



Aviation Investigation Final Report

Location:	Ypsilanti, Michigan	Accident Number:	CHI04LA047
Date & Time:	December 22, 2003, 18:06 Local	Registration:	N598S
Aircraft:	Sikorsky S-58JT	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Minor
Flight Conducted Under:	Part 135: Air taxi & commuter - Non-scheduled		

Analysis

The helicopter was destroyed when it impacted light poles and the ground during landing. The pilot stated that he was on a southwest heading to the airport and was cleared to land at the U.S. Customs ramp. The pilot reported that approximately 40 knots airspeed and 70 feet above ground level (agl), "there was an abrupt boom and pitch of the aircraft followed by a right forward rapid decent with a very large horizontal one-to-one out of balance oscillation." The pilot stated that he, "attempted to apply all available collective pitch, which was followed by contact with the ground, followed by rolling and flipping of the aircraft." The pilot reported that after he and the passenger exited the helicopter through a window, they noticed inoperative light poles which stood 70 to 80 feet in height. The light pole that was struck was 45 feet tall and was located at the southwest cargo ramp area near the south end of taxiway D. The light pole is located 4,542 feet south-southwest of the U.S. Customs circle. The light pole is located to the south of runway 09R/27L. The U.S. Customs ramp is located on the west ramp between runways 09R/27L and 09L/27R.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot became disoriented and attempted to land the helicopter at the wrong ramp resulting in his failure to maintain obstacle clearance during the approach. The light poles were a factor to the accident.

Findings

Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: LANDING

Findings

1. (C) BECAME LOST/DISORIENTED - INADVERTENT - PILOT IN COMMAND
2. (F) OBJECT - POLE
3. (C) CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. TERRAIN CONDITION - GROUND

Factual Information

On December 22, 2003, at 1806 eastern standard time, a Sikorsky S-58JT helicopter, N598S, piloted by a commercial pilot, was destroyed when it impacted light poles and the ground during landing at the Willow Run Airport (YIP), Ypsilanti, Michigan. The 14 CFR Part 135 flight was cleared to land at the United States Customs Service ramp. The flight was operating in night visual meteorological conditions on a visual flight rules flight plan. The pilot and passenger received minor injuries. The flight originated from the Windsor International Airport, Ontario, Canada, at 1745.

According to the pilot's statement, he was on a southwest heading on-course to YIP when he contacted YIP tower. He stated that at this time, he was cleared by YIP Tower to land at the U.S. Customs ramp. The pilot reported that approximately 40 knots airspeed and 70 feet above ground level (agl), "there was an abrupt boom and pitch of the aircraft followed by a right forward rapid decent with a very large horizontal one-to-one out of balance oscillation." The pilot stated that he, "attempted to apply all available collective pitch, which was followed by contact with the ground, followed by rolling and flipping of the aircraft." The pilot reported that after he and the passenger exited the helicopter through a window, they noticed inoperative light poles which stood 70 to 80 feet in height.

The pilot had made a full-stop landing at YIP earlier on the day of the accident.

According to the YIP airport manager, the light pole that was struck was 45 feet tall and was located at the southwest cargo ramp area near the south end of taxiway D. The light pole is located 4,542 feet south-southwest of the U.S. Customs circle. The light pole is located to the south of runway 09R/27L. The U.S. Customs ramp is located on the west ramp between runways 09R/27L and 09L/27R.

Pilot Information

Certificate:	Commercial	Age:	47, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	December 12, 2003
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 28, 2003
Flight Time:	15760 hours (Total, all aircraft), 77 hours (Total, this make and model), 15504 hours (Pilot In Command, all aircraft), 40 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Sikorsky	Registration:	N598S
Model/Series:	S-58JT	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	58-1196
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	November 8, 2003 AAIP	Certified Max Gross Wt.:	12500 lbs
Time Since Last Inspection:	34 Hrs	Engines:	2 Turbo shaft
Airframe Total Time:	8342 Hrs as of last inspection	Engine Manufacturer:	Pratt & Whitney Canada
ELT:	Installed, not activated	Engine Model/Series:	PT6T-6
Registered Owner:	McMahon Helicopter Service Inc.	Rated Power:	1675 Horsepower
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	BUBA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night
Observation Facility, Elevation:	KYIP,716 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	17:53 Local	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown	Visibility	10 miles
Lowest Ceiling:	Broken / 12000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.9 inches Hg	Temperature/Dew Point:	6°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WINDSOR ONT (YQG)	Type of Flight Plan Filed:	VFR
Destination:	Ypsilanti, MI (KYIP)	Type of Clearance:	VFR
Departure Time:	17:45 Local	Type of Airspace:	Class D

Airport Information

Airport:	WILLOW RUN YIP	Runway Surface Type:	Asphalt
Airport Elevation:	716 ft msl	Runway Surface Condition:	Dry
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor	Latitude, Longitude:	42.237777,-83.530281

Administrative Information

Investigator In Charge (IIC):	Brannen, John
Additional Participating Persons:	Stan Woodbury; Federal Aviation Administration; Belleville, MI
Original Publish Date:	January 24, 2005
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=58687

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](#).