

National Transportation Safety Board  
Washington, DC 20594

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Brief of Accident

Adopted 01/31/2007

ATL06LA083  
File No. 21069                      05/23/2006                      Blacksburg, SC                      Aircraft Reg No. N3217F                      Time (Local): 18:30 EDT

Make/Model: Mooney / M20E  
Engine Make/Model: Lycoming / IO-360-A1A  
Aircraft Damage: Destroyed  
Number of Engines: 1  
Operating Certificate(s): None  
Type of Flight Operation: Personal  
Reg. Flight Conducted Under: Part 91: General Aviation

|      | Fatal | Serious | Minor/None |
|------|-------|---------|------------|
| Crew | 0     | 1       | 0          |
| Pass | 0     | 1       | 0          |

Last Depart. Point: Blacksburg, SC  
Destination: Columbia, SC  
Airport Proximity: Off Airport/Airstrip

Condition of Light: Day  
Weather Info Src: Weather Observation Facility  
Basic Weather: Visual Conditions  
Lowest Ceiling: 7500 Ft. AGL, Broken  
Visibility: 10.00 SM  
Wind Dir/Speed: 140 / 004 Kts  
Temperature (°C): 23  
Precip/Obscuration: No Obscuration; No Precipitation

Pilot-in-Command                      Age: 37

Flight Time (Hours)

Certificate(s)/Rating(s)  
Private; Single-engine Land

Total All Aircraft: 495  
Last 90 Days: Unk/Nr  
Total Make/Model: Unk/Nr  
Total Instrument Time: Unk/Nr

Instrument Ratings  
Airplane

The pilot stated he was halfway down the runway when he observed the airspeed was 45 knots and he elected to continue the takeoff due to insufficient runway remaining to abort the takeoff. The commercial-rated passenger, the previous owner of the airplane, stated he observed the engine rpm decrease to 2400 rpm or less during the takeoff roll. Upon reaching the end of the runway the pilot stated he applied aft pressure on the control yoke and the airplane became airborne. The pilot retracted the landing gear, the airplane rolled right, and the nose pitched down. The pilot observed trees, power lines, and the airplane collided with the ground and a post crash fire ensued. A witness stated the pilot and two other personnel tried to turn the airplane around by hand before departure with negative results. The pilot entered the airplane, released the parking brake, exited the airplane, and the airplane was attempted to be moved again with negative results. The pilot and passenger entered the airplane and the pilot started the engine, turned the airplane around with power, and taxied to runway 06. The witness observed the airplane on its takeoff roll. The airplane traveled about 400 to 500 feet before reaching his location and the airplane ground speed was estimated at between 15 to 20 knots. The witness observed the airplane make an abrupt pitch up at the end of the runway and the tail down ring contacted the ground. The airplane became airborne rolled to the right, and disappeared from view. The runway was measured to be 1,383 feet long and 80 wide by the FAA. The Aircraft Owner's Manual showed the takeoff roll on a hard surface runway would be 790 feet, and 808 feet on a soft surface. Examination of the runway by the FAA revealed the airplane traveled 819 feet on the takeoff roll before encountering the dirt section of the runway. Two skid marks were present in the dirt on the runway. The left skid mark was measured 417 feet long and the right skid mark was measured 388 feet long. Ten feet past the left skid mark appeared to be a tail strike mark on a stone with a blue color. The bottom of the accident airplane is blue in color. Examination of the airplane revealed a post crash fire had destroyed the parking brake valve. The No.1 engine induction tube

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was damaged, separated from the No.1 cylinder intake port and both induction tube bolts were missing. One half of the No.1 intake gasket and one bolt with a locking star washer and a plain washer were located in the right side of the lower engine cowling. The bolt with locking star washer and plain washer was encased with molten aluminum, and the locking tabs on the washer were not flattened. A follow up examination by the FAA revealed thread damage was present on the No.1 cylinder induction tube bolt holes and improper sized threaded bolts had been installed in the No.1 and No. 3 cylinder induction tube bolt holes. Testing of an IO 360 engine at the engine manufacturer revealed with a separated induction tube from a cylinder intake port at 2,650 rpm, the engine rpm remained relatively constant. Engine rpm settings below 2,650 rpm revealed the engine would falter and rpm would decrease.

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Occurrence #1:    MISCELLANEOUS/OTHER  
Phase of Operation: TAKEOFF - ROLL/RUN

Findings

1. AIRSPEED - INADEQUATE
  2. REASON FOR OCCURRENCE UNDETERMINED
  3. (C) ABORTED TAKEOFF - NOT PERFORMED - PILOT IN COMMAND
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Occurrence #2:    LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

4. PULL-UP - PERFORMED - PILOT IN COMMAND
  5. STALL - INADVERTENT - PILOT IN COMMAND
- 

Occurrence #3:    IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: DESCENT - UNCONTROLLED

Findings

6. OBJECT - WIRE,STATIC
7. OBJECT - TREE(S)
8. TERRAIN CONDITION - GROUND

Findings Legend: (C) = Cause, (F) = Factor

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The National Transportation Safety Board determines the probable cause(s) of this accident as follows.  
The pilot's failure to abort the takeoff after the airplane failed to achieve adequate airspeed on the takeoff roll for undetermined reasons. This resulted in an abrupt pull up, inadvertent stall, and in flight collision with wires, trees and the ground.