



# Aviation Investigation Final Report

<b>Location:</b>	Charles City, Iowa	<b>Accident Number:</b>	CEN11CA540
<b>Date &amp; Time:</b>	August 2, 2011, 11:30 Local	<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		

## 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

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



## Factual Information

### History of Flight

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

### Pilot Information

<b>Certificate:</b>	Commercial; Private	<b>Age:</b>	54, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Helicopter	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 With waivers/limitations	<b>Last FAA Medical Exam:</b>	April 8, 2011
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	June 1, 2011
<b>Flight Time:</b>	4100 hours (Total, all aircraft), 3000 hours (Total, this make and model)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Bell	<b>Registration:</b>	N4771N
<b>Model/Series:</b>	47G-2	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Utility	<b>Serial Number:</b>	2216
<b>Landing Gear Type:</b>		<b>Seats:</b>	3
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	2850 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>	VO-435 SERIES
<b>Registered Owner:</b>	SCOTTS HELICOPTER SERVICES INC	<b>Rated Power:</b>	260 Horsepower
<b>Operator:</b>	Scotts Helicopter Services Inc	<b>Operating Certificate(s) Held:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>		<b>Visibility</b>	
<b>Lowest Ceiling:</b>		<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Charles City, IA	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>	Charles City, IA	<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	11:00 Local	<b>Type of Airspace:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Serious	<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 Serious	<b>Latitude, Longitude:</b>	43.072498,-92.610557(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Sauer, Aaron
<b>Additional Participating Persons:</b>	Dennis Daley; Federal Aviation Administration; Des Moines, IA
<b>Original Publish Date:</b>	October 17, 2011
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	This accident report documents the factual circumstances of this accident as described to the NTSB.
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=81377">https://data.nts.gov/Docket?ProjectID=81377</a>

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