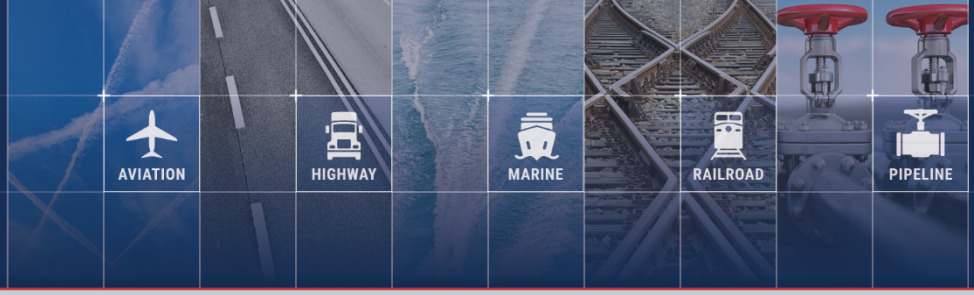

Aviation Investigation Final Report

Location:	Martinsville, Virginia	**Accident Number:**	IAD02LA023
Date & Time:	December 30, 2001, 15:45 Local	**Registration:**	N6779U
Aircraft:	Mooney M20C	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Minor
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that he initiated the takeoff at 65 mph, and the airplane veered to the left. He could not maintain directional control with right rudder, and the airplane continued left, struck bushes, and ran into a ditch. There were no mechanical anomalies with the airplane. According to FAA Advisory Circular AC-61-23C, "The effect of torque increases in direct proportion to engine power, airspeed, and airplane attitude. If the power setting is high, the airspeed slow, and the angle of attack high, the effect of torque is greater."

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's premature rotation and his failure to maintain directional control during the takeoff roll.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: TAKEOFF - ROLL/RUN

Findings
1. (C) ROTATION - PREMATURE - PILOT IN COMMAND
2. DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER

Phase of Operation: TAKEOFF - ROLL/RUN

Findings
3. TERRAIN CONDITION - DITCH

Factual Information

On December 30, 2001, about 1545 eastern standard time, a Mooney M20C, N6779U, was substantially damaged when it impacted terrain during a takeoff attempt from Blue Ridge Airport (MTV), Martinsville, Virginia. The certificated private pilot/owner sustained a minor injury. Visual meteorological conditions prevailed, and no flight plan was filed for the local personal flight, conducted under 14 CFR Part 91.

During a telephone interview, the pilot stated that he intended to stay in the traffic pattern at Blue Ridge and practice takeoffs and landings. He performed a preflight inspection, and serviced the tires with air. There were no anomalies noted during the inspection.

The pilot further stated that the airplane's engine started immediately, and that he subsequently taxied to the approach end of runway 30 for departure. There were no problems with the ground handling of the airplane, and the brakes and steering functioned properly.

In a written statement, the pilot stated that he rotated the airplane for takeoff at 65 mph, and experienced a "severe" turn to the left. He attempted to correct with full right rudder, but the airplane departed the left side of the runway, onto the grass, and continued to turn to the left. The pilot then attempted to take off to avoid approaching bushes, but subsequently ran into a drainage ditch.

The pilot was asked if the airplane was performing as expected, and he said:

"If anything, I was lifting off a little early because it was a cool day. Everything was normal until I got that yaw left. I added right rudder, but I didn't get a response. Well, maybe a little. If you look at the marks in the grass it looks like the plane might have paralleled the runway a little."

The airplane was examined at the scene by two Federal Aviation Administration (FAA) inspectors. According to one inspector, parallel skid marks began on runway 30 about 1,000 feet from the approach end. The marks continued into the grass and along the wreckage path to where the airplane came to rest.

The inspector also stated that the propeller, engine, nose gear, and firewall of the airplane were damaged. Control cable continuity could not be established due to impact damage. The pilot's rudder pedals were destroyed, and the copilot's pedals were displaced.

The pilot held a private pilot certificate with ratings for airplane single engine land and instrument airplane. He reported 735 hours of flight experience, 128 hours of which, were in make and model. His most recent third class medical certificate was issued March 24, 2000.

The airplane had accrued 3,007 aircraft hours. The most recent annual inspection was completed on August 10, 2001, at 2,957 aircraft hours. According to the pilot/owner, no maintenance had been performed on the airplane since that date, and there were no mechanical deficiencies at the time of the accident.

At 1542, the wind at the Blue Ridge Airport was from 010 degrees at 4 knots. There was a broken ceiling at 11,000 feet, with 10 miles visibility.

According to FAA Advisory Circular AC-61-23C, Pilot's Handbook of Aeronautical Knowledge:

"The effect of torque increases in direct proportion to engine power, airspeed, and airplane attitude. If the power setting is high, the airspeed slow, and the angle of attack high, the effect of torque is greater. During takeoffs and climbs, when the effect of torque is most pronounced, the pilot must apply sufficient right rudder pressure to counteract the left-turning tendency and maintain a straight takeoff path."

Pilot Information

Certificate:	Private	**Age:**	38,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	March 24, 2000
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	April 21, 2001
Flight Time:	735 hours (Total, all aircraft), 128 hours (Total, this make and model), 671 hours (Pilot In Command, all aircraft), 17 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Mooney	**Registration:**	N6779U
Model/Series:	M20C	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	2501
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	August 10, 2001 Annual	**Certified Max Gross Wt.:**	2575 lbs
Time Since Last Inspection:	50 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3007 Hrs at time of accident	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-360-A1
Registered Owner:	Robert D. Bell	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KMTV,941 ft msl	**Distance from Accident Site:**	
Observation Time:	15:42 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 11000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	10°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.06 inches Hg	**Temperature/Dew Point:**	5°C / -10°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Martinsville, VA (KMTV)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	15:45 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	BLUE RIDGE MTV	**Runway Surface Type:**	Asphalt
Airport Elevation:	941 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	None
Runway Length/Width:	5000 ft / 100 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Minor	**Latitude, Longitude:**	36.630554,-80.018333

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	Paul Pitts; FAA; Richmond, VA
Original Publish Date:	May 13, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53974