NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SUMMARY OF WRECKAGE EXAMINATION

CEN20FA049

A. ACCIDENT

Location: Olathe, Kansas
Date: December 31, 2019
Time: 1606 central standard time
Aircraft: Mooney M20S

B. PARTICIPANTS

Edward Malinowski
Senior Air Safety Investigator
National Transportation Safety Board
Central Region, Denver, CO

David Johnson
Inspector
Federal Aviation Administration
Kansas City, MO

Chris Lang
Air Safety Investigator
Continental Motors
Mobile, AL

C. ACCIDENT SUMMARY

On December 31, 2019, about 1606 central standard time, a Mooney M20S airplane, N602TF, impacted terrain during takeoff from runway 18 at the Johnson County Executive Airport (OJC), near Olathe, Kansas. A post-impact ground fire occurred. The private pilot and passenger sustained fatal injuries. The airplane was destroyed during the ground fire. The airplane was registered to and operated by the pilot as a Title 14 Code of Federal Regulations Part 91 personal flight. Day visual meteorological conditions prevailed in the area about the time of the accident, and the flight was not operated on a flight plan. The flight was originating from OJC at the time of the accident and was destined for the North Little Rock Municipal Airport, North Little Rock, Arkansas.

According to initial information given to the Federal Aviation Administration (FAA), a witness reported that he witnessed a Mooney, N602TF, crash at OJC. He said that a couple from Little Rock, Arkansas flew up to view a new Piper airplane that was for sale. The witness stepped out to watch them take off back and return to their home base. On initial roll out, nothing out of the ordinary was noticed. During power-up all sounded and looked normal. However, the airplane rotated at a much slower speed than would be expected and immediately started to climb at a very sharp departure angle. As it gained altitude its airspeed bled off to the point that the left wing stalled causing the plane to nose over in that direction and continue its trajectory straight into the ground just east of the runway. Engine power was "on" through the entire flight with no odd sounds to be noted.

Review of video near the accident site was consistent with the witness statement. The airplane did not exhibit any fire or smoke inflight in the video. A ground fire was observed after impact. First responders subsequently extinguished the fire.

The 48-year-old pilot held a FAA private pilot certificate with airplane single engine land and instrument ratings. He held a FAA second-class medical certificate dated May 28, 2019, with no limitations. On the application for that medical certificate, the pilot reported he had accumulated 180 hours of total flight time and 0 hours in the prior six months.

N602TF, a 2000-model Mooney M20S, was a single-engine, four-place, retractable tricycle landing gear airplane with serial number 30-0043. A review of FAA records showed the pilot and a co-owner purchased the airplane on November 26, 2019. The airplane did not receive any fueling services at OJC.

At 1553, the recorded weather at OJC was: Wind 270° at 10 kts gusting to 16 kts; visibility 10 statute miles; sky condition clear; temperature 6° C; dew point -8° C; altimeter 29.99 inches of mercury.

The Johnson County Coroner was asked to arrange an autopsy on the pilot and to have toxicological samples taken. The engine is being retained for a disassembly examination and the EDM 800 unit will be shipped to the National Transportation Safety Board (NTSB) Vehicle Recorder Laboratory to see if it contains any data in reference to the accident flight.

D. DETAILS OF THE WRECKAGE EXAMINATION

The wreckage was examined by an air safety investigator from the engine manufacturer, an inspector from the FAA, and an investigator from the NTSB on January 1, 2020. The wreckage came to rest about 171° and about 2,550 ft from the departure threshold of runway 18. Major components of the airplane were identified at the accident site. The top of the fuselage was consumed by fire between the instrument panel to just forward of the empennage. The lower section of the fuselage was discolored, deformed, and melted. The engine compartment exhibited aft migration of the engine against the firewall. The propeller was imbedded in terrain and when recovered, it exhibited "S" shaped bending and leading edge nicks. The empennage and fuselage

aft of the cabin was bent laterally toward the left wing about 30°. The leading edge of the right wing exhibited aft crushing. The leading edge of the left wing exhibited discoloration, melting, and deformation. The position of the left main landing could not be determined due to the left wing's thermal damage. The right main landing gear was found partially extended. Flight control continuity from all the flight control surfaces to the cabin area was traced. The ignition key switch was selecting the BOTH position. The mixture, propeller, and throttle control knobs were in their forward position. Examination of the engine compartment confirmed control continuity of the mixture, propeller, and throttle control from their engine accessories to their respective cockpit controls. The airplane instrument panel was damaged by impact forces and thermal damage. The airplane's JP Instrument EDM 800 unit exhibited impact and thermal damage.