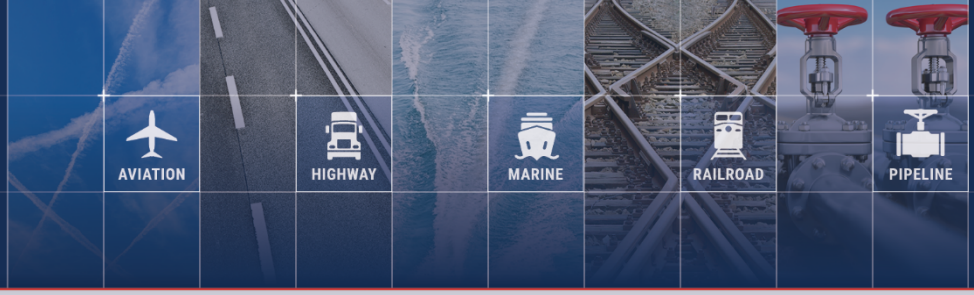

Aviation Investigation Final Report

Location:	LAGRANGE, Georgia	**Accident Number:**	MIA96FA218
Date & Time:	August 27, 1996, 10:20 Local	**Registration:**	N741RB
Aircraft:	Piper PA-32RT-300	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal, 1 Serious, 1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that he was VFR and had 'gotten into IFR conditions.' He was instructed to maintain VFR at all times. The pilot subsequently continued his own navigation and changed radio frequencies. Within minutes the pilot radioed a mayday call and radio communications were lost. Ground witnesses reported that the airplane's engine was backfiring and sputtering. The airplane was seen at a low altitude, in a left bank, when the left wing struck a tree (discolored foliage was observed near the tree). Examination of the wreckage revealed that the left fuel tank was breached, and no fuel was observed in the tank. The right fuel tank was not breached, and less then 1/2 gallon of fuel was drained from the tank. The fuel selector was found on the 'right' tank, and the electric fuel pump switch was found in the 'OFF' position. The last known fueling of the airplane was on 8/26, with 50 gallons of fuel. Total fuel in the airplane at that point was unknown. According to Hobbs meter readings, a total of 6.1 hours were flown on the airplane from the time it departed until the crash. The PA-32RT-300, had a total fuel capacity of 98 gallons, of which 94 gallons were usable fuel, and the airplane burned 18 gallons per hour of fuel at a power setting of 75 percent. At 75 percent power the airplane cruised at 155 knots. Calculating the distances for the different flight segments, the total flight time would have been 3 hours 50 minutes, leaving 2 hours and 54 minutes of unknown flight time that was used during the entire trip. Total fuel obtained on the trip, assuming the tanks were full when the airplane departed, was 148 gallons [98+50]. About 87 gallons was used for the flights (not including taxi and climb), from the start to finish, leaving about 61 gallons of fuel that can not be accounted for during the trip. Based on the Hobbs time of 6.1 hours, at a fuel burn rate of 18 gallons per hour, 110 gallons of fuel was consumed, which calculates to about 48 gallons of fuel remaining at the time of impact. The total usable fuel for each tank (2) was 47 gallons.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper procedure by not placing the fuel selector on the tank with the most fuel, which resulted in fuel starvation and a forced landing in a pasture. Contributing factors in this accident were the pilot's inadequate pre-flight and in-flight planning, lack of instrument certification, and the pressure imposed on him from flying into adverse weather conditions.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE - NORMAL

Findings
1. (F) FLIGHT INTO ADVERSE WEATHER - INADVERTENT - PILOT IN COMMAND
2. (F) LACK OF CERTIFICATION - PILOT IN COMMAND
3. WEATHER CONDITION - CLOUDS
4. (F) PRESSURE INDUCED BY CONDITIONS/EVENTS - PILOT IN COMMAND
5. DIVERTED ATTENTION - PILOT IN COMMAND

Occurrence #2: LOSS OF ENGINE POWER
Phase of Operation: DESCENT

Findings
6. (C) FUEL TANK SELECTOR POSITION - IMPROPER - PILOT IN COMMAND
7. (C) FLUID,FUEL - STARVATION
8. (F) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
9. (F) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND

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

Occurrence #4: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
10. OBJECT - TREE(S)
11. TERRAIN CONDITION - ROUGH/UNEVEN

Factual Information

HISTORY OF FLIGHT

On August 27, 1996, about 1020 eastern daylight time, a Piper PA-32RT-300, N741RB, registered to a private owner, was destroyed during a forced landing, near LaGrange, Georgia. The private-rated pilot was removed from the wreckage, and died of injuries at a local hospital. One passenger received serious injuries, and another passenger received minor injuries. Visual meteorological conditions (VMC) prevailed in the vicinity, and no flight plan had been filed. The trip started on August 21, 1996, at Hampton, Georgia, en route to Apalachicola, Florida. The flight departed Apalachicola on August 26, 1996, en route to Dothan, Alabama, and departed Dothan, August 27, 1996, at 0926 (0826 central daylight time). The personal flight was being conducted in accordance with Title 14 CFR Part 91.

At 0958:48, the pilot reported in on Columbus Approach Control, Arrival/Departure (AR/DR-1), radio frequency, and said; "...we are out here I think oh about 20 miles southeast of you. I'm V F R [visual flight rules and] I've gotten into I F R [instrument flight rules] conditions. Wonder if you can help me get back towards Griffin [Georgia]." The AR/DR-1 Specialist, issued a beacon code; advised the pilot he was in radar contact; and told him "...make a right turn now, immediate right turn heading one eight zero." The controller had to repeat the instructions several times before the pilot acknowledged the transmission.

Between 1002:57, and 1004:14, the controller repeated the clearances until the pilot finally acknowledged that he was to climb to 2,500 feet, and turn right to a heading of 270 degrees. The controller gave the pilot a subsequent clearance to climb 3,000 feet, cleared him to the Griffin Airport via radar vectors, and told him to turn right to a heading of 360 degrees.

The controller asked the pilot how he wanted to get to Griffin. The pilot said, "can you advise me sir I don't know...I can still see the ground a little bit...." The controller asked him if he was I F R qualified, and he answered, "no sir I am not?"

The controller instructed the pilot to descend and maintain VFR, and asked him if VFR was possible. The pilot answered, "yes sir that's correct...shall I descend now."

At 1007:43, the controller said to the pilot, "I want you to maintain VFR at all times...let me know when you get in VMC...please." The pilot told the controller at 1009:07, that "I am just getting under it [clouds]." The controller said that when you are VMC, "...you can just resume your own navigation on course back to Griffin." At 1009:20, the pilot said, "...I think I can take that from this point on...." The controller advised the pilot of N741RB, that he was going to remain under ATC control.

The controller said, "...you are getting close to another airport...at that altitude it's going to be quite dangerous around that airport, I have IFR traffic cleared in on a approach at your twelve o'clock...about 4 miles...do you have the LaGrange Airport in sight?" The pilot said "negative" and was asked if he could deviate to the east. The pilot responded that he could.

For the next 2 minutes 19 seconds the controller was trying to establish the pilot's identity and his home airport. The controller could not understand the information that the pilot had given, because of radio difficulty, so he had the pilot change radio frequencies.

At 1016:15, the pilot came up on the frequency and the controller said, "you hear all right on this frequency," and the pilot answered, "that is great."

At 1018:30, the pilot of N741RB radioed, "mayday mayday, mayday, Columbus Approach, Columbus approach." Radar and radio communications were lost, and the controller made several attempts to reestablish radio communication, with the pilot of N741RB, without any success.

The controller then vectored another airplane, that was on his frequency, to the vicinity of the last radar location. The other airplane found the wreckage site at 1031:02, and said to the controller, "...looks like...one...in a field, at this time...they got a fire truck and E M S down there..."

Ground witnesses near the crash site saw and heard the airplane. They told the Safety Board that the airplane's engine was backfiring and sputtering. The airplane was seen at a low altitude, in a left bank, when the left wing struck a tree.

The accident occurred during the hours of daylight approximately 32 degrees, 50 minutes north, and 84 degrees, 53 minutes west.

PERSONNEL INFORMATION

Information on the pilot is contained in this report on page 3, under First Pilot Information. The pilot's personal logbook containing his flight hours was not found.

METEOROLOGICAL INFORMATION

Visual meteorological conditions prevailed at the time of the accident. Meteorological information is contained in this report on page 3, under Weather Information.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot, on August 27, 1996, at the Medical Examiner's Office, Atlanta, Georgia, by Dr. T. Martin.

Toxicological tests were conducted at the Federal Aviation Administration, Research Laboratory, Oklahoma City, Oklahoma, and revealed, "...positive results...0.520 (ug/ml, ug/g) Lidocaine [Bronchodilator decongestant] detected in Blood...0.730 (ug/ml, ug/g) Lidocaine detected in Kidney Fluid...Ephedrine [local anesthetic and anti-arrhythmic] detected in Blood...Ephedrine detected in Kidney Fluid...."

WRECKAGE AND IMPACT INFORMATION

The airplane had landed in a pasture that sloped down hill, bottomed out, then started uphill. According to the Sheriff's Department, the airplane came to rest on the uphill side. A tree north of the wreckage, was damaged, and airplane parts, from the left wing, were found at the base of the tree. Discolored vegetation in and around the tree was also observed. A ground scar was found in the pasture, about 165 feet south of the tree.

The wreckage had been removed from the crash site prior to the Safety Board's arrival, and was examined at the facilities of Atlantic Air Salvage Inc., Griffin, Georgia. The examination revealed that the left fuel tank was breached, and no fuel was observed in the tank. Rescue personnel stated to the Safety Board, that they observed about 1 gallon of fuel coming from the airplane after they arrived. The right fuel tank was not breached, and less then1/2 gallon of fuel was drained from the tank. The fuel selector was found on the "right" tank, and the electric fuel pump switch was found in the "OFF" position.

The underside of the fuselage, from the firewall aft to the airframe rib at the pilot's seat, was crushed upwards about 8 inches. The left side of the fuselage was creased upwards at a 45-degree angle to the instrument panel. The left side of the fuselage aft of the windshield, displayed impact damage about 2 inches inboard, which resulted in the window breaking. The overhead of the airplane had been bent aft to facilitate rescue of the occupants.

The left wing was broken at the outboard edge of the inboard fuel tank, 65 inches from the wing root. All the rivets from the main spar forward, around the leading edge were popped. The leading edge of the wing, 78 inches from the root, was crushed inward 1.5 inches. The inboard seam of the inboard fuel tank was popped from it's rivets, along the main spar, forward to the leading edge on the bottom of the wing. The aft half of the wing, from the spar aft, was creased at a 45-degree angle from a point 83 inches from the wing root, going aft, and outboard to a point 97 inches from the root. The leading edge of the wing, 130 inches from the root, was crushed aft 6 inches out to the fiberglass wing tip. The wing tip had ripped off. The right wing, and the empennage did not display any impact damage.

Examination of the engine revealed that it was still attached to the fuselage. The propeller hub had broken off the crankshaft flange, and the starter ring was broken. All the accessories were in place, and still attached.

All of the exhaust pipes and the muffler were crushed. The No. 2 cylinder intake pipe was displaced and crushed. The No. 4 cylinder intake pipe was crushed, and the intake pipe,

upper flange was broken.

There were no obstructions observed in the fuel injector air inlet. The engine was set up on the airframe to facilitate an engine test run.

TEST AND RESERCH

To make the engine ready for a test run, the following parts were replaced:

* No. 2 cylinder bottom spark plug * No. 2 cylinder intake pipe * No. 4 cylinder intake pipe upper flange * Starter ring gear * Test propeller, which was in the feathered position * Seven quarts of oil * The muffler was cut from the exhaust pipes

The engine was started and test run two times, up to a maximum of 1,400 rpm. The engine operated on the left magneto, right magneto, and both magnetos positions. The engine stopped when the magneto switch was placed in the "off" position.

The right wing was drained of about 1/2 gallon of blue fuel. The fuel was tested for water with water finding paste, and no water was found. The right fuel tank was then filled to the top with water and checked for leaks. No leaks were observed.

ADDITIONAL INFORMATION

The last known fueling of the airplane was in Apalachicola, Florida, at 1100, on August 26, 1996, with 50 gallons of fuel. Total fuel in the airplane at that point was unknown. According to recorded Hobbs meter readings obtained from the operator at the time of departure from Georgia, and readings obtained at the crash site, a total of 6.1 hours were flown on the airplane from the time it departed Georgia until the crash.

The fuel flow and fuel burn rates were calculated using Piper's performance charts, and known information. The PA-32RT-300, had a total fuel capacity of 98 gallons, of which 94 gallons were usable fuel. Using the Pilot's Operating Handbook (POH), the airplane burned 18 gallons per hour of fuel at a power setting of 75 percent. At 75 percent power the airplane cruised at 155 knots

The distance from Georgia to Apalachicola was about 203 nautical miles. At a cruise speed of 155 knots, and no wind, the duration of the flight would have been about 1 hour and 20 minutes, and would have consumed 24 gallons of fuel. At Apalachicola, 50 gallons of fuel was added to the airplane's fuel tanks.

The airplane departed Apalachicola about 1130 (1030 CDT), August 26, 1996, and arrived Dothan, Alabama, about 1300 (CDT, duration 2.5 hours), a distance of 103 nautical miles, and would have consumed about 45 gallons of fuel. At a cruise speed of 155 knots, no wind, a direct flight of 103 nautical miles is about 42 minutes, with a fuel consumption of

about 13 gallons.

ATC recorded the departure at Dothan at 0926, August 27, 1996. The accident time was about 1020 (.9 hours), a distance of about 108 nautical miles, and would have consumed about 18 gallons of fuel.

At a cruise speed of 155 knots, no wind, and using the distances for the different flight segments, the total flight time would have been 3 hours 50 minutes, leaving 2 hours 54 minutes of unknown flight time that was used during the entire trip. Total fuel obtained on the trip, assuming the tanks were full when the airplane departed Georgia, was 148 gallons [98+50]. About 87 gallons was used for the flights (not including taxi and climb), from the start to finish, leaving about 61 gallons of fuel that can not be accounted for during the trip.

Based on the Hobbs time of 6.1 hours, at a fuel burn rate of 18 gallons per hour, 110 gallons of fuel was consumed, which calculates to about 48 gallons of fuel remaining at the time of impact. The total usable fuel for each tank (2) was 47 gallons.

The Safety Board made several attempts to arrange an interview with the wife of the pilot, in effort to get her factual account of the events that occurred during the flight. Her doctor at the hospital would not allow interviews due to her injuries. An attorney claiming to represent the pilot's wife, telephoned the Safety Board and asked if a witness form could be sent to him, and he would see to it that it was completed. A letter dated September 19, 1996, was sent to the wife's home address. The letter and a witness form were sent (fax transmittal, Randy Davis), September 24, 1996, to the attorney, but was never returned. On March 31, 1997, an NTSB Form 6120.11, Statement of Witness, was received from the pilot's wife and she stated, "I do not recall the events of this flight."

The aircraft wreckage was released to Mr. Ralph M. Bulloch, an employee of the owner, on August 29, 1996.

Pilot Information

Certificate:	Private	**Age:**	52,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 20, 1995
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	360 hours (Total, all aircraft), 10 hours (Total, this make and model), 18 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N741RB
Model/Series:	PA-32RT-300 PA-32RT-30	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	32R-7985037
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	November 20, 1995 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	137 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	52293 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-540K1G5D
Registered Owner:	MICHAEL LAPP	**Rated Power:**	300 Horsepower
Operator:	BOSS ROCKET AVIATION	**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CSG ,194 ft msl	**Distance from Accident Site:**	16 Nautical Miles
Observation Time:	10:20 Local	**Direction from Accident Site:**	207°
Lowest Cloud Condition:	Clear	**Visibility**	4 miles
Lowest Ceiling:	Broken / 1000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	0°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	25°C / 22°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	DOTHAN , AL (DHN)	**Type of Flight Plan Filed:**	None
Destination:	HAMPTON , GA (4A7)	**Type of Clearance:**	None
Departure Time:	08:26 Local	**Type of Airspace:**	Class C

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	None
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Serious, 1 Minor	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious, 1 Minor	**Latitude, Longitude:**	33.03918,-85.119651(est)

Administrative Information

Investigator In Charge (IIC):	Yurman, Alan
Additional Participating Persons:	JAMES PERRY; ATLANTA , GA DAVID BORDEN; MARIETTA , GA GERALD R JAMES; DALLAS , TX
Original Publish Date:	March 31, 1998
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=37913