Aviation Investigation Final Report

Location:	Lordsburg, New Mexico	**Accident Number:**	CEN15TA017
Date & Time:	October 17, 2014, 12:45 Local	**Registration:**	N852BP
Aircraft:	Airbus Helicopters AS 350 B3	**Aircraft Damage:**	Substantial
Defining Event:	Dynamic rollover	**Injuries:**	1 Minor
Flight Conducted Under:	Public aircraft		

Analysis

The helicopter departed from level terrain and then drifted backward. The aft right skid then contacted a rock that was embedded in the ground, which resulted in the helicopter pivoting around the rock, the rotor blades impacting the ground, and the helicopter rolling over onto its right side. Examination of wreckage revealed no anomalies with the helicopter that would have precluded normal operation. A review of data from the vehicle engine multifunction display revealed that all of the recorded failures were associated with the ground impact and that no preimpact anomalies occurred. The evidence is consistent with a dynamic rollover event.

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 adequate drift control and skid clearance from the ground during takeoff, which resulted in a dynamic rollover when the aft right skid contacted a rock.

Findings

Personnel issues	Aircraft control - Pilot
Personnel issues	Incorrect action sequence - Pilot
Aircraft	Directional control - Not attained/maintained

Factual Information

History of Flight

Takeoff	Dynamic rollover (Defining event)

On October 17, 2014, about 1245 mountain daylight time, an Airbus Helicopters AS350B3 helicopter, N852BP, rolled over on its right side during takeoff near Lordsburg, New Mexico. The pilot sustained minor injuries and the helicopter sustained substantial damage. The helicopter was registered to the United States Department of Homeland Security and operated by the United States Customs and Border Protection (CBP) under the provisions of 14 Code of Federal Regulations Part 91 as a public use flight. Visual meteorological conditions prevailed and no flight plan was filed. The flight was originating at the time of the accident.

According to the CBP investigators, the helicopter departed from a level terrain area, drifted backward and the aft right skid contacted a rock, which was embedded in the ground and 10 inches of it was exposed. After contact, the helicopter hinged around a rock, the rotor blades impacted the ground and the helicopter rolled over to the right side. The fuselage was substantially damaged during the accident sequence.

At 1256, the automated weather observation at the Bisbee Douglas International Airport, Douglas/Brisbee, Arizona, located 38 miles west of the accident site, reported: calm wind, visibility 10 miles, clear sky, temperature 79° Fahrenheit (F), dew point 39° F, and altimeter setting 30.08 inches of mercury.

The CBP investigators examined the wreckage and determined that there were no anomalies with the helicopter that would have precluded normal operation.

Representatives from Airbus Helicopters downloaded and analyzed the data from the Vehicle Engine Multifunction Display (VEMD). All of the recorded failures were associated with the ground impact. The parameters associated with the failures and times of the failures did not indicate any preimpact anomalies.

Pilot Information

Certificate:	Commercial	**Age:**	45
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	5-point
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	August 11, 2014
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	June 11, 2014
Flight Time:	4000 hours (Total, all aircraft), 2000 hours (Total, this make and model), 51 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Airbus Helicopters	**Registration:**	N852BP
Model/Series:	AS 350 B3	**Aircraft Category:**	Helicopter
Year of Manufacture:	2002	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	3592
Landing Gear Type:	Skid	**Seats:**	
Date/Type of Last Inspection:	September 23, 2014 100 hour	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	Turbo shaft
Airframe Total Time:	6081 Hrs at time of accident	**Engine Manufacturer:**	Turbomeca
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	Arriel 2B
Registered Owner:	US DEPARTMENT OF HOMELAND SECURITY	**Rated Power:**	640 Horsepower
Operator:	US Customs and Border Protection	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KDUG,4101 ft msl	**Distance from Accident Site:**	38 Nautical Miles
Observation Time:	12:56 Local	**Direction from Accident Site:**	260°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.07 inches Hg	**Temperature/Dew Point:**	26°C / 4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	DEMING, NM (DMN)	**Type of Flight Plan Filed:**	None
Destination:	DEMING, NM (DMN)	**Type of Clearance:**	None
Departure Time:	07:30 Local	**Type of Airspace:**	Military operation area;Class G

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	31.569723,-108.873886

Administrative Information

Investigator In Charge (IIC):	Lindberg, Joshua
Additional Participating Persons:	Nathan Gordon; Federal Aviation Administration; Albuquerque, NM Jessie Scruggs; US Customs and Border Protection
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Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=90274