Aviation Investigation Final Report

Location:	Boulder, Montana	**Accident Number:**	LAX08LA154
Date & Time:	May 23, 2008, 14:28 Local	**Registration:**	N5657Y
Aircraft:	Maule MX-7-235	**Aircraft Damage:**	Substantial
Defining Event:	VFR encounter with IMC	**Injuries:**	1 Fatal, 1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot received a weather briefing prior to departing on a cross-country personal flight. The weather briefer informed the pilot that a visual flight rules flight was not recommended along his intended route due to low ceilings, limited visibilities, and precipitation. While following an interstate highway at low altitude, the airplane collided with high-tension power lines that crossed the interstate, and came to rest in trees approximately 130 yards northwest of the lines. Fog, low clouds, snow, and rain were present in the area of the accident site both before and after the accident. The surviving passenger reported that no engine or airframe malfunctions were encountered during the flight.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's decision to continue flight at low altitude in instrument weather conditions and his failure to maintain clearance from a power line. Contributing to the accident were low cloud and visibility conditions.

Findings

Environmental issues	Below VFR minima - Decision related to condition
Personnel issues	Decision making/judgment - Pilot
Environmental issues	Wire - Response/compensation
Environmental issues	Low ceiling - Not specified
Environmental issues	Low visibility - Not specified

Factual Information

History of Flight

Enroute	VFR encounter with IMC (Defining event)
Enroute	Controlled flight into terr/obj (CFIT)

HISTORY OF FLIGHT

On May 23, 2008, at 1428 mountain daylight time (MDT), a Maule, MX-7-235, N5657Y, impacted high tension power transmission lines near Boulder, Montana. The owner/pilot was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The certificated airline transport pilot was killed, and the passenger sustained serious injuries. The airplane sustained substantial damage to both wings and fuselage due to impact forces. The cross-country personal flight departed Skypark Airport (BTF), Bountiful, Utah, at 1129, with a planned destination of Helena, Montana. Instrument meteorological conditions prevailed in the area of the accident site; the pilot had filed and opened a visual flight rules (VFR) flight plan.

The flight departed BTF after receiving a weather brief advising the pilot that VFR flight was not recommended along his intended route.

The pilot attempted to transition through a mountain pass located about 20 miles south of Helena airport. The airplane impacted a high tension wire with the left wing.

Emergency personnel at the accident site reported that before and after the accident, fog, low clouds, snow, and rain were present.

The passenger stated to rescue personnel that the engine had no mechanical failures or malfunctions during the flight.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the 71-year-old pilot held a combined commercial airline transport pilot certificate with ratings for airplane single engine land and multiengine land. He previously held a certified flight instructor (CFI) certificate with ratings for airplane, which expired May 31, 1967. The pilot held a flight engineer certificate, issued in 1972, with ratings for turbojet powered and turbo-propeller powered. The pilot also held a mechanic certificate, issued in 1965, with ratings for airframe and powerplant.

The pilot held a second-class medical certificate issued on March 8, 2007. It had the limitation

that the pilot must wear corrective lenses.

Limited personal flight records were located for the pilot. He completed a biennial flight review on May 9, 2007. The National Transporation Safety Board investigator-in-charge (IIC) obtained the aeronautical experience listed in this report from a review of the FAA airmen medical records on file in the Airman and Medical Records Center, Oklahoma City, Oklahoma. The pilot reported on his medical application that he had a total time of more than 20,000 hours, with 50 hours logged in the last 6 months.

AIRCRAFT INFORMATION

The airplane was a Maule MX-7-235, serial number 10001C. A review of the airplane's logbooks revealed that the airplane had a total airframe time of 1,409.2 hours at the last annual inspection on April 9, 2008. The tachometer read 1,409.2 at the last inspection.

The engine was a Lycoming IO-540 SER, serial number L22343-48A. Total time recorded on the engine at the last annual inspection was 1,409.2 hours on April 9, 2008.

Fueling records established that the airplane was last fueled on May 23, 2008, at 1101, with the addition of 41.7 gallons of 100LL aviation fuel at BTF.

Examination of the maintenance and flight records revealed no unresolved maintenance discrepancies against the airplane prior to departure.

METEOROLOGICAL INFORMATION

The closest official weather observation station was at Butte, Montana (BTM), which was 30 nautical miles (nm) southwest of the accident site. The elevation of the weather observation station was 5,550 feet mean sea level (msl). An aviation routine weather report (METAR) for BMT was issued at 1453. It read: winds from 230 degrees at 3 knots; visibility 10 miles; skies 2,000 feet overcast; temperature 7 degrees Celsius; dew point 3 degrees Celsius; altimeter 29.73 inches of Mercury.

WRECKAGE AND IMPACT INFORMATION

The FAA examined the wreckage at the accident scene.

The airplane came to rest in trees approximately 130 yards northwest of high tension power lines.

A section of the left wing was found just below and approximately 50 feet west of a broken power line interphase spacer. The left wing was burned and appeared to be sheared off (fore to aft) just inboard of the wing strut attach point as evidenced by severe bending in an aft direction of the forward spar from the leading edge. An approximate 3-foot section of a power

line interphase spacer was found approximately 30 inches outboard of the left wing root. The spacer appeared similar to the contour of the unburned left wing leading edge damage, corresponding with the location of the wing shear point. The top left wing panel matched up with the leading edge damage.

Several pieces of baggage were located with the wreckage. The baggage was recovered and transported with the wreckage and was subsequently weighed by the FAA.

MEDICAL AND PATHOLOGICAL INFORMATION

The Jefferson County Coroner completed an autopsy. The FAA Bioaeronautical Sciences Research Laboratory Forensic Toxicology Research Team, Oklahoma City, performed toxicological testing of specimens of the pilot.

Analysis of the specimens contained no findings for carbon monoxide, cyanide, volatiles, and tested drugs.

The Jefferson County Coroner ruled the pilot died as a result of blunt force injuries.

TESTS AND RESEARCH

A handheld Garmin GPS unit, model 396, was recovered from the wreckage site. The Safety Board IIC downloaded the data from the unit and overlaid the data onto the Google Earth mapping program.

The flight data indicated that the airplane was following Interstate 15 until impacting the wires. The last data point recorded was at 2128:36z (1428:36 MDT) with a recorded speed of 103.3 mph.

The FAA inspector performed some basic calculations regarding the weight loading of the airplane. He considered the empty weight of the airplane, an estimated weight of the absolute minimum amount of fuel, estimated weight of the pilot and passenger, 374 pounds of luggage, and the estimated weight of two dogs on board. This resulted in an estimated weight of 2,502 pounds. The maximum gross weight of the accident airplane was 2,500 pounds.

Pilot Information

Certificate:	Airline transport; Flight instructor	**Age:**	70,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	March 8, 2007
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	May 9, 2007
Flight Time:	20000 hours (Total, all aircraft), 1000 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Maule	**Registration:**	N5657Y
Model/Series:	MX-7-235	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	10001C
Landing Gear Type:	Tailwheel	**Seats:**	5
Date/Type of Last Inspection:	April 9, 2008 Annual	**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	1409.2 Hrs as of last inspection	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, not activated	**Engine Model/Series:**	IO-540 SER
Registered Owner:	On file	**Rated Power:**	300 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	BTM,5550 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	15:53 Local	**Direction from Accident Site:**	220°
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Overcast / 2000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	3 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.73 inches Hg	**Temperature/Dew Point:**	8°C / 4°C
Precipitation and Obscuration:	In the vicinity - None - Fog		
Departure Point:	Bountiful, UT (BTF)	**Type of Flight Plan Filed:**	VFR
Destination:	HELENA, MT (HLN)	**Type of Clearance:**	None
Departure Time:	11:29 Local	**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 Serious	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal, 1 Serious	**Latitude, Longitude:**	46.320835,-112.069999

Administrative Information

Investigator In Charge (IIC):	Jones, Patrick
Additional Participating Persons:	Timothy Markle; Federal Aviation Administration; Helena, MT
Original Publish Date:	June 11, 2009
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=68089