		NTSB ID: MIA99LA070		Aircraft Registration Number: N4046H		
		Occurrence Date: 01/30/1999		Most Critical Injury: Serious		
		Occurrence Type: Accident		Investigated By: NTSB		
Location/Time						
Nearest City/Place POMPANO BEACH		State FL	Zip Code 33064	Local Time 0841	Time Zone EST	
Airport Proximity: On Airport/Airstrip		Distance From Landing Facility:				
Aircraft Information Summary						
Aircraft Manufacturer Robinson		Model/Series R22 /R22		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:						
<p>On January 30, 1999, at about 0841 eastern standard time, a Robinson R22, N4046H, registered to Comprador Helicopter Inc., operated by Heliflite as a 14 CFR Part 91 instructional flight crashed while conducting a 180 autorotation with turn to runway 10 at Pompano Beach Airpark, Pompano Beach, Florida. Visual meteorological conditions prevailed and no flight plan was filed. The helicopter was destroyed. The commercial pilot/certified flight instructor, and commercial pilot receiving instruction sustained serious injuries. The flight originated about 3 minutes before the accident</p>						
<p>Two witnesses who are Robinson R22 instructor pilots stated they observed the helicopter in right closed traffic for runway 10. They observed the helicopter conduct a 180 autorotation before the accident, which resulted in a termination with power to the numbers on runway 10. They stated the autorotation did not look right, so they decided to watch the helicopter. The helicopter remained in right closed traffic and was at about 500 feet as it was abeam the numbers of runway 10. They entered the auto and turned left about 20 degrees. The helicopter was observed to turn a very steep right turn (90 degrees) with a steep nose low/down attitude (60 degrees). Between 100 to 150 feet they started to roll out of the turn, but not all of the way out. One of the witnesses stated, "the dive looked to steep to recover from." At contact with the ground they appeared to still have had a nose low attitude of 5 to 10 degrees. The helicopter crashed short of the numbers.</p>						
<p>The pilot stated in an initial interview that he was demonstrating the 180 autorotation to the rated student pilot. He entered the maneuver at 500 feet and 60 knots. He lowered the collective pitch to the full down position, applied right anti torque pedal, reduced the throttle to split the needles, and adjusted his airspeed to a 60 knot attitude, and began a right turn towards his intended touchdown point. The airspeed decreased a little so he lowered the nose. As they were going through 100 feet he started to level off. The rotor was in the green arc, airspeed 60 knots, they were in a high rate of descent, and the airframe started to vibrate. The helicopter collided with the ground in a nose low attitude. When asked why he did not initiate a power recovery when he knew he was in a high rate of descent and would not reach his intended touchdown point, he kept referring to the airframe vibration. When asked if he experienced any low rpm after he went through 100 feet he said no.</p>						
<p>The pilot stated in the NTSB Pilot/Operator Aircraft Accident Report, "As we came on downwind I took the controls from Mr. Perez and positioned the aircraft abeam the proposed landing spot at +/- 500 AGL and +/- 60 kts Through out the turn rpm was in the green. But as airspeed was a little low (+/- 55 kts) I lowered the nose a little bit to maintain 60 kts. Upon leveling off out of the turn at around 100" AGL I performed the 100' check. As I recall rpm was slightly above the green (106-107% rpm) and airspeed was +/- 60 kts. At that very instant the entire helicopter began vibrating violently and the rate of descent increased dramatically. I can also recall very high control forces as I attempted to pull aft cyclic and up collective. As I recall it took about 3 seconds from the time I came out of the turn and the vibrations started to the time of impact."</p>						
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FACTUAL REPORT

AVIATION

NTSB ID: MIA99LA070

Occurrence Date: 01/30/1999

Occurrence Type: Accident

Narrative (Continued)


The commercial pilot receiving instruction stated the CFI stated, "Jasper Blotkamp was in command of the helicopter as he was showing me 180 degree auto rotations when I felt the helicopter vibrate and heard the warning alarm of the low rotor rpm in the cockpit. Immediately after this the helicopter hit the ground."


The Robinson R22 Maneuver Guide states the following entry procedures for a 180 (Autorotation) with power recovery: Establish the aircraft on a downwind at 75 KTS and 700 feet AGL. When abeam the intended touchdown point, enter the autorotation by smoothly, but firmly, lowering the collective full down without reducing the throttle. Usually the needles will split establishing an autorotation. If the needles do not split, reduce the throttle slightly. Apply right pedal and aft cyclic to maintain the attitude. Crosscheck attitude, trim, rotor, RPM, and airspeed. It states that the turn should be completed and the helicopter aligned with the intended touchdown area prior to passing through 100 feet AGL. If the collective has been increased to load the rotor during the turn, it may have to be lowered on roll out to prevent a decay in RPM. As the aircraft descends through 100 feet AGL, make an immediate power recovery if the following conditions do not exist:

1. Aircraft aligned with the touchdown point.
2. Rotor RPM in the green.
3. Airspeed 60 to 70 KTS.
4. Rate of descent less than 1500 FPM.

The maneuver guide defines the symptoms of low rotor rpm as:

1. A noticeable decrease in engine noise.
2. Aircraft vibration and cyclic stick shake at higher airspeeds.
3. The low rotor RPM warning horn and light at approximately 95% RPM.

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: MIA99LA070			
		Occurrence Date: 01/30/1999			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
POMPANO BEACH AIRPARK	PMP	21 Ft. MSL	10	3502	100
Runway Surface Type: Asphalt					
Runway Surface Condition: Dry					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: Simulated Forced Landing; Traffic Pattern					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Robinson		R22 /R22		1651	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Skid					
Amateur Built Acft? No	Number of Seats: 2	Certified Max Gross Wt.	1370 LBS	Number of Engines: 1	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Reciprocating	Lycoming	O-320-B2C	160 HP		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
100 Hour	01/1999	31 Hours	5525 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes /	ELT Operated?	ELT Aided in Locating Accident Site?			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
		300 ISLE OF PALMS DRIVE			
COMPRADOR		City	State	Zip Code	
		FT LAUDERDALE	FL	33301	
Operator of Aircraft		Street Address			
		2675 NW 56TH STREET			
HELIFLITE		City	State	Zip Code	
		FT LAUDERDALE	FL	33309	
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					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: MIA99LA070
	Occurrence Date: 01/30/1999
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 29
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Sex: M	Seat Occupied: Right	Occupational Pilot? Civilian Pilot	Certificate Number: On File
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Certificate(s): Commercial

Airplane Rating(s): None

Rotorcraft/Glider/LTA: Helicopter

Instrument Rating(s): None

Instructor Rating(s): Helicopter

Current Biennial Flight Review?

Medical Cert.: Class 2	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam: 02/1998
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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	1325	1235			53			1325		
Pilot In Command(PIC)	1259	1169			53			1259		
Instructor	1059	1059			75			1059		
Instruction Received										
Last 90 Days	131	131						131		
Last 30 Days	60	60						60		
Last 24 Hours	5	5						5		

Seatbelt Used? Yes	Shoulder Harness Used? Yes	Toxicology Performed? No	Second Pilot? Yes
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Flight Plan/Itinerary

Type of Flight Plan Filed: None

Departure Point Same as Accident/Incident Location	State	Airport Identifier	Departure Time 0838	Time Zone EST
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Destination Same as Accident/Incident Location	State	Airport Identifier PMP	
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Type of Clearance: None

Type of Airspace: Class D

Weather Information

Source of Wx Information:

Commercial Weather Service

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: MIA99LA070
	Occurrence Date: 01/30/1999
	Occurrence Type: Accident

Weather Information					
WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
PMP	0850	EST	10 Ft. MSL	0 NM	0 Deg. Mag.
Sky/Lowest Cloud Condition: Scattered			6000 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: None			0 Ft. AGL	Visibility: 10 SM	Altimeter: 30.00 "Hg
Temperature: 26 °C	Dew Point: 19 °C	Weather Conditions at Accident Site: Visual Conditions			
Wind Direction: 130		Wind Speed: 14		Wind Gusts:	
Visibility (RVR): 0 Ft.		Visibility (RVV) 0 SM			
Precip and/or Obscuration:					

Accident Information		
Aircraft Damage: Destroyed	Aircraft Fire: None	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	0	0	0		0
- GRAND TOTAL -	0	2	0		2

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: MIA99LA070

Occurrence Date: 01/30/1999

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

CARROL A. SMITH

Additional Persons Participating in This Accident/Incident Investigation:

JOHN C ROSEBOROUGH
FORT LAUDERDALE, FL