



National Transportation Safety Board Aviation Accident Final Report

Location:	Grand Canyon, AZ	Accident Number:	LAX06CA003
Date & Time:	10/03/2005, 1710 PDT	Registration:	N31MH
Aircraft:	Aerospatiale AS350B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	7 None
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled - Sightseeing		

Analysis

The helicopter encountered a ground resonance event following a hard landing in gusty wind conditions. The pilot reported that the winds were from the south at 18 knots with gusts to 36 knots. He hover-taxed to the helipad for landing following a sightseeing tour and had established the helicopter in a 3-foot hover in preparation for landing. A gust of wind disrupted the helicopter and brought it to a 6-foot hover. The pilot regained control and stabilized it back in a 3-foot hover. Another gust of wind "slammed" the helicopter onto the helipad and a ground resonance event began. The pilot lifted the helicopter back into the air upon noticing the increasing vibrations. After the vibrations dissipated, the pilot set it back onto the helipad.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's failure to maintain control of the helicopter during landing in gusty wind conditions, which resulted in a hard landing and ground resonance.

Findings

Occurrence #1: HARD LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. WEATHER CONDITION - GUSTS
2. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
3. (C) GROUND RESONANCE - ENCOUNTERED - PILOT IN COMMAND

Factual Information

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	22, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 Without Waivers/Limitations	Last FAA Medical Exam:	09/01/2005
Occupational Pilot:		Last Flight Review or Equivalent:	07/01/2005
Flight Time:	1790 hours (Total, all aircraft), 240 hours (Total, this make and model), 240 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Aerospatiale	Registration:	N31MH
Model/Series:	AS350B	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	2141
Landing Gear Type:	Skid	Seats:	7
Date/Type of Last Inspection:	09/01/2005, 100 Hour	Certified Max Gross Wt.:	4961 lbs
Time Since Last Inspection:	92.3 Hours	Engines:	1 Turbo Shaft
Airframe Total Time:	8933 Hours at time of accident	Engine Manufacturer:	Turbomeca
ELT:	Installed, not activated	Engine Model/Series:	Arial 1D1
Registered Owner:	Maverick Helicopters Inc.	Rated Power:	700 hp
Operator:	Maverick Helicopters Inc.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	M7KA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:		Observation Time:	
Distance from Accident Site:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	23° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	18 knots/ 36 knots, 180°	Visibility (RVR):	
Altimeter Setting:	30.02 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Grand Canyon, AZ (GCN)	Type of Flight Plan Filed:	Company VFR
Destination:		Type of Clearance:	VFR
Departure Time:	1647	Type of Airspace:	

Airport Information

Airport:	Grand Canyon National Park (GCN)	Runway Surface Type:	
Airport Elevation:	6609 ft	Runway Surface Condition:	
Runway Used:	NA	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Full Stop

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	6 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	7 None	Latitude, Longitude:	35.952222, -112.146944

Administrative Information

Investigator In Charge (IIC):	Nicole L Charnon	Adopted Date:	02/28/2006
Additional Participating Persons:	Nick Harrington; Federal Aviation Administration; Las Vegas, NV		
Publish Date:			
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
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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