



Aviation Investigation Final Report

Location:	Northwood, New Hampshire	Accident Number:	ERA16LA284
Date & Time:	August 6, 2016, 18:50 Local	Registration:	N317W
Aircraft:	Balloon Works Firefly8	Aircraft Damage:	None
Defining Event:	Hard landing	Injuries:	1 Serious, 5 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The commercial pilot was providing sightseeing rides in a balloon as part of an annual event, which included 17 balloons. He stated that, during a weather briefing for the event, the wind was reported to be between 8 and 10 knots and forecast to reduce to less than 5 knots before increasing again. The pilot added that, after he inflated the balloon envelope, "it was not rocking," which meant to him that the weather "was not excessively windy." He boarded five passengers and departed. The balloon uneventfully climbed to between about 1,200 and 1,500 ft. The pilot then chose a 5-acre field for landing about 6 miles south of the departure point. The balloon landed hard, and the basket momentarily tipped over before righting itself; it then dragged along the ground before coming to a stop at the edge of the field. During the landing, one passenger fell inside the basket and was seriously injured.

Before the launch, several pibals (pilot balloons) were released to assess the wind conditions, which were determined to be changeable. Additionally, thunderstorms were moving through an area about 15 miles north of the balloons' planned departure point. Based on that information, the other 16 balloon pilots chose not to launch. The recorded weather at an airport located about 12 miles west of the accident site, about the time of the accident, included wind from 340° at 15 knots.

Probable Cause and Findings

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

The balloon pilot's inadequate weather planning and improper decision to depart in reported increasing variable winds with nearby thunderstorms, which resulted in a subsequent hard landing and a serious passenger injury.

Findings

Personnel issues	Weather planning - Pilot
Personnel issues	Decision making/judgment - Pilot
Aircraft	Descent rate - Not attained/maintained
Environmental issues	Thunderstorm - Effect on operation
Environmental issues	Variable wind - Effect on operation

Factual Information

History of Flight

Prior to flight	Preflight or dispatch event
Landing-flare/touchdown	Hard landing (Defining event)
Landing-flare/touchdown	Other weather encounter

On August 6, 2016, at 1850 eastern daylight time, a Balloon Works Firefly 8, N317W, experienced a hard landing in Northwood, New Hampshire. The balloon was not damaged. The commercial pilot and four other passengers were not injured; one passenger was seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local sightseeing flight, which was conducted under the provisions of Title 14 *Code of Federal Regulations* Part 91. The flight departed from Drake Field, Pittsfield, New Hampshire, about 1730.

The flight was participating in the Suncook Valley Rotary Club annual balloon rally, held in Pittsfield, New Hampshire. According to the pilot, the wind was discussed during a weather briefing for the event as being 8 to 10 knots and forecasted to reduce to less than 5 knots before increasing again. He indicated that after he inflated the balloon envelope, "it was not rocking which means it was not excessively windy," so he boarded the five non-paying passengers and departed. The flight climbed to an altitude between 1,200 and 1,500 feet and was uneventful. The pilot selected a 5-acre field for landing about 6 miles south of Pittsfield. The landing was "a bit rough," and the basket momentarily tipped over before righting itself, then dragged for some distance before coming to a stop at the edge of the field. During the landing, one passenger fell inside the basket, fracturing his pelvis and leg.

According to a Federal Aviation Administration inspector, prior to the scheduled balloon launch time of 1730, several pilot balloons (pibals) were released to assess the wind conditions, which were determined to be "changeable." Thunderstorms were moving through the Laconia area (about 15 miles north of Pittsfield) at the scheduled launch time. There were 16 other pilots/balloons scheduled to participate in the event; due to the weather conditions none of them chose to launch that evening.

The 1851 automated weather observation at Concord Municipal Airport (CON), Concord, New Hampshire, located about 12 miles west of the accident site, included wind from 340° at 15 knots, visibility 10 statute miles, temperature 28° C, and dew point 16° C.

Pilot Information

Certificate:	Commercial	Age:	72, Male
Airplane Rating(s):	None	Seat Occupied:	None
Other Aircraft Rating(s):	Balloon	Restraint Used:	
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:	August 1, 2011
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	(Estimated) 1800 hours (Total, all aircraft), 1200 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Balloon Works	Registration:	N317W
Model/Series:	Firefly8	Aircraft Category:	Balloon
Year of Manufacture:	1994	Amateur Built:	
Airworthiness Certificate:	Balloon	Serial Number:	F8-403
Landing Gear Type:	None	Seats:	
Date/Type of Last Inspection:		Certified Max Gross Wt.:	
Time Since Last Inspection:		Engines:	
Airframe Total Time:		Engine Manufacturer:	
ELT:		Engine Model/Series:	
Registered Owner:	ARAHO BALLOON COMPANY INC	Rated Power:	
Operator:	ARAHO BALLOON COMPANY INC	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KCON,346 ft msl	Distance from Accident Site:	12 Nautical Miles
Observation Time:	18:51 Local	Direction from Accident Site:	267°
Lowest Cloud Condition:	Few / 9000 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	15 knots /	Turbulence Type Forecast/Actual:	None / None
Wind Direction:	340°	Turbulence Severity Forecast/Actual:	N/A / N/A
Altimeter Setting:	29.64 inches Hg	Temperature/Dew Point:	28°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pittsfield, NH	Type of Flight Plan Filed:	None
Destination:	Northwood, NH	Type of Clearance:	None
Departure Time:	17:30 Local	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	None
Passenger Injuries:	1 Serious, 4 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 5 None	Latitude, Longitude:	43.205276,-71.229446(est)

Administrative Information

Investigator In Charge (IIC):	Brazy, Douglass
Additional Participating Persons:	Edward Angelo; FAA/FSDO ; Portland, ME
Original Publish Date:	March 18, 2019
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=93783

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