



# Aviation Investigation Final Report

<b>Location:</b>	Bicknell, Utah	<b>Accident Number:</b>	WPR15CA063
<b>Date &amp; Time:</b>	December 16, 2014, 09:00 Local	<b>Registration:</b>	N352SL
<b>Aircraft:</b>	Eurocopter AS 350 B2 ECUREUIL	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Settling with power/vortex ring state	<b>Injuries:</b>	4 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Other work use		

## Analysis

The pilot stated that the flight was in support of a Department of Natural Resources (DNR) pronghorn animal capture project. During takeoff, the pilot noted that the cockpit gauges were in the green range an indication that the helicopter had enough power available for the weight and density altitude he was operating. The pilot began herding operation, by maneuvering behind a small group of animals and successfully directing them toward the trap configured on the ground. After about 20 minutes, a large group of pronghorn were found and again the pilot maneuvered the helicopter behind them in an effort to herd them toward the trap's funnel. The animals suddenly reversed course and ran directly under the helicopter.

In response, the pilot maneuvered the helicopter backward about 50 to 100 feet while applying forward cyclic and maintaining an altitude of about 15 feet above ground level. The helicopter began to settle with power and as he applied up collective, the descent rate increased. The helicopter landed hard and incurred structural damage to the tail boom and bulkhead. The pilot reported that there were no preimpact mechanical malfunctions or failures with the helicopter that would have precluded normal operation.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to prevent the helicopter from settling with power while maneuvering at a low altitude, which resulted in a loss of control and subsequent hard landing.

### Findings

Personnel issues	Aircraft control - Pilot
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## Factual Information

### History of Flight

<b>Maneuvering-low-alt flying</b>	Settling with power/vortex ring state (Defining event)
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### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	31
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	4-point
<b>Instrument Rating(s):</b>	Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Helicopter; Instrument helicopter	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	March 26, 2014
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	May 7, 2014
<b>Flight Time:</b>	(Estimated) 3500 hours (Total, all aircraft), 1300 hours (Total, this make and model), 3500 hours (Pilot In Command, all aircraft), 100 hours (Last 90 days, all aircraft), 55 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Eurocopter	<b>Registration:</b>	N352SL
<b>Model/Series:</b>	AS 350 B2 ECUREUIL B2	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>	1994	<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	2798
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	6
<b>Date/Type of Last Inspection:</b>	Continuous airworthiness	<b>Certified Max Gross Wt.:</b>	4960 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Turbomeca
<b>ELT:</b>	Installed	<b>Engine Model/Series:</b>	Arriel 1
<b>Registered Owner:</b>	STATE OF UTAH	<b>Rated Power:</b>	681
<b>Operator:</b>	Utah Highway Patrol	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	-2°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	LOA, UT (38U)	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	LOA, UT (38U)	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	08:30 Local	<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	3 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	4 None	<b>Latitude, Longitude:</b>	38.330585,-111.549491(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Keliher, Zoe
<b>Additional Participating Persons:</b>	Jeffery Smith; Federal Aviation Administration; Salt Lake City, UT
<b>Original Publish Date:</b>	June 1, 2015
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=90504">https://data.nts.gov/Docket?ProjectID=90504</a>

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