



# Aviation Investigation Final Report

<b>Location:</b>	IVA, South Carolina	<b>Accident Number:</b>	ATL84LA205
<b>Date &amp; Time:</b>	June 20, 1984, 07:00 Local	<b>Registration:</b>	N4721
<b>Aircraft:</b>	SIKORSKY CH-19E	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 137: Agricultural		

## Analysis

THE HELICOPTER WAS BEING OPERATED FROM SLOPING TERRAIN. AFTER RETURNING FROM A SPRAY MISSION, THE PLT REMAINED INSIDE THE HELICOPTER WITH THE ENG & ROTOR AT GROUND IDLE WHILE THE GROUND CREW REFILLED THE SPRAY TANK. AFTER COMPLETING THE LOADING OPERATION, THE PLT BEGAN APPLYING POWER TO INCREASE THE ROTOR RPM FOR TAKEOFF. A SEVERE GROUND-RESONANCE TYPE OF VIBRATION DEVELOPED. THE PLT DISENGAGED THE ENG & APPLIED THE ROTOR BRAKE. WHEN THE ROTOR HAD STOPPED & THE ENG WAS SECURED, THE PLT EGRESSED & OBSERVED THAT THE AFT END OF THE TAIL BOOM WAS LAYING ON THE GROUND. NO PRE-ACCIDENT CRACKS OR FAILURES WERE FOUND IN THE TAIL BOOM. SOME COMPONENTS OF THE ROTOR SYS HAD CRACKS, BUT NONE HAD FAILED OR SEPARATED. THE MAIN ROTOR LEAD-LAG DAMPERS WERE REMOVED & CHECKED FOR TIME & ALL WERE WITHIN SPECIFICATIONS. PERSONNEL WHO RECOVERED THE HELICOPTER NOTED THAT THE LEFT FRONT LANDING GEAR STRUT WAS FLAT & THE LEFT REAR MAIN LANDING GEAR STRUT WAS LOW. THEY ESTIMATED THE TERRAIN WAS SLOPING 10 DEGS.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

## Findings

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Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER

Phase of Operation: TAKEOFF

### Findings

1. (F) LANDING GEAR,MAIN GEAR STRUT - PRESSURE TOO LOW
2. (F) MAINTENANCE,SERVICE OF AIRCRAFT/EQUIPMENT - IMPROPER
3. (F) TERRAIN CONDITION - ROUGH/UNEVEN
4. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - CONTINUED - PILOT IN COMMAND
5. (C) FUSELAGE - VIBRATION

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Occurrence #2: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION

Phase of Operation: TAKEOFF

### Findings

6. MISC ROTORCRAFT,TAIL BOOM - OVERLOAD

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	41, 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>	Airplane	<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--no waivers/lim.	<b>Last FAA Medical Exam:</b>	May 30, 1984
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	4793 hours (Total, all aircraft), 79 hours (Total, this make and model), 2988 hours (Pilot In Command, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	SIKORSKY	<b>Registration:</b>	N4721
<b>Model/Series:</b>	CH-19E CH-19E	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	129028
<b>Landing Gear Type:</b>		<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	April 18, 1984 Annual	<b>Certified Max Gross Wt.:</b>	7300 lbs
<b>Time Since Last Inspection:</b>	79 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	4319 Hrs	<b>Engine Manufacturer:</b>	WRIGHT
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	R-1300-3
<b>Registered Owner:</b>	AG-ROTOR, INC.	<b>Rated Power:</b>	800 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	
<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>	Day
<b>Observation Facility, Elevation:</b>	AND ,782 ft msl	<b>Distance from Accident Site:</b>	17 Nautical Miles
<b>Observation Time:</b>	06:55 Local	<b>Direction from Accident Site:</b>	345°
<b>Lowest Cloud Condition:</b>	Scattered / 6000 ft AGL	<b>Visibility</b>	5 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	4 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	360°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	30 inches Hg	<b>Temperature/Dew Point:</b>	23°C / 22°C
<b>Precipitation and Obscuration:</b>	N/A - None - Haze		
<b>Departure Point:</b>		<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	00:00 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>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	None

## 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>	34.300231,-82.660469(est)

## Administrative Information

**Investigator In Charge (IIC):** Fouts, Charles

**Additional Participating Persons:** L. P SHEARER; COLUMBIA , SC  
JOHN ZELIENSKY; ORLANDO , FL

**Original Publish Date:**

**Last Revision Date:**

**Investigation Class:** [Class](#)

**Note:**

**Investigation Docket:** <https://data.nts.gov/Docket?ProjectID=6482>

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