



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Melbourne, FL	<b>Accident Number:</b>	MIA06FA069
<b>Date &amp; Time:</b>	03/23/2006, 1057 EST	<b>Registration:</b>	N37JB
<b>Aircraft:</b>	Cessna 340A	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	3 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Business		

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## Analysis

A commercial pilot with two passengers on a business flight was arriving at the destination airport in a light twin-engine airplane. The air traffic tower controller advised the pilot to follow a slower airplane that was on base leg. The controller subsequently asked the accident pilot if he could reduce his speed, "a little bit." The accident pilot responded that he was slowing down. Less than a minute later, the controller told the accident pilot that he was cleared to land. The accident pilot's last radio transmission was his acknowledgement of the landing clearance. The controller stated that he did not see the accident airplane other than on the radar scope, but did see a plume of smoke on the final approach course for the active runway. Ground witnesses described the airplane as flying slowly with its wings wobbling, turn right, and dive into the ground. The majority of the airplane was consumed by a postcrash fire. Inspection of the flight controls and engines disclosed no evidence of any preimpact mechanical problems. Low speed flight reduces the margin between a safe operating speed and an aerodynamic stall. Wing "wobble" at low speeds is often an indicator of an incipient aerodynamic stall. Toxicological samples from the pilot's blood detected diphenhydramine (a sedating antihistamine commonly known by the trade name Benadryl) at a level consistent with recent use of at least the maximum over-the-counter dose. Diphenhydramine is used over-the-counter for allergies and as a sleep aid, and has been shown to impair the performance of complex cognitive and motor tasks at typical doses. The FAA does not specifically prohibit the use of diphenhydramine by pilots, though Federal Air Regulation 91.17, states, in part: "No crewmember may act, or attempt to act as a crewmember of a civil aircraft...while using any drug that affects the person's faculties in any way contrary to safety..."

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain adequate airspeed to avoid a stall during the final approach to land. Contributing to the accident was the pilot's impairment due to the use of a sedating antihistamine.

## Findings

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

1. (C) AIRSPEED(VS) - NOT MAINTAINED - PILOT IN COMMAND
2. (C) STALL - INADVERTENT - PILOT IN COMMAND
3. (F) IMPAIRMENT(DRUGS) - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. TERRAIN CONDITION - GROUND

## Factual Information

### HISTORY OF FLIGHT

On March 23, 2006, about 1057 eastern standard time, a Cessna 340A airplane, N37JB, registered to RAC LTD., had an in-flight loss of control and collided with terrain while on final approach to land at Melbourne International Airport, Melbourne, Florida. Visual meteorological conditions prevailed at the time and no flight plan was filed for the 14 CFR Part 91 business flight from Craig Municipal Airport, Jacksonville, Florida, to Melbourne International Airport. The airplane was destroyed by impact forces and a postcrash fire, and the commercial certificated pilot and two passengers were fatally injured. The flight originated about 0955, from Craig Municipal Airport.

After takeoff with visual flight rules (VFR) flight following, the flight proceeded towards the destination airport and contact was made with several air traffic control (ATC) facilities. According to preliminary ATC information, about 1049, an occupant of the airplane contacted the Melbourne International Airport Air Traffic Control Tower and advised the controller that the flight was 22 miles to the north. The flight continued and the controller questioned the location of the flight, to which an occupant advised the controller that the flight was 4 miles from the airport. The controller advised the flight to proceed westbound for spacing with a single engine airplane that was flying at 1,000 feet, and an occupant of the airplane advised they were looking for the airplane. The controller advised the flight to turn onto final approach for runway 9L, and the single engine airplane was on a 1.5 mile final to runway 9L. An occupant advised the controller that they were turning towards final approach to runway 9L, and the controller questioned if the flight was able to slow due to the single engine airplane that was on 3/4 mile final to runway 9L. An occupant of the airplane advised they were looking for the airplane, did not have it in sight, and they were slowing down. The controller cleared the flight to land but there was no response.

A witness who was located northwest of the accident site reported seeing the airplane flying slowly eastbound, and was unable to perceive the airplane descending. He then reported hearing engine sound increase, followed by a loud sound. The airplane then banked to the right and he lost sight due to obstructions. Another witness heard the airplane fly overhead and noted the wings, "...wobble a couple of times, turn right, and nose dive into ground." One witness, who was located east of the accident site approximately 200 yards, reported seeing, "...a small plane nose down underside facing me in front of me about 100 feet out and 60 feet up. The plane leveled off going west and just cleared the trees directly in front of me...." The witness reported hearing a "...loud low boom."

### INJURIES TO PERSONS

All three occupants of the airplane were fatally injured. There were no injuries to anyone on the ground.

### DAMAGE TO AIRCRAFT

The airplane was destroyed by impact forces and a postcrash fire.

## PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with single and multiengine land airplane and instrument ratings. His second class FAA medical certificate was issued February 2, 2006, without limitations.

On the pilot's February 2 application for a flight medical certificate, he listed his total flight time as 750 hours, with 300 hours accumulated in the last six months. His personal pilot logbook, of which only the last two pages were provided to the NTSB, indicates a total flight time of approximately 1209 hours as of March 16, 2006. The pages provided to the NTSB were reportedly the first two pages from the pilot's latest logbook, with totals brought forward from the previous logbook(s). Those logbooks were represented as being destroyed in the crash and ensuing fire. The logbook pages given to the NTSB appeared to have recorded some flight time twice; that is, when the page totals were added, single engine land totals were 540.8, multiengine land 261.6, for a cumulative total of 802.4. However, a third column, marked "Turbjet" apparently for turboprop powered airplanes, depicted a total of 324.3 hours, which, if added into the total flight time, would be a replication of either the single/multiengine flight hours, or both.

In an application to the FAA for his commercial pilot certificate dated November 25, 2005, the pilot reported a total of 381.8 flight hours.

Due to the difficulty in interpreting the pilot's actual flight hours, the flight hours contained in this report reflect the hours listed on the pilot's February 2, 2006 application for a flight medical.

According to documents provided by the airplane's owners, the pilot had taken training from Aviation Training Management, Vero Beach, Florida, in the accident airplane on March 18-19, 2006. The purpose of the training was to satisfy the owner's aircraft insurance company's requirements. The training comprised 6.5 flight hours, and satisfied the requirements of a biennial flight review. A copy of the training assessment form is in the public docket of this report.

## AIRCRAFT INFORMATION

The accident airplane was a 1976 model year twin-engine 340A Cessna. It was powered by two Teledyne Continental Motors (TCM) turbocharged IO-520 series engines rated at 335 horsepower each.

## METEOROLOGICAL INFORMATION

The closest weather reporting station was the destination airport at Melbourne, Florida. The 1053 weather observation reported the wind as from 120 degrees at 9 knots, 10 miles visibility, scattered clouds at 4100 feet msl, broken clouds at 10000 feet msl, temperature 23 degrees C, dewpoint 14 degrees C.

## COMMUNICATIONS

The pilot was on approach to land on runway 09 Left at Melbourne International Airport. He was following another, slower single-engine airplane on final approach, and had been asked by the air traffic controller "...if you can, uh, reduce your speed a little bit, the Cherokee you're following is ¾ mile final." The pilot responded: "I'm looking for the Cherokee, I'm not seeing

him, but I'm slowing down." The controller responded that the Cherokee was about ready to land, and then cleared the accident flight to land, which the accident pilot acknowledged. There were no further communications from the accident flight.

The air traffic controller reported he saw a postcrash plume of smoke from the accident airplane off the airport grounds, but did not see it crash.

Transcripts of the pilot's communications with the Melbourne air traffic controller, the controller's written statement, and a complete air traffic control accident package, is contained in the public docket of this report.

#### AERODROME INFORMATION

Melbourne International Airport is approximately 2 miles west of Melbourne. Its elevation is 33 feet above msl, and has three asphalt runways. Runway 09 Left is 6000 feet long and 150 feet wide.

#### WRECKAGE AND IMPACT INFORMATION

The on-site investigation by the NTSB investigator-in-charge (IIC) commenced on March 23. The wreckage was approximately 2 miles west of the airport, about on the extended centerline of runway 09 Left. It came to rest in a near vertical attitude on a concrete pad, behind a business at 270 East Drive, Melbourne, Florida. Marks on the ground correlated with a broken navigation light glass indicate the airplane impacted the ground on a heading of approximately 275 degrees.

All major components of the airplane were located at the immediate crash site. About 70 to 80 per cent of the airplane had been consumed by a postcrash fire.

The landing gear was found in the down/extended position, and the flaps were up/retracted. Elevator control continuity was established from the control wheel to the elevator, and aileron continuity from the control wheel to the respective aileron bell crank.

Each of the two engines had three propeller blades. The propeller hubs of both engines had shattered, and the propellers were scattered in an arc around the wreckage. All six of the propellers had significant chord-wise scratching and bending.

The engines remained attached to the airframe, and were removed for further inspection.

#### MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot by the Office of the Medical Examiner, District 18, Brevard County, Florida, on March 25, 2006. The physician/pathologist listed the cause of death as: Multiple Blunt Force Trauma. He also noted that there was no other significant natural disease.

Toxicological samples from the pilot were sent to the FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma. The samples tested positive for:

Diphenhydramine 0.217 (ug/ml, ug/g) in the blood

Diphenhydramine detected in liver

Acetaminophen 9.746 (ug/ml, ug/g) detected in the blood

The samples also tested positive for Ethanol and Propanol, but were deemed to be from sources other than ingestion.

## FIRE

There was an extensive postcrash fire that was confined to the aircraft structure.

## TEST AND RESEARCH

An examination of the engines under the guidance and direction of the NTSB IIC was performed at a hangar on the Melbourne airport. Present were the parties to the investigation, TCM and Cessna Aircraft Corporation.

Both engines had extensive thermal damage to their exteriors, including wiring harnesses, magnetos, and fuel pumps. These items could not be functionally tested.

A disassembly of both engine cores disclosed no evidence of any preimpact mechanical anomalies.

Copies of the engine inspection reports are included in the public docket for this report.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	40, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2	<b>Last FAA Medical Exam:</b>	02/01/2006
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	03/01/2006
<b>Flight Time:</b>	801 hours (Total, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N37JB
Model/Series:	340A	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	340A-0124
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	06/01/2005, 100 Hour	Certified Max Gross Wt.:	4600 lbs
Time Since Last Inspection:	60 Hours	Engines:	2 Reciprocating
Airframe Total Time:	3068 Hours as of last inspection	Engine Manufacturer:	Continental
ELT:	Installed	Engine Model/Series:	TSIO-520-NCNB
Registered Owner:	RAC Ltd.	Rated Power:	335 hp
Operator:	RAC Ltd.	Operating Certificate(s) Held:	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	KMLB, 33 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1053 EST	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 4100 ft agl	Visibility	10 Miles
Lowest Ceiling:	Broken / 10000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	120°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.1 inches Hg	Temperature/Dew Point:	23°C / 14°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Jacksonville, FL (KCRG)	Type of Flight Plan Filed:	None
Destination:	Melbourne, FL (KMLB)	Type of Clearance:	None
Departure Time:	0955 EST	Type of Airspace:	

## Airport Information

Airport:	Melbourne (KMLB)	Runway Surface Type:	
Airport Elevation:	33 ft	Runway Surface Condition:	
Runway Used:	NA	IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	Traffic Pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Fatal	<b>Aircraft Damage:</b>	Destroyed
<b>Passenger Injuries:</b>	2 Fatal	<b>Aircraft Fire:</b>	On-Ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	3 Fatal	<b>Latitude, Longitude:</b>	28.102778, -80.689722

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Timothy W Monville	<b>Report Date:</b>	01/31/2008
<b>Additional Participating Persons:</b>	Scott Strickland; FAA, Flight Standards District Office; Orlando, FL Michael Koonce; Cessna Aircraft; Wichita, KS Jason Lukasik; Teledyne Continental Motors; Mobile, AL		
<b>Publish Date:</b>			
<b>Investigation Docket:</b>	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).