



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Charles City, IA	<b>Accident Number:</b>	CEN11CA540
<b>Date &amp; Time:</b>	08/02/2011, 1130 CDT	<b>Registration:</b>	N4771N
<b>Aircraft:</b>	BELL 47G-2	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Loss of engine power (total)	<b>Injuries:</b>	1 Serious
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

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## Analysis

The operator reported that prior to the accident flight the pilot was distracted during a refueling operation. The distraction involved ground personnel entering the helicopter cabin after landing to discuss the next spraying operation with the pilot. After the conversation, the pilot departed without refueling the helicopter. While completing an aerial application, the engine experienced a loss of engine power. The pilot initiated an autorotation, during which the helicopter impacted terrain. A postaccident examination of the helicopter revealed the tail boom was partially separated and the landing gear skids were bent. The operator reported that approximately 3.5 quarts of fuel were drained from the fuel tanks, and 2 gallons of fuel were considered unusable.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to refuel the helicopter which resulted in a loss of engine power due to fuel exhaustion.

## Findings

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<b>Aircraft</b>	Fuel - Not serviced/maintained (Cause) Fuel - Fluid level (Cause)
<b>Personnel issues</b>	Task performance - Pilot (Cause)

## Factual Information

### History of Flight

Maneuvering	Loss of engine power (total) (Defining event)
Autorotation	Collision with terr/obj (non-CFIT)

### Pilot Information

Certificate:	Commercial; Private	Age:	54, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	04/08/2011
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	06/01/2011
Flight Time:	4100 hours (Total, all aircraft), 3000 hours (Total, this make and model)		

### Aircraft and Owner/Operator Information

Aircraft Manufacturer:	BELL	Registration:	N4771N
Model/Series:	47G-2	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Utility	Serial Number:	2216
Landing Gear Type:		Seats:	3
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	2850 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	LYCOMING
ELT:	Not installed	Engine Model/Series:	VO-435 SERIES
Registered Owner:	SCOTTS HELICOPTER SERVICES INC	Rated Power:	260 hp
Operator:	Scotts Helicopter Services Inc	Air Carrier Operating Certificate:	

## Meteorological Information and Flight Plan

Observation Facility, Elevation:		Observation Time:	
Distance from Accident Site:		Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	
Lowest Ceiling:		Visibility	
Wind Speed/Gusts, Direction:		Visibility (RVR):	
Altimeter Setting:		Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Charles City, IA	Type of Flight Plan Filed:	None
Destination:	Charles City, IA	Type of Clearance:	None
Departure Time:	1100 CDT	Type of Airspace:	

## Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious		

## Administrative Information

Investigator In Charge (IIC):	Aaron M Sauer	Adopted Date:	10/17/2011
Additional Participating Persons:	Dennis Daley; Federal Aviation Administration; Des Moines, IA		
Publish Date:	10/17/2011		
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=81377">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=81377</a>		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.