



Aviation Investigation Final Report

Location:	Clyde, Ohio	Accident Number:	NYC97LA137
Date & Time:	July 6, 1997, 07:30 Local	Registration:	N3590H
Aircraft:	Aerostar-Raven S-60-A	Aircraft Damage:	None
Defining Event:		Injuries:	1 Serious, 2 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

The balloon overflowed the intended point of landing and a second field site was chosen for a full stop landing. After the balloon basket skimmed the treetops at the approach end of the field, the pilot expedited the landing due to high-tension power lines at the downwind end of the field. The pilot had briefed the two passengers to stand on one leg, with the other leg braced against the basket wall facing the direction of travel. Both passengers described the descent as 'straight down', followed by a hard landing. Guidance provided in an FAA approved flight manual directs passengers not to brace against the basket wall and to stand with knees slightly bent to absorb shock. It further stated that passengers should be briefed to face away from the direction of travel.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: An abrupt touchdown to avoid power lines which resulted in a hard landing. Contributing to the accident was the pilot's failure to properly brief the passengers for the landing.

Findings

Occurrence #1: HARD LANDING
Phase of Operation: LANDING

Findings

1. (F) OBJECT - WIRE, TRANSMISSION

2. (F) TOUCHDOWN - ABRUPT - PILOT IN COMMAND
3. (C) CONDITION(S)/STEP(S) IN ERROR - PILOT IN COMMAND

Factual Information

On July 6, 1997, at 0730 eastern standard time, a balloon, an Aerostar-Raven S-60-A, N3590H, was undamaged during a landing to an open field near Clyde, Ohio. The certificated commercial pilot and one passenger were not injured. A second passenger sustained a serious injury. Visual meteorological conditions prevailed for the flight that originated at Wolfcreek Park, Helena, Ohio, at 0630. The sightseeing flight was conducted under 14 CFR Part 91.

In a telephone interview, the pilot reported that the balloon had been aloft for approximately 1 hour. He said a site was chosen for a full-stop landing but was over flown due to winds. The pilot selected a second open field and performed a "positive landing." He stated that it was a standard maneuver and described a positive landing as "...a little harder than normal." The pilot said the balloon and basket were undamaged during the landing.

In a written statement, the pilot said:

"...we tried to land but [the] wind blew us east of our intended landing spot. The next good looking spot in our line of sight was a cut hay field. We had a level flight to the tree line bordering the field, [then] vented some air just after the tree line so the wind would not take us into the power lines about 100 yards down the field."

After landing, one of the two passengers complained of leg pain. The passenger was transported to the hospital where a medical examination revealed she had sustained a broken leg.

According to a Federal Aviation Administration Aviation (FAA) Safety Inspector:

"The pilot stated that the balloon was drifting towards a high tension line and he decided to immediately land...The pilot executed a positive landing and the balloon struck the ground firmly."

In a telephone interview, one passenger reported he had purchased the balloon ride as a present to his wife on her birthday. He said it was the first hot air balloon trip for them both. The passenger said the flight was uneventful and that a "touch-and-go" landing was performed during the flight to familiarize them with the landing sequence. He and his wife were instructed to crouch with one foot planted on the floor of the basket with the other foot braced against the side of the basket facing the direction of travel. The passenger said the practice landing was smooth and the balloon climbed after it skimmed the ground.

The passenger said the pilot selected a spot for a full-stop landing but over flew it. He said the

pilot selected a second spot but was unsure about the landing surface and was shouting questions into a hand-held radio to his ground crew to determine if the landing site was suitable. The passenger said he was uncomfortable with the continued descent while the pilot remained unsure about the landing site. He told the pilot, "This doesn't seem right." The pilot did not respond and continued the approach.

The passenger said the basket dragged through trees prior to the field selected for landing. He said the balloon came almost straight down after it cleared the trees. The passenger further stated:

"He was determined to drop it on the ground. I don't understand why he expedited the landing. I feel like he brought it down too rapidly, too fast. I felt like I was falling out of a tree. We hit so hard, my teeth rammed together. I saw stars."

According to the second passenger:

"The flight seemed to go well. We did a nice, gentle practice landing. We were stooped over standing on the left leg...the right leg was braced against the front of the basket. That's what we were instructed to do."

The second passenger said she was positioned the same way in preparation for the full-stop landing. She further stated:

"We were right at the tree tops. All of a sudden, he's pulling and pulling on a red cord. He was in a hurry to land. It wasn't like our touch-and-go. It was like we fell out of the tree tops and came straight down. We came down flat and hard. The basket stayed straight up."

In an FAA approved flight manual published by Cameron Balloons under Passenger Briefing and Equipment, it states:

"Passengers should be briefed to hold on with both hands, knees slightly bent to absorb shock on impact, and to stay down in the basket to prevent being thrown out during the landing. If a stand-up landing is anticipated, the passengers need not brace their bodies against the wall of the basket...If it will be a ...rapid vertical descent...the passengers should be briefed to face away from the direction of flight..."

Pilot Information

Certificate:	Commercial	Age:	57, Male
Airplane Rating(s):	None	Seat Occupied:	Unknown
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 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	852 hours (Total, all aircraft), 526 hours (Total, this make and model), 842 hours (Pilot In Command, all aircraft), 11 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aerostar-Raven	Registration:	N3590H
Model/Series:	S-60-A S-60-A	Aircraft Category:	Balloon
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	S-60A-3093
Landing Gear Type:		Seats:	0
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	1800 lbs
Time Since Last Inspection:		Engines:	Unknown
Airframe Total Time:		Engine Manufacturer:	
ELT:	Not installed	Engine Model/Series:	
Registered Owner:	DAVID W. PASCH	Rated Power:	
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	TOL ,684 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	06:51 Local	Direction from Accident Site:	295°
Lowest Cloud Condition:	Scattered / 6500 ft AGL	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	14°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WOLFCREEK PARK , OH (NONE)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	06:30 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	Grass/turf
Airport Elevation:		Runway Surface Condition:	Dry;Vegetation
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	None
Passenger Injuries:	1 Serious, 1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 2 None	Latitude, Longitude:	41.299434,-82.970779(est)

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	RONALD J BARONE; CLEVELAND , OH
Original Publish Date:	September 7, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=39396

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