
 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: GEN13FA221		Aircraft Registration Number: N57672	
		Occurrence Date: 04/07/2013		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Collinsville		State OK	Zip Code 74021	Local Time 1800	Time Zone CDT
Airport Proximity: Off Airport/Airstrip		Distance From Landing Facility:			
Aircraft Information Summary					
Aircraft Manufacturer MOONEY		Model/Series M20J		Type of Aircraft Airplane	
Revenue Sightseeing Flight: No			Air Medical Transport Flight: No		
Narrative					
Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:					
*** Note: NTSB investigators either traveled in support of this investigation or conducted a significant amount of investigative work without any travel, and used data obtained from various sources to prepare this aircraft accident report. ***					
HISTORY OF FLIGHT					
<p>On April 7, 2013, about 1800 central daylight time, a Mooney M20J, airplane, N57672, impacted terrain near Collinsville, Oklahoma. The commercial rated pilot and passenger were fatally injured and the airplane was destroyed. The airplane was registered and operated by a private individual under the provisions of 14 Code of Federal Regulations Part 91 as a personal flight. Visual meteorological conditions prevailed for the flight, which operated on an instrument flight rules flight plan. The flight originated from the Tulsa International Airport (KTUL), Tulsa, Oklahoma, at 1747, and was en route to the Manhattan Regional airport, Manhattan, Kansas (KMHK).</p>					
<p>A review of the air traffic control communications and radar data revealed that the pilot contacted the TUL departure controller; which cleared him to climb to 6,000 feet and to the "DELAT" intersection. About 5 minutes later, the aircraft disappears from the controller's radar, and the pilot does not respond to the controller's radio calls.</p>					
<p>Several witnesses reported seeing the airplane descending at a high rate of speed, before it impacted terrain, in a small lot behind a vacant house.</p>					
PILOT INFORMATION					
<p>The pilot held a commercial pilot certificate with ratings for airplane single-engine and multiengine land, and instrument-airplane. The pilot held a third class medical certificate that was issued on January 9, 2013, with the restriction, "must have available glasses for near vision". At the time of the exam the pilot had reported 3,686.7 total flight hours and 150.8 hours in the preceding six months. A pilot logbook was located among the wreckage; however, additional flight time entries could not be read, due to the condition of the logbook.</p>					
AIRCRAFT INFORMATION					
<p>The accident airplane was a Mooney M20J which is a low-wing, single-engine airplane, with retractable tricycle gear, powered by a reciprocating engine driving a constant speed propeller.</p>					
<p>A review of the airplane's maintenance records revealed that the airplane's last annual inspection was conducted on April 1, 2012, with a Hobbs meter reading of 4,818.6 hours.</p>					
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At the time of the inspection the engine had a total time of 3,650.5 and 551.6 hours since overhaul. The airplane was equipped with a fiberglass belly panel, installed per Supplemental Type Certificate (STC), SA3252NM.

METEOROLOGICAL INFORMATION

At 1753, the automated weather observation facility located at KTUL, reported wind from 160 degrees at 17 knots gusting to 24 knots, with a peak wind recorded at 1743, at 170 degrees at 29 knots, visibility 9 miles, overcast ceiling at 2,000 feet, temperature 66 Fahrenheit (F), dew point 61 F, and a barometric pressure of 29.72 inches of mercury.

Prior to the pilot's departure from MHK, he telephoned flight service and received a weather briefing for this planned flight. He filed two IFR flight plans, one for the flight to TUL, and one for the return trip back to MHK; the route of flight for each trip was filed as GPS direct. About 1706 the pilot telephoned flight service, and received an abbreviated weather brief for the return flight from Tulsa to Manhattan.

COMMUNICATIONS and RADAR INFORMATION

A review of air traffic communications revealed that the pilot was transferred from the KTUL tower controller to the departure controller. The departure controller then issued instructions for the pilot to climb to 6,000 and proceed direct "DELAT". The accident pilot acknowledged the controller instructions, with the read back as 6,000 and what sounded like, "direct vlap". Approximately five minutes later, the controller tried to contact the pilot; the pilot did not respond and there was no further communication or distress calls from the pilot.

RADAR

A review of the radar data revealed the airplane departed TUL on a northward heading. The data revealed the airplane, climbed to about 4,300 feet, before a descending right turn was depicted. No other radar points from the aircraft were observed and the last radar point was near the accident site.


WRECKAGE AND IMPACT INFORMATION

The National Transportation Safety Board, inspectors from the Federal Aviation Administration (FAA), and a technical representative from Lycoming aircraft engines examined the airplane wreckage on site.

The airplane's impact left a crater approximately 10 feet in diameter and about 4 feet deep. The airplane's engine and part of a propeller blade was visible in the crater; the left wing, empennage, were just outside the crater. One end of a narrow ground scar contained pieces of a fiberglass wingtip and a green navigation light, the other end of the scar was at the impact crater. A postcrash fire consumed part of the fuselage and rear stabilizer. The remainder of the airplane wreckage was fragmented.

The airplane impacted the backyard of a vacant house, in a residential area. All major components of the airplane were accounted for on scene. Fragmented pieces of the airplane were located within yards of the neighboring houses.

The fiberglass belly skin panel was located away from the main crash site, on a heading of about 346 degrees and approximately 1.4 miles from the main impact point.

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The airplane's artificial horizon (attitude indicator) was located; the instrument had heavy impact damage. The unit was disassembled, and the gyro had scoring consistent with rotation at the time of impact.

The engine was located in the center of the crater and had received extensive damage. The aft accessory case and sump were shattered and separated from the main case. Pieces of the accessories; fuel pump, magneto, and vacuum pump were found scattered around the accident site. Three blades of the constant speed propeller were located; each blade had separated from the hub. The blades each had a wave type bend, leading edge polishing, and had leading edge damage.

MEDICAL AND PATHOLOGICAL INFORMATION

Due to extensive trauma, an autopsy on the pilot was not conducted.


The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, did not perform toxicological tests on the specimens for carbon monoxide or cyanide. The specimens were negative for ethanol and tested drugs.


TEST AND RESEARCH

The wreckage was examined on May 22, 2013 at a salvage facility, near Lancaster, Texas, by the NTSB and a technical representative from the engine manufacturer. The main wing spar was fractured into several sections; the exam noted that the deformation and damages were consistent with the wing being intact at the time of ground impact. The left horizontal stabilizer, left and right elevator, vertical stabilizer, and rudder remained attached to the empennage. The right horizontal stabilizer was separated and was fire damaged. The left elevator counterweight was not located in the wreckage; however, damage to the outboard stabilizer and elevator was consistent with the counterweight being attached at impact.

All of the examined fracture surfaces exhibited features consistent with overload failures and no evidence of fatigue or flutter.

Updated on Jul 23 2014 10:11AM

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Landing Facility/Approach Information					
Airport Name N/A	Airport ID:	Airport Elevation Ft. MSL	Runway Used N/A	Runway Length	Runway Width
Runway Surface Type: Not Applicable					
Runway Surface Condition: Unknown					
Approach/Arrival Flown: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer MOONEY		Model/Series M20J		Serial Number 24-1493	
Airworthiness Certificate(s): Normal					
Landing Gear Type: Retractable - Tricycle					
Amateur Built Acft? No	Number of Seats:	Certified Max Gross Wt. LBS		Number of Engines: 1	
Engine Type: Reciprocating	Engine Manufacturer: Lycoming		Model/Series: IO-360	Rated Power: 200 HP	
- Aircraft Inspection Information					
Type of Last Inspection Annual	Date of Last Inspection 04/2012	Time Since Last Inspection Hours		Airframe Total Time 4819 Hours	
- Emergency Locator Transmitter (ELT) Information					
ELT Installed?/Type Yes / Unknown		ELT Operated? No	ELT Aided in Locating Accident Site?		
Owner/Operator Information					
Registered Aircraft Owner Ronald Marshall		Street Address			
		City De Witt	State NE	Zip Code 68341	
Operator of Aircraft Ronald Marshall		Street Address			
		City De Witt	State NE	Zip Code 68341	
Operator Does Business As:			Operator Designator Code:		
- Type of U.S. Certificate(s) Held: None					
Air Carrier Operating Certificate(s):					
Operating Certificate:			Operator Certificate:		
Regulation Flight Conducted Under: Part 91: General Aviation					
Type of Flight Operation Conducted: Personal					

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First Pilot Information

Name	City	State	Date of Birth	Age
	On File	On File		70

Sex:	Seat Occupied: Left	Occupational Pilot? No	Certificate Number:
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Certificate(s): Commercial

Airplane Rating(s): Multi-engine Land; Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Current Biennial Flight Review?

Medical Cert.: Class 3	Medical Cert. Status: With Waivers/Limitations	Date of Last Medical Exam: 01/2013
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- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	3686.7									
Pilot In Command(PIC)										
Instructor										
Instruction Received										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

Seatbelt Used? Unknown	Shoulder Harness Used? Unknown	Toxicology Performed? Yes	Second Pilot? No
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Flight Plan/Itinerary

Type of Flight Plan Filed: IFR

Departure Point	State	Airport Identifier	Departure Time	Time Zone
Tulsa	OK	KTUL	1747	CDT

Destination	State	Airport Identifier	
Manhattan	KS	KMHK	


Type of Clearance: IFR

Type of Airspace:

Weather Information

Pilot's Source of Wx Information:

Unknown

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Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
KTUL	1753	CDT	Ft. MSL	10 NM	5 Deg. Mag.
Sky/Lowest Cloud Condition: Thin Overcast			2000 Ft. AGL	Condition of Light: Day	
Lowest Ceiling: Overcast		2000 Ft. AGL	Visibility: 9 SM	Altimeter: 29.72 "Hg	
Temperature: 19 °C	Dew Point: 16 °C	Weather Conditions at Accident Site: Visual Conditions			
Wind Direction: 160	Wind Speed: 17	Wind Gusts: 24			
Visibility (RVR): Ft.	Visibility (RVV) SM				
Precip and/or Obscuration: No Precipitation					

Accident Information

Aircraft Damage: Destroyed	Aircraft Fire: Ground	Aircraft Explosion: None
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- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers	1				1
- TOTAL ABOARD -	2				2
Other Ground					
- GRAND TOTAL -	2				2

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Administrative Information

Investigator-In-Charge (IIC)

Craig Hatch

Additional Persons Participating in This Accident/Incident Investigation:

Dan Donnelly
FAA FSDO
Oklahoma City, OK

John Butler
Lycoming Engines
Arlington, TX