Aviation Investigation Final Report

Location:	Kemmerer, Wyoming	**Accident Number:**	DEN01LA156
Date & Time:	September 5, 2001, 18:30 Local	**Registration:**	N57843
Aircraft:	Aerospatiale AS350BA	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The pilot was aerial taxiing the helicopter to a parking area at 10 knots and into a slight quartering headwind. There was some thunderstorm activity west of the airport, and the nearest recorded winds were from 260 degrees at 20 knots, with gusts to 36 knots. As he turned towards the tie down area, there was a strong gust of wind from the left. The helicopter yawed to the left and full right pedal had no effect on arresting the spin. The helicopter struck the ground and rolled over. The pilot had 4,000 total flight hours in helicopters, but had recently transitioned to this make and model helicopter and had 8 hours in type.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the loss of tail rotor effectiveness while air taxiing. Contributing factors were the high winds and gusts, and the pilot's limited experience in aircraft make/model.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAXI - AERIAL

Findings
1. (C) LOSS OF TAIL ROTOR EFFECTIVENESS - ENCOUNTERED - PILOT IN COMMAND
2. (F) LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT - PILOT IN COMMAND
3. (F) WEATHER CONDITION - HIGH WIND
4. (F) WEATHER CONDITION - GUSTS

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Factual Information

On September 5, 2001, at 1830 mountain daylight time, an Aerospatiale AS350BA, N57843, operated by Crew Concepts, Inc., of Boise, Idaho, was substantially damaged when it collided with terrain during aerial taxi at the Kemmerer Municipal Airport, Kemmerer, Wyoming. The commercial pilot, the sole occupant aboard, was not injured. Visual meteorological conditions prevailed, and no flight plan had been filed for the positioning flight being conducted under Title 14 CFR Part 91. The flight originated from Pocatello, Idaho, at an undetermined time.

In a telephone interview with the pilot, he said he was bringing the helicopter to Kemmerer for seismic survey support. He was aerial taxiing over the taxiway parallel to runway 16 when the helicopter started spinning. Opposite anti-torque pedal input had no effect in arresting the spin. The helicopter struck the ground, and rolled over on its side. The tail boom was severed and the main rotor system was torn from its mounts. Recorded winds at Evanston, Wyoming, located 52 miles southwest of Kemmerer, were from 260 degrees at 25 knots, gusting to 36 knots. The peak wind, recorded at 1929, was from 240 degrees at 47 knots.

Upon learning of the accident, the operator dispatched its investigator to the accident scene to conduct a company investigation. According to his report, the pilot said he was aerial taxiing at 10 knots into a slight quartering headwind. There was some thunderstorm activity west of the airport. As the pilot turned towards the tie down area, "a very strong gust of wind seemed to hit the aircraft on the left side." The helicopter yawed to the left and full right pedal had no effect on arresting the counterclockwise spin. The report stated that the pilot lost control "due to severe/weather conditions...The application of full right pedal to correct yaw with no effect precipitated the situation whereby the pilot lost tail rotor effectiveness once the counterclockwise spin began." The report noted that Eurocopter, the helicopter manufacturer, issued Service Letter 1518-67-01 in April 2001, that described three similar mishaps. The report concluded, "Pilots must ensure that the application of LEFT pedal inputs are very slight with immediate correction using right pedal. Additionally, pilots are not to apply LEFT pedal inputs while passing through 'translational lift.' This restriction is to preclude the possibility of 'tail rotor vortex ring state' which may result in a spin to the left from which recovery is not possible."

According to the operator, the pilot had 4,000 total flight hours in helicopters. He had recently transitioned to, and had 8 hours in, the AS350.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	41,Male
Airplane Rating(s):	None	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	March 26, 2001
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	August 1, 2001
Flight Time:	3900 hours (Total, all aircraft), 8 hours (Total, this make and model), 3600 hours (Pilot In Command, all aircraft), 45 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 3 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aerospatiale	**Registration:**	N57843
Model/Series:	AS350BA	**Aircraft Category:**	Helicopter
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1430
Landing Gear Type:	Skid	**Seats:**	6
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	4630 lbs
Time Since Last Inspection:		**Engines:**	1 Turbo shaft
Airframe Total Time:		**Engine Manufacturer:**	Turbomeca
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	Arriel 1B
Registered Owner:	Roberts Aircraft Co.	**Rated Power:**	529 Horsepower
Operator:	Crew Concepts, Inc.	**Operating Certificate(s) Held:**	On-demand air taxi (135)
Operator Does Business As:		**Operator Designator Code:**	FZOA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	EVW,7163 ft msl	**Distance from Accident Site:**	52 Nautical Miles
Observation Time:	19:53 Local	**Direction from Accident Site:**	200°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 11000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	25 knots / 36 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	260°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	18°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pocatello, ID (PIH)	**Type of Flight Plan Filed:**	None
Destination:	Kemmerer, WY (EMM)	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Airport Information

Airport:	Kemmerer Municipal EMM	**Runway Surface Type:**	
Airport Elevation:	7282 ft msl	**Runway Surface Condition:**	Unknown
Runway Used:		**IFR Approach:**	Unknown
Runway Length/Width:		**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	41.780555,-110.55027(est)

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Michael J Maglione; FAA Flight Standards Field Office; Casper, WY
Original Publish Date:	February 20, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53183