



# National Transportation Safety Board Aviation Accident Final Report

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|--------------------------------|--------------------------------------|-------------------------|--------------------|
| <b>Location:</b>               | Chatsworth, IL                       | <b>Accident Number:</b> | CEN17LA223         |
| <b>Date &amp; Time:</b>        | 06/08/2017, 1830 CDT                 | <b>Registration:</b>    | N30721             |
| <b>Aircraft:</b>               | HEAD BALLOONS INC AX7 77B            | <b>Aircraft Damage:</b> | Minor              |
| <b>Defining Event:</b>         | Loss of control on ground            | <b>Injuries:</b>        | 1 Serious, 2 Minor |
| <b>Flight Conducted Under:</b> | Part 91: General Aviation - Personal |                         |                    |

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## Analysis

The commercial pilot reported that, while inflating the balloon with hot air in light wind, he heard people yelling and stopped burning; he turned and saw another balloon that was airborne and swinging around. The accident balloon then became airborne and started swinging around very rapidly. He looked down and realized that spectators on the ground were directly below his balloon, and he immediately started burning to add heat so that the balloon would rise and not descend on spectators. Due to concern for spectator safety, the pilot felt his only recourse was to attempt to climb the balloon to avoid injuring the spectators on the ground. However, the accident balloon did not rise and instead struck the ground twice, and the pilot was ejected from the basket. Due to the decreased weight after the pilot was ejected, the balloon rose and flew off with two passengers still in the basket and subsequently landed about 2 blocks away. The passengers jumped out, causing the balloon to rise again. The balloon descended a final time about 1/4 mile away in a field.

A review of weather reports from a nearby airport revealed that the wind was 5 knots. A spectator on the ground provided videos of the balloons before and during the accident sequence. The spectator reported and the videos showed that the wind was calm, followed by gusts. Based on the available evidence, it is likely the accident resulted from unexpected wind gusts that led the balloon to prematurely become airborne.

## Probable Cause and Findings

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

The balloon's encounter with unexpected wind gusts during inflation, which resulted in the balloon becoming prematurely airborne and subsequently the pilot being ejected from the

basket and one passenger receiving serious injuries while attempting to egress from the pilotless balloon.

## Findings

Environmental issues

Gusts - Effect on equipment (Cause)

## Factual Information

On June 8, 2017, about 1630 central daylight time, a Head Balloons AX 77B balloon, N30721, encountered a wind gust while preparing for takeoff that threw the balloon occupants to the floor of the basket. The pilot and one passenger received minor injuries and one passenger received serious injuries. The balloon received minor damage to the basket. The balloon was registered to and operated by the pilot under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which was not on a flight plan. The flight was originating from Chatsworth, Illinois when the accident occurred.

The pilot reported that before the flight, he sent a small helium balloon up which indicated favorable conditions for flight. He proceeded to layout and cold inflate the balloon. He then performed a preflight briefing with the passengers and hot air inflated the balloon. He stated that the winds were still light, and after completion of the preflight checklist the passengers boarded the basket. As he started to add more heat to the balloon, he heard people begin yelling and he stopped burning to see what was going on. He saw the balloon beside him was airborne and swinging around beside its chase truck. The accident pilot's balloon which was still cold suddenly became airborne and swung very rapidly around the side of his chase van and back in the opposite direction it was laid out in. He looked down and realized spectators had moved down beside his van and were now directly below the balloon. He immediately started burning to add heat to the balloon so it would rise so that it would not come down on the spectators. The balloon now swung out away from the spectators and hit the ground and drug for a short distance before becoming airborne again. After becoming airborne again, the balloon began swinging on its tie off line and was hitting the ground again. When it hit the ground, the tie off became uncoupled. When the basket hit the ground again, the pilot was throw-out of the basket and was hanging by his heels and from a rope with the balloon airborne. When the basket hit the ground the next time, the pilot was thrown from the basket and the balloon having lost his weight flew on with the two passengers in the basket. It landed approximately two blocks east of the launch field where the two passengers jumped from the basket. After losing their weight the balloon flew on for about one fourth of a mile and came to rest in a soy bean field.

Weather reports for the Pontiac Municipal Airport, Pontiac, Illinois, about 20 miles northwest of the accident site recorded the wind speed and direction as 5 knots from 220 degrees about the time of the accident.

Videos taken by a ground observer showed the wind condition prior to and during the event. In one video, there are several inflated balloons seen and no indication of strong winds. Another video showed several balloons being blown about by high wind. A predominately blue balloon is seen colliding with the accident balloon with its basket scraping the accident balloon's envelope. The blue balloon then clears the accident balloon and lifts off. The accident balloon's burner can be seen burning in an apparent attempt to climb. The balloon climbs a few feet with winds causing the balloon to reverse course several times. The balloon then strikes the ground several times. After one impact an occupant can be seen hanging from the side of the basket. During the next impact the hanging occupant can be seen to fall to the ground and the balloon

then flies off. During the entire video the wind is pushing the balloon in different directions with the envelope shape distorting from the wind. The balloon flies off past a building and then is seen descending behind the building. The witness reported that the wind was calm just prior to the gusts that could be seen in the accident video.

## History of Flight

|          |   |
|----------|---|
| Standing | Miscellaneous/other<br>Loss of control on ground (Defining event) |
|----------|---|

## Pilot Information

|                           |   |                                   |          |
|---------------------------|---|-----------------------------------|----------|
| Certificate:              | Commercial  | Age:                              | 64, 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:    | None  | Last FAA Medical Exam:            |          |
| Occupational Pilot:       |   | Last Flight Review or Equivalent: |          |
| Flight Time:              | 857 hours (Total, all aircraft), 352 hours (Total, this make and model) |                                   |          |

## Aircraft and Owner/Operator Information

|                               |                                 |                                |          |
|-------------------------------|---------------------------------|--------------------------------|----------|
| Aircraft Make:                | HEAD BALLOONS INC               | Registration:                  | N30721   |
| Model/Series:                 | AX7 77B NO SERIES               | Aircraft Category:             | Balloon  |
| Year of Manufacture:          |                                 | Amateur Built:                 | No       |
| Airworthiness Certificate:    | Balloon                         | Serial Number:                 | 279      |
| Landing Gear Type:            | None                            | Seats:                         | 0        |
| Date/Type of Last Inspection: | 01/21/2017, Annual              | Certified Max Gross Wt.:       | 1400 lbs |
| Time Since Last Inspection:   |                                 | Engines:                       | 0        |
| Airframe Total Time:          | 362.6 Hours at time of accident | Engine Manufacturer:           |          |
| ELT:                          |                                 | Engine Model/Series:           |          |
| Registered Owner:             | On file                         | Rated Power:                   |          |
| Operator:                     | On file                         | Operating Certificate(s) Held: | None     |

## Meteorological Information and Flight Plan

|                                  |                                  |   |                   |
|----------------------------------|----------------------------------|---|-------------------|
| Conditions at Accident Site:     | Visual Conditions                | Condition of Light:                     | Day               |
| Observation Facility, Elevation: | PNT                              | Distance from Accident Site:            | 20 Nautical Miles |
| Observation Time:                | 2335 UTC                         | Direction from Accident Site:           | 305°              |
| Lowest Cloud Condition:          | Clear                            | Visibility                              | 10 Miles          |
| Lowest Ceiling:                  | None                             | Visibility (RVR):                       |                   |
| Wind Speed/Gusts:                | 5 knots /                        | Turbulence Type<br>Forecast/Actual:     | /                 |
| Wind Direction:                  | 220°                             | Turbulence Severity<br>Forecast/Actual: | /                 |
| Altimeter Setting:               | 29.87 inches Hg                  | Temperature/Dew Point:                  | 28° C / 4° C      |
| Precipitation and Obscuration:   | No Obscuration; No Precipitation |   |                   |
| Departure Point:                 | Chatsworth, IL                   | Type of Flight Plan Filed:              | None              |
| Destination:                     |                                  | Type of Clearance:                      | None              |
| Departure Time:                  | 1830 CDT                         | Type of Airspace:                       | Class G           |

## Wreckage and Impact Information

|                     |                    |                      |                       |
|---------------------|--------------------|----------------------|-----------------------|
| Crew Injuries:      | 1 Minor            | Aircraft Damage:     | Minor                 |
| Passenger Injuries: | 1 Serious, 1 Minor | Aircraft Fire:       | None                  |
| Ground Injuries:    | N/A                | Aircraft Explosion:  | None                  |
| Total Injuries:     | 1 Serious, 2 Minor | Latitude, Longitude: | 40.753611, -88.291944 |

## Administrative Information

|                                   |   |              |            |
|-----------------------------------|---|--------------|------------|
| Investigator In Charge (IIC):     | John M Brannen  | Report Date: | 07/05/2018 |
| Additional Participating Persons: | Mike Veselka; FAA _ Springfield FSDO; Springfield, IL   |              |            |
| Publish Date:                     | 07/05/2018  |              |            |
| Note:                             | The NTSB did not travel to the scene of this accident.  |              |            |
| Investigation Docket:             | <a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=95354">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=95354</a> |              |            |

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).