



Aviation Investigation Final Report

Location:	LONGMONT, Colorado	Accident Number:	DEN00LA137
Date & Time:	July 22, 2000, 08:30 Local	Registration:	N6253U
Aircraft:	Mooney M20C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

After 45 minutes of flight, while conducting touch-and-go landings on a local area personal flight, a total loss of power occurred during climb following a touch-and-go landing. The student pilot attempted to turn back and land the aircraft in the opposite direction on the runway he had departed. He was unable to make it to the runway and landed in a field where the aircraft struck a ditch during landing roll causing substantial damage. The pilot stated the engine quit due to fuel starvation, and investigation verified that the fuel tank selected contained no usable fuel. The aircraft fuel capacity was 75.6 usable gallons and the flight departed with an estimated 25 gallons on board. Review of the pilot's operating handbook for the airplane provided information that the pilot's handbook gave specific preflight and procedural guidance to pilots to verify fuel on board prior to departure and to ensure that critical regimes of flight (landing and takeoff) were conducted on the fullest tank. The student pilot had 65 hours total flight time and 61 hours in the accident aircraft make and model.

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 selector position resulting in fuel starvation and the ditch impacted during the landing roll. A contributing factor was the pilot's failure to follow published procedures and directives.

Findings

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

Findings

1. FLUID,FUEL - STARVATION
2. (C) FUEL TANK SELECTOR POSITION - IMPROPER - PILOT IN COMMAND
3. (F) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND

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

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: LANDING - ROLL

Findings

4. (C) TERRAIN CONDITION - DITCH

Factual Information

On July 22, 2000, at 0830 mountain daylight time, a Mooney M20C, N6253U, made a forced landing in a field near the airport at Longmont, Colorado, when the engine lost all power. The student pilot and his passenger were not injured and the aircraft sustained substantial damage. Visual meteorological conditions prevailed for this personal flight operating under Title 14 CFR Part 91. The flight originated at Jefferson County Airport, Broomfield, Colorado, at 0745. No flight plan was filed.

According to the pilot, he was conducting touch-and-go landings on runway 29 at Vance Brand Municipal Airport. At about 1,000 feet above ground level on climb out following a touch-and-go landing, the engine lost all power. The pilot said he attempted to return for landing on the opposite runway (11), and when he realized he could not make the runway he conducted an off field landing. During landing roll, the nose landing gear struck a ditch. The impact caused damage to the nose landing gear, engine firewall, and right wing.

The pilot stated that he did not change the fuel selector to the fullest tank prior to commencing the approach, and the aircraft suffered fuel starvation. Investigation verified that the fuel tank selected was empty of useable fuel.

According to the pilot's operating handbook for the aircraft:

1. The accident aircraft make and model has a total fuel capacity of 78.6 U. S. gallons, 75.6 of which is useable fuel. The fuel distribution is in two internal wing tanks that have a capacity of 39.3 gallons each. Fuel consumption is approximately 15.3 gallons per hour at 5,000 feet above mean sea level on a standard day at maximum power.
2. The preflight portion of the handbook provides guidance to the pilot to check the fuel gauges and then visually check each of the two fuel tanks for proper quantity.
3. The operations section of the handbook provides guidance to the pilot to switch the fuel tank selector to the fullest tank prior to commencing an approach.

In his report on the accident, the pilot stated he had 25 gallons of fuel on board when he departed Jefferson County Airport 45 minutes prior to the accident. The distribution of that fuel is unknown.

According to the pilot, he was issued a private pilot certificate on May 27, 2000, and his medical certificate was a first class, without limitations, issued on June 10, 1998.

Federal Aviation Administration records provided information that the pilot had a student pilot

certificate issued on September 9, 1999, and that his medical certificate was pending.

In the report submitted by the pilot, he stated he had 65.3 hours of flight experience, of which, 61.4 hours was in the accident aircraft make and model. He said he had 25 hours in the previous 90 days and 15 hours in the previous 30 days, all of which was in the accident aircraft make and model.

Pilot Information

Certificate:	Student	Age:	28,U
Airplane Rating(s):	None	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:	Unknown Unknown	Last FAA Medical Exam:	
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	65 hours (Total, all aircraft), 61 hours (Total, this make and model), 30 hours (Pilot In Command, all aircraft), 25 hours (Last 90 days, all aircraft), 15 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	Registration:	N6253U
Model/Series:	M20C M20C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	2092
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 28, 2000 100 hour	Certified Max Gross Wt.:	2575 lbs
Time Since Last Inspection:	56 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	8358 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, not activated	Engine Model/Series:	O-360
Registered Owner:	ADVANTAGE AVIATION, INC.	Rated Power:	180 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:	BJC ,5671 ft msl	Distance from Accident Site:	30 Nautical Miles
Observation Time:	08:45 Local	Direction from Accident Site:	165°
Lowest Cloud Condition:	Clear	Visibility	15 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	22°C / 15°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	BROOMFIELD , CO (BJC)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	07:45 Local	Type of Airspace:	Class E

Airport Information

Airport:	VANCE BRAND MUNICIPAL 2V2	Runway Surface Type:	Concrete
Airport Elevation:	5052 ft msl	Runway Surface Condition:	Dry
Runway Used:	11	IFR Approach:	None
Runway Length/Width:	4800 ft / 75 ft	VFR Approach/Landing:	Forced landing;Touch and go

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	40.169017,-105.10955(est)

Administrative Information

Investigator In Charge (IIC):	Wiemeyer, Norman
Additional Participating Persons:	LARRY ROCKHOLD; DENVER , CO
Original Publish Date:	January 18, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=49788

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The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).