



Aviation Investigation Final Report

Location:	HAZELHURST, Mississippi	Accident Number:	MIA00LA092
Date & Time:	February 16, 2000, 16:00 Local	Registration:	N460AK
Aircraft:	Kitchens MINI 500B	REVOLUTION	Aircraft Damage: Substantial
Defining Event:		Injuries:	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

At an altitude of about 200 feet agl the pilot attempted a practice auto rotation into a field. According to the pilot he lowered the collective, at a forward speed of 60 mph. He then reduced the throttle. He said, '...I think I was already in trouble when I began the auto rotation from such a low altitude...[and] I also don't think that I had the collective all the way down because...the rotor rpms apparently began to bleed down without my noticing it...at about 50 feet agl I flared...then leveled and started pulling collective. The helicopter started violently shaking...which...indicates that the rotors were trying to stall from too low rpms...I couldn't stop my decent...I don't think I powered back up with the throttle...I hit the ground fairly violently...the helicopter...roll[ed] onto its left side...and the helicopter finally came to a stop about 30 yards from the point of initial impact.' Examination of the wreckage revealed no mechanical discrepancies. According the FAA's report, the pilot '...failed to perform the autorotation correctly and impacted the earth.'

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 control of the helicopter during a practice autorotation, by allowing the rotor rpm to become inadequate to cushion the touchdown, which resulted in a hard landing, and subsequent roll over.

Findings

Occurrence #1: HARD LANDING

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. AUTOROTATION - INITIATED - PILOT IN COMMAND
2. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
3. (C) ROTOR RPM - INADEQUATE - PILOT IN COMMAND

Occurrence #2: ROLL OVER

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Factual Information

On February 16, 2000, about 1600 central standard time, a homebuilt Kitchens Revolution Mini 500B helicopter, N460AK, owned by a private individual impacted with the ground during an autorotation near Hazelhurst, Mississippi. Visual meteorological conditions prevailed at the time, and no flight plan was filed for the 14 CFR Part 91 personal flight. The helicopter was substantially damaged. The private-rated pilot reported serious injuries. The flight had originated from a private helicopter pad at 1530.

After flying locally for awhile the pilot attempted a "quick stop" maneuver. He said, after completion of the quick stop he climbed to an altitude of about 400 feet above ground level (agl). He stated that he, "...turned west...[and then] turned towards home...at this point I had descended to about 200 feet agl...flew past the power line right of way and was approaching a large rye grass field and decided to attempt a practice auto rotation down into the field. As I flew over the field I lowered the collective and checked my forward speed at about 60 mph. I then reduced the throttle setting to get the rpm needles to split. I think I was already in trouble when I began the auto rotation from such a low altitude. I am not sure but I also don't think that I had the collective all the way down because after reducing throttle the rotor rpms apparently began to bleed down without my noticing it. I was concentrating my attention outside the helicopter at this time and not paying enough attention to the gauges. At this point things are a little fuzzy as far as my memory is concerned because things started happening pretty fast. At about 50 feet agl I flared...then leveled and started pulling collective. The helicopter started violently shaking...which I now know indicates that the rotors were trying to stall from too low rpms. I knew at this point that I couldn't stop my decent...I don't think I powered back up with the throttle...I hit the ground fairly violently...left landing gear collapsed...the helicopter...roll[ed] onto its left side...and the helicopter finally came to a stop about 30 yards from the point of initial impact."

The FAA inspected the wreckage and did not find any mechanical discrepancies. According the FAA's report, "...pilot was performing practice auto rotation. He failed to perform the autorotation correctly and impacted the earth."

Pilot Information

Certificate:	Private	Age:	50, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Center
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	May 25, 1998
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	1685 hours (Total, all aircraft), 52 hours (Total, this make and model), 1544 hours (Pilot In Command, all aircraft), 37 hours (Last 90 days, all aircraft), 13 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Kitchens	Registration:	N460AK
Model/Series:	REVOLUTION MINI 500B REVOLUTION	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental (Special)	Serial Number:	460
Landing Gear Type:	Skid	Seats:	1
Date/Type of Last Inspection:	Continuous airworthiness	Certified Max Gross Wt.:	836 lbs
Time Since Last Inspection:	52 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	52 Hrs	Engine Manufacturer:	Rotax
ELT:	Not installed	Engine Model/Series:	582
Registered Owner:	ALAN KITCHENS	Rated Power:	68 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	JAN ,346 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	15:54 Local	Direction from Accident Site:	360°
Lowest Cloud Condition:	Scattered / 4200 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 5500 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	40°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	23°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	15:30 Local	Type of Airspace:	

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:	350 ft msl	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Simulated forced landing

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious	Latitude, Longitude:	31.860683,-90.390197(est)

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan
Additional Participating Persons:	DOUGLAS SMILEY; JACKSON , MS
Original Publish Date:	December 4, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=48638

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).