



Aviation Investigation Final Report

Location:	Mount Ulla, North Carolina	Accident Number:	ERA17LA029
Date & Time:	October 22, 2016, 08:38 Local	Registration:	N9015Y
Aircraft:	Aerostar International RX8	Aircraft Damage:	Minor
Defining Event:	Hard landing	Injuries:	1 Serious, 4 None
Flight Conducted Under:	Part 91: General aviation - Other work use		

Analysis

Before departing on a revenue sightseeing balloon flight, the commercial pilot briefed the passengers about landing procedures. After being airborne for nearly 1 hour with increasing wind (which was forecast), the pilot identified a landing field and initiated an approach. Before landing, he again briefed the passengers that they needed to hold onto the handles with both hands, and to expect a "bouncy and hard landing." As the balloon approached the field, the pilot noted that the surface winds had significantly increased and informed the passengers to face the direction of travel with their knees bent, to expect a bounce, and that, after touchdown, the basket may tip onto its side. Before touchdown, he had to again instruct one passenger to hold on; he then pulled the envelope deflation line. After a hard landing, the basket leaned onto its side, and the passenger who was instructed to hold on and who was only using one hand to do so, put her arms outside the basket. Another passenger grabbed her, and the basket then became airborne slightly, followed by another landing. The basket tipped over, and the balloon was dragged a short distance across the field before stopping. One passenger sustained a fractured vertebrae and wrist, while the other occupants were not injured.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The passenger's failure to follow the pilot's instructions for properly securing herself during landing, which resulted in her serious injury when the balloon landed hard and the basket was dragged.

Findings

Aircraft	(general) - Not specified
Personnel issues	Aircraft control - Pilot
Personnel issues	Following instructions - Passenger
Environmental issues	(general) - Effect on operation

Factual Information

History of Flight

Landing-flare/touchdown	Hard landing (Defining event)
Landing-flare/touchdown	Dragged wing/rotor/float/other

On October 22, 2016, about 0838 eastern daylight time, an Aerostar International, Inc. RX-8 balloon, N9015Y, registered to and operated by Up Up Away Hot Air Balloon Company, incurred minor damage while landing in a field near Mount Ulla, North Carolina. The balloon was operated under the provisions of 14 Code of Federal Regulations Part 91 as a revenue sightseeing flight. The commercial pilot and three passengers sustained no injuries, while the remaining passenger was seriously injured. Visual meteorological conditions prevailed at the time, and no flight plan was filed for the flight, which originated about 53 minutes earlier from Statesville Regional Airport (SVH), Statesville, North Carolina.

The pilot stated that the balloon was part of the Carolina BalloonFest, and prior to the flight he attended a pilot briefing and was informed that the wind would be picking up after 0900. In advance of the flight he informed the passengers of the procedures related to landing stance, to hold the handles inside the basket, and to keep their arms and legs inside the basket.

After takeoff the balloon drifted in an east-southeasterly direction, and, due to the time aloft, the pilot elected to land in a hay field. Prior to landing, he informed the passengers that that they needed to hold on and to expect a "bouncy and hard landing." On approach to the field, he noticed the surface winds had significantly increased and informed the passengers to face the direction of travel with their knees bent, and that after touchdown the basket may tip on its side. He also instructed them to, "put down your cameras and hang on with both hands", and that they were going to bounce. The husband of the injured passenger reported his wife was using one hand to secure her camera that was around her neck, and her other hand was holding onto the basket railing. Just prior to touchdown, the pilot pulled the deflation line and reported a hard landing. After ground contact, the basket leaned on its side and the passenger who was holding on with one hand put her arms out of the basket. He then informed all to keep their arms and legs inside, and another passenger grabbed the passenger who had put her arms outside. The basket then became airborne shortly followed by another ground contact. The balloon was dragged on the ground for a short distance, and after coming to rest, the passenger who had put her arms outside at touchdown complained of pain. The pilot identified their location, called 911, and the injured passenger was transported to a hospital for treatment. Her injuries included a fractured vertebrae and wrist.

METEOROLOGICAL INFORMATION

Weather reports taken at SVH reported the wind at the time of departure from 260° at 4 kts. The wind remained between 3 and 4 kts from the southwest between 0745 and 0825, while the next observation at 0845, or about 7 minutes after the accident, depicted the wind from 280° at 8 kts.

ADDITIONAL INFORMATION

Passenger Briefings and Management

According to the Federal Aviation Administration (FAA) Balloon Flying Handbook FAA-H-8083-11A (2008), the various aspects of landing a balloon are discussed and states in part: In any branch of aviation, takeoff and landing are the most critical maneuvers. In ballooning, landing is number one. The vast majority of ballooning accidents and injuries occur on landing. This handbook also discusses passenger briefings and management indicating that "hold on tight" in two places is probably the least followed of the landing instructions. It goes on to say that most passengers are not mentally prepared for the shock that can occur when a 7,000 pound balloon contacts the ground. Passengers should be reminded to hold on tight, and the correct places to hold, whether they are factory-built passenger handles or places in the balloon's basket the pilot considers appropriate.

Pilot Information

Certificate:	Commercial	Age:	31, Male
Airplane Rating(s):	None	Seat Occupied:	None
Other Aircraft Rating(s):	Balloon	Restraint Used:	None
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	August 10, 2013
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 30, 2015
Flight Time:	614 hours (Total, all aircraft), 427 hours (Total, this make and model), 614 hours (Pilot In Command, all aircraft), 21 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 1.7 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aerostar International	Registration:	N9015Y
Model/Series:	RX8	Aircraft Category:	Balloon
Year of Manufacture:	1997	Amateur Built:	
Airworthiness Certificate:	Balloon	Serial Number:	RX8-3293
Landing Gear Type:	None	Seats:	
Date/Type of Last Inspection:	November 11, 2015 100 hour	Certified Max Gross Wt.:	1650 lbs
Time Since Last Inspection:		Engines:	
Airframe Total Time:	528 Hrs as of last inspection	Engine Manufacturer:	
ELT:	Not installed	Engine Model/Series:	
Registered Owner:	UP UP AWAY HOT AIR BALLOON CO	Rated Power:	
Operator:	UP UP AWAY HOT AIR BALLOON CO	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	SVH,968 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	08:45 Local	Direction from Accident Site:	290°
Lowest Cloud Condition:		Visibility	10 miles
Lowest Ceiling:	Broken / 5000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	280°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	9°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Statesville, NC (SVH)	Type of Flight Plan Filed:	None
Destination:	Mount Ulla, NC	Type of Clearance:	None
Departure Time:	07:45 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Minor
Passenger Injuries:	1 Serious, 3 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 4 None	Latitude, Longitude:	35.692779,-80.710556

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	Alexandra Grady; FAA/FSDO; Charlotte, NC
Original Publish Date:	November 6, 2018
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=94294

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).