



Aviation Investigation Final Report

Location:	PHOENIX, Arizona	Accident Number:	LAX91LA038
Date & Time:	November 24, 1990, 07:30 Local	Registration:	N3605T
Aircraft:	Aerostar S-77A	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Serious, 5 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

WHILE BOARDING PSNL FOR A LAUNCH, THE BALLOON (BLN) WAS INFLATED & TETHERED TO A VEHICLE WITH A QUICK RELEASE LINE. WINDS AT THE TIME WERE ESTD TO BE ABT 7 KTS & SLIGHTLY GUSTY. DRG THE LAUNCH, THE PLT ADDED HEAT TO TAKEOFF & SIGNALLED FOR A RELEASE, BUT THE QUICK RELEASE LINE FAILED TO RELEASE. THE BLN SETTLED TO THE GND & 'BOBBED' UP & DWN 2 TIMES. THE PLT RPRTD THAT AT THE HEIGHT OF A BOUNCE (ABT 6 TO 10 FT), ALL 28 OF THE ADVANCED FIBER TECHNOLOGY (AFT) KEVLAR SUSPENSION CABLES FAILED. THE BASKET FELL TO THE GND & THE ENVELOPE ROSE TO ABT 500 TO 700 FT, THOUGH THE RED LINE STAYED ATTACHED TO THE BASKET & OPENED THE DEFLATION PORT; 2 OF THE 7 OCCUPANTS RCVD SERIOUS INJURIES. AN EXAM REVEALED STRENGTH DEGRADATION OF THE KEVLAR CABLES DUE TO HEAT EXPOSURE. THE BLN HAD 240 HRS OF FLT TIME. STRENGTH LOSS WAS FND IN SOME AFT/KEVLAR CABLES OF OTHER BLNS. ON 11/28/90, AEROSTAR INTL SVC BULLETIN #129 WAS ISSUED TO RETROFIT ALL S-66A & S-77A BNS WITH STEEL CABLES.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: STRENGTH DEGRADATION OF THE KEVLAR SUSPENSION CABLES, DUE TO PREVIOUS HEAT DAMAGE. FACTORS RELATED TO THE ACCIDENT WERE: FAILURE OF THE QUICK RELEASE LINE TO RELEASE, AND SUSCEPTIBILITY OF KEVLAR SUSPENSION CABLES TO HEAT.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: TAKEOFF

Findings

1. (F) BALLOON EQUIPMENT - INOPERATIVE
2. (F) BALLOON EQUIPMENT,SUSPENSION SYSTEM/CABLES - FAILURE,TOTAL
3. (C) ACFT/EQUIP,INADEQUATE STANDARD/REQUIREMENT - MANUFACTURER

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

Pilot Information

Certificate:	Commercial	Age:	45, 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):		Toxicology Performed:	No
Medical Certification:	None None	Last FAA Medical Exam:	
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	2132 hours (Total, all aircraft), 1100 hours (Total, this make and model), 2091 hours (Pilot In Command, all aircraft), 71 hours (Last 90 days, all aircraft), 26 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aerostar	Registration:	N3605T
Model/Series:	S-77A S-77A	Aircraft Category:	Balloon
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:		Serial Number:	S77A-3011
Landing Gear Type:		Seats:	
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2800 lbs
Time Since Last Inspection:	0 Hrs	Engines:	0 Unknown
Airframe Total Time:		Engine Manufacturer:	
ELT:	Not installed	Engine Model/Series:	
Registered Owner:	UNICORN BALLOON CO.	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:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	50 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	7 knots / 10 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	60°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	-18°C / -18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:	(NONE)	Type of Clearance:	None
Departure Time:	07:30 Local	Type of Airspace:	

Airport Information

Airport:		Runway Surface Type:	Dirt
Airport Elevation:		Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	2 Serious, 4 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Serious, 5 Minor	Latitude, Longitude:	33.679782,-112.090148(est)

Administrative Information

Investigator In Charge (IIC): Wilcox, T.

Additional Participating Persons:

Original Publish Date: April 13, 1992

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=27065>

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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](#).