Aviation Investigation Final Report

Location:	Minden, Nebraska	**Accident Number:**	CEN10LA408
Date & Time:	July 18, 2010, 20:50 Local	**Registration:**	N410JM
Aircraft:	Schweizer 269C	**Aircraft Damage:**	Substantial
Defining Event:	Loss of control in flight	**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

While en route to the destination airport, the pilot began detecting heavy vibrations emanating from the helicopter. He performed a scan of the engine instruments, all of which indicated that it was operating within the normal ranges. Unsure of the malfunction, the pilot elected to perform a cautionary autorotation to a plowed field. During the autorotation, the pilot landed hard and the helicopter subsequently rolled over. During the touchdown sequence the helicopter incurred substantial damage. A postaccident examination of the airframe and engine did not reveal any evidence of a preimpact anomaly.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate flare during an autorotation, which resulted in a hard landing and subsequent rollover.

Findings

Aircraft	(general) - Not attained/maintained

Factual Information

History of Flight

Enroute	Unknown or undetermined
Autorotation	Off-field or emergency landing
Autorotation	Loss of control in flight (Defining event)
Autorotation	Hard landing
Landing-flare/touchdown	Roll over

On July 8, 2010, approximately 2050 central daylight time, a Schweizer 269C, N410JM, was substantially damaged upon impact with terrain during a precautionary landing near Minden, Nebraska. The private pilot and one passenger were not injured. Visual conditions prevailed and no flight plan was filed for the Title 14 Code of Federal Regulations Part 91 personal flight. The local flight departed Pioneer Village Field (0V3), Minden, Nebraska, at approximately 2000.

According to a written statement provided by the pilot, the helicopter was approximately four miles from 0V3, at an altitude of 2,550 feet mean sea level, when the helicopter began producing vibrations. The pilot described the vibrations as "heavy" and at a "slow frequency." A scan of the engine instruments did not reveal any abnormalities with the helicopter, although the gages were difficult to read due to the heavy vibrations. The pilot chose to perform a precautionary autorotation to a field. Prior to touchdown, the pilot increased his flare in order to reduce ground-run. The helicopter made a hard impact with the ground and rolled before coming to rest on the helicopter's left side.

An inspector from the local Federal Aviation Administration (FAA) examined the helicopter and engine. The inspector did not find any signature of pre-impact failure or malfunction of any component.

Pilot Information

Certificate:	Private	**Age:**	44,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Without waivers/limitations	**Last FAA Medical Exam:**	April 19, 2010
Occupational Pilot:		**Last Flight Review or Equivalent:**	July 29, 2009
Flight Time:	574 hours (Total, all aircraft), 341 hours (Total, this make and model), 407 hours (Pilot In Command, all aircraft), 12 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Schweizer	**Registration:**	N410JM
Model/Series:	269C	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	S1906
Landing Gear Type:	High skid	**Seats:**	3
Date/Type of Last Inspection:	February 18, 2010 100 hour	**Certified Max Gross Wt.:**	2050 lbs
Time Since Last Inspection:	35 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	1482 Hrs at time of accident	**Engine Manufacturer:**	LYCOMING
ELT:	Not installed	**Engine Model/Series:**	HIO-360-D1A
Registered Owner:	DAKOTA EQUIPMENT SALES AND LEASING LLC	**Rated Power:**	190 Horsepower
Operator:	DAKOTA EQUIPMENT SALES AND LEASING LLC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dusk
Observation Facility, Elevation:	KEAR,2131 ft msl	**Distance from Accident Site:**	14 Nautical Miles
Observation Time:	20:55 Local	**Direction from Accident Site:**	332°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.95 inches Hg	**Temperature/Dew Point:**	24°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Minden, NE (0V3)	**Type of Flight Plan Filed:**	None
Destination:	Minden, NE (0V3)	**Type of Clearance:**	None
Departure Time:	20:00 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	40.499046,-98.949241(est)

Administrative Information

Investigator In Charge (IIC):	Aguilera, Jason
Additional Participating Persons:	Robert Wiley; FAA FSDO; Lincoln, NE
Original Publish Date:	April 7, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=76671