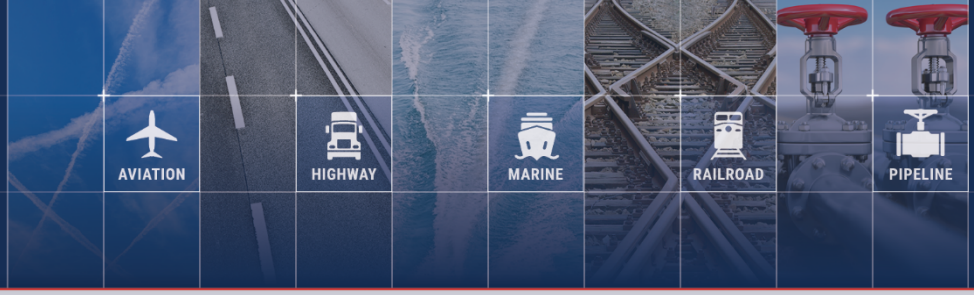

Aviation Investigation Final Report

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