Aviation Investigation Final Report

Location:	WICHITA FALLS, Texas	**Accident Number:**	FTW96FA088
Date & Time:	January 13, 1996, 11:53 Local	**Registration:**	N8894E
Aircraft:	Piper PA-34-200T	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Following takeoff, the pilot reported to the tower that he needed to return to land due to the loss of power to the right engine. The airplane was observed by witnesses to be in a pronounced right yaw/out of trim attitude as soon as the airplane became airborne. Examination of the wreckage revealed that the rudder trim was in the 50% nose right position. The pilot had made a precautionary landing at that airport the night before due to a reported partial loss of power on the left engine. Maintenance personnel found and repaired the source of the power loss. The pilot told the mechanics that both engines were beyond TBO and he was concerned about the reliability of the engines. Teardown and examination of both engines and turbochargers did not reveal any anomalies that would have prevented normal engine operation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The inadvertent stall by the pilot in command. Factors were the impeded airplane takeoff performance, the rudder trim not corrected by the pilot, and the pilot's failure to comply with the checklist.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (F) AIRCRAFT PERFORMANCE,TAKEOFF CAPABILITY - IMPEDED
2. (F) RUDDER TRIM - NOT CORRECTED - PILOT IN COMMAND
3. (F) CHECKLIST - NOT FOLLOWED - PILOT IN COMMAND
4. EXPECTANCY - PILOT IN COMMAND
5. (C) STALL - INADVERTENT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Factual Information

HISTORY OF FLIGHT

On January 13, 1996, at 1153 central standard time, a Piper PA- 34-200T, N8894E, was destroyed following a loss of control during takeoff initial climb near Wichita Falls, Texas. The instrument rated private pilot and his passenger were fatally injured. The aircraft was being operated as a personal flight under Title 14 CFR Part 91 when the accident occurred. Visual meteorological conditions prevailed for the proposed cross country flight to Lubbock, Texas. An IFR flight plan was filed and a weather briefing was received for the flight.

The flight originated in Lubbock, Texas, at 1715 on the previous day. The intended destination of the flight was Memphis, Tennessee. According to FBO personnel at the airport, the pilot stated that while in cruise flight near Ardmore, Oklahoma, the left engine experienced a sudden drop of 4 inches of manifold pressure accompanied by an increase in cylinder head pressure (CHT) on the left engine. The pilot elected to make a precautionary landing at Wichita Falls to investigate and troubleshoot the left engine. The airplane landed at Wichita Falls without further incident at approximately 1825.

According to the FBO supervisor, two of his mechanics were contracted by the pilot at 1830 to inspect and repair the left engine. The mechanics inspected the left engine and found that the exhaust nuts for the #2 exhaust stack were missing and the exhaust gasket was partially off. The missing hardware was found in the bottom of the cowling. The mechanics installed the gasket and torqued the exhaust nuts. The mechanics further stated that the CHT probe is installed on the #2 cylinder and the hot exhaust gases flowing across the probe caused the reported rise in CHT.

While in the process of conducting further engine troubleshooting, a crack was discovered on the exhaust manifold on the left side of the left engine. The mechanic pointed the crack out to the owner, telling the pilot that he did not consider the airplane to be airworthy in that condition. The pilot acknowledged the condition and stated that he was going to cancel his proposed flight to Memphis and return to Lubbock next morning. A runup was satisfactorily completed on both engines, and the pilot was satisfied that the problems he had encountered with the left engine were resolved.

During the takeoff initial climb from runway 17, the pilot reported to the Sheppard AFB/Wichita Falls Municipal tower that "I need to turn around and land back on runway 35, I lost the right engine." A witness at the golf course adjacent to the runway observed the airplane drifting to the right of the runway centerline, in a pronounced right yaw with the landing gear retracted. The witness added that the airplane was "in a pronounced right yaw as soon as it broke ground" and the airplane never managed to climb above 300 feet AGL.

Two retired Air Force pilots at the golf course stated that the airplane appeared to be in "a severe out of trim condition" as soon it became airborne. Another witness stated that it appeared that "the right propeller was turning at a slower rate than the left propeller" and the airplane continued to lose altitude every time the pilot attempted to bank the airplane to the left. The airplane was last observed entering a gradually increasing right bank until it disappeared behind rolling terrain in a progressing 60 degree bank.

PERSONNEL INFORMATION

The pilot obtained his private certificate on July 2, 1968. He added an instrument rating on January 28, 1986, and a multi engine rating on February 13, 1992.

According to the mechanics that repaired the engine the night before the accident, the pilot expressed his concerns about the reliability of the engines on his airplane. He told them that the engines were beyond the recommended TBO and he was still undecided on whether to overhaul the engines or trade the airplane.

AIRCRAFT INFORMATION

The 1976 model airplane was purchased by the pilot on March 8, 1993. The airplane had been topped off with 15.4 gallons of 100LL aviation fuel on Friday afternoon prior to departure from Lubbock. An additional 24 gallons (12 gallons per side) were added Friday night at Wichita Falls after the engine troubleshooting and repairs were completed on the left engine.

COMMUNICATIONS

The transcripts from all pertinent communications between the pilot and the Air Traffic Control tower are enclosed in this report.

WRECKAGE AND IMPACT INFORMATION

The airplane impacted a gently rolling pasture approximately 1/4 mile to the east of the extended centerline for runway 35 on a measured heading of 320 degrees, approximately 2.2 miles south of the departure end of the runway. According to fire and rescue personnel that responded to the accident, the airplane came to rest on its nose, and was righted to facilitate the extrication of the occupants.

Ground imprints corresponding to the leading edges of both wings were found at the initial point of impact. The ground imprint of the right wing was more pronounced than that of the left wing. The Plexiglas fairing for the right wing tip and fragments of the right wing navigational lens cover were found at the tip of the imprint for the right wing.

A ground imprint corresponding to the nose section of the airplane was found between the two

propeller assemblies. The OAT gage, pieces of the windshield Plexiglas, sunvisors, the radar dish, and assorted avionics gear were found at this location. The nose of the airplane was crushed aft to the instrument panel.

Both propellers were found sheared aft of the propeller hubs. The right propeller was found buried 8 to 10 inches below ground level, while the left propeller was found near the surface. The propeller blades on both propellers were found in the low pitch position. One blade on the right propeller was bent aft about 20 degrees. Both propeller blades on the left propeller were bent aft about 15 to 20 degrees. Both engines were found partly separated from their respective engine mounts.

The main landing gears were found in the down and locked position. The flaps were found in the fully retracted position. The fuel cells were compromised and the fuel selectors were found on their respective tanks. Continuity was established to all flight control surfaces.

The horizontal stabilator, vertical stabilizer, and rudder were structurally in place. The trim drum for the horizontal stabilator trim tab was found extended with a six thread extension, equating to about a 40% nose up trim. The stabilator trim indicator was found in the mid-takeoff position.

The hinge and control stop bolts for the vertical stabilizer and rudder were found in place and secure. The rudder trim drum was found at the 3/4 inch extension from the front of the drum, which equates to about a 50% nose right trim. The rudder trim indicator was found in the full nose-right deflection.

Examination of the wreckage at the accident site did not disclose any mechanical problems. A review of the airframe and engine records by the FAA inspector did not reveal any anomalies or uncorrected maintenance defects prior to the flight.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy and toxicological tests were ordered and performed. The autopsy was performed by the Southwest Institute of Forensic Sciences in Dallas, Texas, on January 15, 1996. Toxicological tests were negative.

TEST AND RESEARCH

Both engines were examined at the engine manufacturer's facility in Mobile, Alabama, on March 20, 1996. Disassembly and examination of the engines showed that they exhibited normal operational signatures throughout the interior of the engines and all internal components appeared well lubricated. Neither engines nor turbochargers revealed any pre-impact condition that would have prevented normal operation prior to the accident. The results of the engine examinations are enclosed.

ADDITIONAL DATA

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

Pilot Information

Certificate:	Private	**Age:**	49,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 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	May 23, 1995
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	885 hours (Total, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N8894E
Model/Series:	PA-34-200T PA-34-200T	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	34-7670186
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	March 10, 1995 Annual	**Certified Max Gross Wt.:**	4570 lbs
Time Since Last Inspection:	20 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	4939 Hrs	**Engine Manufacturer:**	Continental
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	TSIO-360-E
Registered Owner:	FRED G. WRIGHT JR.	**Rated Power:**	200 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:**	Day
Observation Facility, Elevation:	SPS ,1015 ft msl	**Distance from Accident Site:**	2 Nautical Miles
Observation Time:	11:00 Local	**Direction from Accident Site:**	360°
Lowest Cloud Condition:	Scattered / 25000 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	14°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(SPS)	**Type of Flight Plan Filed:**	IFR
Destination:	LUBBOCK , TX (LBB)	**Type of Clearance:**	IFR
Departure Time:	11:52 Local	**Type of Airspace:**	Class C

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:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Casanova, Hector
Additional Participating Persons:	CHARLES W DAWSON; FORT WORTH , TX MICHAEL C MC.CLURE; VERO BEACH , FL JOHN T KENT; MOBILE , AL
Original Publish Date:	December 16, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=19617