National Transportation Safety Board
Aviation Accident Final Report

Location:	Pompano Beach, FL	**Accident Number:**	MIA05LA011
Date & Time:	10/21/2004, 1748 EDT	**Registration:**	N61518
Aircraft:	Piper PA-31-350	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General Aviation - Positioning		

Analysis

Before the start of the trip, the pilot was reportedly given $500.00 cash by the operator to purchase fuel. The pilot stated that the first leg of the flight from KFLL to MYEF departed with the main fuel tanks full and approximately 10 gallons in each of the auxiliary fuel tanks. There were no deviations en-route, and the uneventful flight lasted a reported 1 hour 40 minutes. After landing in Exuma International Airport, the main fuel tanks contained slightly more than 1/2 fuel capacity. Ten gallons of fuel were added to each of the two auxiliary fuel tanks at MYEF, no additional fuel was purchased. The flight departed for KFLL, and during the climb to 10,000 feet, he leaned the fuel/air mixture. During the cruise portion of the flight, the fuel in the auxiliary fuel tanks was consumed then he switched to the main fuel tanks to supply fuel to the engines. The flight crossed the DEKAL intersection at 4,000 feet, which is about 31 nautical miles southeast of KFLL, continued, and the right engine manifold pressure decreased, the cylinder head temperature reached red line indication, and the engine sputtered. He declared an emergency with air traffic control and the controller provided vectors to KFLL which he verbally acknowledged but did not comply with. While operating single engine, with the engine operating at full power, he reported no discrepancies with the left engine. He reported he could reach KFLL but was concerned about flying over a populated area at a low altitude, and was losing altitude. Contrary to the statement made by the pilot that he was not able to maintain altitude while flying single-engine, the airplane was capable of a rate of climb greater than 170 feet-per-minute if flown properly. He elected to ditch the airplane in the Atlantic Ocean; the airplane was not recovered. The operator was asked repeatedly by NTSB for historical fuel receipts and flight hours for N61518 but did not comply. NTSB review of fuel consumption calculations performed by the Federal Aviation Administration (FAA) Inspector-In-Charge revealed the aircraft would have experienced fuel exhaustion at the approximate location and time when the pilot declared an emergency with ATC following failure of the right engine. The NTSB did not receive the NTSB requested detailed, signed, dated statement from the pilot.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate in-flight planning/decision, which resulted in fuel exhaustion and the

loss of engine power in one engine. Contributing factors were the pilot's inadequate handling of the aircraft following failure of the right engine for his failure to extract maximum single engine performance, and his failure to properly refuel the aircraft.

Findings

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

Findings
1. 1 ENGINE
2. FLUID,FUEL - EXHAUSTION
3. (C) REFUELING - INADEQUATE - PILOT IN COMMAND
4. (C) FUEL CONSUMPTION CALCULATIONS - IMPROPER - PILOT IN COMMAND

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

Occurrence #3: DITCHING
Phase of Operation: EMERGENCY LANDING

Findings
5. (C) INSTRUCTIONS,WRITTEN/VERBAL - NOT FOLLOWED - PILOT IN COMMAND
6. (C) AIRCRAFT HANDLING - INADEQUATE - PILOT IN COMMAND

Factual Information

On October 21, 2004, about 1748 eastern daylight time, a Piper PA-31-350, N61518, registered to a private individual and operated by Twin Town Leasing, Inc., dba Twin Air, experienced a pilot reported loss of engine power from the right engine and was ditched in the Atlantic Ocean east-southeast of Pompano Beach Airpark, Pompano Beach, Florida. Visual meteorological conditions prevailed at the time and an instrument flight rules flight plan was filed for the 14 CFR Part 91 positioning flight from Exuma International Airport (MYEF), Moss Town, Great Exuma Island, Bahamas, to Fort Lauderdale/Hollywood International Airport (KFLL), Fort Lauderdale, Florida. The airplane was not recovered and is considered destroyed, while the airline transport-rated pilot, the sole occupant, sustained minor injuries. The flight originated about 1611, from Exuma International Airport.

The pilot verbally reported to the NTSB that the first leg of the flight from KFLL to MYEF departed with the main fuel tanks full and approximately 10 gallons in each of the auxiliary fuel tanks. The flight was flown at 9,000 feet, and proceeded direct to MYEF using the on-board GPS receiver. He did not deviate enroute, and the uneventful flight lasted a reported 1 hour 40 minutes. After landing, the airplane was secured, the cargo was removed, and the main fuel tanks contained slightly more than 1/2 fuel capacity. According to a statement from the fueler at MYEF, 10 gallons of fuel were added to each of the two auxiliary fuel tanks after landing, no additional fuel was purchased.

The flight departed to return to Fort Lauderdale, and during the climb to 10,000 feet, the pilot later reported leaning each engine fuel/air mixture. The flight proceeded direct to KFLL, and during the cruise portion of the flight, the fuel in the auxiliary fuel tanks was consumed then he switched to the main fuel tanks to supply fuel to the engines. The flight continued, and began descending to 4,000 feet when the flight was approximately 20-30 miles southeast of the DEKAL intersection. The flight crossed the DEKAL intersection at 4,000 feet, which is about 31 nautical miles southeast of KFLL, continued, and the right engine manifold pressure decreased, the cylinder head temperature reached red line indication, and the engine sputtered. He turned on the auxiliary fuel pump, enrichened the fuel/air mixture, and manipulated the throttle control, which had no effect. He did not reposition the fuel selector valve. According to a partial transcript of communications, the pilot declared an emergency with air traffic control at 1736:14, and advised the controller of "... a problem with the right engine", followed by a comment at 1736: 24, indicating "... we have a problem with the right engine low manifold pressure."

The pilot further reported that he feathered the right propeller, which stopped rotating, and he secured the right engine using the aircraft checklist. He asked for and was given vectors by the controller direct to the destination airport; he reportedly followed the controller's vectors. He slowed to blue line airspeed when the right engine low manifold pressure indication occurred but reported he could not maintain altitude. He then slowed to less than blue line airspeed in an attempt to maintain altitude. While flying single-engine with the left engine at full power, he reported there was no problem with it, but he kept losing altitude. The "aircraft kept sinking" and the "single-engine performance was lousy." He advised he could have made it to the destination airport but would have had to fly over the city between 200 and 500 feet, and rather than do that, "I elected to ditch the aircraft." Before contact with the water with the gear and flaps retracted, he turned on the emergency locator transmitter, and intentionally stalled the airplane. He donned his life vest and grabbed the onboard flare gun, exited the airplane

out the door, inflated his life fast, and fired five flares. He was in the water approximately 45 minutes to 1 hour before being rescued by a Coast Guard helicopter.

National Transportation Safety Board review of a transcription of communications correlated with recorded radar data revealed that at the time the pilot first declared an emergency (1736:14), the flight was located 23.1 nautical miles from the center of the Fort Lauderdale/Hollywood International Airport (KFLL), flying at 4,300 feet mean sea level (msl), and heading 296 degrees (later determined to be a direct heading to the center of KFLL). The controller advised the pilot to fly heading 320 degrees direct to the airport, and advised him at his discretion to descend and maintain 2,000 feet; the radar data reflects that the pilot turned to a north-northwesterly heading. The transcription of communications indicates that at 1738:02, the controller advised the pilot to fly heading 290 degrees which he acknowledged; the radar data indicates that at that time, the direct heading to the center of KFLL was 292 degrees. The radar data reflects that following the communication from the controller to fly heading 290 degrees, the pilot flew a north-northeasterly heading between 1738:37 and 1739:07, and again between 1739:27 and 1740:57. The transcription of communication indicates that at 1738:48, while the flight was proceeding on the north-northeasterly heading, the controller advised the pilot that the flight was drifting to the northeast and asked the pilot his heading; he replied 290 degrees. The controller then advised the pilot to turn to heading 280 degrees, which he acknowledged. The transcription of communications further indicates that between 1739:27 and 1740:57, while the aircraft was proceeding on a north-northeasterly heading, the controller advised the pilot "... you can head west you can go left or right", which he acknowledged. The radar data reflects that the airplane proceeded north of a point abeam KFLL, turned left flying a northwesterly heading. The transcription of communications indicates that between 1740:45, and the last communication with the pilot at 1746:28, the controller advised the pilot on several occasions to turn left which he acknowledged. Additionally, the controller also provided a vector to the closest airport. The last radar contact at 200 feet msl, which occurred at 1747:33, was located at 26 degrees 14.534 minutes north latitude and 079 degrees 54.969 minutes west longitude, or 10.5 nautical miles and 098 degrees from the center of Pompano Beach Airpark. The last radar contact was also located 16.3 nautical miles and 058 degrees from the center of KFLL.

The operator was repeatedly asked by NTSB for historical fuel receipts and flight hours for N61518 but did not comply. The pilot was reportedly given $500 cash by the operator in advance of the flight to purchase fuel, etc. NTSB review of fuel consumption calculations performed by the Federal Aviation Administration (FAA) Inspector-In-Charge revealed the aircraft would have experienced fuel exhaustion at the approximate location and time when the pilot declared an emergency with ATC following failure of the right engine.

NTSB review of the Single Engine Climb Performance Chart revealed that based on compliance with the notes contained in the chart, the temperature at the time of the right engine failure (80.6 degrees Fahrenheit), the altimeter setting of 29.87 inHg, and the altitude that the right engine failed (approximately 4,000 feet mean sea level), at gross weight the airplane was capable of a best rate of climb of approximately 170 feet-per-minute. The chart reflects that the best rate of climb in terms of feet-per-minute increases with a decrease in aircraft weight. At the time of the right engine failure, the aircraft total weight was approximately 2,500 pounds less than the maximum gross weight.

The NTSB 6120.1/2 "Pilot/Operator Aircraft Accident Report" form was partially completed by

the operator and submitted to the NTSB. The pilot was requested by e-mail to prepare a detailed, signed, dated statement. He acknowledged receipt of the e-mail requesting the statement, but the NTSB did not receive the requested statement.

Pilot Information

Certificate:	Airline Transport; Commercial	**Age:**	49, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	08/03/2004
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	4500 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N61518
Model/Series:	PA-31-350	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	31-7552022
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	10/18/2004, 100 Hour	**Certified Max Gross Wt.:**	7368 lbs
Time Since Last Inspection:	3.4 Hours	**Engines:**	2 Reciprocating
Airframe Total Time:	19269.9 Hours as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated	**Engine Model/Series:**	TIO-540 SER
Registered Owner:	Clayton I. Gamber	**Rated Power:**	350 hp
Operator:	Twin Town Leasing Company, Inc.	**Operating Certificate(s) Held:**	On-demand Air Taxi (135)
Operator Does Business As:	Twin Air	**Operator Designator Code:**	EYLA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	KPMP, 19 ft msl	**Distance from Accident Site:**	
Observation Time:	1753 EST	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	30°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.87 inches Hg	**Temperature/Dew Point:**	27°C / 23°C
Precipitation and Obscuration:			
Departure Point:	Moss Town (MYEF)	**Type of Flight Plan Filed:**	IFR
Destination:	Fort Lauderdale, FL (KFLL)	**Type of Clearance:**	IFR
Departure Time:	1611 AST	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	26.219444, -79.866944

Administrative Information

Investigator In Charge (IIC):	Timothy W Monville	**Report Date:**	06/08/2005
Additional Participating Persons:	James R Piccoli; FAA Flight Standards District Office; Fort Lauderdale, 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.ntsb.gov/pubdms/.		