 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: MIA98FA239		Aircraft Registration Number: N922ER	
		Occurrence Date: 09/06/1998		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place DAYTONA BEACH		State FL	Zip Code 32114	Local Time 2323	Time Zone EDT
Airport Proximity: On Airport		Distance From Landing Facility: 1		Direction From Airport: 250	
Aircraft Information Summary					
Aircraft Manufacturer Piper		Model/Series PA-44-180		Type of Aircraft Airplane	
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					
<p>On September 6, 1998, about 2323 eastern daylight time, a Piper PA-44-180, N922ER, registered to Embry-Riddle Aeronautical University, crashed on runway 7 left at Daytona Beach International Airport, Daytona Beach, Florida, while on a Title 14 CFR Part 91 personal flight. Visual meteorological conditions prevailed at the time and no flight plan was filed. The aircraft was destroyed and the commercial-rated pilot was fatally injured. The flight originated from Daytona Beach, the same day, about 2304.</p> <p>Embry-Riddle Aeronautical University personnel stated the pilot was employed as a flight instructor. At 2249, the pilot attempted to use his issued key to gain access to the Embry-Riddle flight line. Due to the late hour, the security computer system would not allow him access. The pilot then climbed the 8-foot, barbed wire topped fence to the flight line and gained unauthorized access to N922ER.</p> <p>At 2259:32, the pilot called the FAA Daytona Beach Control Tower and requested to taxi to the active runway for takeoff. The pilot was cleared to taxi to runway 7 left. The pilot of another Embry-Riddle aircraft observed the aircraft start taxiing from the ramp with one pilot, who was located in the right seat. At 2304:07, the pilot requested and was given takeoff clearance on runway 7 left. After takeoff the pilot flew east to the beach and then proceeded north along the beach. At 2308:52, when northeast of the airport, the pilot requested radar vectors for the instrument landing system (ILS) approach to runway 7 left. At 2316:50, the flight was cleared for the ILS 7 left approach and at 2318:13, the flight was cleared to land. At 2320:57, the FAA controller noticed the flight was at a higher than normal altitude on the approach and he asked the pilot if he would be able to "get down from there." The pilot replied, "and riddle nine two two roger this will be my final landing." The controller and witnesses observed the flight cross over the end of the runway at about 600 feet agl and then nose over and descend rapidly from which it collided with the runway in a nose down attitude. Witnesses located near the arrival end of the runway report hearing the engines go to full power as the aircraft started the descent.</p> <p>Friends of the pilot stated after the accident that the pilot had been to a local restaurant and consumed alcoholic beverages. He was driven home about 2150. At 2220, the pilot obtained a note pad and returned to his bedroom. At 2235, the pilot left his apartment, stating he was going for a walk. He was not seen again. When the pilot's roommate was informed of the accident at about 0830 on September 7, 1998, he went into the pilot's room and found a note in which the pilot stated " I do not want to live."</p>					
Personnel Information					
Information on the pilot is contained in this report under First Pilot Information and in					
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attachments to this report.

Aircraft Information

Information on the aircraft is contained in this report under Aircraft Information and in attachments to this report.

Meteorological Information

Visual meteorological conditions prevailed at the time of the accident. The moon was at an altitude 27.8 degrees on a bearing of 117.1 degrees at the time of the accident. The moon had a 99 percent illumination. Additional meteorological information is contained in this report under Weather Information and in attachments to this report.

Wreckage and Impact Information

The aircraft crashed on the approach end of runway 7 left at Daytona Beach International Airport, Daytona Beach, Florida. Examination of the crash site showed the aircraft impacted the runway about 1,077 feet from the approach end of the runway. The initial impact point was to the left of the runway center line on about a 090-degree heading. The aircraft was in about a 30-40 degree nose down attitude at the time of impact. Slash marks were present in the runway surface from both propellers. The distance between the first two sets of slash marks from each propeller was about 41 inches. After impact the aircraft continued in a easterly direction, coming to rest about 850 feet from the initial impact point. General breakup of the aircraft occurred after initial impact and an explosion and fire occurred in both wing fuel tanks after impact.

All components of the aircraft which are necessary for flight were located on or around the main wreckage of the aircraft. Continuity of the aileron, rudder, stabilator, stabilator trim, and rudder trim flight control systems was established. All separation points within the flight control systems were consistent with overstress separation. The landing gear and wing flaps were in the retracted positions. The stabilator trim was set to 2 degrees tab down or aircraft nose up. The rudder trim system was damaged by impact forces and it could not be determined as to which position it was set to at the time of the accident.

Examination of the left engine and propeller showed the left propeller blades had damage consistent with rotation at a high engine power at the time of ground impact. The propeller separated from the engine during ground impact when the engine crankshaft propeller flange separated due to overstress. Examination of the engine showed the engine would not rotate due to impact damage. Disassembly of the engine confirmed continuity of the crankshaft, camshaft, valve train, and accessory drives. Each cylinder had the intake and exhaust valves in place and showed no signs of mechanical failure or malfunction. The left magneto separated from the engine during impact. The left magneto produced normal spark when rotated by hand. The right magneto was destroyed by impact forces. The spark plugs had deposit color consistent with normal engine operation. The carburetor was destroyed by impact forces. The propeller governor rotated and pumped oil when turned by hand.

Examination of the right engine and propeller showed the right propeller blades had damage consistent with rotation at a high engine power at the time of ground impact. The propeller separated from the engine during ground impact when the engine crankshaft propeller flange separated due to overstress. Examination of the engine showed the engine would not rotate due to impact damage. Removal of the cylinders allowed the engine to rotate. Continuity of the crankshaft, camshaft, and valve train was confirmed. Impact damage to the accessory drive section displaced the intermediate accessory drive gears which were not located or recovered. Examination of the crankshaft gear and camshaft showed no pre-impact damage. Each cylinder had the intake and exhaust valves in place and showed no signs of mechanical failure or malfunction. The left magneto

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separated from the engine during impact. The left magneto produced normal spark when rotated by hand. The right magneto was destroyed by impact forces. The spark plugs had deposit color consistent with normal engine operation. The carburetor and propeller governor were damaged by impact forces.

Examination of the left and right wing tip navigation lights and rear wing tip position lights showed each to have stretched light bulb filaments. Examination of the right front seat showed damage consistent with it being occupied at the time of the accident. The seat belt and shoulder harness were found unbuckled and without damage.

Medical and Pathological Information

Postmortem examination of the pilot was performed by Marie A. Herrmann, M.D., Associate Medical Examiner, Daytona Beach, Florida. The cause of death was attributed to multiple blunt force injuries. The manner of death was attributed to suicide.

Postmortem toxicology studies on specimens obtained from the pilot were performed by Bruce A. Goldberger, Ph.D., University of Florida, Gainesville, Florida, and Dennis V. Canfield, Ph.D., FAA Toxicology Laboratory, Oklahoma City, Oklahoma. The tests were positive for .15 g/dl ethanol in liver and .14 g/dl ethanol in urine. The tests were negative for carbon monoxide and drugs.


The note found in the pilot's room by his roommate after the accident was investigated by the Medical Examiner's Office, Daytona Beach, Florida, and the Volusia County Sheriff's Department. The pilot wrote "I do not want to live." Based on this note the manner of death of the pilot was attributed to suicide. For additional medical and pathological information see Supplement K and the attached toxicology report.


Tests and Research

The propeller slash marks found on the runway from both the left and right propeller measured about 41 inches apart for the first two sets. Witnesses reported hearing the engines accelerate to full power as the aircraft descended toward the runway. Computer analysis showed that with the engines operating at full power, which produces 2,700 engine and propeller rpm, and slash marks 41 inches apart, the aircraft had a groundspeed of about 182 knots at the time of runway impact. (See attached analysis)

Additional Information

The aircraft wreckage was released by NTSB on September 8, 1998, to Mr. Grant Brophy, Aviation Safety Program Manager, Embry-Riddle Aeronautical University, Daytona Beach, Florida. No components were retained for further examination.

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Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
DAYTONA BEACH INT'L	DAB	35 Ft. MSL	7L	10500	150
Runway Surface Type: Asphalt					
Runway Surface Condition: Wet					
Type Instrument Approach: ILS-complete					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Piper		PA-44-180		4496009	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 4	Certified Max Gross Wt.	3800 LBS	Number of Engines: 2	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Reciprocating	Lycoming	0-360-A1H6	180 HP		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
100 Hour	08/31/1998	4 Hours	1724 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated? Yes	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
		600 S CLYDE MORRIS BLVD			
EMBRY-RIDDLE AERO. UNV.		City	State	Zip Code	
		DAYTONA BCH.	FL	32114	
Operator of Aircraft		Street Address			
		137 POWELL BLVD., APT. 15204			
MICHAEL J. NAWROCKI		City	State	Zip Code	
		DAYTONA BEACH	FL	32114	
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: Personal					

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First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 26
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Sex: M	Seat Occupied: Right	Principal Profession: Civilian Pilot	Certificate Number: On File
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Certificate(s): Flight Instructor; Commercial

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): Airplane Multi-engine; Airplane Single-engine; Instrument Airplane

Type Rating/Endorsement for Accident/Incident Aircraft? No	Current Biennial Flight Review?
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Medical Cert.: Class 2	Medical Cert. Status: Valid Medical--no waivers/lim.	Date of Last Medical Exam: 01/31/1998
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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	984	18	942	43	76	47	40			
Pilot In Command(PIC)	883	18	859	41						
Instructor										
Last 90 Days	171	14	155	14	22	20	2			
Last 30 Days	54	6	46	6	3	3	2			
Last 24 Hours	1	1		1	1					

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

Type of Flight Plan Filed: None

Departure Point Same as Accident/Incident Location	State	Airport Identifier DAB	Departure Time 2304	Time Zone EDT
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Destination Local Flight	State	Airport Identifier	
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Type of Clearance: VFR

Type of Airspace: Class D

Weather Information

Source of Briefing:
No record of briefing

Method 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
DAB	2253	EDT	35 Ft. MSL	1 NM	70 Deg. Mag.

Sky/Lowest Cloud Condition: Clear	0 Ft. AGL	Condition of Light: Night/Bright
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Lowest Ceiling: None	0 Ft. AGL	Visibility: 10	SM	Altimeter: 30.00	"Hg
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Temperature: 27 °C	Dew Point: 26 °C	Wind Direction: Variable	Density Altitude: 1300	Ft.
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Wind Speed: Calm	Gusts:	Weather Conditions at Accident Site: Visual Conditions
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Visibility (RVR): 0	Ft.	Visibility (RVV) 0	SM	Intensity of Precipitation: Unknown
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Restrictions to Visibility: None

Type of Precipitation: None

Accident Information

Aircraft Damage:	Aircraft Fire:	Aircraft Explosion
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Classification:

- 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					
- TOTAL ABOARD -	1				1
Other Ground	0	0	0		0
- GRAND TOTAL -	1	0	0		1

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Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

JEFFREY L. KENNEDY

Additional Persons Participating in This Accident/Incident Investigation:

PETER STRUNK
FAA FSDO
ORLANDO, FL 32822

PAUL LEHMAN
PIPER AIRCRAFT, INC.
VERO BEACH, FL 32961

GRANT BROPHY
EMBRY-RIDDLE AERO. UNV.
DAYTONA BEACH, FL 32114

EDWARD ROGALSKI
LYCOMING ENGINES
WILLIAMSPORT, PA 17701