



MEMORANDUM FOR RECORD

During the course of the investigation, the following findings were made by the responding Federal Aviation Administration (FAA) inspector:

- About 1420 CDT, the airplane departed runway 03 at Sackman Field (H49), Columbia, Illinois.
 - Runway 03 is a 2,450 ft x 150 ft turf surface
- The flight intended to travel to Alton, Illinois and was loaded with the pilot & 3 occupants.
- After takeoff, the airplane reportedly made a shallow climb and contacted transmission lines.
 - The lines were about 3,050 ft (about ½ mile) from the departure end
 - The height of the lines were between 60-70 ft above ground level (AGL)
- At 1253, the automated weather reporting station at the St. Louis Downtown Airport (KCPS) reported a calm wind, temperature 79°F, dew point 63°F, altimeter of 30.14 inches, visibility 10 miles and a broken ceiling at 11,000 ft.
- Occupants were:
 - A 50-hour student pilot in the front left seat, sustained serious injuries
 - A 243-hour private pilot/owner in the front right seat, sustained serious injuries
 - The student pilot's wife in the rear left seat, sustained serious injuries
 - The private pilot's son was in the rear right seat, sustained minor injuries
- Substantial damage was sustained to the fuselage and wings.
 - The cabin area remained relatively intact
 - The nose and right main landing gear were impact separated
 - The propeller remained attached to the engine
 - The engine remained attached to the fuselage
 - Flight control continuity was established to the ailerons.
 - Impact damage prevented movement of the rudder and elevators.
- The FAA reported that there were 3 witnesses to the accident
 - They reported that the airplane departed the airport in a shallower-than-normal angle. The airplane went into a near level flight attitude as it continued away from the airport.
 - One witness noted normal engine noise from the airplane.
- The FAA inspector calculated a weight & balance using weight obtained by first responders and found the weight near the maximum gross weight of the airplane (2,150 pounds).
 - This finding is reportedly confirmed with the pilot.

- A review of the maintenance records revealed:
 - At the time of the accident, the tachometer read 6,719.85 hours
 - The last inspection was an annual type, completed on November 15, 2017, at a tachometer time of 6,652.72 hours
 - The most recent maintenance was the replacement of the left and right magneto harness, completed on January 22, 2018, at a tachometer time of 6,686.6
- An FAA inspector, with the assistance of the recovery company, examined the engine at the recovery company's facility
 - The top sparkplug for cylinder #2 had an excessive amount of dark soot while the remaining top sparkplugs had normal operating signatures
 - A cylinder compression check was performed: #1 50/80, #2 19/80, #3 52/80, and #4 50/80
 - The lower sparkplug for cylinder #2 had sooting on about 2/3 of its surface
 - A borescope of #2 did not reveal any reason for the low compression

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