Aviation Investigation Final Report

Location:	CHATOM, Alabama	**Accident Number:**	MIA00LA253
Date & Time:	August 27, 2000, 10:45 Local	**Registration:**	N2982T
Aircraft:	Aero Commander 100	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor, 2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot stated that he had visually inspected the fuel tanks, and had 1 hour and 30 minutes of fuel remaining. In one statement the pilot said he had 15 gallons of fuel on board, and in another statement, he said that that he had 17 gallons of fuel on board. The pilot said that he and two passengers had departed at 09:30 AM, on a low level sight seeing flight, and at 10:25 AM the aircraft's engine started to operate at reduced power. He said the engine did not completely cease operating, but did not generate enough power to stay airborne. He said he tried to reach a field to make an emergency landing, but did not have enough altitude to reach it, so he selected a road, but clipped the power line with the left main gear, and hit two trees with each wing, during the forced landing. According to the FAA inspector, one of the passengers, who is also an FAA licensed mechanic assisted him in the postaccident examination, and they found a small amount of fuel, and a half teaspoonful of dirt in the damaged gascolator. The inspector also said that they found a small amount of fuel in the carburetor when it was examined. The inspector said that aircraft documentation revealed that the aircraft had a fuel capacity of 44 gallons, of which 4 is unusable. The mechanic/passenger said that based on what he experienced during the flight, as well during the postaccident examination of the aircraft, he believes that they ran out of fuel, and that during the examination they found a maximum of 4 to 5 gallons of fuel on the aircraft.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's improper preflight planning/decision and failure to ensure an adequate supply of fuel to safely complete the flight to his destination with adequate fuel reserves, which resulted in fuel exhaustion, subsequent engine failure, and a forced landing during, which the aircraft incurred substantial damage.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: CRUISE

Findings
1. (C) PREFLIGHT PLANNING/PREPARATION - IMPROPER - PILOT IN COMMAND
2. (C) FUEL CONSUMPTION CALCULATIONS - INADEQUATE - PILOT IN COMMAND
3. FLUID,FUEL - EXHAUSTION

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

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

Findings
4. OBJECT - WIRE,TRANSMISSION
5. OBJECT - TREE(S)

Occurrence #4: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
6. TERRAIN CONDITION - GROUND

Factual Information

On August 27, 2000, about 1045 central daylight time, an Aero Commander 100, N2982T, registered to and operated by a private owner as a Title 14 CFR Part 91 personal flight, made a forced landing near Chatom, Alabama. Visual meteorological conditions prevailed, and no flight plan was filed. The aircraft incurred substantial damage, and the private-rated pilot and two passengers received minor injuries. The flight originated from Evans Field, near Wilmer, Alabama, the same day, about 0930.

During a statement that the pilot made on August 28, 2000, he said that he had visually checked the fuel tank, and had determined that he had 1 hour and 30 minutes of fuel, "around 15 gal." The pilot further stated that his planned low level sight seeing flight was to take him and his two passengers from Wilmer, Alabama, over Lucedale, Mississippi and north Mobile County, and then to Jackson, Alabama for fuel, and then back to Evans Field. The pilot stated that he took off at 0930 AM, and at about 10:25 AM, while he was over Chatom, Alabama, en route to Jackson, Mississippi, the engine began operating at reduced power. He said the engine did not completely cease operating, but it did not generate enough power to stay airborne.

In a statement made on September 21, 2000, the pilot said that during the preflight he visually inspected the tanks and had 17 gallons of fuel onboard, 10 gallons in the left tank, and 7 gallons in the right tank. He said that over Chatom, Alabama, the engine started to "spit and sputter." He stated that the fuel selector had been on "both", and he then moved the selector to the left tank, which had more fuel, and the engine ceased operating completely. He said he immediately switched the tank selector back to both and the engine operated again. He said that he was at 800 feet mean sea level, and began searching for a landing site, and by pumping the throttle he was able to keep the engine running between 1200 and 1900 rpms. He said he tried to reach a field, but did not have enough altitude to reach it, so he selected a road, but clipped the power line with the left main gear, and hit two trees with each wing during the forced landing.

The pilot said that after the accident he was told that "trash", and some traces of water had been found in the carburetor, and that the gascolator had ruptured, and dirt and water was also found in the gascolator, but also added that it had rained heavily the day before the postaccident examination had been conducted.

According to an FAA inspector who responded to the accident, when he first arrived, the accident aircraft's fuel tanks had both been intact, and the aircraft had been loaded on to a flat bed truck for removal from the scene. The inspector further stated that it was close to sunset, and after turning on the master switch and noting movement on the fuel gages, indicating the presence of some fuel in the aircraft, he traveled to Mobile, Alabama, where the pilot had been

evacuated to the hospital, to interview the pilot. He said that when he returned the following morning to continue the postaccident examination, the aircraft had been removed from the flat bed truck, to an open hangar. According to the inspector, when the aircraft was off loaded, the right wing was damaged, and about 2 gallons of fuel had flowed from the tank. The inspector said that there were no resources available for him to conduct a detailed examination of the aircraft, so with the aid of the passenger, who is also an FAA licensed mechanic, he examined the gascolator and found a small amount of fuel, and a half teaspoonful of dirt. The inspector also noted that the gascolator had been damaged during the impact. According to the inspector, he and the mechanic also examined the carburetor and found a small amount of fuel. The FAA inspector stated that the accident aircraft's fuel capacity is 44 gallons, of which 4 gallons are unusable, and the pilot did not keep track of how much time he flew since filling the fuel tanks.

The passenger/mechanic stated that he had asked the pilot to take him and his wife on a sight seeing flight for their wedding anniversary. He stated that they had flown around for a while looking at the various sights and scenery, and did not fly directly to their planned refuel stop. He also stated that when they encountered the first indications of engine problems they switched fuel tanks, but their attempts did not restore engine power. The mechanic said that the following day he returned to assist the FAA inspector in examining the aircraft, and they only found about 4 to 5 gallons of fuel on the aircraft. The mechanic said that based on what he experienced during the flight, and after examining the aircraft after the accident, he believes they that they ran out of usable fuel.

To date, subsequent attempts by the NTSB to obtain a more detailed engine examination has been uneventful.

Pilot Information

Certificate:	Private	**Age:**	30,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:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	July 19, 1999
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	581 hours (Total, all aircraft), 490 hours (Total, this make and model), 523 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Aero Commander	**Registration:**	N2982T
Model/Series:	100 100	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	103
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	August 22, 2000 Annual	**Certified Max Gross Wt.:**	2250 lbs
Time Since Last Inspection:	3 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2158 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-320-A2B
Registered Owner:	JON HANKINS	**Rated Power:**	150 Horsepower
Operator:		**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:	MOB ,219 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	09:59 Local	**Direction from Accident Site:**	180°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	300°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	89°C / 72°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WILMER , AL (AL94)	**Type of Flight Plan Filed:**	None
Destination:	JACKSON , AL (4R3)	**Type of Clearance:**	None
Departure Time:	09:30 Local	**Type of Airspace:**	Class G

Airport Information

Airport:		**Runway Surface Type:**	
Airport Elevation:		**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:	2 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor, 2 None	**Latitude, Longitude:**	31.460481,-88.250976(est)

Administrative Information

Investigator In Charge (IIC):	Lovell, John
Additional Participating Persons:	EDWARD M DASILVA; BIRMINGHAM , AL
Original Publish Date:	November 28, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=50106