



# Aviation Investigation Final Report

<b>Location:</b>	GREENVILLE, Florida	<b>Accident Number:</b>	MIA89LA081
<b>Date &amp; Time:</b>	February 8, 1989, 11:25 Local	<b>Registration:</b>	N204AP
<b>Aircraft:</b>	BELL TH-1L	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 133: Rotorcraft ext. load		

## Analysis

FLT EXPERIENCED LOSS OF TRANSMISSION DRIVE AND PERFORMED AN AUTOROTATION INTO TREES. EXAMINATION OF THE TRANSMISSION INDICATED THE SPRAG CLUTCH HAD FAILED AND THAT THE FAILED SPRAG CLUTCH WAS THE IMPROPER CLUTCH FOR THAT ENGINE AND TRANSMISSION. THE CLUTCH HAD BEEN INSTALLED AT TRANSMISSION OVERHAUL 140 HOURS BEFORE THE ACCIDENT.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: INSTALLATION OF THE IMPROPER SPRAG CLUTCH ASSEMBLY BY THE OWNERS MAINTENANCE PERSONNEL RESULTING IN FAILURE OF THE SPRAG CLUTCH AND THE LOSS OF TRANSMISSION DRIVE.

## Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: MANEUVERING

### Findings

1. (C) ROTOR DRIVE SYSTEM,CLUTCH ASSEMBLY - IMPROPER
2. (C) MAINTENANCE,INSTALLATION - IMPROPER - COMPANY MAINTENANCE PERSONNEL
3. (C) ROTOR DRIVE SYSTEM,CLUTCH ASSEMBLY - FAILURE,TOTAL
4. (C) ROTOR DRIVE SYSTEM - LOSS,TOTAL

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Occurrence #2: FORCED LANDING  
Phase of Operation: DESCENT - EMERGENCY  
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Occurrence #3: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: DESCENT - EMERGENCY

Findings

- 5. OBJECT - TREE(S)
- 6. (F) TERRAIN CONDITION - NONE SUITABLE

## Factual Information

### Pilot Information

<b>Certificate:</b>	Airline transport	<b>Age:</b>	38, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Helicopter	<b>Second Pilot Present:</b>	Yes
<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>	March 31, 1988
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	7853 hours (Total, all aircraft), 1200 hours (Total, this make and model), 7644 hours (Pilot In Command, all aircraft), 32 hours (Last 90 days, all aircraft), 31 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>	N204AP
<b>Model/Series:</b>	TH-1L TH-1L	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Restricted (Special)	<b>Serial Number:</b>	157840
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	11
<b>Date/Type of Last Inspection:</b>	January 26, 1989 100 hour	<b>Certified Max Gross Wt.:</b>	9500 lbs
<b>Time Since Last Inspection:</b>	31 Hrs	<b>Engines:</b>	1 Turbo shaft
<b>Airframe Total Time:</b>	8092 Hrs	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	T53-L-13B
<b>Registered Owner:</b>	SOUTHERN AERO CORPORATION	<b>Rated Power:</b>	1400 Horsepower
<b>Operator:</b>	GREEN MOUNTAIN HELICOPTER, INC	<b>Operating Certificate(s) Held:</b>	
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	GUTL

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	TLH ,81 ft msl	<b>Distance from Accident Site:</b>	36 Nautical Miles
<b>Observation Time:</b>	11:48 Local	<b>Direction from Accident Site:</b>	265°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	6 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>	5°C / 2°C
<b>Precipitation and Obscuration:</b>	N/A - None - Fog		
<b>Departure Point:</b>	GREENVILLE , FL	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	11:18 Local	<b>Type of Airspace:</b>	Class G

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>	0 ft msl	<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>	0 ft / 0 ft	<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	2 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>	2 None	<b>Latitude, Longitude:</b>	

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Kennedy, Jeffrey
<b>Additional Participating Persons:</b>	GEORGE ERDEL; JACKSONVILLE , FL TYRONE MALLARD; FORTH WORTH , TX JACK SUTTLE; FORT WORTH , TX RANDY STEWART; VALDOSTA , GA
<b>Original Publish Date:</b>	January 31, 1991
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=32395">https://data.nts.gov/Docket?ProjectID=32395</a>

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