



Aviation Investigation Final Report

Location:	Frankfort, Michigan	Accident Number:	CHI04CA218
Date & Time:	August 8, 2004, 13:55 Local	Registration:	N54517
Aircraft:	Cessna 305A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Other work use		

Analysis

The airplane used for glider aero-tow was destroyed by post-impact fire after it impacted the terrain during takeoff climb. The tow pilot reported that he was departing the grass airstrip with a glider in tow. The glider was positioned to the right of the tow plane. During the takeoff ground run, the glider aborted the takeoff by releasing the tow line. The tow pilot reported that the tow plane "suddenly yawed 45 degrees" to the left and veered off the left side of the grass airstrip and "crossed a marsh/wetland area" southwest of the runway. He reported the airplane was still at full power and was at minimum controllable airspeed. The pilot reported that he continued the takeoff and attempted to climb over a tree line, but the airplane had "insufficient airspeed and stalled." The airplane impacted the terrain and caught fire. The tow airplane utilized had a five point pilot restraint harness and the pilot received minor injuries. He exited the airplane before the airplane was consumed by fire. The glider pilot reported he aborted the takeoff when he saw the tow plane veering toward the left side of the runway. The glider rolled out on the airstrip without damage. An inspection of the accident site revealed that the tow plane was about 30 feet from the left side of the runway when the glider aborted its takeoff. Then the tow plane traveled about 150-175 feet through the tall grass before it lifted off and attempted flight. The tree line was located approximately 250 feet from the point of lift off. At 1415, the observed wind, approximately 28 nautical miles south of the accident site, were 250 degrees at 6 knots. The runway in use was runway 33. The glider pilot reported the wind from the south produced a 5 knot tailwind.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The tow pilot failed to maintain directional control during takeoff roll and failed to abort the takeoff. Additionally, the tow pilot failed to attain adequate airspeed which resulted in a stall. The tailwind and the tall grass were contributing factors.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER

Phase of Operation: TAKEOFF - ROLL/RUN

Findings

1. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND
2. (C) ABORT - NOT PERFORMED - PILOT IN COMMAND
3. (F) WEATHER CONDITION - TAILWIND

Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

4. (C) AIRSPEED - NOT ATTAINED - PILOT IN COMMAND
5. STALL - ENCOUNTERED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

6. TERRAIN CONDITION - GROUND
7. TERRAIN CONDITION - HIGH VEGETATION

Occurrence #4: FIRE

Phase of Operation: OTHER

Factual Information

On August 8, 2004, at 1355 eastern daylight time, a Cessna 305A, N54517, was destroyed by post-impact fire after it impacted the terrain during takeoff climb from the Frankfort Dow Memorial Field Airport (FKS), Frankfort, Michigan. The pilot received minor injuries. The 14 CFR Part 91 glider aero-tow flight was departing FKS on a local flight. Visual meteorological conditions prevailed. No flight plan was filed.

The Cessna pilot reported that he was departing the grass airstrip adjacent to FKS runway 33 (4,050 feet by 75 feet) with a Schleicher AS-K13 glider, N14AA, in tow. He reported that during the takeoff ground run, the glider aborted the takeoff by releasing the tow line. He reported that the tow plane "suddenly yawed 45 degrees" to the left and veered off the left side of the grass airstrip and "crossed a marsh/wetland area" southwest of the runway. He reported the airplane was still at full power and was at minimum controllable airspeed. The pilot reported he attempted to climb over a tree line, but the airplane had "insufficient airspeed and stalled." The airplane impacted the terrain and caught fire. The tow airplane utilized had a five point pilot restraint harness and the pilot received minor injuries. The pilot exited the airplane before the airplane was consumed by fire.

The pilot of the glider reported that the lift off was later than normal and that the glider did not achieve "total lift off." He reported that the gliders were "lifting off the ground slightly long all day." He reported that the tow plane was veering to the left side of the airstrip and toward the embankment that led to the marsh. The glider was positioned to the right side of the tow plane. He reported he aborted the glider's takeoff so that the tow plane could "handle its takeoff or try to get control." He reported the glider rolled out on the airstrip without damage.

At 1415, the observed weather at Manistee (MBL), Michigan, located approximately 28 nautical miles south of FKS, was: wind 250 degrees at 6 knots, visibility 10 statute miles, scattered clouds 4,800 feet, temperature 23 degrees C, dew point 12 degrees C, altimeter 30.06 inches of mercury.

The glider pilot reported the wind was from the south which produced a 5 knot tailwind. A witness reported that the wind at 1130 was 110 degrees at 10 knots gusting to 15 knots.

A Federal Aviation Administration (FAA) inspector reported the total distance the tow plane traveled from the beginning of the takeoff roll to where the glider aborted the takeoff was about 350 feet. He reported the tow plane was about 25-30 feet from the left edge of the airstrip when the glider aborted. He reported the tow plane traveled about 150-175 feet through the tall grass before it lifted off and attempted flight. The tree line was located approximately 250 feet from the point of lift off.

Pilot Information

Certificate:	Commercial; Private	Age:	55, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	
Other Aircraft Rating(s):	Glider; Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 2	Last FAA Medical Exam:	April 15, 2003
Occupational Pilot:		Last Flight Review or Equivalent:	June 17, 2003
Flight Time:	1700 hours (Total, all aircraft), 20 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N54517
Model/Series:	305A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Utility	Serial Number:	JU-4
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	June 4, 2004 Annual	Certified Max Gross Wt.:	2100 lbs
Time Since Last Inspection:	25 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1870 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-470-11
Registered Owner:	Northwest Soaring Club	Rated Power:	
Operator:	Northwest Soaring Club	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Dawn
Observation Facility, Elevation:	MBL	Distance from Accident Site:	
Observation Time:	13:15 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.05 inches Hg	Temperature/Dew Point:	23°C / 12°C
Precipitation and Obscuration:			
Departure Point:	Frankfort, MI (FKS)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:		Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	1 None	Latitude, Longitude:	44.625,-86.200836

Administrative Information

Investigator In Charge (IIC):	Silliman, James
Additional Participating Persons:	Will Elliott; FAA Grand Rapids, MI FSDO
Original Publish Date:	October 28, 2004
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=60071

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