



Aviation Investigation Final Report

Location:	Howell, Michigan	Accident Number:	CEN21LA423
Date & Time:	September 16, 2021, 15:45 Local	Registration:	N823SP
Aircraft:	Mooney M20J	Aircraft Damage:	Substantial
Defining Event:	Fuel starvation	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Before takeoff, the pilot estimated that 19 gallons of fuel remained in the airplane based on approximate flight time and fuel burn since the last refueling. His displays read 30 gallons remaining. He departed on a 20 nautical mile flight and shortly after takeoff the engine began to run rough. The engine stopped running rough and the pilot scanned the engine instruments which displayed normal readings. The pilot continued to his destination but had second thoughts and decided to return to his home field. While in cruise flight at 4,500 ft mean sea level, the engine quit. The pilot performed a forced landing to a corn field. The airplane sustained substantial damage to the wings during the forced landing.

A postaccident examination determined there was no fuel in the right tank and 6.5 gallons in the left tank. When electrical power was applied to the airplane, the right tank display indicated 1/2 full. The fuel quantity of the airplane was last calibrated in 2006 when it was modified with a dual bladder system.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

The pilot's inadequate preflight inspection of the airplane's fuel quantity, which resulted in a total loss of engine power due to fuel starvation.

Findings

Aircraft

Fuel - Fluid level

Personnel issues

Preflight inspection - Pilot

Factual Information

History of Flight

Prior to flight	Aircraft inspection event
Enroute	Fuel starvation (Defining event)
Landing-flare/touchdown	Off-field or emergency landing

Pilot Information

Certificate:	Private	Age:	33, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	May 7, 2021
Occupational Pilot:	No	Last Flight Review or Equivalent:	September 17, 2020
Flight Time:	185 hours (Total, all aircraft), 48 hours (Total, this make and model), 151 hours (Pilot In Command, all aircraft), 48 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	Registration:	N823SP
Model/Series:	M20J	Aircraft Category:	Airplane
Year of Manufacture:	1976	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-0003
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	Annual	Certified Max Gross Wt.:	2740 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Installed	Engine Model/Series:	IO-360-A3B6D
Registered Owner:	S & P SERVICES INC	Rated Power:	210 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:	KOZW,944 ft msl	Distance from Accident Site:	4 Nautical Miles
Observation Time:	15:55 Local	Direction from Accident Site:	99°
Lowest Cloud Condition:	Scattered / 5000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	160°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.13 inches Hg	Temperature/Dew Point:	25°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Howell, MI (KOZW)	Type of Flight Plan Filed:	None
Destination:	Pontiac, MI (KPTK)	Type of Clearance:	None
Departure Time:	15:00 Local	Type of Airspace:	Class E

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:		Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	42.638481,-84.068627(est)

Administrative Information

Investigator In Charge (IIC): Aguilera, Jason

Additional Participating Persons:

Original Publish Date: March 25, 2022

Last Revision Date:

Investigation Class: [Class 4](#)

Note: The NTSB did not travel to the scene of this accident.

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=103893>

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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](#).