



Aviation Investigation Final Report

Location:	Olathe, Kansas	Accident Number:	GAA17CA260
Date & Time:	May 2, 2017 18:30 Local	Registration:	N7118U
Aircraft:	Mooney M20	Aircraft Damage:	Substantial
Defining Event:	Fuel starvation	Injuries:	1 Minor, 2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that, during the initial climb, about 1,000 ft above the ground, he "saw the engine power winding down." He added that he "turned on" the boost pump, checked the magnetos and fuel mixture, and then switched the fuel selector to the other fuel tank. The engine experienced a total loss of power and then impacted the ground.

The airplane sustained substantial damage to the fuselage.

The Federal Aviation Administration inspector reported that he traveled to the accident, and while on-site, he observed that the fuel selector knob set screw was loose and that the knob turned freely on the shaft. The set screw doesn't keep the knob keyed; it just stops it from coming off. A roll pin keeps the shaft in position and was observed in the selector well.

The pilot did not submit the National Transportation Safety Board Form 6120.1 Pilot/Operator Aircraft Accident/Incident Report.

Probable Cause and Findings

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

The ~~loose-separated~~ fuel tank selector knob ~~set-roll pin~~ screw, which prevented the fuel selector from moving to the fuel tank position for the tank with usable fuel and resulted in fuel starvation and the subsequent total loss of engine power.

Findings

Aircraft	Fuel selector/shutoff valve - Malfunction
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Factual Information

History of Flight

Prior to flight	Unknown or undetermined
Takeoff	Fuel starvation (Defining event)
Takeoff	Loss of engine power (total)
Takeoff	Collision with terr/obj (non-CFIT)

Occupant Information

Certificate:	Airline transport, Flight instructor, Commercial, Flight engineer, Private	Age:	71, Male
Airplane Rating(s):	Multi-engine land, Single-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	Glider	Restraint Used:	Unknown
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine, Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 3 With waivers/limitations	Last FAA Medical Exam:	February 14, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	February 21, 2017
Flight Time:	[SAFTIFlightTime]		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	Registration:	N7118U
Model/Series:	M20 E	Aircraft Category:	Airplane
Year of Manufacture:	1964	Amateur Built:	[SAFTIAmateurBuilt]
Airworthiness Certificate:	Normal	Serial Number:	360
Landing Gear Type:	Tricycle;	Seats:	4
Date/Type of Last Inspection:	[SAFTILastInspectionDateLastInspectionType]	Certified Max Gross Wt.:	2575 lbs
Time Since Last Inspection:	[SAFTITimeSinceLastInspectionHrs]	Engines:	1 Reciprocating
Airframe Total Time:	[SAFTIAirframeTotalHrsAirframeHrsSince]	Engine Manufacturer:	LYCOMING
ELT:	[SAFTIELT]	Engine Model/Series:	IO360 SER
Registered Owner:	SMOOTH BLUE INC.	Rated Power:	[SAFTIEngineRatedPower]
Operator:	SMOOTH BLUE INC.	Operating Certificate(s) Held:	None
Operator Does Business As:	[SAFTIOperatorDoesBusinessAs]	Operator Designator Code:	[SAFTIOperatorDesignatorCode]

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KOJC, 1070 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	23:53:00 Local	Direction from Accident Site:	342°
Lowest Cloud Condition:	Few / 11000 ft AGL	Visibility	10 miles
Lowest Ceiling:	[SAFTILowestCeiling]	Visibility (RVR):	[SAFTIVisualRangeFT]
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/ None
Wind Direction:	10°	Turbulence Severity Forecast/Actual:	/ N/A
Altimeter Setting:	29.96 inches Hg	Temperature/Dew Point:	18°C / 5°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Olathe, KS (OJC)	Type of Flight Plan Filed:	Unknown
Destination:	MANHATTAN, KS (MHK)	Type of Clearance:	Unknown
Departure Time:	18:30 Local	Type of Airspace:	Class D

Airport Information

Airport:	JOHNSON COUNTY EXECUTIVE OJC	Runway Surface Type:	[SAFTIRunwaySurfaceType]
Airport Elevation:	1096 ft msl	Runway Surface Condition:	Unknown
Runway Used:	[SAFTIRunwayID]	IFR Approach:	None
Runway Length/Width:	[SAFTIRunwayLengthFTRunwayWidthFT]	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor, 1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 2 None	Latitude, Longitude:	38.846389°, -94.737503° estimated

Administrative Information

Investigator In Charge (IIC):	Vanover, Jackie		
Additional Participating Persons:	William Taylor; FAA; Kansas City, MO		
Original Publish Date:	January 23, 2018	Investigation Class:	[SAFTIInvestigationClassNum]
Note:	This accident report documents the factual circumstances of this accident as described to the NTSB.		
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=95113		

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.