
 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: DEN07FA079		Aircraft Registration Number: N744SH	
		Occurrence Date: 03/27/2007		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Ponte Vedra Bch		State FL	Zip Code 32082	Local Time 1030	Time Zone EDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer Robinson		Model/Series R44 II		Type of Aircraft 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 FLIGHT					
<p>On March 27, 2007, approximately 1030 eastern daylight time, a Robinson R44 II single-engine helicopter, N744SH, was destroyed when it impacted terrain following a loss of control during cruise flight near Ponte Vedra Beach, Florida. The flight instructor and student pilot were fatally injured. The helicopter was registered to and operated by Silver State Helicopters, LLC, North Las Vegas, Nevada. Day visual meteorological conditions prevailed, and a company visual flight rules flight plan was filed for the Title 14 Code of Federal Regulations Part 91 instructional flight. The local flight departed the Craig Municipal Airport (CRG), Jacksonville, Florida, approximately 1010.</p> <p>According to Silver State personnel, the local instructional flight was scheduled for a time block between the hours of 0900 and 1100. The flight was originally scheduled to be conducted in the Robinson R22 helicopter; however, due to a scheduling conflict, the R22 was not available. Due to the conflict, the Silver State local management then allowed the instructor and student to conduct an orientation and familiarization flight in the R44 helicopter. The route of flight was scheduled for an east departure from CRG, south along the Atlantic Ocean coastline to St. Augustine, then back to CRG.</p> <p>Several witnesses observed the helicopter approximately 200 to 500 feet above ground level (agl) in cruise flight along the coastline on a southerly heading. One witness, a former pilot and mechanic, reported he observed the helicopter in straight and level flight, then heard a change in "rotor noise, followed by a bang/pop/twang sound." The helicopter then "snap-rolled" to the left and descended into the terrain in a nose low attitude. The helicopter impacted the sand terrain, bounced, and came to rest near the low tide water line. A post-impact fire ensued and extinguished itself a short time thereafter.</p>					
PERSONNEL INFORMATION					
<p>The instructor, age 38, who was seated in the left seat, held a flight instructor certificate with a helicopter rating, issued August 16, 2006, and a commercial pilot certificate with a helicopter rating, issued February 16, 2006. The instructor's most recent Federal Aviation Administration's (FAA) second-class airman medical certificate was issued on June 27, 2006, with no restrictions or limitations.</p> <p>According to the company, the instructor had accumulated 462 total helicopter flight hours, 173.5 flight hours as an instructor, and 29 hours in the accident helicopter make and model. The instructor completed her flight training for her flight instructor and commercial certificates with Silver State Helicopters. She began instructing at the company's Jacksonville location on November 24, 2006.</p>					
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The student, age 24, who was seated in the right seat, held a third-class medical certificate and student pilot certificate, issued October 18, 2006. The medical certificate contained a limitation for corrective lenses. According to the company, the student had accumulated 10 hours of flight training in R22s.

AIRCRAFT INFORMATION

Accident Helicopter Information

The 2005-model helicopter, a Robinson R44 II, serial number 10830, was a four-seat, single main rotor, single-engine helicopter that was constructed primarily of metal and equipped with skid type landing gear. The helicopter was powered by a Lycoming IO-540-AE1A5 engine, serial number, L-30335-48A. The gross weight of the helicopter was 2,500 pounds. The helicopter was issued a standard airworthiness certificate and was registered to the owner on October 5, 2005.

Flight Control System

According to the helicopter's pilot operating handbook (POH), dual controls are standard equipment and all primary controls are actuated through push-pull tubes and bellcranks. The main rotor flight controls are hydraulically boosted to eliminate cyclic and collective feedback forces. The hydraulic system consists of a pump, three servos, a reservoir, and interconnecting lines. Normal operating pressure for the system is 450 to 500 pounds per square inch (psi). The pump is mounted on and driven by the main rotor gearbox to maintain hydraulic pressure in the event of an engine failure. A servo is connected to each of the three push-pull tubes that support the main rotor swashplate. The swashplate push-pull tubes are connected to the swashplate assembly and the upper linkage of the servos. The bottom linkage of each servo is connected to a bellcrank/fork assembly, which then connects to the cyclic and collective thru a series of push-pull tubes and bellcranks.


According to the Robinson Model R44 Illustrated Parts Catalog, Figure 7-63 Push-Pull Tube Assemblies, the rod end of each push-pull tube is connected to the servo clevis with the following hardware: NAS6605-9 bolt, two NAS1149F0532P washers, MS21042L5 nut, and a B330-16 palnut.

The Robinson Model R44 Maintenance Manual, Section 1.300 Fastener Torque Requirements section documents that fasteners should be torqued to standard dry values listed in section 1.320. The dry torque requirement for the bolt is 240 inch-pounds, and 20 to 40 inch-pounds for the palnut. According to the manual, a secondary locking mechanism (palnut) is required on all critical fasteners. The maintenance manual describes a critical fastener as the following, "A critical fastener is one, which, if removed or lost, would jeopardize safe operation of the helicopter. This includes joints in the primary control system, and non-fail-safe structural joints in the airframe, landing gear, and drive system." In addition to the palnut, torque seal (paint) is to be applied to all critical fasteners after palnut installation in a strip across both nuts and exposed bolt threads.

The POH Daily and Preflight Checks for the helicopter do not require inspection of the lower push-pull tube to servo joint in the primary control system. A mast fairing surrounds the servo to push-pull tube joint of the main rotor control system and an access/inspection panel does not exist.

Maintenance Information

The helicopter's most recent inspection, a 100/300-hour inspection, was completed on March 26, 2007. At the time of the inspection, the total aircraft time was 861.6 hours. The airframe and engine were inspected in accordance with their respective manufacturer's maintenance manuals. According to the airframe logbook entry for the inspection, the mast fairing ribs were removed and replaced. A review of the Robinson Maintenance Manual Inspection Checklist used by the mechanic

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for the 100/300-hour inspection revealed that the mechanic initialed the blocks, "Unairworthy" and "Repaired" for the mast fairing rib inspection item. During the mast fairing rib replacement, the two forward swashplate push/pull tubes were removed from their respective hydraulic servos. Prior to the aircraft being returned to service, the mechanic and a company pilot performed a 0.5-hour maintenance test flight. The accident flight was the first flight performed after the maintenance test flight.

METEOROLOGICAL INFORMATION

At 1053, the CRG automated surface observing system (ASOS) reported the wind from 120 degrees at 6 knots, visibility 10 statute miles, sky broken at 2,800 and 3,900 feet mean sea level (msl), temperature 23 degrees Celsius, dew point 16 degrees Celsius, and an altimeter setting of 30.24 inches of Mercury.

WRECKAGE AND IMPACT INFORMATION

The main wreckage came to rest on the sand beach at 30 degrees 13.54 minutes north latitude and 81 degrees 22.32 minutes west longitude. The initial impact point was a 4-foot crater in the sand terrain located at the high tide waterline. The helicopter wreckage was distributed along a measured magnetic heading of approximately 160 degrees from the initial impact point. The main wreckage came to rest approximately 100 feet from the initial impact point. The main wreckage consisted of the fuselage, main rotor assembly, tailboom, and tail rotor. Several fragmented pieces of the fuselage and skid tubes were located between the initial impact and main wreckage. The engine was separated from the airframe and came to rest adjacent to the main wreckage. In order to prevent further damage due to tide change, the wreckage was recovered under the supervision of a FAA inspector to a secured facility at CRG.

Examination of the helicopter at the CRG facility by the NTSB investigator-in-charge (IIC), FAA inspectors, and representatives from the airframe and engine manufacturers revealed that the fuselage sustained thermal damage, impact damage to the right side, and was fragmented. The forward section of the tailboom, lower mast, and engine cowling sustained thermal damage. The skids were destroyed and fragmented into several sections. The main rotor blades displayed bending and compression wrinkles, and several sections of the honeycomb and skin were separated. Drive system continuity was established from the main transmission to the main rotor and tail rotor. Flight control continuity could not be established.

Examination of the flight control system revealed that the right forward servo to swashplate push-pull tube joint was disconnected and the attach hardware (bolt, lock nut, two washers, palnut) was missing. The left forward servo to swashplate push-pull joint was connected; however, the nut was found partially engaged on the bolt threads, and the torque was "finger tight"; no palnut was noted. The rear servo and push-pull tube joint was secured with the appropriate hardware.

PATHOLOGICAL INFORMATION

Autopsies were performed on both the flight instructor and student pilot by the Office of the Medical Examiner, District 23, St. Augustine, Florida, on March 28, 2007. Specimens for toxicological tests were taken from the flight instructor by the medical examiner. Specimens from the student pilot were not retained.

The FAA's Civil Aeromedical Institute's Forensic and Accident Research Center, Oklahoma City, Oklahoma, examined the specimen's taken by the medical examiner. Toxicological tests performed on the flight instructor were negative for carbon monoxide, cyanide, and ethanol. An unspecified amount of ibuprofen was detected in the blood.

TESTS AND RESEARCH

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Servo and Push-Pull Tube Materials Examination

The NTSB's Materials Laboratory examined the right main servo with a portion of the push-pull tube, the left main servo with a portion of the push-pull tube, and the rear main servo with a portion of the push-pull tube. The push-pull tube for the right servo was received detached from the servo. The push-pull tubes for the left and rear servos were still attached to their respective servos.

The right servo was received with a portion of the cabin bulkhead still attached to it. The servo and the portion of bulkhead displayed soot deposits and areas of re-solidified, rounded metal consistent with being in a fire. However, the piston rod and the clevis located at the upper end of the servo displayed no sooty deposit. Examination of the detached portion of the right servo push-pull tube revealed sooty deposit consistent with being in a fire. The ball in the spherical bearing rod end was found jammed in a position approximately 90 degrees from its normal position. Manipulation of the ball portion of the spherical bearing revealed that it could not be rotated by hand.

The left servo was received with the push-pull tube attached to the servo rod clevis with a bolt, two washers, and a nut, with the nut almost unthreaded from the bolt. The components displayed sooty deposits and areas of re-solidified, rounded metal consistent with being in a fire. Manipulation of the nut revealed that it could easily be unscrewed from the bolt. An examination of the exposed bolt threads, between the nut and the clevis, revealed a sooty deposit consistent with being in a fire.

The rear servo was received with the push-pull tube attached to the servo end clevis with a bolt, two washers, a nut, and a palnut. The components displayed sooty deposits and areas of re-solidified, rounded metal consistent with being in a fire. The bolt attaching the rod end to the clevis was secured firmly by the nut and a palnut.

Mechanic Interview Summary

On March 28th, after the examination of the wreckage, the NTSB IIC interviewed the mechanic with company personnel present regarding the maintenance performed on the helicopter prior to the accident flight. The mechanic stated that he obtained his airframe and powerplant (A&P) certificate in March 2003. In May 2005, the mechanic was hired with Silver State Helicopters in Montana as a full-time mechanic. In January 2006, the mechanic attended the Robinson Helicopter Company maintenance course for the Models R22 and R44. Since his employment with Silver State Helicopter, the mechanic had worked at the company facilities in Montana, Nevada, and Florida. The mechanic stated he was a roving mechanic for the company and helped where the company needed temporary assistance.

Prior to starting the inspection on the accident helicopter, the mechanic asked several pilots who flew the helicopter on a regular basis whether they had any discrepancies. The pilots reported a "slight hop" with the helicopter during straight and level flight. The mechanic stated he worked on the following items, but not limited to, during the inspections: engine paneling, mast fairing ribs (4 of 6 were cracked), balance rotor, main rotor pitch links, main rotor teeter friction, and mast fairing. During the inspection, the mechanic utilized the Robinson Maintenance Manual 100/300-hour inspection checklist.

After the inspection, the mechanic "put everything back together." Prior to installing the mast fairing, the mechanic asked a pilot, who regularly assisted the mechanics with minor maintenance items, to "take a second look" at the work accomplished on the helicopter. The pilot and mechanic conducted a maintenance test flight for 0.5 hours. After the test flight, they put the helicopter back in the hangar and the mechanic "signed off the books."

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On March 29th, the NTSB IIC conducted a second interview with the mechanic and informed him of the findings from the wreckage examination concerning the missing hardware on the right servo to push-pull tube joint and the "finger tight" hardware noted on the left forward servo to push-pull tube joint. Upon informing the mechanic of the investigation's findings, the mechanic stated, "I can tell you exactly why that happened." The mechanic then proceeded to explain to the NTSB IIC his reasons for the investigation's findings, which included the following: 1. He was pulled in all directions by company personnel since his arrival at that facility; 2. The "reassembly was not opposite of the disassembly," which was a personal maintenance practice he used to eliminate errors; 3. A couple of nights prior to the completion of the inspection and the maintenance test flight, the apprentice wanted to stay late (with the mechanic) and finish a certain section of the inspection which involved the mast fairing area. As a result, the mechanic forgot to go back and secure the hardware connecting the two push-pull tube to servo joints; 4. The company was understaffed with maintenance personnel.

Mechanic Statement

After the interview, the NTSB IIC requested a statement from the mechanic concerning his duties since arriving at the Jacksonville location. According to the statement, on March 9th, the mechanic arrived at the company's Jacksonville facility to initially assist with a company seminar.

After the seminar was over, the mechanic was told to remain at the Jacksonville location to assist with maintenance on two helicopters used for Federal Aviation Regulations Part 135 contracts and also to assist the Jacksonville facility's lead mechanic in maintaining the fleet of Robinson R22 helicopters. The mechanic was typically assigned to assist with the company's Part 135 contracts.

On March 19th, the mechanic began work on the 100/300-hour inspection of the accident helicopter. The mechanic reported, "For the next three days, I worked diligently on this inspection, finding several discrepancies, including cracked engine sheet metal, four cracked mast fairing ribs, a cracked mast fairing, and main rotor pitch links with excessive rod end play...I removed the entire mast fairing assembly to allow for the crack repair and to access the ribs. I removed the four cracked ribs, which required forward push-pull tube disconnection. I first removed the middle ribs and disconnected the hydraulic servo to push-pull tube fasteners. After removing the middle ribs, I reinstalled the hydraulic servo to push-pull tube fasteners 'finger tight.' I then removed the upper ribs by removing the push-pull tube to swash plate fasteners. After removing the upper ribs, I laid the push-pull tubes down onto the top of the aircraft, with the lower fasteners still installed, 'finger-tight.' After removing all unairworthy parts, including the ribs, main rotor pitch links, cracked engine sheet metal, and cracked mast fairing, I carried on with the routine inspection of the R-44, including the [Service Bulletin] 388C valve guide inspection...At some time during these three days, in which the bulk of the R-44 inspection was done, another R-22 (N790SH) was grounded for a 100 hour inspection." An "apprentice" and a pilot "prepared this R-22 for inspection by removing panels, spark plugs, oil suction screen, etc. I was called over several times by [them] to assist in various routine inspections such as compression tests, verification of magneto timing, as well as to determine the airworthiness of various discrepancies on that particular aircraft such as cracked engine sheet metal and a cracked carburetor air box and suspect cracks in the paint on the scroll, just to name a few. It should be noted that [the lead mechanic] and myself were the only two certificated A&P mechanics on site. However, I was the only A&P performing work on the two aircraft that were grounded for inspection. In addition to the inspections, I was also supervising [the apprentice] and [a pilot] on the R-22 100-hour inspection, as well as, attending to several questions from pilots about the aircraft on the flight line."

On the morning of March 21st, the mechanic performed a 50-hour inspection on another helicopter and completed the appropriate paperwork. After completing the inspection, the mechanic "carried on with the inspection of N744SH."

On March 22nd, a pilot had a discrepancy with another helicopter and the mechanic was "pulled off of N744SH again, because [the other helicopter] was now a priority...After being pulled off N744SH,

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I asked [the lead mechanic] to please prepare the replacement ribs, on the R-44, for installation by drilling the appropriate holes and riveting on the nut plates and to install a face patch on the mast fairing assembly where it was cracked. I requested this of him for two reasons: a) to continue progress on the R-44, which, in my opinion, had already been down for maintenance for too long, and b) because [the lead mechanic] had informed me that he had extensive experience in sheet metal work. For the rest of [March 22 through the morning of March 24], I troubleshot, disassembled, and reassembled [the other helicopter]."

The mechanic reported that "Late, on Friday, March 23rd, as I was getting ready to leave, I noticed [the apprentice] working on N744SH. I went over to ask what he was doing. He told me that [the lead mechanic] had instructed him to install the two middle ribs that he had just completed assembling. I told him it was late, it had been a long day and that he should go home. He told me he would put the two ribs on and, " it was just one less thing we would have to do tomorrow." This, combined with working on multiple aircraft, attending to questions from pilots, and simply working long days, is what ultimately caused the oversight of torquing the two bolts that connect the hydraulic servos to the push-pull tubes. Part of the oversight was that the reassembly was not opposite of the disassembly."


On March 24th, the mechanic handled miscellaneous duties for the company and continued work on the accident helicopter. The mechanic completed a service bulletin pertaining to the engine and the lead mechanic completed the assembly of the two upper ribs. The mechanics took March 25th off of work.

On March 26th, the mechanic was assisted by two pilots and the apprentice with the installation of the main rotor blades on N744SH. The mechanic installed the two new main rotor pitch links, and then installed the two upper ribs and torqued all fasteners that connected the push-pull tubes and swash plate. Prior to installing the mast fairing, the mechanic asked one of the pilots "to please look over the work that I had done on the aircraft. He did so and informed me that he had found no discrepancies. Afterwards I continued with the installation of the mast fairing assembly." The lead mechanic and the apprentice installed the engine cowling, and the mechanic installed the "Chadwick" in preparation for a track and balance procedure. A pilot and the mechanic performed the track and balance procedure and test flight for N744SH, which took 0.5 hours according to the Hobbs meter. After the test flight, the mechanic "completed the appropriate paperwork."

Lead Mechanic Statement

The NTSB IIC requested the lead mechanic for the Jacksonville facility provide a statement concerning his involvement in the maintenance for the accident helicopter. The lead mechanic reported that the mechanic who performed the inspection on the helicopter was first "under the impression" that only a 100-hour inspection was required, and approximately 70 percent through the 100-hour inspection, he realized the aircraft needed a 300-hour inspection as well. During the inspection, the mechanic noticed the cracked mast ribs and the lead mechanic provided assistance with that during the course of the inspection.

A visiting pilot notified the lead mechanic that the accident helicopter needed to be ready to fly on March 25th, as it was due to be in Texas on March 26th. Between March 19th and the day of the accident, the lead mechanic reported that several aircraft required maintenance and he also was involved in "shopping for tools" and preparing a crash repair estimate in Melbourne, Florida. On March 23rd, two new Robinson R22 helicopters were received at the Jacksonville facility. The lead mechanic reported that the Jacksonville facility was the "receiving station for the southeast" and all new incoming helicopters required offloading, receiving inspections, blade installations, track and balancing, [operations] checks, and flight checks. In addition to the flight academy helicopter maintenance, the lead mechanic reported that there were two transient Bell 206 helicopters in the facility. One of these helicopters required a 50-hour inspection and the other required maintenance to the avionics system.

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The lead mechanic reported the following recommendations "to prevent future accidents..."

1. Have at least two permanent mechanics at each site allowing one to act as [Quality Control] to the other.
2. When scheduling additional aircraft at a location, provide additional maintenance personnel.
3. Set mandatory show time for salaried personnel.

COMPANY INFORMATION

Silver State Helicopters was formed in 1999 in Henderson, Nevada. At that time, their primary business operation was flight training in Robinson R22 helicopters. At the time of the accident, the company operated a flight-training academy with 27 Part 61 instruction facilities. At those facilities, there were a total of 150 aircraft, 226 flight instructors, 2,381 students, and 67 mechanics. A February 2007 status report for Silver State Helicopter's flight academy indicated that the facilities in the "Atlantic" region, which included Atlanta, Fort Lauderdale, Jacksonville, Lakeland, and Melbourne, had listed 1 mechanic per facility. In addition to flight training, the company held Part 135, 133, and 137 operating certificates.

The Jacksonville facility began operations in November 2006. At the time of the accident, the facility had 6 aircraft designated for flight instruction, 5 flight instructors, 48 students, and 1 mechanic.

On March 30th, the NTSB IIC interviewed the following company personnel in regards to company maintenance and quality control: Director of Academy Flight Training, Atlantic Regional Manager, Jacksonville General Manager, Dallas General Manager. At the time of the interview, the personnel stated that the company was "looking for good Robinson helicopter mechanics." The average experience levels for the maintenance staff was estimated at 0 to 5 years maintenance experience at the mechanic position, and 10 to 15 years maintenance at the lead mechanic position. At the flight academy locations, most maintenance for the helicopters was performed on site and scheduled, based on priority, by the general manager of the facility.

The company personnel reported that the maintenance department had a quality control program for their helicopters. A portion of this program included an aircraft log sheet, which listed discrepancies and completed corrective actions. Each discrepancy box on the log sheet listed the following blocks: Date Completed, Completed by Technician, and Accepted By Inspector. These blocks were to be filled in according to work accomplished. The company personnel provided the NTSB IIC copies of the accident helicopter log sheets from maintenance completed at the Tulsa, Oklahoma, and Lakeland, Florida, facilities. The 18 pages of log sheets contained various maintenance items, and no "Accepted By Inspector" signature blocks were completed. The log sheets for the maintenance prior to the accident flight were not provided.


ADDITIONAL INFORMATION

Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2)

According to NTSB Form 6120.1/2 section, Recommendation (How Could This Accident Have Been Prevented), Operator/Owner Safety Recommendation (Optional Entry), the company reported the following: Two authorized [Airframe and Powerplant] mechanics to sign off critical component maintenance; Better corporate oversight with regional maintenance personnel; With less oversight, better quality assurance program; Less interruptions from pilots and students.

Company Recommendations

The NTSB IIC requested the company document and submit any changes to policies, procedures and operations as a result of the accident. The Director of Academy Flight Training provided the

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following information:

1. There will be at least 2 A&P mechanics per shift at all times no exceptions! If for any reason there are not 2 mechanics the aircraft will remain grounded if any repairs have been made to any flight control or engine component. This is to include pitch links, transmissions, fuel lines, etc. The only repairs that will be authorized without a second A&P present will be minor repairs to helicopters that do not involve removal, repair or replacement of flight components or panels.
2. All panels after an inspection will be left open and only after the second mechanic has inspected the work performed will it be closed.
3. A second set of initials will be mandatory on the inspection list.
4. If any flight controls are removed or engine controls are removed, it will be noted in the maintenance logbooks along with proper torque values.
5. Torque stripe must be used where applicable.
6. Mechanics will not be pressured, interrupted, or distracted by any pilots, students, general managers or any personnel.

Parties to the investigation included the Federal Aviation Administration Flight Standards District Office, Orlando, Florida; Robinson Helicopter Company, Torrance, California; and Lycoming, Williamsport, Pennsylvania.

The wreckage was released to the owner's representative.

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Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation Ft. MSL	Runway Used NA	Runway Length	Runway Width
Runway Surface Type:					
Runway Surface Condition:					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer Robinson		Model/Series R44 II		Serial Number 10830	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Skid					
Amateur Built Acft? No	Number of Seats: 4	Certified Max Gross Wt.	2500 LBS	Number of Engines: 1	
Engine Type: Reciprocating	Engine Manufacturer: Lycoming	Model/Series: IO-540-AEIA5	Rated Power: 205 HP		
- Aircraft Inspection Information					
Type of Last Inspection 100 Hour	Date of Last Inspection 03/2007	Time Since Last Inspection 1 Hours	Airframe Total Time 861.6 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner Silver State Helicopters LLC		Street Address 500 East Cheyenne			
		City North Las Vegas	State NV	Zip Code 89030	
Operator of Aircraft Silver State Helicopters LLC		Street Address 500 East Cheyenne			
		City North Las Vegas	State NV	Zip Code 89030	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Instructional					

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First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 38
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Sex: F	Seat Occupied: Left	Occupational Pilot? Unknown	Certificate Number: On File
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Certificate(s): Flight Instructor; Commercial

Airplane Rating(s): None

Rotorcraft/Glider/LTA: Helicopter

Instrument Rating(s): None

Instructor Rating(s): Helicopter

Current Biennial Flight Review? 03/2007

Medical Cert.: Class 2	Medical Cert. Status: Without Waivers/Limitations	Date of Last Medical Exam: 01/2007
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	462	29			19			462		
Pilot In Command(PIC)	334	25			13			334		
Instructor	174							174		
Instruction Received										
Last 90 Days	113							113		
Last 30 Days	47							47		
Last 24 Hours	5							5		

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? Yes	Second Pilot? Yes
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Flight Plan/Itinerary

Type of Flight Plan Filed: Company VFR

Departure Point JACKSONVILLE	State FL	Airport Identifier CRG	Departure Time 1010	Time Zone EDT
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Destination Local Flight	State	Airport Identifier	
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Type of Clearance: VFR

Type of Airspace:

Weather Information

Source of Wx Information:


Unknown

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Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation Ft. MSL	WOF Distance From Accident Site NM	Direction From Accident Site Deg. Mag.
Sky/Lowest Cloud Condition: Clear			Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None		Ft. AGL	Visibility: 10	SM	Altimeter: "Hg
Temperature: 24 °C	Dew Point: °C	Weather Conditions at Accident Site: Visual Conditions			
Wind Direction: 360	Wind Speed: 10	Wind Gusts:			
Visibility (RVR): Ft.	Visibility (RVV): SM				
Precip and/or Obscuration: No Obscuration; No Precipitation					

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	1				1
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers					
- TOTAL ABOARD -	2				2
Other Ground					
- GRAND TOTAL -	2				2

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Administrative Information

Investigator-In-Charge (IIC)

Aaron M. Sauer

Additional Persons Participating in This Accident/Incident Investigation:

Richard Scheibel
Federal Aviation Administration
Orlando, FL

Ken Martin
Robinson Helicopter Company
Torrance, CA

Edward Rogalski
Lycoming
Bellevue, FL