



National Transportation Safety Board Aviation Accident Data Summary

Location:	Northglenn, CO	Accident Number:	CEN14FA230
Date & Time:	05/05/2014, 1543 MDT	Registration:	N4519Y
Aircraft:	PIPER PA 25-235	Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Banner Tow		

Analysis

The pilot reported that the purpose of the banner-tow flight was to tow an advertisement billboard over a ballpark. He stated that, despite the engine operating normally, the airplane had little to no climb performance as he flew southbound toward the ballpark; therefore, he decided to make a 180-degree turn and return to the departure airport. He released the banner after the airplane developed an excessive descent rate during the turn. The pilot reported that he was unable to recover sufficient airspeed after releasing the banner and that the airplane encountered an aerodynamic stall/spin at a low altitude. The airplane then descended, inverted, into a house where a postimpact fire ensued. A postaccident examination of the airplane revealed no preimpact mechanical failures or malfunctions that would have precluded normal operation. At the time of the accident, the low-level surface winds were from the south between 5 and 10 knots with gusts reaching 20 to 30 knots.

A review of radar track data confirmed that the accident airplane flew over a congested area at altitudes below 1,000 ft above ground level (agl). The final portion of the accident flight included an S-turn maneuver below 500 ft agl. According to radar data, during the S-turn, the airplane flew within 1,000 ft laterally and 200 ft vertically of the pilot's personal residence. Additionally, radar data revealed that the pilot made a tight 360-degree turn near his residence, between 600 and 700 ft agl, during another recent banner-tow flight. Based on the available radar evidence, the pilot, on at least two occasions, flew below the minimum safe altitude required by federal regulation 91.119(b), which prohibited operating an airplane, over a congested area, at an altitude below 1,000 ft above the highest obstacle within a horizontal radius of 2,000 ft.

The pilot's intentional flight below the required minimum safe altitude likely limited his ability to recover from a potential loss of airspeed due to a gusting wind condition during the banner-tow flight. Additionally, his delayed decision to release the banner allowed the airplane to exceed its critical angle-of-attack, which resulted in an aerodynamic stall/spin from which he was unable to recover.

Flight Events

Maneuvering-low-alt flying - Low altitude operation/event
Maneuvering-low-alt flying - Loss of control in flight
Maneuvering-low-alt flying - Aerodynamic stall/spin
Uncontrolled descent - Collision with terr/obj (non-CFIT)

Probable Cause

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

The pilot's decision to operate the banner-tow flight below the minimum safe altitude specified by federal regulation, which likely limited his ability to recover from a potential loss of airspeed due to a gusting wind condition. Also causal was the pilot's delayed decision to release the banner, which allowed the airplane to exceed its critical angle-of-attack and resulted in an aerodynamic stall/spin from which he was unable to recover.

Findings

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Altitude-Incorrect use/operation - C

Aircraft-Aircraft oper/perf/capability-Performance/control parameters-Angle of attack-Not attained/maintained - C

Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - C

Personnel issues-Action/decision-Action-Delayed action-Pilot - C

Personnel issues-Task performance-Use of equip/info-Aircraft control-Pilot - C

Environmental issues-Conditions/weather/phenomena-Wind-Gusts-Ability to respond/compensate - C

Pilot Information

Certificate:	Commercial	Age:	52
Airplane Rating(s):	Single-engine Land	Instrument Rating(s):	None
Other Aircraft Rating(s):	Helicopter	Instructor Rating(s):	None
Flight Time:	462 hours (Total, all aircraft), 127 hours (Total, this make and model), 374 hours (Pilot In Command, all aircraft), 52 hours (Last 90 days, all aircraft), 37 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	PIPER	Registration:	N4519Y
Model/Series:	PA 25-235	Engines:	1 Reciprocating
Operator:	Drag 'N' Fly Banners	Engine Manufacturer:	Lycoming
Operating Certificate(s) Held:	None	Engine Model/Series:	O-540-B2B5-C
Flight Conducted Under:	Part 91: General Aviation - Banner Tow		

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	EIK, 5119 ft msl	Weather Information Source:	Weather Observation Facility
Lowest Ceiling:	None	Wind Speed/Gusts, Direction:	10 knots / 20 knots, 170°
Temperature:	27° C	Visibility	10 Miles
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Hudson, CO (18V)	Destination:	Hudson, CO (18V)

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Latitude, Longitude:	39.896944, -105.000833		

Administrative Information

Investigator In Charge (IIC):	Andrew T Fox	Adopted Date:	01/31/2017
Note:	The NTSB traveled to the scene of this accident.		
Investigation Docket:	http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=89168		

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