radio contact was lost. The airplane impacted the terrain in a level open alfalfa field 9.2 statute miles and 108-degrees magnetic from the Great Bend Municipal Airport. A witness reported that, while he was driving, he saw the aircraft 'diving at an angle...'. The witness also stated that he thought that he '...saw smoke coming from the plane...' prior to impact. The control system and airframe structure revealed no anomalies that could be associated with a preexisting condition. The aft fuselage side and bottom exhibited oil streaks in the longitudinal direction. The engine was examined and the connecting rod bearing surfaces exhibited evidence of distress and discoloration of the bearing material. The turbocharger had charred black deposits on the exterior surfaces. The turbocharger oil supply hose was chaffed through in the area adjacent to the propeller governor control cable. No clamps were found on the turbocharger oil supply hose. The turbocharger oil supply hose did not have a fire sleeve jacket. The oil supply and return lines to the oil cooler did have fire sleeve jackets, as did the fuel supply hoses.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the chafed through turbocharger oil supply hose, the failure of maintenance personnel to install a clamp on the turbocharger oil supply hose, and the inability of the pilot to maintain aircraft control.

Findings

Occurrence #1: FIRE

Phase of Operation: CRUISE

Findings

1. (C) MISCELLANEOUS,BOLT/NUT/FASTENER/CLAMP/SPRING - NOT INSTALLED
2. (C) MAINTENANCE,INSTALLATION - NOT PERFORMED - OTHER MAINTENANCE PERSONNEL
3. (C) LUBRICATING SYSTEM,OIL HOSE - CHAFED

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

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

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: EMERGENCY DESCENT/LANDING

Factual Information

THIS CASE WAS MODIFIED JANUARY 6, 2006.

HISTORY OF FLIGHT

On May 23, 1999, approximately 1005 central daylight time (cdt), a Piper PA-28RT-201T, N8252S, piloted by a private pilot, was destroyed on impact with level terrain near Great Bend, Kansas. The personal flight was operated under the provisions of 14 CFR Part 91. The pilot had filed a VFR flight plan. Visual meteorological conditions prevailed at the time of the accident. The pilot, who was the sole occupant, was fatally injured. The flight originated from the Centennial Airport, Denver, Colorado, approximately 0800 cdt, and was en route to the Springfield-Branson Regional Airport, Springfield, Missouri.

Prior to the flight, the pilot requested and received a weather briefing from the Denver Flight Service Station located at the Centennial Airport.

The pilot had been receiving VFR traffic advisories from Air Traffic Control (ATC) during the flight. At 0959 cdt, the pilot reported smoke in the cockpit to ATC. ATC immediately informed the pilot of two airports near his location. The pilots last radio transmission was 53 seconds later. ATC subsequently lost radar and radio contact with the aircraft.

A witness reported that, while he was driving, he saw the aircraft "diving at an angle... ." The witness also stated that he thought that he "...saw smoke coming from the plane..." prior to impact.

PERSONNEL INFORMATION

The pilot, born July 4, 1928, was the holder of a private pilot certificate with privileges for single and multi-engine land airplanes. He was instrument rated and had completed a biennial flight review on January 11, 1999. He held a second class medical certificate issued on October 6, 1998. According to his pilot logbook, the pilot had accumulated a total of 2,604 hours prior to the accident flight.

AIRCRAFT INFORMATION

The airplane was a Piper PA28RT-201T, N8252S, serial number 28R-8031170. The most recent annual inspection was conducted May 20, 1999. At the time of this inspection, the aircraft had accumulated a total of 4,847.5 hours. A Continental TSIO-360-FB engine, serial number 310502, powered the airplane. The turbocharged engine is rated at 200 horsepower. The engine logbook indicated that the engine had a total time of 4,847.5 hours and had

accumulated 990.0 hours since the engine was overhauled on October 4, 1994.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted the terrain in a level open alfalfa field 9.2 statute miles and 108-degrees magnetic from the Great Bend Municipal Airport. The entire airplane was located and accounted for within a fan shaped pattern from the initial impact point on a heading of approximately 230-degrees magnetic spreading out for a distance of 250 feet. The engine and firewall were found near the initial ground impact and approximately 3 feet below ground level. There were two ground scars on either side of the initial impact point each one approximately 20 feet in length and 1 foot wide. These ground scars were oriented on an approximately 220-degree magnetic direction. The main wreckage was located approximately 90 feet and 220 degrees magnetic from the initial impact point. Smaller pieces of wreckage were located within the fan shaped area.

Both wing panels exhibited crushing of the leading edges aft to the main wing spar at an angle approximately 90-degrees to the longitudinal axis of the airplane.

Examination of the wreckage was conducted and the control system continuity was established from the control surfaces to the cockpit. The cockpit of the aircraft was destroyed by fire. The cockpit instrumentation was destroyed by fire and impact forces. The landing gear was found to be in the up position. The flap position was undeterminable. The elevator trim indicated down trim. The nose landing gear tire, located below the engine accessories when retracted, evidenced damage by fire. The ignition harness for one of the magnetos had brownish-black deposits in the area where the wires attach to the magneto.

The aft fuselage side and bottom exhibited oil streaks in the longitudinal direction.

The control system and airframe structure revealed no anomalies that could be associated with a preexisting condition.

The engine was removed from the impact crater and transported in an enclosed crate to the Teledyne Continental Motors facility in Mobile Alabama for a teardown inspection.

MEDICAL AND PATHOLOGICAL INFORMATION

A post mortem examination of the pilot was conducted by the Central Kansas Medical Center, Great Bend, Kansas, on May 24, 1999.

A toxicological examination of specimens from the pilot revealed ethanol and acetaldehyde in the muscle. The finding of ethanol was reported by the Federal aviation Administration to be from post mortem production.

FIRE

Respondents from the Great Bend Fire Department extinguished the ground fires.

TESTS AND RESEARCH

The aircraft engine was transported to the Teledyne Continental Motors facility, in Mobile, Alabama, where a teardown inspection was performed on July 20, 1999.

The forward two engine cylinders, cylinder numbers three and four, were damaged. Cylinder number three was missing the forward portion of the cylinder head. Cylinder number four was missing the valve cover and rocker arm assemblies. The remaining cylinders were intact and exhibited valve train continuity. The accessory gears were examined and no anomalies were noted. The number three and four connecting rods were cut in order to facilitate the disassembly of the engine case. Upon disassembly, the main bearings were examined and no anomalies were noted. The connecting rod bearing surfaces were examined and exhibited evidence of distress and discoloration of the bearing material. The turbocharger had charred black deposits on the exterior surfaces. The turbocharger oil supply hose was chaffed through in the area adjacent to the propeller governor control cable. No clamps were found on the turbocharger supply hose. The turbocharger oil supply hose did not have a fire sleeve jacket. The oil supply and return lines to the oil cooler did have fire sleeve jackets, as did the fuel supply hoses.

ADDITIONAL INFORMATION

Parties to the investigation were the FAA Flight Standards District Office, Wichita, Kansas; The New Piper Aircraft, Inc., Vero Beach, Florida; and Teledyne Continental Motors, Mobile, Alabama.

The aircraft wreckage was released to a representative at the Great Bend Municipal Airport on May 25, 1999. The aircraft engine was released to the owners insurance representative on September 24, 1999.

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):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	October 6, 1998
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	2604 hours (Total, all aircraft), 12 hours (Total, this make and model), 2599 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N8252S
Model/Series:	PA-28RT-201T PA-28RT-20	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	28R-8031170
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 20, 1999 Annual	Certified Max Gross Wt.:	2400 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	TSIO-360
Registered Owner:	B Y ENTERPRISES, INC.	Rated Power:	200 Horsepower
Operator:	WINGS OF DENVER FLYING CLUB	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:	Day
Observation Facility, Elevation:	GBD ,1887 ft msl	Distance from Accident Site:	9 Nautical Miles
Observation Time:	10:15 Local	Direction from Accident Site:	288°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	19°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	DENVER , CO (APA)	Type of Flight Plan Filed:	VFR
Destination:	SPRINGFIELD , MO (SGF)	Type of Clearance:	VFR on top
Departure Time:	08:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	In-flight
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	1 Fatal	Latitude, Longitude:	38.359466,-98.799636(est)

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	JIM BADHORSE; WICHITA , KS DALE CARTER; MOBILE , AL CHARLES R LITTLE; CHINO HILLS , CA
Original Publish Date:	June 22, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=46404

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