



# Aviation Investigation Final Report

<b>Location:</b>	HUDSON, Michigan	<b>Accident Number:</b>	CHI99LA292
<b>Date &amp; Time:</b>	August 15, 1999, 15:00 Local	<b>Registration:</b>	N2238U
<b>Aircraft:</b>	Brantly Helicopter B-2B	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot said he was flying the helicopter about 1,000 feet above ground level when the engine began sputtering. He said the engine sputtered until the helicopter was 500 feet above the ground and '...then the engine quit.' The pilot said he flared too late during the autorotation and the helicopter's tail struck the ground. He said the helicopter rolled onto its side during the ground collision sequence. The on-scene investigation revealed no mechanical anomalies with the engine or airframe that would prevent flight. Inspection of the fuel system revealed its vent line was plugged by a Mud Dauber Wasp. The fuel system does not have a vented cap. The fuel vent line is located on the bottom of the helicopter's fuselage and is visible to the pilot.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: was an inadequate preflight and misjudged flare to landing during the autorotation by the pilot. A factor in this accident was a totally blocked fuel tank vent system.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL  
Phase of Operation: CRUISE - NORMAL

### Findings

1. (F) FUEL SYSTEM, VENT - BLOCKED(TOTAL)
2. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND

3. FLUID,FUEL - STARVATION

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Occurrence #2: FORCED LANDING

Phase of Operation: DESCENT - EMERGENCY

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Occurrence #3: HARD LANDING

Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

4. AUTOROTATION - PERFORMED - PILOT IN COMMAND

5. (C) FLARE - MISJUDGED - PILOT IN COMMAND

## Factual Information

On August 15, 1999, at 1500 eastern daylight time (edt), a Brantly B-2B, N2238U, piloted by a private pilot, was destroyed during a collision with the ground during a forced landing after a total loss of engine power. Visual meteorological conditions prevailed at the time of the accident. The personal flight was operating under the provisions of 14 CFR Part 91, and was not operating on a flight plan. The pilot reported no injuries. The flight departed a restricted landing area near Jackson, Michigan, at 1400 edt.

The pilot said he was flying the helicopter about 1,000 feet above the ground when the "...engine started to sputter. It sputtered until I reached about 500 feet, then the engine quit." During the auto-rotation for the forced landing the pilot said he "...flared too late and hit the tail [on the ground]." The pilot said the helicopter rolled onto its side during the ground collision sequence.

The on-scene investigation revealed no mechanical anomalies that would prevent flight. Inspection of the fuel system's overboard vent line revealed it was plugged with what appeared to be mud from the Mud Dauber Wasp. The fuel system does not have a vented fuel cap. The overboard vent line is the only vent line for the fuel tank. The vent line's opening is located on the helicopter's fuselage bottom and is visible to the pilot. The helicopter's fuel vent system part's manual illustration is appended to this report.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	66, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Invalid Medical for flight	<b>Last FAA Medical Exam:</b>	November 14, 1990
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	860 hours (Total, all aircraft), 776 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Brantly Helicopter	<b>Registration:</b>	N2238U
<b>Model/Series:</b>	B-2B B-2B	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	479
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	January 10, 1999 Annual	<b>Certified Max Gross Wt.:</b>	1670 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	IVO-360
<b>Registered Owner:</b>	RICHARD P. PRATER	<b>Rated Power:</b>	
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Dusk
<b>Observation Facility, Elevation:</b>	JXN ,1001 ft msl	<b>Distance from Accident Site:</b>	27 Nautical Miles
<b>Observation Time:</b>	19:55 Local	<b>Direction from Accident Site:</b>	360°
<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>	3 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	160°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	21°C / 12°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	JACKSON , MI (RLA )	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	14:00 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 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>	1 None	<b>Latitude, Longitude:</b>	41.850849,-84.339836(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Gattolin, Frank
<b>Additional Participating Persons:</b>	CHUCK ROBERTS; BELLEVILLE , MI
<b>Original Publish Date:</b>	March 2, 2001
<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=47069">https://data.ntsb.gov/Docket?ProjectID=47069</a>

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