



National Transportation Safety Board Aviation Accident Factual Report

Location:	ROANOKE, TX	Accident Number:	FTW96FA004
Date & Time:	10/02/1995, 1225 CDT	Registration:	N85636
Aircraft:	AERONCA 7AC	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Serious
Flight Conducted Under:	Part 91: General Aviation - Personal		

HISTORY OF FLIGHT:

On October 2, 1995, about 1225 central daylight time, an Aeronca 7AC, N85636, registered to a private owner impacted terrain following a loss of control during takeoff from runway 17 at Northwest Regional Airport, Roanoke, Texas. The commercial pilot and the pilot rated passenger received serious injuries and the airplane sustained substantial damage. The airplane was being operated as a personal flight under Title 14 CFR Part 91. Visual meteorological conditions prevailed; however, the weather in the area was influenced by an approaching line of thunderstorms associated with a cold front.

On a written statement, one witness reported observing the airplane at approximately 100 feet above the ground start a left turn with about 10 degrees of bank. As the turn continued, the angle of bank increased to about 30 degrees, the airplane then "pitched down maybe 20 or 30 degrees" as the airplane headed in a northerly direction. The witness further stated that "it appeared that the pilot was trying to roll out of the turn." This witness reported a cold front passage, approximately 30 seconds prior to observing the airplane turning. This witness further reported "a strong wind shift" estimated at "30 to 35 knots from the north." Another witness reported "dark clouds associated with the cold front," "lighting," and winds at "least 20 knots."

During a telephone interview, conducted by the investigator-in-charge, one witness reported observing the airplane about 150 feet above the ground during a takeoff climbing turn to the east. This witness described the airplane attitude as "high angle of attack" and "slow speed." Engine power was heard by this witness prior to observing the airplane in "3/4 left turn to spin entry." Steady winds at 20 knots from the west were reported by the witness.

During a personal interview, conducted by the investigator-in-charge, and on the enclosed statement, a flight instructor reported departing the airport for an instructional flight, with winds from the south; however, at about 1205 approaching weather with "severe wind gusts" prompted the flight instructor to return to the airport. Winds at the time of the landing had changed to the southwest and the flight experienced "light chop" at about "200 feet above the

ground." Total flight time was .5 hour. By the time the airplane was placed in the hangar at the south end of runway 17, winds were estimated from the north at 30 knots.

During a telephone interview, conducted by the investigator-in-charge, and on the Pilot/Operator Report, the pilot-in-command reported the following information. Weather briefings were obtained for the cross country flight to Branson, Missouri, via Sherman, Texas, McAlester, Oklahoma, Tulsa, Oklahoma, and Rogers, Arkansas. Prior to the departure, a visual assessment of the weather was conducted by the pilot-in-command. He estimated the weather associated with the approaching cold front was 20 to 30 miles northwest of the airport. During the takeoff ground roll, as the tailwheel lifted from the runway, the pilot observed a "cloud of dust right to left" and the windsock extend from "limp to standing straight out due to a very strong gust." Prior to the main wheels lifting off the runway, the wind "hit," "picked the aircraft up like a helicopter or a kite and took us up about 100 to 150 feet." Subsequently, the left wing dropped when the airplane was "hit by a strong downdraft/windshear."

During a telephone interview, conducted by the investigator-in-charge, the passenger's father/witness reported the following information. As the airplane taxied from the ramp area, the wind was from the south. During the takeoff ground roll, the airplane was approximately 1/2 way down the 3,500 foot runway when the wind shifted to a quartering headwind and then a quartering tailwind. The "wall of wind gusting to 30 knots lifted the airplane off the ground." This witness observed the flight controls moving as the airplane traveled and rolled eastward. The airplane struck the "ground right wing and nose low."

METEOROLOGICAL INFORMATION:

National Weather Service surface observations from 0745 through 0844 in the departure airport area indicated winds from the south at 8 to 12 knots. From 0845 through 1044, winds from Wichita Falls to Abilene were from the west northwest with gusts from 24 to 34 knots. Thunderstorms with lightning were moving to the east. At 1147, Alliance Airport (7 miles southwest of Northwest Regional) reported winds from 040 degrees at 14 knots with gust to 20 knots. At 1155, Dallas/Fort Worth Airport (12 miles southeast of Northwest Regional) reported a wind shift from 230 degrees at 13 knots to 300 degrees at 24 knots with gust to 33 knots. At 1202, Fort Worth Airport (15 miles south of Northwest Regional) reported winds from 340 degrees at 16 knots with gusts to 22 knots. At 1202, Denton Airport (10 miles north of Northwest regional) reported winds from 320 degrees at 16 knots with gusts to 21 knots.

Terminal Forecast weather and the Area Forecast synopsis included a line of thunderstorms with tops to 45,000 feet and rain showers in the area of the departure airport.

Convective Sigmets issued for Texas advised of the cold front, lines of severe thunderstorms, hail to 2 inches, and wind gusts to 50 knots. Thunderstorms were associated with regions of upslope flow and convergence associated with a surface trough.

A severe thunderstorm watch effective from 1123 through 1800 for north central and east Texas was issued for the "possibility of extremely dangerous winds, large hail, and dangerous

lighting."

From 1045 through 1230, pilot's reported moderate to severe turbulence below 8,000 feet MSL.

COMMUNICATIONS:

The pilot-in-command obtained an outlook briefing from Fort Worth Flight Service Station the night before the flight. The pilot was briefed that thunderstorm activity associated with a cold front was expected in the Dallas/Fort Worth area the following morning.

At approximately 0820 the following morning, the pilot obtained a standard weather briefing for a 1130 departure to Branson, Missouri. The pilot was advised of thunderstorms and rain showers associated with an unstable airmass. He was further advised of a convective sigmet, a severe thunderstorm watch over the flight route and that "VFR is questionable due to the possibility and severity of thunderstorms."

WRECKAGE AND IMPACT INFORMATION:

The airplane came to rest on a measured magnetic heading of 300 degrees less than 1/4 mile east of the departure end of runway 17. The airplane remained intact; however, structural damage was sustained by the engine and airframe. See the enclosed wreckage diagram.

The right wing tip was crushed aft, the fuselage and wing fabric was twisted to the right, and the cockpit was destroyed. Flight control continuity was confirmed. The integrity of the fuel tank was compromised; however, fuel screens were clean and fuel was found in the line from the gascolator to the carburetor. Engine continuity was confirmed. The oil screen was clean and oil was found in the engine. Both magnetos sparked at all of the terminals. Propeller blades exhibited chordwise scratches and the propeller flange was bent downward.

TEST AND RESEARCH:

Examination of the engine and accessories did not reveal any pre- impact anomalies that would have contributed to the accident.

ADDITIONAL DATA:

The airplane was released to the owner's representative.

Pilot Information

Certificate:	Commercial	Age:	24, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	08/01/1995
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	747 hours (Total, all aircraft), 36 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	AERONCA	Registration:	N85636
Model/Series:	7AC 7AC	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	7AC4380
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	02/08/1995, Annual	Certified Max Gross Wt.:	2200 lbs
Time Since Last Inspection:	83 Hours	Engines:	1 Reciprocating
Airframe Total Time:	6975 Hours	Engine Manufacturer:	CONTINENTAL
ELT:	Not installed	Engine Model/Series:	C-85-12F
Registered Owner:	GRANT D. SMITH	Rated Power:	85 hp
Operator:	GRANT D. SMITH	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	AFW, 722 ft msl	Distance from Accident Site:	7 Nautical Miles
Observation Time:	1232 CDT	Direction from Accident Site:	210°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	7 Miles
Lowest Ceiling:	Broken / 3300 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	25 knots / 35 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	310°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	18° C / 17° C
Precipitation and Obscuration:			
Departure Point:	(52F)	Type of Flight Plan Filed:	None
Destination:	SHERMAN, TX (SWI)	Type of Clearance:	None
Departure Time:	1225 CST	Type of Airspace:	Class E

Airport Information

Airport:	NORTHWEST REGIONAL (52F)	Runway Surface Type:	Asphalt
Airport Elevation:	643 ft	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	
Runway Length/Width:	3500 ft / 40 ft	VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	JOYCE M SMITH
Additional Participating Persons:	CURT F MAHAFFEY; FORT WORTH, TX
Investigation Docket:	NTSB accident and incident docket serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .