



Aviation Investigation Final Report

Location:	Las Vegas, Nevada	Accident Number:	WPR15LA245
Date & Time:	August 18, 2015, 09:00 Local	Registration:	N17YS
Aircraft:	Schweizer 269C	Aircraft Damage:	Substantial
Defining Event:	Loss of engine power (total)	Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The flight instructor reported that, during the instructional flight in the helicopter, he was demonstrating entry procedures for an autorotation with the student pilot following along on the flight controls. The instructor smoothly lowered the collective, applied right pedal, and pulled aft on the cyclic to enter the autorotation. Immediately after entering the maneuver, he heard a change in engine noise and saw that the engine rpm gauge indicated zero. The instructor attempted to restart the engine by pressing the start button several times; however, the starter did not engage. The instructor continued the autorotative descent to the ground and landed hard.

A postaccident engine examination revealed that the battery's positive lead was separated from the battery terminal, and the lead exhibited corrosion. When the positive lead was reattached to the battery, and the engine started and operated normally. The reason for the loss of engine power during the autorotation could not be determined.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A total loss of engine power during a practice autorotation for reasons that could not be determined.

Findings

Not determined

(general) - Unknown/Not determined

Factual Information

History of Flight

Autorotation	Loss of engine power (total) (Defining event)
Autorotation	Off-field or emergency landing
Autorotation	Hard landing

On August 18, 2015, about 0900 mountain daylight time, a Schweizer 269C helicopter, N17YS, experienced a complete loss of engine power and subsequent hard landing about 10 miles northwest of the North Las Vegas Airport (VGT), Las Vegas, Nevada. The certified flight instructor was not injured, and the pilot undergoing instruction sustained minor injuries. The helicopter sustained substantial damage to the tailboom. The helicopter was privately owned and operated by Airworks Aviation Academy under the provisions of 14 *Code of Federal Regulations* Part 91 as an instructional flight. Visual meteorological conditions prevailed and no flight plan was filed for the local flight. The flight originated from VGT at 0845.

The flight instructor reported that after the student leveled the helicopter off at 4,500 ft mean sea level, he was going to demonstrate, with the student following along on the controls, entry procedures for an autorotation maneuver. The flight instructor smoothly lowered the collective, input right pedal, and pulled back on the cyclic to enter the autorotation. Immediately after entering the maneuver, he heard a change in engine noise and he observed that the engine RPM gauge was zero. The flight instructor attempted several times to restart the engine by pressing the start button, however every time the start button was pressed, there was no indication that the starter engaged. The flight instructor continued the descent to the ground. The helicopter landed hard; subsequently, the main rotor blades severed the tailboom.

A postaccident engine examination conducted by a Federal Aviation Administration Inspector revealed that the positive lead was found separated from the battery terminal, and that the lead exhibited corrosion. The positive lead was attached to the battery, and the engine started and operated normally.

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	48, Male
Airplane Rating(s):	None	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	3-point
Instrument Rating(s):	Helicopter	Second Pilot Present:	Yes
Instructor Rating(s):	Helicopter	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	October 2, 2014
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 17, 2015
Flight Time:	443 hours (Total, all aircraft), 73 hours (Total, this make and model), 367 hours (Pilot In Command, all aircraft), 125 hours (Last 90 days, all aircraft), 30 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Commercial	Age:	Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	February 5, 2015
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	366 hours (Total, all aircraft), 4 hours (Total, this make and model), 236 hours (Pilot In Command, all aircraft), 9 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	Registration:	N17YS
Model/Series:	269C	Aircraft Category:	Helicopter
Year of Manufacture:	1992	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	S1619
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:	March 20, 2015 Annual	Certified Max Gross Wt.:	2050 lbs
Time Since Last Inspection:	76 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2805 Hrs as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	HIO-360 SERIE
Registered Owner:	On file	Rated Power:	190
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	VGT,2205 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	08:53 Local	Direction from Accident Site:	124°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/ None
Wind Direction:		Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.85 inches Hg	Temperature/Dew Point:	31°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Las Vegas, NV (VGT)	Type of Flight Plan Filed:	None
Destination:	Las Vegas, NV (VGT)	Type of Clearance:	None
Departure Time:	08:45 Local	Type of Airspace:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	36.285831,-115.338333(est)

Administrative Information

Investigator In Charge (IIC):	Link, Samantha
Additional Participating Persons:	Michael Levine; Federal Aviation Administration; Las Vegas, NV
Original Publish Date:	March 18, 2019
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=91817

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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](#).