



National Transportation Safety Board Aviation Accident Final Report

Location:	Hollywood, FL	Accident Number:	MIA02FA048
Date & Time:	01/01/2002, 1802 EST	Registration:	N3525Y
Aircraft:	Piper PA-31-350	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Fatal, 4 Serious
Flight Conducted Under:	Part 135: Air Taxi & Commuter - Non-scheduled		

Analysis

The pilot stated that on the day of the accident he ordered fuel only on the first flight of the day. He said he did not add additional fuel during subsequent flights. He said he flew the accident airplane from Fort Lauderdale Executive Airport, Fort Lauderdale, Florida, to Chubb Cay, Bahamas, to Big Whale Cay, Bahamas, back to the Fort Lauderdale Executive Airport. He said he then departed Fort Lauderdale Executive Airport with his next load of passengers and flew to the North Eleuthera Airport, North Eleuthera, Bahamas, without having refueled, and was returning from North Eleuthera, Bahamas, to the Fort Lauderdale International Airport, when he ditched the airplane off Dania Beach, Florida, in the Atlantic Ocean. When asked whether the fuel on board the airplane had been exhausted, the pilot stated, "the way the engines were acting, it seemed like the airplane ran out of fuel." On scene examination of the airplane, as well as follow on examination of its engines revealed no preaccident anomalies with the airplane or its systems. Information obtained from the FAA showed that at 1757, the pilot contacted FAA Miami Approach Control and advised "minimum fuel, further stating that he was not declaring an emergency at that time. At 1758, the controller responded, passing communications control to the FAA Fort Lauderdale Air Traffic Control Tower (ATCT). In response to the pilot's initial communications call to the Fort Lauderdale ATCT, the pilot was given a clearance to land on runway 09R, and told that he was number one. At 1758:43, the pilot replied, asking if there was any chance of getting runway 27L, and at 1759:17, the controller instructed the pilot to descend at his discretion and remain slightly south of final for landing on runway 27L, and to expect 27L. At 1800:07, the pilot contacted the controller and stated, "two five yankee would like to declare an emergency at this time." At 1800:10, the controller responded, "two five yankee yes sir runway two seven left you are cleared to land the wind zero one zero at six." At 1800:16 the pilot responded acknowledging the wind report, and at 1800:27, the controller asked whether the nature of the emergency was minimum fuel, to which the pilot responded, "exactly two five yankee may be coming in dead stick. At 1800:40, the pilot stated that he had the airport in sight and will try to glide, and at 1801:32, the pilot said "two five yankee I'm going to be short of the shore." At 1802, the pilot ditched the airplane about 300 yards from the Dania Beach shoreline, in the area of John Lloyd State Park, in about 15 feet of water. The occupants of the airplane consisted of the pilot and four passengers. All exited the airplane and one passenger drowned in the Atlantic Ocean when according to the

pilot "he was in a state of panic" when he tried to instruct him in the use of the life vest while they was in the water, and subsequently tried to use him for flotation when he tried to help him. All remaining passengers confirmed that the pilot had not given them any predeparture safety related briefing prior to or during the accident flight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate planning for a Title 14 CFR Part 135 on-demand air taxi flight, and his failure to refuel the airplane, which resulted in fuel exhaustion while en route over the Atlantic Ocean, a power off glide, and ditching in the ocean.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL
Phase of Operation: DESCENT - NORMAL

Findings

1. (C) PLANNING/DECISION - IMPROPER - PILOT IN COMMAND
2. (C) REFUELING - NOT PERFORMED - PILOT IN COMMAND
3. FLUID,FUEL - EXHAUSTION

Occurrence #2: FORCED LANDING
Phase of Operation: DESCENT - EMERGENCY

Occurrence #3: DITCHING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

4. TERRAIN CONDITION - NONE SUITABLE
5. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF FLIGHT

On January 1, 2002, about 1802 eastern standard time, a Piper PA-31-250, N3525Y, registered to Taurus Wings Inc., and operated by Air Taxi Inc., as a Title 14 CFR Part 135 on demand air taxi flight, ditched in the Atlantic Ocean, near Hollywood, Florida. Visual meteorological conditions prevailed, and an international visual flight rules (VFR) flight plan was filed. The commercial-rated pilot, and three passengers received serious injuries, and one passenger sustained fatal injuries. The aircraft incurred substantial damage. The flight originated from North Eleuthera Island, in the Bahamas, the same day, about 1635.

Information obtained from the FAA showed that at 1757, the pilot of N3525Y contacted FAA Miami Approach Control and advised "minimum fuel." He further stated at that time that he was not declaring an emergency. At 1758, the Miami Approach controller responded, instructing the pilot to contact FAA Fort Lauderdale Air Traffic Control Tower (ATCT). During the pilot's initial communications call to the Fort Lauderdale ATCT, he was acknowledged by the Local Control- South controller, and was issued a clearance to land on runway 09R, and given the surface wind report. The controller also told the pilot that he was number one to land. At 1758:43, the pilot replied, asking if there was any chance of getting runway 27L, and the controller responded "all right continue the downwind and as you get closer I will let you know..." At 1759:17, the controller instructed the pilot to descend at his discretion and remain slightly south of final for landing on runway 27L, and to expect 27L.

At 1800:07, the pilot contacted the controller and stated, "two five yankee would like to declare an emergency at this time." At 1800:10, the controller responded, two five yankee yes sir runway two seven left you are cleared to land the wind zero one zero at six." At 1800:16 the pilot of N3525Y responded acknowledging the wind report, and at 1800:27 the controller asked whether the nature of the emergency was minimum fuel, to which the pilot responded, "exactly two five yankee may be coming in dead stick. At 1800:40, the pilot stated that he has the airport in sight and he will try to glide. After additional radio communication exchanges between the pilot and controller, at 1801:32, the pilot said "two five yankee I'm going to be short of the shore." At 1802, the pilot ditched the airplane about 300 yards from the Dania Beach shoreline, in the area of John Lloyd State Park, in about 15 feet of water.

During an interview conducted on January 8, 2002, the pilot stated to the NTSB that he did not calculate a detailed flight plan, and added that the airplane is equipped with a Global Positioning System (GPS) receiver, and he had made the trip in the past, so he knew approximately how long it took to make the journey and return. He also stated that he did not evaluate winds aloft data for the flight.

On the day of the accident, the pilot stated that he ordered fuel only on the first flight of the day. He said he did not add any additional fuel the day of the accident during the subsequent flights, and further stated that the airplane had been "topped off" at Banyan Air Service, with the refueler having added 76 gallons of fuel at 1000. He then flew the accident airplane from Fort Lauderdale Executive Airport to Chubb Cay, to Big Whale Cay, to Fort Lauderdale Executive Airport. He then proceeded from Fort Lauderdale to North Eleuthera Airport without having refueled, and was returning from North Eleuthera Airport, to Fort Lauderdale International Airport, Fort Lauderdale, Florida, when he ditched the airplane in the Atlantic Ocean.

On the accident flight from North Eleuthera Island Airport, the pilot said that after clearing Bahamian Customs, he loaded the passengers' baggage, allowed them to board the airplane, and did a quick "walk-around." He then boarded the airplane, closed the door, proceeded to the cockpit, and performed the pretakeoff passenger safety briefings. Next, he said he performed the airplane's checklist items, started the airplane engines, and taxied for takeoff. He said he had filed a VFR flight plan, and he was trying to "beat" sunset, so he would not have to file an IFR flight plan, adding that he had no problem with filing IFR, but was trying to avoid having to fly direct.

The takeoff, climb and initial cruise at 8,500 feet was uneventful. He was in radio communications contact with FAA Miami Approach Control, and initiated a descent about 30 minutes from Fort Lauderdale. About 15 minutes away from the Fort Lauderdale Airport, while continuing the descent, he said that an annunciator light on the panel, lit, and he turned on the emergency fuel boost pump. He flew the airplane in that configuration for about 5 minutes, and then the right engine started to surge. He said another annunciator light illuminated, but he was not sure which one, since he was busy trying to keep the right engine operating. He said he switched to the outboard tanks since he knew fuel was there, and stated that configuration worked for a few minutes. He said he then switched to both outboard tanks to preclude further problems with the right engine and after that the right engine started surging again, so he switched configuration so as to obtain fuel from the inboard tanks. He said he had no subsequent problems with the right engine, so he set the crossfeed to the left, with the right engine obtaining fuel from the left side, and the surging stopped. The pilot said that it was at that point that he declared "minimum fuel" to FAA Miami Approach Control. He further stated that he did not yet declare an emergency, because both engines were operating. He said the use of crossfeed worked for a few minutes and then the right engine started surging again and ceased operating, and he feathered the right propeller. The pilot said that that time that he declared an emergency due to minimum fuel over water with passengers aboard and asked to land on runway 27. According to the pilot, a few minutes after feathering the right propeller, the left engine started to surge and eventually it ceased operating as well, and he feathered it also. He said he then reported to Air traffic Control that he was not going to make the beach.

The pilot said that he could see the Fort Lauderdale International Airport, but he focused on flying the airplane as it descended, and held the airplane off as long as it would fly, and stalled it at the last moment, putting the tail in the water. According to the pilot, the next thing he remembered was awakening with water around his feet, and he told the passengers to exit the airplane, and swim toward the beach. He said he then assisted a passenger who could not exit the airplane on her own.

After exiting the airplane, the pilot said that as he was assisting the passenger he had helped out of the airplane, he saw another passenger who was holding on to the airplane while in the water, he told the passenger to move away from the airplane and swim toward the beach. He said that it was at that time that the passenger told him that he could not swim. The pilot said he then tried to assist the passenger and instruct him how to put on the life vest, but the passenger was in a state of panic, and was unable to follow instructions on the use of the life vest. When he attempted to approach and otherwise assist the passenger, the pilot said that the passenger continued to panic in the water, and attempted to use him for flotation. Being tired and injured, the pilot said he could not assist the passenger any further.

When asked whether the fuel on board the airplane had been exhausted, the pilot stated, "the

way the engines were acting, it seemed like the airplane ran out of fuel."

The passengers stated that they had been overbooked on a U.S. Airways flight, and were not able to board. They further stated that after being informed they could not board the U.S. Airways flight, they became aware of a charter airplane that was returning to Fort Lauderdale, and were able to gain passage on board the accident airplane. They stated that after the pilot boarded the airplane, he immediately started the engines and proceeded to taxi for takeoff. They stated that the airplane had been on the ground in North Eleuthera, Bahamas, for about 10 minutes, and that the pilot seemed anxious to depart. They also said that the pilot did not taxi to the other building to obtain fuel while in North Eleuthera. According to the passengers, the pilot did not conduct a safety briefing, and only pointed to the door when a passenger asked about safety procedures.

The manager at White Crown Aviation, the fixed-base operator on North Eleuthera Island, Bahamas, confirmed that fuel had not been sold to the pilot of N3525Y.

PERSONNEL INFORMATION

The pilot held both FAA commercial pilot and flight instructor certificates, with airplane single and multiengine land and instrument airplane ratings. Records indicated that the commercial pilot certificate had been issued on December 2, 1998, and the flight instructor certificate was last issued on November 21, 2000. The pilot also held an FAA first class medical certificate, issued on June 22, 2001, with no stated limitations.

The pilot's logbook showed that he had been a flight instructor prior to working with Air Taxi Inc., and training records obtained from Air Taxi Inc., showed that he began initial training with the company on November 15, 2001, and completed it on November 25, 2001.

The pilot's logbook showed that the pilot has accumulated a total of 2,241 flight hours, of which 272 hours were in multiengine airplanes. Seventy two flight hours were in the same make and model as the accident airplane. He also reported having a total of 76 flight hours in the last 90 days, 59 flight hours in the last 30 days, all of which was in the same make and model as the accident airplane.

AIRCRAFT INFORMATION

The airplane is a 1979 Piper Navajo Chieftain, model number PA-31-350. Its serial number was 31-7952127. The airplane was equipped with two Lycoming engines, the left engine being a TIO-540-J2BD engine, and the right LTIO-540-J2BD.

The airplane was also equipped with two Hartzell propellers, model numbers HC-E3YR-2ATF and HC-E3YR-2ALTF.

METEOROLOGICAL INFORMATION

Visual meteorological conditions prevailed at the time of the accident. The Fort Lauderdale International Airport 1815, surface weather observation was, winds from 010 degrees at 8 knots, visibility 10 statute miles, 3,900 feet scattered, 10,000 feet scattered, temperature 21 degrees C, dew point temperature 16 degrees C, altimeter setting 30.04 inHg.

WRECKAGE AND IMPACT INFORMATION

N3525Y ditched about 300 yards off Dania Beach, in the ocean, in the about 15 feet of water. According to the divers who were involved in the recovery from the water, the airplane sank

and came to rest upright on the bottom, oriented to the north north east. Both engines had detached from their respective wing. Debris on the surface consisted of light airplane related debris and personal effects belonging to the occupants.

All components of the airplane necessary to sustain flight recovered in the area. The airplane had incurred impact related damage in the ditching sequence, as well as damage during the recovery from the ocean floor. The left and right wings had remained attached to the fuselage, and there was leading edge damage to each wing. The flaps remained attached, but the trailing edges had incurred damage. When recovered, the empennage had separated from the fuselage just aft of the cabin door, and the cabin was otherwise undamaged. The emergency exit door was missing. There was no damage to the vertical stabilizer, rudder, horizontal stabilizer or elevators, and flight control continuity was established for roll, pitch and yaw. The rudder trim jackscrew indicated 7 threads, which showed a range between neutral and half right rudder. The elevator jackscrew had three threads exposed, consistent with the elevator within a range of neutral to about a half nose up. The main landing gear in both wings as well as the nose gear were all confirmed to have been in the up and locked position.

On the left wing the fuel cap was found in the locked position, and fuel system components had remained attached at the wing root. The fuel selector valve was found in the outboard fuel tank position, the fuel drain had separated and there was sand and debris in the sump. Both the fuel boost pump and emergency boost pump were located and tested and they operated normally. There was the smell of fuel in the inboard and outboard left wing tank bladders, but no fuel was found.

The right wing aileron trim showed 5 threads, consistent with the trailing edge being down. The fuel cap was also found secured, and fuel system components, to include the emergency fuel pump, the fuel boost pump, the firewall shutoff valve, fuel filter and drain had all remained attached to the wing root. The fuel drain had fractured, and the smell of fuel was evident. Sand was discovered in the fuel filter screen. The fuel boost pump was tested and found to operate normally. A small fuel sample was recovered from the right wing root area.

After both engines were recovered from the ocean, on January 10, 2002, the NTSB, along with a representative from Lycoming Engines, examined them, and no preaccident anomalies were found.

Examination of the left propeller and engine showed that the propeller had remained attached to the engine, and the propeller, along with its governor were in the feathered position. Accessories such as the dual Bendix magneto had incurred salt water exposure; however, the magneto when examined turned with the engine, and the magneto gear index timing was found to be normal. The throttle was found to be full open, and the mixture was found to be in the mid range. All hoses associated with the fuel system was undamaged and tightly connected, and trace amounts of fuel was found in the pump. The fuel injection system was clear, and the injection nozzles were free of obstructions. The fuel pump was intact, and showed no loose connections or evidence of leaking. The fuel injector servo screen was clean. Droplets of residual fuel was found in the engine's pump inlet hose to the servo. The crankshaft was rotated and associated internal gear and valve train continuity was established for the left engine. Spark plugs, and valve covers were removed and the left engine examined using a borescope. No anomalies were noted. The spark plugs when examined showed evidence of advance wear, with electrode gaps outside published engine manufacturer's specifications.

The right propeller was also attached to the right engine, and the propeller was in the feather position. The propeller governor was also in the feather position. All fuel hoses were undamaged and tightly connected, and trace amounts of fuel was found in the pump. The fuel injection system was clear, and the injection nozzles were free of obstructions. Accessories such as the Bendix magneto had incurred salt water damage, however, when examined the magneto turned with the engine, and the magneto gear index timing was found to be normal. Fuel hoses on the right engine were also found to be secure to each engine component. The fuel pump was intact, and showed no evidence of being loose connections or leaking. The fuel injector servo screen was clean. No fuel was found in the right engine's fuel system. When rotated, the crankshaft and associated internal gear and valve train displayed proper continuity. The spark plugs and valve covers were removed, and the right engine was also examined using a borescope, and no anomalies were noted. The spark plugs on the right engine, when examined, also showed evidence of advance wear, with electrode gaps outside the range of the engine manufacturer's published specifications.

MEDICAL AND PATHOLOGICAL INFORMATION

The airplane ditched in the ocean, about 300 yards from the shore, in about 15 feet of water. Its occupants consisted of one pilot and 4 passengers, and all exited the airplane. One passenger received fatal injuries, and all other occupants received serious injuries.

On January 2, 2002, postmortem examination of the deceased passenger was performed by a Medical Examiner with the Broward County Medical Examiner's Office, Fort Lauderdale, Florida. According to the Medical Examiner, the deceased passenger's cause of death was attributed to drowning after the airplane crash.

SURVIVAL ASPECTS

The pilot stated that he did not remember if he told passengers of the briefing card in the back of the airplane seat. The pilot further stated that he did not instruct the passengers in the use of life vests prior to the flight. He said that such instruction were never given as part of his Title 14 CFR Part 135 training, so he did not instruct his passengers in their use. All passengers that the NTSB interviewed stated that predeparture safety briefings were never conducted by the pilot.

Four life vests were recovered from passengers and/or were found floating on the surface of the water in the vicinity of the wreckage of N3525Y. Placards on the vests showed that the life vests had last been examined on March 21, 2001, and the next inspection was due in March 2004.

No life raft was discovered among the wreckage from N3525Y, and according to the operator, none was aboard.

ADDITIONAL INFORMATION

On January 3, 2002 the airplane wreckage was released to Mr. Larry Addison, Air and Sea Recovery Inc., Fort Lauderdale, Florida. Both engines were recovered from the ocean, prepared and sent to Airmark Engines, Fort Lauderdale, Florida, under NTSB's guidance for detailed examination. After the examination on January 10, 2002, the NTSB released both engines to Mr. William Milburn, Owner, Airmark Engines.

Pilot Information

Certificate:	Flight Instructor; Commercial	Age:	31, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	06/22/2001
Occupational Pilot:		Last Flight Review or Equivalent:	11/25/2001
Flight Time:	2241 hours (Total, all aircraft), 72 hours (Total, this make and model), 2042 hours (Pilot In Command, all aircraft), 76 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N3525Y
Model/Series:	PA-31-350	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	317952127
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:	09/20/2001, 100 Hour	Certified Max Gross Wt.:	7368 lbs
Time Since Last Inspection:	36.3 Hours	Engines:	2 Reciprocating
Airframe Total Time:	7132 Hours at time of accident	Engine Manufacturer:	Textron Lycoming
ELT:	Installed	Engine Model/Series:	TIO-540-J2BD
Registered Owner:	Taurus Wings Inc.,	Rated Power:	350 hp
Operator:	Air Taxi Inc.	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	X17A

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	
Observation Facility, Elevation:	FLL, 9 ft msl	Distance from Accident Site:	2 Nautical Miles
Observation Time:	1815 EST	Direction from Accident Site:	270°
Lowest Cloud Condition:	Scattered / 3900 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	21 °C / 16 °C
Precipitation and Obscuration:			
Departure Point:	North Eleuthera (MYEH)	Type of Flight Plan Filed:	IFR
Destination:	Fort Lauderdale, FL (FLL)	Type of Clearance:	IFR
Departure Time:	1635 EST	Type of Airspace:	Class C

Airport Information

Airport:	Fort Lauderdale International (FLL)	Runway Surface Type:	Unknown
Airport Elevation:	9 ft	Runway Surface Condition:	Unknown
Runway Used:	NA	IFR Approach:	Unknown
Runway Length/Width:		VFR Approach/Landing:	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Fatal, 3 Serious	Aircraft Fire:	
Ground Injuries:	N/A	Aircraft Explosion:	
Total Injuries:	1 Fatal, 4 Serious	Latitude, Longitude:	26.062778, -80.108889

Administrative Information

Investigator In Charge (IIC):	John W Lovell	Report Date:	04/28/2004
Additional Participating Persons:	George Francioni; FAA FSDO; Fort Lauderdale, FL Paul Lehman; The New Piper Aircraft, Inc.; Vero Beach, FL Edward G Rogalski; Textron Lycoming; Bellview, FL		
Publish Date:			
Investigation Docket:	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 pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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](#).