



# Aviation Investigation Final Report

<b>Location:</b>	Eden Prairie, Minnesota	<b>Accident Number:</b>	CHI07LA211
<b>Date &amp; Time:</b>	July 15, 2007, 09:05 Local	<b>Registration:</b>	N4785H
<b>Aircraft:</b>	Mooney M20J	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 Minor
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

The pilot reported that upon reaching rotation speed, the airplane did not properly "develop lift" and the rudder seemed to be stuck in a full deflected position. The airplane yawed to the left at an altitude of 8 to 10 feet above the runway. The airplane then settled to the ground off the left side of the runway where it contacted an embankment. The nose gear sheared off, and the airplane continued up the embankment coming to rest when it contacted a fence. Post accident inspection of the airplane failed to reveal any anomalies with the flight control system. Winds at the time of the accident were reported as being calm.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inability to maintain control of the airplane for undetermined reasons. Contributing to the accident were the embankment and the fence.

## Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: TAKEOFF - INITIAL CLIMB

### Findings

1. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

2. TERRAIN CONDITION - GROUND

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Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: OTHER

Findings

3. (F) TERRAIN CONDITION - DIRT BANK/RISING EMBANKMENT

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Occurrence #4: NOSE GEAR COLLAPSED

Phase of Operation: OTHER

Findings

4. LANDING GEAR, NOSE GEAR ASSEMBLY - OVERLOAD

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Occurrence #5: ON GROUND/WATER COLLISION WITH OBJECT

Phase of Operation: OTHER

Findings

5. (F) OBJECT - FENCE

## Factual Information

On July 15, 2007, at 0905 central daylight time, a Mooney M20J, N4785H, collided with the terrain following a loss of control during takeoff at the Flying Cloud Airport (FCM), Eden Prairie, Minnesota. The private pilot received minor injuries. The airplane was substantially damaged. The 14 Code of Federal Regulations Part 91 personal flight was operating in visual meteorological conditions and an instrument flight plan had been filed. The flight was originating at the time of the accident with an intended destination of Gary, Indiana.

The pilot reported that upon reaching rotation speed, the airplane did not properly "develop lift" and the rudder seemed to be stuck in a full deflected position. The airplane yawed to the left at an altitude of 8 to 10 feet above the runway. The airplane then settled to the ground off the left side of the runway where it contacted an embankment. The nose gear sheared off, and the airplane continued up the embankment coming to rest when it contacted a fence.

Post accident inspection of the airplane was conducted by an inspector from the Federal Aviation Administration Minneapolis Flight Standards District Office. The inspector reported that he established flight control continuity between the cockpit and flight control surfaces, and that no anomalies were found. Winds at the time of the accident were reported as being calm.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	45, Male
<b>Airplane Rating(s):</b>	Single-engine land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Without waivers/limitations	<b>Last FAA Medical Exam:</b>	June 1, 2007
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	April 1, 2006
<b>Flight Time:</b>	353 hours (Total, all aircraft), 256 hours (Total, this make and model), 11 hours (Last 90 days, all aircraft), 11 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Mooney	<b>Registration:</b>	N4785H
<b>Model/Series:</b>	M20J	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	24-0875
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	March 1, 2007 Annual	<b>Certified Max Gross Wt.:</b>	2644 lbs
<b>Time Since Last Inspection:</b>	11 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	3372 Hrs as of last inspection	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	IO-360-B
<b>Registered Owner:</b>	William R. Lynch, Jr.	<b>Rated Power:</b>	200 Horsepower
<b>Operator:</b>		<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>	FCM,906 ft msl	<b>Distance from Accident Site:</b>	0 Nautical Miles
<b>Observation Time:</b>	08:53 Local	<b>Direction from Accident Site:</b>	0°
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	10 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	/	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>		<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>	29.87 inches Hg	<b>Temperature/Dew Point:</b>	23°C / 19°C
<b>Precipitation and Obscuration:</b>			
<b>Departure Point:</b>	Eden Prairie, MN (FCM )	<b>Type of Flight Plan Filed:</b>	IFR
<b>Destination:</b>	Gary, IN (GYY )	<b>Type of Clearance:</b>	IFR
<b>Departure Time:</b>		<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>	Flying Cloud FCM	<b>Runway Surface Type:</b>	Asphalt
<b>Airport Elevation:</b>	906 ft msl	<b>Runway Surface Condition:</b>	Dry
<b>Runway Used:</b>	28L	<b>IFR Approach:</b>	
<b>Runway Length/Width:</b>	3909 ft / 75 ft	<b>VFR Approach/Landing:</b>	

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 Minor	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>		<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	1 Minor	<b>Latitude, Longitude:</b>	44.82722,-93.457221

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Sullivan, Pamela
<b>Additional Participating Persons:</b>	Scot Thompson; FAA; Minneapolis, MN
<b>Original Publish Date:</b>	June 30, 2008
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.ntsb.gov/Docket?ProjectID=66264">https://data.ntsb.gov/Docket?ProjectID=66264</a>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

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](#).