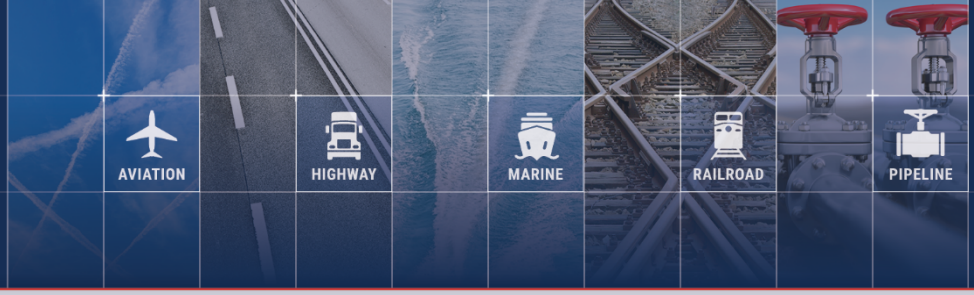

Aviation Investigation Final Report

Location:	Douglas, Georgia	**Accident Number:**	ERA10LA438
Date & Time:	August 23, 2010, 13:20 Local	**Registration:**	N8734Y
Aircraft:	Piper PA-30	**Aircraft Damage:**	Substantial
Defining Event:	Fuel contamination	**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The airplane had been parked outside and not flown for about 1 year, except for a test flight conducted about 1 month prior to the accident. During a preflight inspection, the pilot observed water in the airplane's main fuel tanks, and debris in the right wingtip fuel tank. A series of engine ground run-ups and maintenance was conducted prior to the pilot attempting a test-flight. The airplane subsequently experienced a rough running left engine during the takeoff and impacted trees. Postaccident inspection of the airplane revealed the presence of water and corrosion in the fuel distribution system. Water was observed in both of the main fuel tank strainers and the left engine fuel injector. In addition, fuel drained from the airplane by recovery personnel contained water and unidentified debris. An annual inspection was performed on the airplane about 6 weeks prior to the accident, and additional maintenance was performed, which included flushing the fuel tanks and cleaning the fuel lines to each respective flow divider after the left engine "missed" during the test flight conducted about 1 month prior. The pilot had only accumulated about 22 hours of multiengine flight experience and lacked experience in the make and model of the accident airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: A loss of engine power during takeoff due to fuel contamination. Contributing to the accident was the pilot's inadequate preflight inspection and inadequate maintenance of the fuel system.

Findings

Aircraft	Fuel - Fluid condition
Personnel issues	Preflight inspection - Pilot
Personnel issues	Scheduled/routine maintenance - Maintenance personnel
Personnel issues	Scheduled/routine inspection - Maintenance personnel

Factual Information

History of Flight

Prior to flight	Preflight or dispatch event
Initial climb	Fuel contamination (Defining event)
Initial climb	Loss of engine power (partial)
Initial climb	Collision with terr/obj (non-CFIT)

On August 23, 2010, about 1320 eastern daylight time, a Piper PA-30, N8734Y, owned and operated by a private individual, was substantially damaged when it impacted terrain, during takeoff from Douglas Municipal Airport (DQH), Douglas, Georgia. The certificated airline transport pilot was seriously injured. Visual meteorological conditions prevailed and no flight plan had been filed for the local personal flight conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

According to the owner, the airplane had been parked outside at DQH, and not flown for about 1 year. On July 7, 2010, an annual inspection was performed on the airplane, however, during a subsequent test-flight on July 25, the left engine "missed" and additional maintenance was performed, which included "flushing the fuel tanks and cleaning the fuel lines to each respective flow divider." On the date of the accident, the pilot intended to fly the airplane to Florida, where the owner planned to sell it.

According to the pilot, during the preflight inspection, he observed water in the airplane's main fuel tanks, and debris in the right wingtip fuel tank. During two subsequent ground-runs, both engines had periods of rough running operation and unidentifiable debris was observed in the fuel injectors. A third ground-run was conducted without any anomalies noted, and the pilot intended to conduct a test-flight in the airport traffic pattern.

After normal preflight checks, the pilot attempted to depart from runway 22, a 6,000-foot-long, 100-foot-wide, asphalt runway. During the takeoff roll, the right engine rpm exceeded redline on a digital rpm gauge. The pilot adjusted the engine power and continued with the takeoff. The airplane lifted off the runway and was accelerating in ground effect, when the left engine began to run rough. The pilot believed that there was insufficient runway remaining to land and stop on the runway. He attempted to climb; however, the airplane began to settle and slowly yaw to the left.

The airplane subsequently impacted trees, and came to rest about a 1/4-mile southwest of the airport. The airplane sustained substantial damage to both wings, the fuselage, and empennage.

The airplane was equipped with two Lycoming IO-360-C1C series engines. The position of the

wreckage precluded examination at the accident site. Subsequent examination of the wreckage conducted by representatives of the airframe and engine manufacturers, under the supervision of a Federal Aviation Administration (FAA) inspector revealed the presence of water and corrosion in the fuel distribution system. Water was observed in both of the main fuel tank strainers and the left engine fuel injector. In addition, fuel that was drained from the airplane by recovery personnel contained water and unidentified debris. No additional anomalies were noted, which would have prevented normal engine operation.

According to fuel records, the airplane was "topped-off" with 30 gallons of 100-low-lead aviation gasoline on the morning of the accident. Three airplanes were refueled on the day prior to the accident, and one airplane was refueled after the accident airplane. The airport manager reported that he specifically contacted the owners and/or pilots of those airplanes, and they reported that they did not experience any fuel related problems.

The pilot reported 3,465 hours of total flight experience, which included 3,297 hours in rotorcraft, 141 hours in single-engine airplanes, and 22 hours in multiengine airplanes. The pilot had no previous experience in the same make and model as the accident airplane beyond the test flight that was performed in July, and the accident flight.

Pilot Information

Certificate:	Airline transport	**Age:**	45,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	Helicopter	**Restraint Used:**	
Instrument Rating(s):	Airplane; Helicopter	**Second Pilot Present:**	No
Instructor Rating(s):	Helicopter	**Toxicology Performed:**	No
Medical Certification:	Class 1 With waivers/limitations	**Last FAA Medical Exam:**	April 22, 2010
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	March 19, 2010
Flight Time:	3465 hours (Total, all aircraft), 1 hours (Total, this make and model), 3304 hours (Pilot In Command, all aircraft), 27 hours (Last 90 days, all aircraft), 9 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N8734Y
Model/Series:	PA-30	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	30-1888
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	July 7, 2010 Annual	**Certified Max Gross Wt.:**	3600 lbs
Time Since Last Inspection:	1 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	6936 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed	**Engine Model/Series:**	IO-360-C1C
Registered Owner:	Thomas B Newman	**Rated Power:**	200 Horsepower
Operator:	Thomas B Newman	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	DQH,257 ft msl	**Distance from Accident Site:**	
Observation Time:	13:40 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 3100 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	80°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.87 inches Hg	**Temperature/Dew Point:**	31°C / 22°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Douglas, GA (DQH)	**Type of Flight Plan Filed:**	None
Destination:	Douglas, GA (DQH)	**Type of Clearance:**	None
Departure Time:	13:18 Local	**Type of Airspace:**	Unknown

Airport Information

Airport:	Douglas Municipal DQH	**Runway Surface Type:**	Asphalt
Airport Elevation:	257 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	22	**IFR Approach:**	None
Runway Length/Width:	6000 ft / 100 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	31.476667,-82.860557(est)

Administrative Information

Investigator In Charge (IIC):	Schiada, Luke
Additional Participating Persons:	Greer C Paramore; FAA/FSDO; Atlanta, GA Ron Maynard; Piper Aircraft Inc.; Vero Beach, FL Edward Rogalski; Lycoming Engines; Williamsport, PA
Original Publish Date:	August 11, 2011
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=77051