



Aviation Investigation Final Report

Location:	AURORA, Colorado	Accident Number:	DEN83LA173
Date & Time:	July 23, 1983, 08:15 Local	Registration:	N43CA
Aircraft:	MOONEY M20J	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE ARPT HAD ONE ASPHALT RWY THAT WAS CLOSED & ANOTHER DIRT RWY THAT WAS MUDDY. THEREFORE, THE PLT ELECTED TO TAKEOFF ON THE PARKING RAMP WHICH WAS ORIENTED IN A NORTH/SOUTH DIRECTION & WAS 1700 FT LONG. THE PLT DID NOT CONSULT THE TAKEOFF CHARTS IN HIS OPERATING HANDBOOK. HE CONCLUDED THAT THERE WAS SUFFICIENT ROOM TO TAKEOFF SINCE THE ACFT NORMALLY USED ONLY 1500 FT AT HIS HOME ARPT IN OBERLIN, KS. HOWEVER, FOR TAKEOFF AT AURORA, CO, THE DENSITY ALT WAS APRX 7300 FT. ALSO, THE PLT USED SOFT FIELD PROCEDURES FOR TAKEOFF. SPECIFICALLY, BACK PRESSURE WAS USED ON THE CONTROL WHEEL FOR ALL OF THE TAKEOFF ROLL, THE NOSEWHEEL WAS LIFTED OFF EARLY & THE PLT TOOK OFF AT 60 KTS, THEN LOWERED THE NOSE TO STAY IN GROUND EFFECT. BEYOND THE END OF THE RAMP, THE ACFT HIT UNEVEN, RISING TERRAIN IN A WHEAT FIELD. FOR A SHORT FIELD TAKEOFF ON HARD SURFACE, NOSE-UP ELEVATOR INPUT IN NOT NORMALLY USED UNTIL ROTATION SPEED.

Probable Cause and Findings

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

Findings

Occurrence #1: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) WEATHER CONDITION - HIGH DENSITY ALTITUDE
2. (C) PREFLIGHT PLANNING/PREPARATION - INADEQUATE - PILOT IN COMMAND
3. (F) LACK OF FAMILIARITY WITH GEOGRAPHIC AREA - PILOT IN COMMAND
4. (C) PROCEDURES/DIRECTIVES - IMPROPER USE OF - PILOT IN COMMAND
5. (C) LACK OF TOTAL EXPERIENCE IN TYPE OPERATION - PILOT IN COMMAND
6. (F) TERRAIN CONDITION - ROUGH/UNEVEN
7. (F) TERRAIN CONDITION - RISING

Factual Information

Pilot Information

Certificate:	Private	Age:	51, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	March 1, 1982
Occupational Pilot:	UNK	Last Flight Review or Equivalent:	
Flight Time:	2020 hours (Total, all aircraft), 1800 hours (Total, this make and model), 1920 hours (Pilot In Command, all aircraft), 46 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MOONEY	Registration:	N43CA
Model/Series:	M20J M20J	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	24-0270
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	August 14, 1981 Annual	Certified Max Gross Wt.:	2740 lbs
Time Since Last Inspection:	199 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	1579 Hrs	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-360
Registered Owner:	CHRIST FOR ALL	Rated Power:	200 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	DEN ,5333 ft msl	Distance from Accident Site:	10 Nautical Miles
Observation Time:	09:00 Local	Direction from Accident Site:	270°
Lowest Cloud Condition:	Scattered / 1800 ft AGL	Visibility	15 miles
Lowest Ceiling:	Broken / 12000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	4 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	20°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		Type of Flight Plan Filed:	None
Destination:	OBERLIN , KS (K80)	Type of Clearance:	None
Departure Time:	08:15 Local	Type of Airspace:	Class G

Airport Information

Airport:	COLUMBINE 01V	Runway Surface Type:	Asphalt
Airport Elevation:	5680 ft msl	Runway Surface Condition:	Dry
Runway Used:	0	IFR Approach:	
Runway Length/Width:		VFR Approach/Landing:	

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	39.739429,-104.859207(est)

Administrative Information

Investigator In Charge (IIC): Winningham, Fred

**Additional Participating
Persons:**

Original Publish Date:

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=16123>

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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](#).