



Aviation Investigation Final Report

Location:	Ashland, Kentucky	Accident Number:	NYC06CA188
Date & Time:	July 30, 2006, 11:50 Local	Registration:	N1981V
Aircraft:	Cessna 120	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Following a complete loss of engine power, the Cessna 120 collided with trees, during an attempted return to the departure airport. According to the pilot, he had not visually checked the fuel quantity in the tanks prior to departure; however, the right fuel tank gauge indicated 1/4 full. The pilot also stated that the fuel gauges were unreliable. When asked if he had used a checklist, he offered that he "didn't use a written checklist, but had gone through a mental one prior to takeoff." The pilot normally flew a Cessna 180 where the middle position of the fuel selector was used for both tanks. On the Cessna 120, however; the middle position was for right tank only. No evidence of preimpact mechanical failures were discovered. Fuel was present in both fuel tanks, the primer was unlocked, and the left fuel gauge indicated 3/8 full. The fuel selector was in the "off" position; however, the mechanic first to respond to the accident site could not recall if he turned the fuel selector "off," or if it was already in that position. According to the Cessna 120 Owners Manual a pilot should "set fuel tank selector to the fullest tank for takeoff," and "not takeoff on less than 1/4 tank."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's improper fuel tank selection, which resulted in fuel starvation and a subsequent loss of engine power. A factor in the accident was the trees.

Findings

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

Findings

1. (C) FLUID,FUEL - STARVATION
2. (C) FUEL TANK SELECTOR POSITION - IMPROPER - PILOT IN COMMAND

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

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

Findings

3. (F) OBJECT - TREE(S)

Factual Information

Following a complete loss of engine power, the Cessna 120 collided with trees, during an attempted return to the departure airport. According to the pilot, he had not visually checked the fuel quantity in the tanks prior to departure; however, the right fuel tank gauge indicated 1/4 full. The pilot also stated that the fuel gauges were unreliable. When asked if he had used a checklist, he offered that he "didn't use a written checklist, but had gone through a mental one prior to takeoff." The pilot normally flew a Cessna 180 where the middle position of the fuel selector was used for both tanks. On the Cessna 120, however; the middle position was for right tank only. No evidence of preimpact mechanical failures were discovered. Fuel was present in both fuel tanks, the primer was unlocked, and the left fuel gauge indicated 3/8 full. The fuel selector was in the "off" position; however, the mechanic first to respond to the accident site could not recall if he turned the fuel selector "off," or if it was already in that position. According to the Cessna 120 Owners Manual a pilot should "set fuel tank selector to the fullest tank for takeoff," and "not takeoff on less than 1/4 tank."

Pilot Information

Certificate:	Private	Age:	44, 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 Without waivers/limitations	Last FAA Medical Exam:	February 1, 2006
Occupational Pilot:	No	Last Flight Review or Equivalent:	October 1, 2005
Flight Time:	1200 hours (Total, all aircraft), 15 hours (Total, this make and model), 12 hours (Last 90 days, all aircraft), 6 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N1981V
Model/Series:	120	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	14192
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	March 1, 2006 Annual	Certified Max Gross Wt.:	1450 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	O-200
Registered Owner:	On file	Rated Power:	100 Horsepower
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	HTS,828 ft msl	Distance from Accident Site:	14 Nautical Miles
Observation Time:	15:51 Local	Direction from Accident Site:	135°
Lowest Cloud Condition:		Visibility	5 miles
Lowest Ceiling:	Broken / 1800 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	29°C / 23°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	Ashland, KY (DWU)	Type of Flight Plan Filed:	None
Destination:	HUNTINGTON, WV (I41)	Type of Clearance:	None
Departure Time:	11:50 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	38.554443,-82.738052

Administrative Information

Investigator In Charge (IIC):	Gunther, Todd
Additional Participating Persons:	Robert I Moller, Louisville, KY
Original Publish Date:	November 29, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=64217

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