



Aviation Investigation Final Report

Location:	Logan, Utah	Accident Number:	LAX08TA116
Date & Time:	April 18, 2008, 16:00 Local	Registration:	N6358Z
Aircraft:	Hughes TH-55	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Public aircraft - state		

Analysis

The helicopter was registered to, and operated by a state university. The public-use flight was conducted for the purpose of demonstrating rotor blade tracking and balancing to an aviation maintenance technician class. The helicopter was placed facing south into the wind on the asphalt ramp about 150 feet in front of the maintenance hangar. The doors of the hangar face north, and the hangar "seemed to block the wind in the run-up area." The pilot described the weather as "quite windy (20-25 knots est.) with scattered cumulus, very gusty, temperature around 50 degrees." In an interview conducted on the day of the accident, the pilot told a police officer that he had lifted the helicopter to a hover at 6 to 8 inches above the ground and was about to set it down, but mistakenly rolled the throttle on instead of rolling it off. The helicopter lifted to just above the height of the hangar and was caught by a gust of wind. The pilot attempted to descend, but when the helicopter descended below the height of the hangar, it "lost the wind lift and began to descend too fast." Initially the pilot reported to the Safety Board investigator that he intended to fly, however, in a written report submitted 11 days after the accident, the pilot stated that he had "no intent or expectation of flight," and that he "suddenly and unexpectedly" found himself "5 to 10 feet in the air, out of control." The helicopter was drifting toward the students who were standing about 100 feet away. The pilot attempted to turn away from the students and set the helicopter down as quickly as possible. The helicopter touched down tail low and hard on the left rear skid, the main and tail rotor blades contacted the ground, and the helicopter rolled on to its left side. The pilot's medical certificate and flight review were expired. He reported no flight hours in the 90 days preceding the accident, and he told the police officer that "it had been a while" since he had flown a helicopter. Following the accident, the university implemented changes in class procedures for all maintenance courses. The new procedures include having a current, appropriately rated pilot at the controls for all starting and running operations, including both airplanes and helicopters. Also, run-ups will now be performed only in designated areas and calm weather conditions.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate compensation for the wind conditions and failure to maintain control of the helicopter while hovering. Contributing to the accident were the wind gusts and the pilot's lack of recent experience in helicopters.

Findings

Environmental issues	Gusts - Not specified
Aircraft	Crosswind correction - Not attained/maintained
Personnel issues	Aircraft control - Pilot
Personnel issues	Recent experience - Pilot

Factual Information

History of Flight

Maneuvering-hover	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

On April 18, 2008, about 1600 mountain daylight time, a Hughes TH-55 helicopter, N6358Z, sustained substantial damage when it landed hard and rolled over following a loss of control while hovering at the Logan-Cache Airport, Logan, Utah. The private pilot, the sole occupant, was not injured. The helicopter was registered to, and operated by, Utah State University (USU). The public-use flight was conducted for the purpose of demonstrating rotor blade tracking and balancing to an aviation maintenance technician class. Visual meteorological conditions prevailed, and no flight plan was filed.

During a telephone interview conducted by the National Transportation Safety Board investigator-in-charge (IIC) on April 18, 2008, the pilot reported that a gust of wind caught the helicopter and he lost control. As he attempted to regain control, the helicopter landed hard, rolled over, and came to rest on its left side. The tail boom was buckled, and the main rotor blades were bent and twisted. In response to a direct question from the IIC, the pilot stated that he intended to fly the helicopter.

According to a report prepared by the Logan City Police Department, an officer interviewed the pilot on April 18, 2008, and the pilot reported that he was "demonstrating a lift into hover" for USU flight students. The maneuver was to involve "lifting the craft 6 to 8 inches off of the ground and to check the track of the main rotor blades." The pilot explained to the officer that he had lifted the helicopter and was about to set it down, but mistakenly rolled on the throttle instead of rolling it off. The helicopter lifted to just above the height of the USU hangar and was caught by a gust of wind. The pilot attempted to descend, but when the helicopter descended below the height of the hangar, it "lost the wind lift and began to descend too fast." The pilot was unable to recover before the helicopter contacted the ground. The pilot told the officer that he had many years of flight experience but stated that "it had been a while" since he had flown a helicopter.

In the Pilot/Operator Aircraft Accident/Incident Report (NTSB Form 6120.1) submitted on April 29, 2008, the pilot stated that he had "no intent or expectation of flight." He reported that he was instructing a class that was in the final phase of completing a 100-hour inspection on the helicopter. The inspection was complete to the point of engine run-up checks and a track and balance check. The helicopter was placed facing south into the wind on the asphalt ramp about 150 feet in front of the maintenance hangar. The doors of the hangar face north, and the hangar "seemed to block the wind in the run-up area." The pilot described the weather as "quite windy (20-25 knots est.) with scattered cumulus, very gusty, temperature around 50 degrees."

The pilot reported that he was completing the run-up phase of the inspection with the class observing. He "suddenly and unexpectedly" found himself "5 to 10 feet in the air, out of control." The helicopter was drifting toward the students who were standing about 100 feet away. The pilot attempted to turn away from the students and set the helicopter down as quickly as possible. The helicopter touched down tail low and hard on the left rear skid, the main and tail rotor blades contacted the ground, and the helicopter rolled on to its left side.

The pilot held a private pilot certificate with airplane single engine land and helicopter ratings. He stated that his medical certificate and flight review were expired. He reported that he had accumulated in excess of 4,000 total flight hours, of which approximately 130 hours were in helicopters, with 65 hours in the accident helicopter make and model. He reported no flight hours in the 90 days preceding the accident.

The reported winds at the airport at 1551 were from 230 degrees at 15 knots, gusting to 24 knots.

Following the accident, USU implemented changes in class procedures for all maintenance courses. The new procedures include having a current, appropriately rated pilot at the controls for all starting and running operations, including both airplanes and helicopters. Also, run-ups will now be performed only in designated areas and calm weather conditions.

Pilot Information

Certificate:	Private	Age:	71, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	February 1, 1985
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	4000 hours (Total, all aircraft), 65 hours (Total, this make and model), 0 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hughes	Registration:	N6358Z
Model/Series:	TH-55	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	191083
Landing Gear Type:	Skid	Seats:	2
Date/Type of Last Inspection:		Certified Max Gross Wt.:	1670 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	H10-360-B1A
Registered Owner:	Utah State University	Rated Power:	180 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	LGU,4457 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	15:51 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	15 knots / 24 knots	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.87 inches Hg	Temperature/Dew Point:	19°C / -5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Logan, UT (LGU)	Type of Flight Plan Filed:	None
Destination:	(LGU)	Type of Clearance:	None
Departure Time:	16:00 Local	Type of Airspace:	

Airport Information

Airport:	Logan-Cache LGU	Runway Surface Type:	
Airport Elevation:	4457 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

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:	41.79111,-111.851669

Administrative Information

Investigator In Charge (IIC):	Struhsaker, Georgia
Additional Participating Persons:	Dave Rodda; Federal Aviation Administration; Salt Lake City, UT
Original Publish Date:	August 28, 2008
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=67844

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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](#).