Aviation Investigation Final Report

Location:	RIO RANCHO, New Mexico	**Accident Number:**	DEN01LA116
Date & Time:	June 13, 2001, 07:35 Local	**Registration:**	N7507V
Aircraft:	Cameron Balloons N-210	**Aircraft Damage:**	None
Defining Event:		**Injuries:**	1 Serious, 5 Minor, 3 None
Flight Conducted Under:	Part 91: General aviation - Aerial observation		

Analysis

The pilot received weather information from several sources beginning at 0300 that morning. Additionally, he obtained wind data from a remote sensor northwest of Rio Rancho and from another near Sandia Peak. The forecast he received indicated winds from 200 degrees at 8 knots till 1000 and then changing to 250 degrees at 13 knots gusting to 22 knots. He launched a pibal to check the current wind speed at the launch site and he determined it was "favorable." He launched with eight passengers on board and when he first checked his airspeed it was 4 knots. After climbing over a mesa, he noted that his airspeed had increased to 8 knots and was increasing. At that point of the flight, there were no favorable landing sites. He found a suitable landing site of open desert and briefed the passengers on high wind landing procedures. The pilot said that as the balloon descended, it passed through a wind shear zone with surface winds up to 30 knots. The winds on the lower half of the balloon created a false heavy and the pilot could not slow the excessive descent. After impact, the balloon skidded approximately 100 yards before its envelope could be deflated and the balloon stopped. During the landing, one passenger broke an ankle.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's inadvertent weather encounter with wind shear, and the resulting inability to maintain the proper landing descent rate, which resulted in a hard landing. A factor was the high wind weather condition.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: LANDING

Findings
1. (C) FLIGHT INTO ADVERSE WEATHER - INADVERTENT - PILOT IN COMMAND
2. (F) WEATHER CONDITION - HIGH WIND
3. (F) WEATHER CONDITION - WINDSHEAR
4. (C) PROPER DESCENT RATE - NOT POSSIBLE - PILOT IN COMMAND
5. (C) DESCENT - EXCESSIVE - PILOT IN COMMAND

Occurrence #2: HARD LANDING
Phase of Operation: LANDING

Findings
6. TERRAIN CONDITION - LOOSE GRAVEL/SANDY

Factual Information

On June 13, 2001, at approximately 0735 mountain daylight time, a Cameron Balloons N-210 balloon, N7507V, received minor damage during a hard, high wind landing near Rio Rancho, New Mexico. The commercial pilot and two passengers were not injured; however, one passenger was seriously injured, and five passengers received minor injuries. The balloon was being operated by World Balloon LLC, Albuquerque, New Mexico, under Title 14 CFR Part 91. Visual meteorological conditions prevailed at the time of the accident. The local flight originated from Rio Rancho, New Mexico, approximately 45 minutes before the accident. No flight plan was filed.

The pilot said he received weather briefings from a variety of sources beginning at 0300 that morning. His first weather briefing was from a website on his home computer. A Flight Service Station briefing was obtained by two other pilots (who were launching with him), and he was briefed by them. Additionally, he obtained wind data from a remote sensor northwest of Rio Rancho and from another near Sandia Peak. The forecast he received indicated that winds would be from 200 degrees at 8 knots till 1000, and then changing to 250 degrees at 13 knots gusting to 22 after 1000. He launched a pibal (a small helium filed balloon) to check the current wind speed at the launch site and he determined it was "favorable."

The pilot launched with eight passengers on board, and after liftoff noted on his global positioning system that his airspeed was 4 knots. After climbing over a mesa, his airspeed increased to 8 knots. He said that 20 minutes into the flight, his airspeed was between 16 to 20 knots. At that point, there was not a suitable landing area due to a housing area and electrical transmission lines. He attempted to descend behind a hill to obtain shelter from the wind, but the wind shear became too severe for balloon operations. He found a suitable landing site of open desert and briefed the passengers on correct high wind landing procedures. During descent, the balloon's speed increased to 30 knots and directional control became difficult. During the final descent, he fired both burners all the way to the ground. Despite the firing of both burners, the balloons glide path deteriorated to 45 degrees. The balloon skidded approximately 100 yards before the envelope could be deflated and the balloon stopped. During the landing, one passenger broke an ankle.

Pilot Information

Certificate:	Commercial	**Age:**	53,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	Balloon; Glider	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	None	**Last FAA Medical Exam:**	
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	May 6, 2002
Flight Time:	6000 hours (Total, all aircraft), 250 hours (Total, this make and model), 6000 hours (Pilot In Command, all aircraft), 45 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:	Cameron Balloons	**Registration:**	N7507V
Model/Series:	N-210	**Aircraft Category:**	Balloon
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	5808
Landing Gear Type:	Skid	**Seats:**	9
Date/Type of Last Inspection:	June 29, 2000 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	36 Hrs	**Engines:**	
Airframe Total Time:	660 Hrs at time of accident	**Engine Manufacturer:**	
ELT:	Not installed	**Engine Model/Series:**	
Registered Owner:	WORLD BALLOON, LLC.	**Rated Power:**	
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	ABQ,5355 ft msl	**Distance from Accident Site:**	
Observation Time:	07:56 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	12 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	220°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.81 inches Hg	**Temperature/Dew Point:**	21°C / -2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	RIO RANCHO, NM (NONE)	**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:**	None
Passenger Injuries:	1 Serious, 5 Minor, 2 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious, 5 Minor, 3 None	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Struhsaker, James
Additional Participating Persons:	Kearnes Branham; Albuquerque, NM
Original Publish Date:	September 20, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=52483