



Aviation Investigation Factual Report

Location:	Mesa, Arizona	Accident Number:	LAX01LA216
Date & Time:	June 21, 2001, 14:40 Local	Registration:	N891CP
Aircraft:	Schweizer 269C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Factual Information

On June 21, 2001, at 1440 mountain standard time, a Schweizer 269C, N891CP, landed hard on the helipad at Falcon Field Airport (FFZ), Mesa, Arizona, following a loss of engine power. The helicopter, operated under the provisions of 14 CFR Part 91, sustained substantial damage to the tail boom. The certified flight instructor (CFI) and student pilot were not injured. Visual meteorological conditions prevailed for the local area instructional flight, and a flight plan had not been filed. The flight departed FFZ at 1330, and was scheduled to terminate at FFZ.

According to the CFI, the purpose of the flight was to conduct pattern work and approaches to landing. About 1430, while on approach to land, at 200 feet agl and an airspeed below 50 knots, the CFI heard a "pop" from the engine. He saw the engine rpm dropping to zero and he entered an autorotation. The helicopter landed hard.

A Federal Aviation Administration (FAA) inspector interviewed the CFI. The CFI stated that he was demonstrating a normal approach for the landing. When he heard the engine "pop," he attempted to add throttle. During the autorotation, the tachometer needles split and the helicopter landed hard. The FAA inspector noted that the CFI entered the autorotation inside the height velocity envelope curve. The FAA inspector reported that the result was a high rate of descent at touchdown.

According to the height/velocity performance chart in the rotorcraft flight manual, at 200 feet agl the helicopter had to be above a speed of 50 knots in order to accomplish a successful autorotation.

The FAA inspector observed a successful post accident engine test run and noted no mechanical anomalies.

METEROLOGICAL CONDITIONS

Phoenix Sky Harbor International Airport (PHX), elevation 1,135 feet msl, is about 255 degrees at 16 nautical miles from the accident location. The aviation surface weather report at 1356, was winds from 290 degrees at 14 knots; visibility 10 miles, temperature 100 degrees Fahrenheit; dew point 55 degrees Fahrenheit; and altimeter setting 29.94 inHg. The sky condition was few clouds at 12,000, and scattered cloud layers at 18,000 and 25,000.

In the pilot's written statement to the Safety Board he indicated that the temperature at FFZ was 115 degrees Fahrenheit. According to a density altitude calculator utilized by the Safety Board, at the time of the accident the density altitude was 5,390 feet mean sea level (msl). The airport elevation is 1,394 msl.

Flight instructor Information

Certificate:	Commercial; Flight instructor; Private	Age:	48,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Helicopter; Instrument helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	December 26, 2000
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 29, 2001
Flight Time:	1700 hours (Total, all aircraft), 450 hours (Total, this make and model), 4600 hours (Pilot In Command, all aircraft), 180 hours (Last 90 days, all aircraft), 90 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Student	Age:	39,Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Unknown	Last FAA Medical Exam:	
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	22 hours (Total, all aircraft), 5 hours (Total, this make and model), 22 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	Registration:	N891CP
Model/Series:	269C	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	S1422
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	June 20, 2001 Annual	Certified Max Gross Wt.:	2050 lbs
Time Since Last Inspection:	4 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	5500 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	HIO-360-D1A
Registered Owner:	Royal Aviation	Rated Power:	190 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	FFZ, 1394 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	14:40 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Clear	Visibility	30 miles
Lowest Ceiling:	Broken / 25000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	12 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.93 inches Hg	Temperature/Dew Point:	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mesa, AZ (FFZ)	Type of Flight Plan Filed:	None
Destination:	Mesa, AZ (FFZ)	Type of Clearance:	VFR
Departure Time:	13:30 Local	Type of Airspace:	Class D

Airport Information

Airport:	FALCON FIELD FFZ	Runway Surface Type:	Grass/turf
Airport Elevation:	1345 ft msl	Runway Surface Condition:	Dry
Runway Used:	H1	IFR Approach:	None
Runway Length/Width:	60 ft / 60 ft	VFR Approach/Landing:	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	33.45,-111.716667

Administrative Information

Investigator In Charge (IIC):	Cornejo, Tealeye
Additional Participating Persons:	John Eller; Federal Aviation Administration; Scottsdale, AZ
Report Date:	April 21, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=53348

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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](#).