



Aviation Investigation Final Report

Location:	IDAHO FALLS, Idaho	Accident Number:	SEA97LA168
Date & Time:	July 14, 1997, 12:20 Local	Registration:	N8494E
Aircraft:	Bell 47G-3B	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot reported that upon making the last spray pass of a potato field he noted a low fuel state and turned back towards his refueling truck. At an altitude of 10-15 feet above ground and an airspeed of approximately 25 knots, the engine lost power. The pilot reported that 'when it quit I did not have the time to do any auto(rotation). It stopped and I hit the ground.' An FAA inspector confirmed the lack of fuel on board the aircraft following the accident. The height-velocity diagram for the Bell 47G-3B placed the aircraft on the boundary of the envelope for a successful autorotation at the altitude and speed at the time of the power loss.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot mismanaged his fuel supply which led to fuel exhaustion and subsequent loss of engine power. Factors contributing to the accident were the lack of adequate altitude and airspeed to successfully execute an autorotation.

Findings

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

Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) FUEL MANAGEMENT - INADEQUATE - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: HARD LANDING
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. (C) AUTOROTATION - NOT POSSIBLE
4. (F) AIRSPEED - INADEQUATE
5. (F) ALTITUDE - INADEQUATE

Factual Information

On July 14, 1997, approximately 1220 mountain daylight time, a Bell 47G-3B, N8494E, registered to Roger & Michael Hall, and being flown by a commercial pilot doing business as Eagle Aviation, Inc., incurred substantial damage during a hard landing, following a total loss of power while returning to his fueling station, approximately 11 miles east of Idaho Falls, Idaho. The pilot sustained minor injuries. No flight plan had been filed and visual meteorological conditions existed at the time. The flight, which had just completed an aerial application run, was to have been operated under 14CFR137, and originated from a location adjacent to the spray site.

The pilot reported that he "was spraying a potato field. As I made the last pass I looked down and noticed my gas gauge showing low. So I turned around and head(ed) back to the load truck."

He continued reporting "I was over a sod field when the engine quit. At that time I was about 250 to 300 yd (yards) from the truck and at (sic) about 10 to 15 f(ee)t above the ground and at (sic) about 25 kts.

He concluded reporting "When it quit I did not have the time to do any auto(rotation). It stopped and I hit the ground."

An altitude of 15 feet (above ground) at an airspeed of 25 knots places the aircraft on the boundary of the envelope for a successful autorotation (refer to CHART I).

An inspector from the Federal Aviation Administration's Flight Standards District Office, Salt Lake City, Utah, traveled to the site. His examination confirmed that the fuel tanks were empty.

Pilot Information

Certificate:	Commercial	Age:	51, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Left
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 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	September 17, 1996
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	12950 hours (Total, all aircraft), 1195 hours (Total, this make and model), 365 hours (Last 90 days, all aircraft), 104 hours (Last 30 days, all aircraft), 8 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bell	Registration:	N8494E
Model/Series:	47G-3B 47G-3B	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	2716
Landing Gear Type:	Skid	Seats:	3
Date/Type of Last Inspection:	July 17, 1997 100 hour	Certified Max Gross Wt.:	2850 lbs
Time Since Last Inspection:	7 Hrs	Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Lycoming
ELT:	Not installed	Engine Model/Series:	TVO-435-A1A
Registered Owner:	HALL, ROGER & MICHAEL	Rated Power:	220 Horsepower
Operator:	WOOD, MILTON, H.	Operating Certificate(s) Held:	
Operator Does Business As:	EAGLE AVIATION	Operator Designator Code:	E7GG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	IDA ,4741 ft msl	Distance from Accident Site:	
Observation Time:	12:46 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	60 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	170°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	27°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	00:00 Local	Type of Airspace:	Class G

Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:		Runway Surface Condition:	
Runway Used:	0	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	43.519142,-112.269912(est)

Administrative Information

Investigator In Charge (IIC): McCreary, Steven

Additional Participating Persons: LES DENAUGHEL; SALT LAKE CITY , UT

Original Publish Date: January 28, 2000

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=42657>

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](#).