



Aviation Investigation Final Report

Location:	Augusta, Kansas	Accident Number:	CEN13CA423
Date & Time:	July 20, 2013, 10:30 Local	Registration:	N377TT
Aircraft:	Beech C23	Aircraft Damage:	Substantial
Defining Event:	Collision during takeoff/land	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The flight instructor and student pilot were performing a soft field takeoff from a 2,340 foot grass runway. During the takeoff the airplane did not accelerate as expected. The flight instructor stated that the airplane lifted off, but the trees at the end of the runway were approaching quickly. The instructor then made a slight turn, aiming for some shorter trees to the right. The airplane did not climb out of ground effect and struck a barbed wire fence. The airplane then impacted the ground just beyond the fence and came to a stop in the upright position. Examination of the airplane revealed substantial damage to the airplane’s fuselage and wings. A review of the airplane’s Pilot Operating Handbook (POH) indicated from grass field, no wind, flaps up, 2000 feet mean sea level, and 88 degree Fahrenheit, the airplane would have a 1,700 foot ground roll and would need 2,827 feet to clear a 50 foot obstacle. The instructor added that the airplane did not perform as the POH indicated. Based on a soft field takeoff technique of having flaps extended and nose high attitude, it’s likely the airplane did not reach the grass field performance data indicated in the POH. The soft field, nose high attitude and an over rotation of the nose, to compensate for the rapidly approaching runway end, likely degraded the airplane’s takeoff performance.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot did not obtain adequate airspeed and clearance from obstructions during a grass field takeoff.

Findings

Personnel issues

(general) - Instructor/check pilot

Factual Information

History of Flight

Takeoff	Collision during takeoff/land (Defining event)
Takeoff	Nose over/nose down

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	28, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Without waivers/limitations	Last FAA Medical Exam:	December 26, 2012
Occupational Pilot:	No	Last Flight Review or Equivalent:	May 12, 2013
Flight Time:	1832 hours (Total, all aircraft), 50 hours (Total, this make and model), 1776 hours (Pilot In Command, all aircraft), 94 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N377TT
Model/Series:	C23	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	M-2151
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	April 16, 2013 Annual	Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:	2522 Hrs as of last inspection	Engine Manufacturer:	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-360 SER
Registered Owner:	Harold Cooper	Rated Power:	180 Horsepower
Operator:	Harold Cooper	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KAAO	Distance from Accident Site:	16 Nautical Miles
Observation Time:	10:54 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.87 inches Hg	Temperature/Dew Point:	31°C / 21°C
Precipitation and Obscuration:			
Departure Point:	Augusta, KS (3AU)	Type of Flight Plan Filed:	None
Destination:	El Dorado, KS (EQA)	Type of Clearance:	None
Departure Time:	10:15 Local	Type of Airspace:	

Airport Information

Airport:	Airpark Estates 20KS	Runway Surface Type:	Grass/turf
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	Unknown
Runway Length/Width:	2340 ft / 50 ft	VFR Approach/Landing:	Stop and go

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	37.675834,-96.885276(est)

Administrative Information

Investigator In Charge (IIC):	Hatch, Craig
Additional Participating Persons:	Webster McKinney; FAA FSDO; Wichita, KS
Original Publish Date:	September 5, 2013
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=87526

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