



# Aviation Investigation Final Report

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<b>Location:</b>	Phoenix, Arizona	<b>Accident Number:</b>	WPR21LA191
<b>Date &amp; Time:</b>	May 2, 2021, 08:15 Local	<b>Registration:</b>	N500UM
<b>Aircraft:</b>	ULTRAMAGIC S A N-500	<b>Aircraft Damage:</b>	Minor
<b>Defining Event:</b>	Collision with terr/obj (non-CFIT)	<b>Injuries:</b>	1 Serious, 18 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Other work use		

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## Analysis

The pilot stated that before the revenue passenger-carrying balloon sightseeing flight, he obtained a weather briefing just before departure. Light and variable winds were forecast. After departure the balloon climbed to about 1,400 ft above ground level and began to drift north rather than northeast as he was expecting. After identifying a vacant field for landing, the pilot initiated the descent with a forward speed of about 6 knots. However, after the basket contacted the ground, the wind speed increased. The pilot partially opened the deflation valve to slow down the balloon, but the basket struck a dead tree. Branches from the tree pierced the basket, causing serious injuries to one of the passengers and minor damage to the basket.

The balloon envelope had a capacity of 29 occupants, and the basket 25. According to the operator, for insurance purposes, the capacity was limited to 19 passengers and one pilot.

Following a fatal balloon accident that occurred in Lockhart, Texas, on July 30, 2016 (see NTSB report AAR-17/03), the Balloon Federation of America (BFA) established an “Envelope of Safety” program for operators who carry paying passengers. According to the BFA, the voluntary program establishes a set of criteria divided into pilot and ride company requirements, which if followed, result in the operator being awarded “Silver”, “Gold”, or “Platinum” status. A prerequisite for all levels is the requirement that each pilot must also satisfy the BFA Professional Ride Operator (PRO) pilot criteria. The criteria established a series of pilot flight experience, training, and drug and alcohol test requirements.

The pilot, who also owned the balloon operation, stated that while he was a member of the BFA, he was not enrolled in the PRO or Envelope of Safety Program.

The accident was the second for the operator, the first also occurred in the same balloon, and resulted in two serious injuries. See NTSB accident report WPR20LA333.

## Probable Cause and Findings

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

The pilot's inability to maintain control after the balloon's encounter with an unexpected wind gust, which resulted in a collision with a tree.

### Findings

<b>Personnel issues</b>	Aircraft control - Pilot
<b>Environmental issues</b>	Gusts - Effect on equipment

## Factual Information

### History of Flight

<b>Landing-flare/touchdown</b>	Collision with terr/obj (non-CFIT) (Defining event)
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### Pilot Information

<b>Certificate:</b>	Commercial; Sport Pilot	<b>Age:</b>	66, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	None
<b>Other Aircraft Rating(s):</b>	Balloon	<b>Restraint Used:</b>	None
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	July 30, 2020
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	May 31, 2020
<b>Flight Time:</b>	3600 hours (Total, all aircraft), 216 hours (Total, this make and model), 2983 hours (Pilot In Command, all aircraft), 32 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	ULTRAMAGIC S A	<b>Registration:</b>	N500UM
<b>Model/Series:</b>	N-500	<b>Aircraft Category:</b>	Balloon
<b>Year of Manufacture:</b>	2019	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Balloon	<b>Serial Number:</b>	500/18
<b>Landing Gear Type:</b>	None	<b>Seats:</b>	1
<b>Date/Type of Last Inspection:</b>	January 22, 2021 Annual	<b>Certified Max Gross Wt.:</b>	8406 lbs
<b>Time Since Last Inspection:</b>	30 Hrs	<b>Engines:</b>	0
<b>Airframe Total Time:</b>	187.7 Hrs as of last inspection	<b>Engine Manufacturer:</b>	
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	
<b>Registered Owner:</b>	RANDY LONG COMPANIES LLC	<b>Rated Power:</b>	
<b>Operator:</b>	RANDY LONG COMPANIES LLC	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	KPHX,1107 ft msl	<b>Distance from Accident Site:</b>	24 Nautical Miles
<b>Observation Time:</b>	08:51 Local	<b>Direction from Accident Site:</b>	169°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.67 inches Hg	<b>Temperature/Dew Point:</b>	28°C / -4°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Phoenix, AZ	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Phoenix, AZ	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	07:30 Local	<b>Type of Airspace:</b>	Class E

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Minor
<b>Passenger Injuries:</b>	1 Serious, 17 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>		<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Serious, 18 None	<b>Latitude, Longitude:</b>	33.827448,-112.10134

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Simpson, Elliott
<b>Additional Participating Persons:</b>	Ryan L. Armenta; FAA FSDO; Scottsdale, AZ
<b>Original Publish Date:</b>	August 20, 2021
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class 4</a>
<b>Note:</b>	The NTSB did not travel to the scene of this accident.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=103069">https://data.nts.gov/Docket?ProjectID=103069</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).