



National Transportation Safety Board Aviation Accident Final Report

Location:	Roanoke, TX	Accident Number:	FTW03LA143
Date & Time:	05/03/2003, 1500 CDT	Registration:	N9789D
Aircraft:	Piper PA-18A-150	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

During the takeoff climb of the 3rd or 4th touch and go, "the engine lost power and began to sputter." Prior to the flight, according to the cockpit fuel sight gauges observed by the private pilot, the left fuel tank indicated approximately 3/4 full of fuel, and the right tank indicated approximately 1/2 full of fuel. The private pilot, who was receiving instruction for a tailwheel endorsement, stated the fuel selector was selected to the left fuel tank at the time the engine lost power. After the engine lost power, the flight instructor initiated a forced landing to a field. During the forced landing, the airplane impacted trees and terrain, and came to rest on its nose. Examination of the airplane revealed the fuel system was intact, the left main fuel tank was empty, the right main fuel tank contained "plenty of fuel," and the fuel was clear of contaminants.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The flight instructor's inadequate in-flight planning/decision resulting in fuel starvation and the loss of engine power. A contributing factor was the lack of suitable terrain for the forced landing.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (C) IN-FLIGHT PLANNING/DECISION - INADEQUATE - PILOT IN COMMAND(CFI)
2. (C) FUEL SYSTEM - STARVATION

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

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings

3. OBJECT - TREE(S)
4. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

On May 3, 2003, at 1500 central daylight time, a Piper PA-18A-150 single-engine tailwheel-equipped airplane, N9789D, sustained substantial damage during a forced landing following a loss of engine power during takeoff climb, while executing touch and go landings from the Northwest Regional Airport, near Roanoke, Texas. The certified flight instructor (CFI) was not injured, and the private pilot receiving instruction sustained minor injuries. The airplane was registered to Land Aviation LLC, of Argyle, Texas, and operated by Marcair, of Roanoke, Texas. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 instructional flight. The local flight departed Northwest Regional Airport approximately 1425.

The 260-hour private pilot was receiving a checkout for a tailwheel endorsement. The private pilot reported that prior to the flight, according to the cockpit fuel sight gauges, the left fuel tank indicated approximately 3/4 full of fuel, and the right tank indicated approximately 1/2 full of fuel. During the takeoff climb of the 3rd or 4th touch and go, "the engine lost power and began to sputter." The private pilot stated that the fuel selector was selected to the left fuel tank at the time the engine lost power. After the engine began to lose power, the CFI switched the fuel selector to the right tank position; however, no change in engine power was noted, and the CFI initiated a forced landing to a field. During the forced landing, the airplane impacted trees and terrain, and came to rest on its nose.

An FAA inspector, who responded to the accident site, reported that the right wing and the fuselage sustained structural damage. The FAA inspector stated that the fuel system was intact, the left main fuel tank was empty, the right main fuel tank contained "plenty of fuel," and the fuel was clear of contaminants.

Flight Instructor Information

Certificate:	Flight Instructor; Commercial	Age:	30, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	05/30/2002
Occupational Pilot:		Last Flight Review or Equivalent:	09/28/2001
Flight Time:	1490 hours (Total, all aircraft), 156 hours (Total, this make and model), 1374 hours (Pilot In Command, all aircraft), 140 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Private	Age:	43, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Front
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	06/19/2001
Occupational Pilot:		Last Flight Review or Equivalent:	07/03/2002
Flight Time:	260 hours (Total, all aircraft), 8 hours (Total, this make and model), 160 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	Registration:	N9789D
Model/Series:	PA-18A-150	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	18-6861
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	02/01/2003, Annual	Certified Max Gross Wt.:	1750 lbs
Time Since Last Inspection:	53 Hours	Engines:	1 Reciprocating
Airframe Total Time:	2984.2 Hours as of last inspection	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-320
Registered Owner:	Land Aviation LLC	Rated Power:	150 hp
Operator:	Marcair	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:		Distance from Accident Site:	
Observation Time:		Direction from Accident Site:	
Lowest Cloud Condition:	Clear	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	2 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	32° C
Precipitation and Obscuration:			
Departure Point:	Roanoke, TX (52F)	Type of Flight Plan Filed:	None
Destination:	(52F)	Type of Clearance:	None
Departure Time:	1425 CDT	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 Minor, 1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	33.049722, -97.232222

Administrative Information

Investigator In Charge (IIC):	Aaron M Sauer	Report Date:	09/13/2005
Additional Participating Persons:	Gary F Worthy; Federal Aviation Administration; Fort Worth, TX		
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 pubinquiry@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](#).