



Aviation Investigation Final Report

Location:	Collinsville, Oklahoma	Accident Number:	GAA16CA395
Date & Time:	July 23, 2016, 12:00 Local	Registration:	N2377H
Aircraft:	ENGINEERING & RESEARCH 415	Aircraft Damage:	Substantial
Defining Event:	Loss of control on ground	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that during the takeoff rotation, the nose came up and the left wing rose, but as he looked to the right wing it appeared low and "the next thing he knew" the airplane was going about 45 degrees across the runway to the right, headed for a tree. The pilot further reported that he reduced throttle and applied the brakes while turning left to no avail. The airplane subsequently impacted a tree and spun clockwise about 90 degrees sustaining substantial damage to the right wing and aft fuselage.

The pilot reported that there were no pre impact mechanical failures or malfunctions with the airframe or engine that would have precluded normal operation.

The pilot recommended that due to the density altitude and low powered airplane it may not have been a good condition for departure.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's failure to maintain directional control during takeoff in a high density altitude condition, which resulted in a runway excursion and impact with a tree.

Findings

Aircraft	Directional control - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Environmental issues	Tree(s) - Contributed to outcome
Environmental issues	High density altitude - Decision related to condition
Personnel issues	Decision making/judgment - Pilot

Factual Information

History of Flight

Takeoff	Loss of control on ground (Defining event)
Takeoff	Runway excursion
Takeoff	Attempted remediation/recovery
Takeoff	Collision with terr/obj (non-CFIT)
Takeoff	Part(s) separation from AC
Takeoff	Nose over/nose down
Post-impact	Evacuation

Pilot Information

Certificate:	Private	Age:	71, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	January 22, 2016
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 28, 2015
Flight Time:	(Estimated) 1335 hours (Total, all aircraft), 49 hours (Total, this make and model), 1335 hours (Pilot In Command, all aircraft), 22 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Passenger Information

Certificate:		Age:	Female
Airplane Rating(s):		Seat Occupied:	Right
Other Aircraft Rating(s):		Restraint Used:	Lap only
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	ENGINEERING & RESEARCH	Registration:	N2377H
Model/Series:	415 D	Aircraft Category:	Airplane
Year of Manufacture:	1946	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	3002
Landing Gear Type:	Tricycle	Seats:	2
Date/Type of Last Inspection:	December 3, 2015 Annual	Certified Max Gross Wt.:	1450 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2606.3 Hrs as of last inspection	Engine Manufacturer:	CONT MOTOR
ELT:	C126 installed, activated, did not aid in locating accident	Engine Model/Series:	C85-12
Registered Owner:	On file	Rated Power:	85 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KTUL,650 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	17:53 Local	Direction from Accident Site:	204°
Lowest Cloud Condition:	Few / 5000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	210°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.92 inches Hg	Temperature/Dew Point:	37°C / 20°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Collinsville, OK (OK94)	Type of Flight Plan Filed:	None
Destination:	Collinsville, OK (OK94)	Type of Clearance:	None
Departure Time:	12:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	SANDRIDGE AIRPARK INC OK94	Runway Surface Type:	Grass/turf
Airport Elevation:	690 ft msl	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	2545 ft / 110 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	36.353889,-95.803337(est)

Administrative Information

Investigator In Charge (IIC):	Swenson, Eric
Additional Participating Persons:	Todd A Evans; FAA; Oklahoma City, OK
Original Publish Date:	September 12, 2016
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=93697

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