National Transportation Safety Board

FACTUAL REPORT AVIATION

NTSB ID: MIA00FA030	Aircraft Registration Number: N8144M
Occurrence Date: 11/27/1999	Most Critical Injury: Fatal
Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone	
PHILADELPHIA	MS	39350	1445	CST	

Airport Proximity: Off Airport/Airstrip

Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
Bell	212/212	Helicopter

Revenue Sightseeing Flight: No

Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

History of the Flight

On November 27, 1999, about 1445 central standard time, a Bell 212, N8144M, registered to Houston Helicopters, Inc., crashed near Philadelphia, Mississippi, while on a Title 14 CFR Part 91 positioning flight. Visual meteorological conditions prevailed at the time and no flight plan was filed. The helicopter was destroyed and the airline transport-rated pilot and one passenger were fatally injured. The flight last departed Tuscaloosa, Alabama, the same day, about 1408.

The helicopter was being positioned from Virginia, to Pearland, Texas, the home base for the helicopter operator. Transcript of communications from the FAA Air Traffic Control Tower, Tuscaloosa, Alabama, show the flight arrived at Tuscaloosa at 1329. The lineman at Dixie Air, Inc., Tuscaloosa, Alabama, who fueled the helicopter, stated he talked with the pilot and passenger when they arrived. They stated they were flying to Texas, and had been flying since early that morning. They stated that sometime that morning, the greenhouse window above the pilot had broken. They then requested that the fuel tanks be completely topped off with Jet-A fuel. The lineman stated that when he went to the helicopter to fuel it, he observed that the greenhouse window was cracked lengthwise. Transcripts show that at 1408, the pilot requested and was given a west departure from Tuscaloosa. No further contact with air traffic control facilities were made after this. (See transcript of communications and witness statement).

The transcript of communications recorded on the cockpit voice recorder showed that about 29 minutes before the accident, the passenger stated to the pilot "I think if I hadn't-a broke that off we wouldn't had any greenhouse by the time we got home". About 18 minutes before the accident, the passenger stated to the pilot "boy those catfish are going crazy down there aren't they". The pilot respond "yep", "must have been the vibrations from the helicopter". About 2 minutes later the passenger and pilot discuss sighting deer in a field. About 1 minute 30 seconds before the accident, the pilot asked the passenger "has this vertical just gotten in here or has it been here for a while?" The passenger replied "we haven't had any verticals at all." The pilot replied, "we do now." The passenger replied, "yeah well it started right after we left back there. I think it maybe ah that's why I was thinking it was the air." About 20 seconds later, the passenger stated that another person had tracked the helicopter's blades before they left and that he was commenting on how smooth it was. About 40 seconds later the pilot stated "this stuff is getting worse." The recording then ended. (See NTSB Cockpit Voice Recorder Factual Report of Group Chairman).

Witnesses in the area of the accident site stated that they observed the helicopter flying from east to west, just above the treetops. The helicopter began rolling back and forth. They then observed the main rotor blades contact the tail area, and the aft tail boom and tail rotor separate. Shortly after this, the main rotor separated and the helicopter descended and crashed to the ground. A fire erupted during ground impact. Witnesses did not observe any smoke come from the helicopter prior to the accident. (See Witness Group Chairman Factual Report).

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Personnel Information

The pilot held a FAA airline transport pilot certificate with a helicopter rotorcraft rating, last issued on March 5, 1984. The pilot held a FAA second-class medical certificate, issued on December 1, 1998, with the limitation that holder shall wear lenses to correct for distant vision and possess glasses that correct for near vision. The pilot was hired by Houston Helicopters, Inc., in March 1999, and after attending ground training, received flight checks to act as pilot in command in the Bell 212, Bell 206, and Sikorsky S-76 helicopters. The Bell 212 flight check was conducted on March 27, 1999. At the time the pilot was hired, he reported he had accumulated 11,019 total flight hours, all in helicopters. He reported he had 2,356 total flight hours in the Bell 212. (See pilot records).

The passenger was employed by the helicopter operator as a mechanic. He held a FAA airframe and powerplant mechanic certificate, last issued on February 26, 1980. The passenger also held a FAA private pilot certificate with a airplane single engine land rating, issued on May 5, 1978.

Aircraft Information

The accident helicopter was a Bell Helicopter Textron Model 212, serial no. 30706, which was manufactured in May 1975. The helicopter was equipped with a Pratt and Whitney Canada PT6-3 engine, rated at 1,800 shaft horsepower, consisting of two 900 shaft horsepower power sections and a reduction gear box.

The helicopter received a 100-hour and annual inspection on April 12, 1999, at aircraft total time 11,243.7. The helicopter received a 25 hour and 50 hour inspection on September 23, 1999, at aircraft total time 11,288.7. On November 5, 1999, the helicopter received a daily and preflight inspection, at aircraft total time 11,302.2. The following discrepancies and corrective actions were noted in the records for the daily and preflight inspection:

"Check M/R servo alignment" [action] "Realigned lateral servos"

"Track and Balance M/R [action] "Performed track & Bal. Check & adjust"

"adjust autorotation RPM" [action] "adjusted auto RPM per M&M"

The "Next Inspection Due, 100 Hr. A B [was entered as] 11,343.7" hours.

The helicopter operator stated that the records for the helicopter were retained on the helicopter after this inspection and were destroyed in the accident. They stated the helicopter would have received a daily inspection by a mechanic each morning. They estimated the helicopter flew about 19 flight hours from the time of this daily and preflight inspection on November 5, 1999, until the time of the accident.

Aircraft records show the "red" main rotor blade grip, part number 204-011-121-9, serial number GD-9312-6, was removed from main rotor hub serial number ADA-08684, in July 1985, after accumulating 4,334.1 total flight hours. The grip was sent to Bell Helicopter Textron by Houston Helicopters, Inc., at this time for overhaul. The grip was then placed in storage and was returned to Bell Helicopter Textron in April 1992 for installation of Rosan fittings in the pitch change horn mounting holes. The Rosan fittings had been left out during the 1985 overhaul at Bell Helicopter Textron. The "red" blade grip was installed on main rotor hub serial number FB-71829 in January 1993, at hub total time 2,500.0 hours and grip total time 4334.1. The hub assembly, including the "red" grip was installed on another helicopter. In February 1994, after 17.5 hours of operation, the hub was removed due to an overspeed occurrence and again overhauled. The "red" grip was inspected for overspeed at this time. In June 1995, the hub was removed for compliance with a

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service bulletin. On March 25, 1996, the main rotor hub and "red" blade grip was installed on the accident helicopter, N8144M, at helicopter total time 11,050.2. On March 25, 1998, the hub was removed for blade retention strap replacement and then reinstalled on N8144M, on April 3, 1998. At the time of the accident, the "red" grip had accumulated 162.2 flight hours since the March 1998 removal and reinstallation of the main rotor hub, 556.5 flight hours since overhaul in 1985, and 4,890.6 total flight hours since new.

The "red" main rotor blade pitch change horn, part number 204-011-120-005, serial number HT-834, was removed from service in 1985, after accumulating 1,634.9 total flight hours. On January 12, 1993, the horn was installed on main rotor hub serial number FB-71829. At the time of the accident the "red" pitch change horn had accumulated 2,191.4 total flight hours. The horn has a life limit of 3,000 total flight hours.

Meteorological Information

The Key Field Airport, Meridian, Mississippi, 1453 surface weather observation was, sky clear, visibility 10 miles, temperature 19 degrees centigrade, dew point temperature minus 1 degree centigrade, wind from 240 degrees at 3 knots, altimeter 30.16 inches hg. Key Field is located 30 nm southeast of the accident site.

A review of the weather in the area of the accident was performed by the NTSB, Operational Factors Division, Washington, D.C. The review showed that the winds in the area of the accident were light and variable and that the accident helicopter did not encounter any turbulence. (See NTSB, Operation Factors Division Report).

Communications

The pilot was not in radio contact with any FAA Air Traffic Control facility at the time of the accident. The transcript of communications recorded on the cockpit voice recorder showed that the pilot had the radio frequency for the FAA Jackson Approach Control, Jackson, Mississippi, set in the radio. Transmissions from flights approaching Jackson were recorded. One of these flights was Delta Airlines flight 1411. The last transmission recorded from Delta 1411 was about 11 minutes before the accident, when the pilot responded to his clearance to land on runway 6 left at Jackson International Airport.

The NTSB requested from the FAA Jackson Approach Control, a transcript of communications for the approach frequency around the time of the accident. When the transcript was received, it was determined the wrong time frame had been transcribed. When the approach control personnel went back to transcribe the correct time frame, they learned the recording tape had been reused and the recording was no longer available. Delta Airlines reported to the NTSB that flight 1411 arrived at the gate at Jackson International Airport about 1440.

Flight Recorders

The helicopter was equipped with a Universal Avionics CVR30 solid-state cockpit voice recorder (CVR). The CVR was recovered from the accident scene and taken to the NTSB Vehicle Recorders Laboratory, Washington, D.C. The circuit board containing the memory devices in the CVR was damaged. NTSB laboratory personnel took the circuit board to the CVR manufacturers facilities. The memory devices were removed from the damaged circuit board and installed on a new board. The recorded audio data from the accident helicopter was then recovered and transcribed. (See NTSB Cockpit Voice Recorder Factual Report).

The NTSB Vehicle Recorders Laboratory also performed a sound spectrum study on the recorded audio data from the CVR. The study attempted to identify any sounds on the recording associated with the helicopters systems and engines. Signals that could be associated with the upper hydraulic pump,

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lower planetary gear, and the oil cooler fan were identified. The signals equated to each of these components operating at about 98 percent of maximum speed. (See NTSB Sound Spectrum Study).

Wreckage and Impact Information

The helicopter crashed in a field located north of Highway 16 and east of Highway 491, near Philadelphia, Mississippi. The helicopter's main wreckage was located at coordinates 32 degrees 47.06 minutes north latitude and 88 degrees 55.57 minutes west latitude. The crash site elevation was about 500 feet msl.

Wreckage of the helicopter was found along a 1400-foot debris path that was oriented along a course to the southwest, about 233 degrees magnetic. The accident site was nearly level and contained numerous small-diameter pine trees. A post-crash fire consumed a substantial portion of the forward fuselage as well as forward portion of the tail boom.

Beginning the wreckage examination at the front of the helicopter, the forward fuselage, including pilot compartment, was substantially consumed by fire. The pilot seats were burned-away, except for the seat frames. The main cabin was also consumed by fire. An assembly comprising the engines, engine mounts, and attached portion of airframe was found resting on its right side; it sustained substantial fire damage. The forward section of tail boom was extensively damaged by fire, including the tail boom-to-main fuselage attach points, back through the tail boom structure to a point aft of the synchronized elevator. The aft portion of the tail boom was separated from the forward section by means of a diagonal fracture that evidenced a main rotor blade strike.

The main transmission, main rotor blades, aft portion of the tail boom, tail rotor gearbox, tail rotor blades, and portions of the windshield evidenced separation from the helicopter in flight, and were distributed along a debris path extending back on the route of flight to the northeast of the main wreckage. These components did not exhibit any fire damage, and showed no evidence of sooting, heat discoloration, or staining. The main transmission was integral up to and including the main rotor mast. The main rotor was separated from the mast. The mast exhibited an oval fracture face and evidenced main rotor head to mast impact prior to separation. The main transmission was located about 300 feet northeast of the main wreckage; the aft portion of the tail boom was found about 450 feet east-northeast of the main wreckage; and the main rotor head and attached main rotor blades were found about 1,200 feet east-northeast of the main wreckage. Fragments from the upper windshield or "greenhouse" were found in a wide area that began about 1,400 feet northeast of the main wreckage.

The entire main rotor system was accounted for in the wreckage, except for the pitch change horn for the "red" main rotor blade and the majority of the pitch change link that attaches to the "red" pitch change horn at the pitch change links lower rod end. The "red" pitch change links upper rod end was found in the wreckage, still attached to the mixing lever within the stabilizer bar assembly. It exhibited a fracture surface.

The "red" grip remained in place in the main rotor system. The surface of the "red" grip exhibited two boreholes that mated with two bushing that were part of the departed and missing "red" pitch change horn. The mating grip surface exhibited a blackish residue near the pitch change horn boreholes, and the blackish area extended beyond the boreholes.

The crashsite and an extended area back-up the wreckage path were searched extensively, including by Boy Scout parties; the "red" pitch change horn and most of the "red" pitch change link were not found.

Preimpact continuity of the flight control system was not established. There were separations in the system and post-crash fire consumed the majority of flight controls in the cockpit area. Flight control continuity was established beginning at the diagonal fracture separating the aft

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tail boom, back through the tail rotor gearbox bellcrank, immediately prior to the separated tail rotor gearbox. The tail rotor gearbox output shaft was recovered and found fractured on both ends.

The main rotor control system was examined from the transmission mounts up through the main rotor blades. The system was impact-damaged and fractured in several locations. The controls could not be manipulated because of numerous separations. As noted above, the grip for the color-coded red main rotor blade was recovered in the wreckage, but the mating "red" pitch change horn and most of the attached "red" pitch change link were not found. The face of the "red" grip (where it had been joined with and pressed against the mating surface of the "red" pitch change horn, by means of two steel bushings that were part of the pitch change horn assembly) was found unevenly discolored and the paint/primer on the face of the "red" grip were blackened. The "white" pitch change horn was found separated from the "white" grip and the "white" pitch change horn and main rotor grip were both recovered in the wreckage. The grip to pitch change horn mating surface on the "white" grip did not have the black-in-color residue that was found on the "red" grip.

The aft portion of the tail boom was examined for failures and malfunctions. The aft portion was fractured diagonally from left to right, separating the tail rotor drive shaft. The vertical stabilizer was integral to the aft portion of the tail boom. The 42-degree and 90-degree gearboxes were integral to their respective attach areas. The tail rotor blades and tail rotor hub were separated from the tail rotor drive shaft and found near the tail rotor gearbox. (See NTSB System/Airworthiness Group Chairman Report).

Examination of the No. 1 power section showed the power section had some impact damage. The exhaust case exhibited twisting in the direction of rotation, leaving bend lines at approximately 45 degrees from the centerline of the case. The compressor first stage blades incurred foreign object damage and heat discoloration. The compressor rotated by hand and the compressor turbine wheel rotated. The compressor turbine disk and blades had no damage. The power turbine disk and blades had no damage and the power output shaft rotated when the power turbine disk was rotated by hand. The accessory gearbox cases were consumed by fire. The gears were recovered and showed no damage. The fuel controls and fuel pump were consumed by fire.

Examination of the No. 2 power section showed the power section had sustained impact damage on the right or outboard side. The exhaust case exhibited twisting in the direction of rotation, leaving bend lines at approximately 45 degrees from the centerline of the case. The compressor first stage blades exhibited bending damage consistent with rotation at the time of impact. Some foreign object damage and heat discoloration was observed on the first stage compressor blades. The compressor moved slightly when rotated by hand and the compressor turbine wheel, which had no damage, rotated. The power turbine wheel had impact damage and the blades had separated. The power output shaft rotated when the power turbine wheel was rotated. The accessory gearbox cases were consumed by fire. The gears were recovered and showed no damage. The fuel controls and fuel pump were consumed by fire.

The engine reduction gear box cases were consumed by fire. The gears and clutches were recovered and showed no damage. The torque control unit and Nf governors were consumed by fire. (See Pratt and Whitney Report).

Medical and Pathological Information

Postmortem examination of the pilot and passenger was conducted by Steven T. Hayne, M.D., Mississippi State Medical Examiner's Office, Brandon, Mississippi. The cause of death for each was attributed to blunt force trauma.

Postmortem toxicology studies on specimens obtained from the pilot and passenger were performed by Dennis V. Canfield, Ph.D., Manager, FAA Toxicology Laboratory, Oklahoma City, Oklahoma. The studies for the pilot were negative for ethanol and drugs. No studies were performed for carbon monoxide

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and cyanide on the pilot. The studies for the passenger were negative for carbon monoxide, cyanide, and ethanol. The studies on the passenger were positive for .011 ug/ml marihuana in blood and .042 ug/ml marihuana in urine. (See Toxicology Reports).

Tests and Research

The main transmission and main rotor system were initially examined at Bell Helicopter engineering facilities, December 8-9, 1999. These examinations found that the fracture surfaces of all flight controls and mounting areas received at Bell Helicopter exhibited failure modes consistent with overload failures. The "red" grip boreholes appeared to be elongated and were measured in detail. The Bell Helicopter laboratory report states, in part, "Inspection of the "red" main rotor grip revealed evidence that the pitch horn had worked out of the attachment holes in the grip. The holes also had "arrest marks" or lines left by the bushing edges and steel inserts as they walked out. Also the hole walls where the pitch horn bushings had been in contact with were worn." Inspection of the threads where the steel inserts had been located indicated the threads in the "red" grip had fractured by shear overstress. After removal of the primer that was present in the holes, it was observed that there were two threads near the bottom of the hole, which had not been reached by the fully engaged insert. A portion of one of the remaining non-engaged threads in the upper hole had a partial thread imprint on it. The imprint was in the crest of the internal thread. Inspection of the "white" pitch horn and main rotor grip revealed no evidence of working at the pitch horn attachment area. (See Bell Helicopter Laboratory Report).

Examination of the red and white main rotor blade grips and the white pitch change horn was performed at the NTSB Materials Laboratory, Washington, D.C. The NTSB Materials Laboratory Report states that in a normal assembly the aluminum pitch horns are attached to the leading faces of the grips by two bolts and two bushings each. The grip, also aluminum (2014-T6), has two, multi-diameter, partially threaded, 9/16-12UNC1-3B, blind holes into which steel Rosn inserts, p/n RD208SB-8 are installed. The inserts contain external threads (mating the grips internal threads) and internal threads, 3/8-24UNJF4-3B, into which the grip bolts are screwed. Each insert is locked to the grip by a steel serrated lock ring, p/n RL38SB-9 (MS51990-108P) that engage serrations on the outer diameter of the inserts. Additional serrations on the outer diameter of the lock rings mechanically cut into the grip material at the 0.593-0.596 inch lock ring bore during installation, preventing rotation of the insert. Exemplar locking rings contained a full circumference of serration at the inner diameter and two opposed 90 arcs of serrations on the outer diameters. Bell Helicopter representatives indicate that at one time in the past the lock rings were serrated completely around the outer diameter but that the 90 lock rings were standard. The inserts and lock rings can be removed and reinstalled per the maintenance manual. Each hole in the grip also has a 0.500-0.510 inch deep; 0.687-0.688 inch diameter counter bore adjacent to the surface of the grip into which the pitch horn bushings are inserted during assembly. Originally AN6H27A steel bolts through the centerline of the bushings clamped the horn to grip. These have been superceded by NAS6606-27 bolts. The received white grip contained the original AN bolts.

Examination of both grips showed portions of the internal threads of both grips were fractured. Close examinations found the fractures to be near the major diameters of the threads. Optically the thread fractures appeared typical of overstress shearing on both grips. The direction of shearing was consistent with the insert moving outward towards the leading edge for both grips. Approximately 2 to 3 threads were fractured at each hole. Threads deeper in the hole remained intact.

The bushing counter bore and thread fracture surfaces of the white grip showed some smearing but were otherwise undamaged. In contrast the bushing counter bore and thread fractures surfaces of the red grip displayed heavy damage. Damage visible on each grip is described in the sections below.

Examination of the red grip showed the surfaces of both the upper and lower holes showed extensive areas of dark deposits and surface damage consistent with repeated small relative movements against

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mating objects (fretting). Visible fretting areas covered most of the surface of the bushing counter bores and portions of the fractured surfaces of the threads. Energy dispersive x-ray analysis of samples of the black deposits taken from the upper hole found them to mostly contain aluminum and iron and significant amounts of oxygen along with minor amounts for the other constituents of the grip and bushing. Samples from the lower hole were found to be mostly aluminum with large peaks for iron, cadmium, silicon and oxygen. Both bushing counter bores showed localized material removal and enlargement of the diameters. Up to .020 to 0.025 inches of material were removed in localized areas from the bushing bore. In addition, the bores were deformed and distorted adjacent to the grip surface. The surfaces of the holes, particularly the upper one, also contained circumferential marks in the bushing counter bore, the lock ring diameter and on the fractured threads indicating progressive and incremental movement of the mating objects.

In addition to the fretting damage, a cut like feature was found in the flank of one of the intact threads in the upper hole. The cut was into the bottom (away from the pitch horn face) flank of the first intact thread below the fractured threads. The cut had both a circumferential and longitudinal profile that appeared to closely match the profile of the last thread (a partial form) of the insert. However, in order for the thread on the insert to match the cut-like feature, the insert/bolt had to be in a particular rotational orientation and also had to be displaced outward (toward the pitch horn face) from a normal thread engagement position. Also the insert had to be axially misaligned to match the impression.

Optical examinations of the locking ring diameters in the grip holes found deep longitudinal grooves approximately equally spaced completely around the circumference. Closer inspections identified two slightly different patterns in the grooves. Both of these slightly different patterns appeared consistent with the shape and spacing of the serrations on the outer diameter of the insert locking ring. Each pattern was made up of similar length equally spaced grooves. However, the one pattern contained longer grooves (0.13 inch versus 0.1 inch) and partially overlapped the other. The groove length and overlapping nature were consistent with two separate installations of 90 locking rings with the second longer set of grooves rotated about 90 to the first. This was typical of both holes in the red grip.

The grip faying surface was covered by a yellow paint with some darkened areas. Closer inspections found two discreet layers of paint with the under laying layer having a rougher and dirty appearance in comparison to the smooth clean nature of the top layer. A Houston Helicopter representative indicated that the pitch horn is assembled onto the grip with a wet application of primer to both surfaces.

Examination of the white grip showed with the exception of the sheared threads the hole of the white grip showed little damage and none indicative of fretting or progressive movement of the components. The bushing bores were deformed with bulk yielding evident toward the inboard side of the holes. Both holes also exhibited a circular mark on the conical surfaces at bottom of the holes. The marks had the approximate same diameter as the raised lip on the end of the shank of the exemplar AN bolt.

Like the red grip, the locking ring diameters in both holes showed two sets of grooves from two separate insertions of 90 segmented locking rings. Also like the red grip the last insertion was to a greater depth than the first.

The pitch horn attachment bolts were retained in the pitch change horn and were both bent toward the inboard. The thread inserts were threaded on the bolts and the locking rings were trapped on the bolts between the insert and bushing. Remnants of the grip threads remained wound around the insert threads.

The faying surface of the pitch horn was mostly covered with yellow paint. Small areas of fretting damage were visible in several areas on the pitch horn where the paint was missing. Chemical

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stripping the paint revealed many additional areas of fretting damage that had been painted over. (See NTSB Materials Laboratory Report).

Additional Information

The helicopter wreckage was released on December 1, 1999, to R. Lee Grimes, Director of Operations, Houston Helicopters, Inc. Parts and records retained by NTSB for further testing and examination were released to Houston Helicopters, Inc.

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Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
		Ft. MSL	0		

Runway Surface Type: Unknown

Runway Surface Condition: Unknown

Approach/Arrival Flown: Unknown

VFR Approach/Landing: Unknown

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
Bell	212/212	30706

Airworthiness Certificate(s): Transport

Landing Gear Type: Skid

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
No	15	11200 LBS	1

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Turbo Shaft	Pratt & Whitney	PT6T-3	1800 HP

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
AAIP	04/1999	59 Hours	11302 Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site?
Yes /	No	No

Owner/Operator Information

Registered Aircraft Owner	Street Address		
HOUSTON HELICOPTERS, INC.	3506 LOCKHEED		
	City: PEARLAND	State: TX	Zip Code: 77581

Operator of Aircraft	Street Address		
HOUSTON HELICOPTERS, INC.	3506 LOCKHEED		
	City: PEARLAND	State: TX	Zip Code: 77581

Operator Does Business As:

Operator Designator Code: YHHA

- Type of U.S. Certificate(s) Held:

Air Carrier Operating Certificate(s): On-demand Air Taxi

Operating Certificate:

Operator Certificate: Aircraft External Load

Regulation Flight Conducted Under: Part 91: General Aviation

Type of Flight Operation Conducted: Positioning

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First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File	On File	54

Sex: M | Seat Occupied: Right | Occupational Pilot? Civilian Pilot | Certificate Number: On File

Certificate(s): Airline Transport

Airplane Rating(s): None

Rotorcraft/Glider/LTA: Helicopter

Instrument Rating(s): Helicopter

Instructor Rating(s): None

Current Biennial Flight Review? 03/1999

Medical Cert.: Class 2 | Medical Cert. Status: Valid Medical--w/ waivers/lim. | Date of Last Medical Exam: 12/1998

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	11140	2469			500	55		11140		
Pilot In Command(PIC)	11050	2350			500	55		11050		
Instructor										
Instruction Received										
Last 90 Days	50	50						50		
Last 30 Days	20	20						20		
Last 24 Hours	6	6						6		

Seatbelt Used? Yes | Shoulder Harness Used? Yes | Toxicology Performed? Yes | Second Pilot? No

Flight Plan/Itinerary

Type of Flight Plan Filed: None

Departure Point	State	Airport Identifier	Departure Time	Time Zone
TUSCALOOSA	AL	TCL	1410	CST

Destination	State	Airport Identifier
JACKSON	MS	JAN

Type of Clearance: None

Type of Airspace: Class G

Weather Information

Source of Wx Information:

No record of briefing

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Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
MEI	1453	ST	297 Ft. MSL	30 NM	150 Deg. Mag.

Sky/Lowest Cloud Condition: Clear Ft. AGL

Condition of Light: Day

Lowest Ceiling: None Ft. AGL

Visibility: 10 SM

Altimeter: 30.00 "Hg

Temperature: 19 °C

Dew Point: -1 °C

Weather Conditions at Accident Site: Visual Conditions

Wind Direction: 240

Wind Speed: 3

Wind Gusts:

Visibility (RVR): 0 Ft.

Visibility (RVV) 0 SM

Precip and/or Obscuration:

Accident Information

Aircraft Damage: Destroyed

Aircraft Fire: Ground

Aircraft Explosion None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers	1				1
- TOTAL ABOARD -	2				2
Other Ground	0	0	0		0
- GRAND TOTAL -	2	0	0		2

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Administrative Information

Investigator-In-Charge (IIC)

JEFFREY L. KENNEDY

Additional Persons Participating in This Accident/Incident Investigation:

Edward Aycock
FAA FSDO
Jackson, MS

Roy Fox
Bell Helicopter
Fort Worth, TX

Stephen G Smith
Houston Helicopters
Pearland, TX

William Coppedge
Pratt and Whitney
Lafayette, LA

Tom Conroy
NTSB
Washington, DC

Joseph Epperson
NTSB
Washington, DC

James T Skeen
NTSB
Washington, DC

Anna W Cushman
NTSB
Washington, DC

Ronald Price
NTSB
Washington, DC

Matthew Rigsby
Bell Helicopter
Fort Worth, TX

Arlee Grimes
Houston Helicopters
Pearland, TX