



# National Transportation Safety Board Aviation Accident Final Report

<b>Location:</b>	GALAX, VA	<b>Accident Number:</b>	BF090DOA01
<b>Date &amp; Time:</b>	08/01/1990, 1915 EDT	<b>Registration:</b>	N152RR
<b>Aircraft:</b>	BELL TH-1L	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

THE PLT WAS AERIAL SPRAYING AT 100 AGL. THE AIRSPEED WAS 33 MPH. WHEN THE ENGINE STALLED SEVERAL TIMES BEFORE TOTAL POWER LOSS OCCURRED. THE PLT DID AN AUTOROTATION AND LANDED IN TREES. THE INVESTIGATION DID NOT REVEAL EVIDENCE OF MECHANICAL MALFUNCTION.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE LOST OF ENGINE POWER BECAUSE OF A COMPRESSOR STALL.

## Findings

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

### Findings

1. COMPRESSOR ASSEMBLY - STALL

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

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Occurrence #3: PROPELLER/ROTOR CONTACT TO PERSON  
Phase of Operation: LANDING

### Findings

2. TERRAIN CONDITION - NONE SUITABLE  
3. OBJECT - TREE(S)

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	48, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<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 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	03/30/1990
<b>Occupational Pilot:</b>	<b>Last Flight Review or Equivalent:</b>		
<b>Flight Time:</b>	3698 hours (Total, all aircraft), 1600 hours (Total, this make and model), 3000 hours (Pilot In Command, all aircraft), 144 hours (Last 90 days, all aircraft), 48 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	BELL	<b>Registration:</b>	N152RR
<b>Model/Series:</b>	TH-1L TH-1L	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Restricted	<b>Serial Number:</b>	157845
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	07/20/1990, 100 Hour	<b>Certified Max Gross Wt.:</b>	9500 lbs
<b>Time Since Last Inspection:</b>	27 Hours	<b>Engines:</b>	1 Turbo Shaft
<b>Airframe Total Time:</b>	7739 Hours	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	T53-L-13B
<b>Registered Owner:</b>		<b>Rated Power:</b>	1400 hp
<b>Operator:</b>	RANGER HELICOPTERS SERVICES	<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	KWRG

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	ROA, 1176 ft msl	Distance from Accident Site:	68 Nautical Miles
Observation Time:	2150 EDT	Direction from Accident Site:	55°
Lowest Cloud Condition:	Thin Broken / 0 ft agl	Visibility	35 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	360°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	28° C / 13° C
Precipitation and Obscuration:			
Departure Point:	HILLSVILLE, VA (HLX)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	0000	Type of Airspace:	Class G

## Airport Information

Airport:		Runway Surface Type:	
Airport Elevation:	0 ft	Runway Surface Condition:	
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	Forced Landing

## Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	KENNETH R LEIGHTON	Report Date:	03/12/1993
Additional Participating Persons:			
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</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. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).