



# Aviation Investigation Final Report

<b>Location:</b>	Morrison, Colorado	<b>Accident Number:</b>	DEN05LA068
<b>Date &amp; Time:</b>	April 13, 2005, 17:00 Local	<b>Registration:</b>	N5690K
<b>Aircraft:</b>	Enstrom F-28C	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

After performing two approaches and landings to a helipad, the pilot and pilot-rated passenger elected to fly to another helipad. The pilot-rated passenger, who was also a rotorcraft flight instructor, performed an approach to a hover above the helipad without incident. After the helicopter departed the helipad, the pilot then attempted an approach to the helipad. During a steep approach to a helipad, the helicopter descended below the helipad, which was an elevated concrete surface. The pilot increased collective, the rotor RPM began to droop, and the helicopter landed short of the helipad. During the landing, the helicopter impacted the side of the helipad and sustained substantial damage. Examination of the helicopter revealed the firewall and lower fuselage were crushed and the left skid was collapsed.

## 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 rotor RPM during the approach which resulted in a landing short of the helipad.

## Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) ROTOR RPM - NOT MAINTAINED - PILOT IN COMMAND
2. TERRAIN CONDITION - SHORT RUNWAY/LANDING AREA

## Factual Information

On April 13, 2005, approximately 1700 mountain daylight time, an Enstrom F-28C helicopter, N5690K, registered to Honeybear Helicopter's LLC, Golden, Colorado, sustained substantial damage during an attempted landing at a private landing pad near Morrison, Colorado. Visual meteorological conditions prevailed at the time of the accident. The personal flight was being conducted under the provisions of Title 14 CFR Part 91 without a flight plan. The pilot and pilot-rated passenger reported no injuries. The flight originated at Jeffco Airport (BJC), Broomfield, Colorado, approximately 1530.

According to the pilot and pilot-rated passenger, they departed BJC en route to two restaurant helipads which were located in high elevation areas. The pilot performed a high reconnaissance of one restaurant helipad, and two approaches and landings were made to the other restaurant helipad without incident. The pilot and pilot-rated passenger then elected to fly to a third helipad.

The pilot-rated passenger performed a high reconnaissance of the area and executed an approach to the helipad, which was an elevated concrete landing surface. After the approach, the pilot-rated passenger brought the helicopter to a hover above the helipad, and then departed the helipad. The pilot then took over control of the helicopter, and set up for another approach to the helipad. During a steep approach "with a good sight picture of the pad", the helicopter descended below the helipad. The pilot increased collective; however, the rotor RPM began to "droop." Subsequently, the helicopter landed short and impacted the side of the helipad.

The helicopter's right lower forward fuselage section struck the edge of the helipad. The helicopter slid off the pad, and came to rest west of the pad. Examination of the helicopter revealed the firewall and lower forward fuselage section were crushed and its left landing gear skid assembly was collapsed.

The pilot had accumulated approximately 114 total rotorcraft flight hours, and 6 hours in the make and model accident helicopter. The pilot-rated passenger had accumulated approximately 1,209 total rotorcraft flight hours, 948 total hours as a rotorcraft flight instructor, and 40 hours in the make and model accident helicopter.

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	35, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	July 1, 2004
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	February 1, 2005
<b>Flight Time:</b>	116 hours (Total, all aircraft), 6 hours (Total, this make and model), 45 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Enstrom	<b>Registration:</b>	N5690K
<b>Model/Series:</b>	F-28C	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	477
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	3
<b>Date/Type of Last Inspection:</b>	September 1, 2004 Annual	<b>Certified Max Gross Wt.:</b>	2350 lbs
<b>Time Since Last Inspection:</b>	36 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2114 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	H10-360-E1AD
<b>Registered Owner:</b>	Honeybear Helicopters LLC	<b>Rated Power:</b>	205 Horsepower
<b>Operator:</b>		<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>	5 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	90°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30.12 inches Hg	<b>Temperature/Dew Point:</b>	10°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	Broomfield, CO (BJC )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Morrison, CO (PVT )	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	15:30 Local	<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	39.668888,-105.219718

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Sauer, Aaron
<b>Additional Participating Persons:</b>	Eric Horstmeyer; Federal Aviation Administration; Denver, CO
<b>Original Publish Date:</b>	October 27, 2005
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=61334">https://data.ntsb.gov/Docket?ProjectID=61334</a>

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