



National Transportation Safety Board Aviation Accident Final Report

Location:	GrandCanyonWest, AZ	Accident Number:	LAX03MA292
Date & Time:	09/20/2003, 1238 MST	Registration:	N270SH
Aircraft:	Aerospatiale AS350BA	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	7 Fatal
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled - Sightseeing		

Analysis

The Safety Board's full report is available at <http://www.nts.gov/publictn/publictn.htm>. The Aircraft Accident Brief number is NTSB/AAB-07/03.

On September 20, 2003, about 1238 mountain standard time, an Aerospatiale AS350BA helicopter, N270SH, operated by Sundance Helicopters, Inc., crashed into a canyon wall while maneuvering through Descent Canyon, about 1.5 nautical miles east of Grand Canyon West Airport (1G4) in Arizona. The pilot and all six passengers on board were killed, and the helicopter was destroyed by impact forces and postcrash fire. The air tour sightseeing flight was operated under the provisions of 14 Code of Federal Regulations Part 135. Visual meteorological conditions prevailed for the flight, which was operated under visual flight rules on a company flight plan. The helicopter was transporting passengers from a helipad at 1G4 (helipad elevation 4,775 feet mean sea level [msl]) near the upper rim of the Grand Canyon to a helipad designated "the Beach" (elevation 1,300 msl) located next to the Colorado River at the floor of the Grand Canyon.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's disregard of safe flying procedures and misjudgment of the helicopter's proximity to terrain, which resulted in an in-flight collision with a canyon wall. Contributing to the accident was the failure of Sundance Helicopters and the Federal Aviation Administration to provide adequate surveillance of Sundance's air tour operations in Descent Canyon.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: MANEUVERING

Findings

1. TERRAIN CONDITION - MOUNTAINOUS/HILLY
2. (F) IN-FLIGHT PLANNING/DECISION - POOR - PILOT IN COMMAND
3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
4. (C) LOW ALTITUDE FLIGHT/MANEUVER - INTENTIONAL - PILOT IN COMMAND
5. (C) PROCEDURE INADEQUATE - PILOT IN COMMAND
6. (F) INADEQUATE SURVEILLANCE OF OPERATION - COMPANY/OPERATOR MGMT
7. (F) INADEQUATE SURVEILLANCE OF OPERATION - FAA(ORGANIZATION)

Factual Information

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The director of operations estimated that each flight from 1G4 to the Beach helipad lasted about 3.5 minutes. These flights were part of an advertised tour package in which Sundance pilots flew passengers through Descent Canyon, dropped them off at the Beach helipad for a scenic boat ride on the Colorado River, then picked them up at the Beach helipad later in the day for a return flight to 1G4 through another scenic canyon.

The accident flight was the pilot's 11th flight through Descent Canyon that day. The helicopter lifted off from 1G4 about 1237 and flew to the rim of Descent Canyon. The Sundance tour coordinator and a loader for Papillon Grand Canyon Helicopters at 1G4 stated that they observed the accident helicopter hover at the rim of Descent Canyon for about 30 to 45 seconds before beginning a level descent. There were no known witnesses or air traffic control radar data to provide information on the accident flight's progress inside the canyon after it descended out of view of the witnesses at 1G4.

The main wreckage was located on a canyon wall ledge about 400 feet beyond a near-vertical canyon wall that showed evidence of gouging consistent with a main rotor blade strike.

Pilot Information

Certificate:	Airline Transport; Flight Instructor	Age:	44, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Helicopter; Instrument Airplane; Instrument Helicopter	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	09/01/2002
Occupational Pilot:		Last Flight Review or Equivalent:	07/01/2003
Flight Time:	7857 hours (Total, all aircraft), 2350 hours (Total, this make and model), 7762 hours (Pilot In Command, all aircraft), 228 hours (Last 90 days, all aircraft), 86 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Aerospatiale	Registration:	N270SH
Model/Series:	AS350BA	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	1864
Landing Gear Type:	Skid	Seats:	7
Date/Type of Last Inspection:	09/03/2003, 100 Hour	Certified Max Gross Wt.:	4630 lbs
Time Since Last Inspection:	95 Hours	Engines:	1 Turbo Shaft
Airframe Total Time:	10892 Hours at time of accident	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	LTS101-600A3A
Registered Owner:	Sundance Helicopters, Inc.	Rated Power:	650 hp
Operator:	Sundance Helicopters, Inc.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	KBMA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	IGM, 3449 ft msl	Observation Time:	1254 MST
Distance from Accident Site:	44 Nautical Miles	Direction from Accident Site:	177°
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	32° C / -6° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	4 knots/ 14 knots, 350°	Visibility (RVR):	
Altimeter Setting:	29.96 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	GrandCanyonWest, AZ (1G4)	Type of Flight Plan Filed:	Company VFR
Destination:	Descent Canyon, AZ (NONE)	Type of Clearance:	None
Departure Time:	1237 MST	Type of Airspace:	Class G

Airport Information

Airport:	Grand Canyon West (1G4)	Runway Surface Type:	Unknown
Airport Elevation:	4825 ft	Runway Surface Condition:	Unknown
Runway Used:	NA	IFR Approach:	Unknown
Runway Length/Width:		VFR Approach/Landing:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	6 Fatal	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	7 Fatal	Latitude, Longitude:	35.985000, -113.793333

Administrative Information

Investigator In Charge (IIC):	Wayne Pollack	Adopted Date:	11/14/2007
Additional Participating Persons:	T.R. Proven; Federal Aviation Administration; Washington, DC John Sullivan; Sundance Helicopters, Inc.; Las Vegas, NV Joe Syslo; American Eurocopter; Grand Prairie, TX Peter Baker; Honeywell; Phoenix, AZ		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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