National Transportation Safety Board

Office of Aviation Safety

Washington, D.C. 20594-2000

December 8, 2015

SIDESLIP STUDY

CEN15FA034

A. Accident

Location: Wichita, KS Mid-Continent Airport
Date: October 30, 2014
Time: 0948 CST
Vehicle: Raytheon Super King Air 200, BB-1686, N52SZ,
Engine: Pratt Whitney PT-6A-42, 850 SHP
Propeller: Hartzell Propeller, Inc.

B. Investigators

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C. Summary

On October 30, 2014, about 0948 central standard time, a Raytheon Aircraft Company King Air B200, N52SZ, operated by a private individual, was destroyed shortly after takeoff when it

impacted a building at the Wichita Mid-Continent Airport (KICT), Wichita, KS. The private pilot sustained fatal injuries. Visual meteorological conditions prevailed for the personal flight conducted under Title 14 Code of Federal Regulations Part 91. The flight originated from KICT and was destined for Mena Intermountain Municipal Airport (KMEZ), Mena, AR.

The airplane was taking off from Runway 1R. Shortly after takeoff, the pilot reported that power was lost in the left engine. Witnesses reported that the airplane started turning left, leveled wings briefly, and then began a descending left bank. The airplane descended rapidly and hit the east wall and roof of the Cessna Citation Learning Center, operated by Flight Safety International, Inc. The impact and post-crash fire resulted in three additional fatalities inside a flight simulator in the building. Four flight simulators in the north end of the building were substantially damaged.

The airplane was powered by two Pratt Whitney PT-6 turboprop engines.

1.0 Basic Data

Surveillance video capturing the final moments of the airplane was provided to the investigation. An image of the airplane within one second of impact was captured from the video.

Image 1 – The airplane is within one second of impacting the building behind the tree. From the camera position, it is aligned with the corner post and left side of the 3rd window.

Image 2 – A representative flight path was established for the airplane.[1]

Image 3 – The final flightpath was established by using a simple flight simulation, a shadow on the building to the right (yellow line), the impact point on the building to the left, and the angle of the wreckage scatter across the building.

[1] Additional flight path information is presented in the Summary of Key Events and the Video Study.

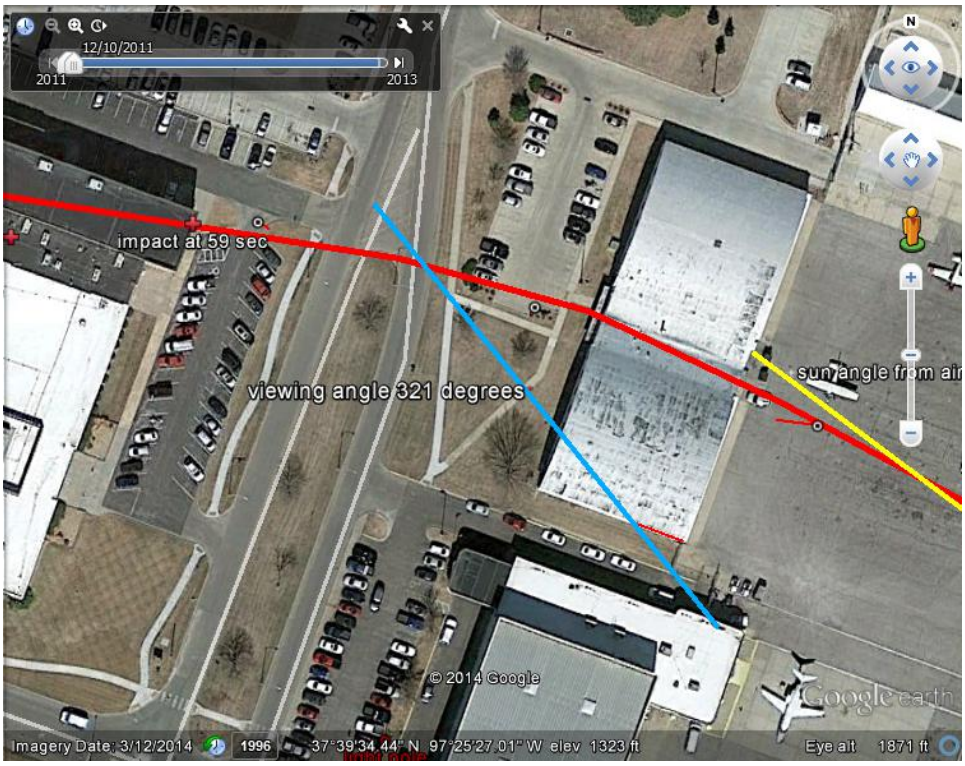

Image 4 – The viewing angle from the camera to the airplane in Image 1 was established as 321 degrees true (blue line). The blue line is aligned with the camera, the corner post and left side of the 3rd window (see Image 1).

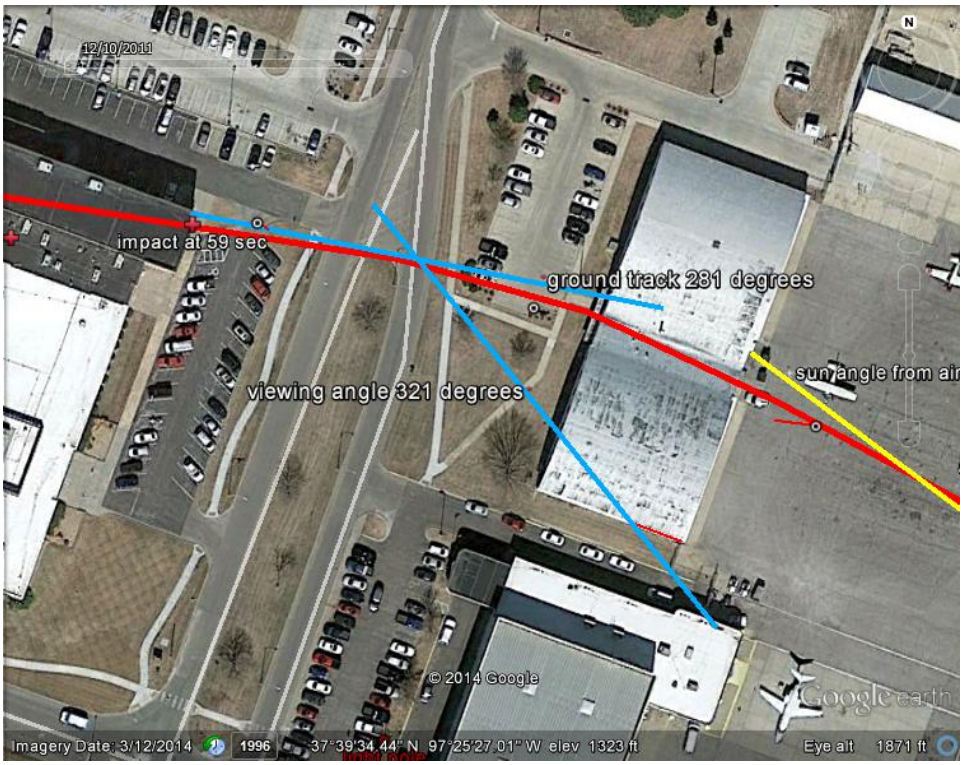

Image 5 – The second blue line represents the ground track vector when Image 1 was recorded. The ground track was established as 281 degrees true.

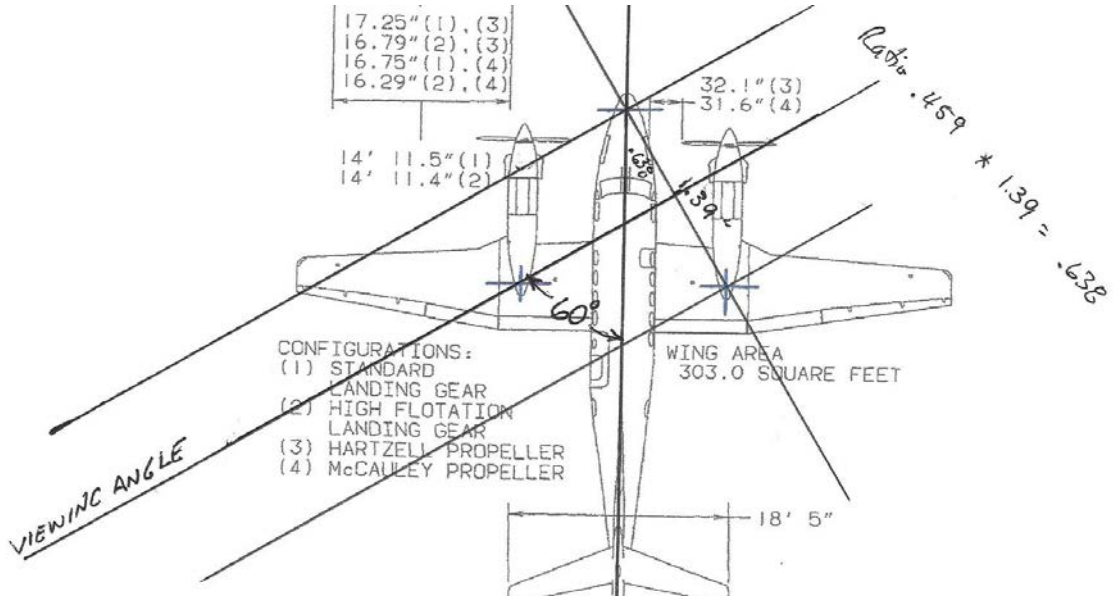

Image 6 – The the heading of the airplane relative to the viewing angle was established by measuring the relative positions of the three landing (Image 1). The airplane is pointed 60 degrees to the left of the viewing angle or 261 degrees true.

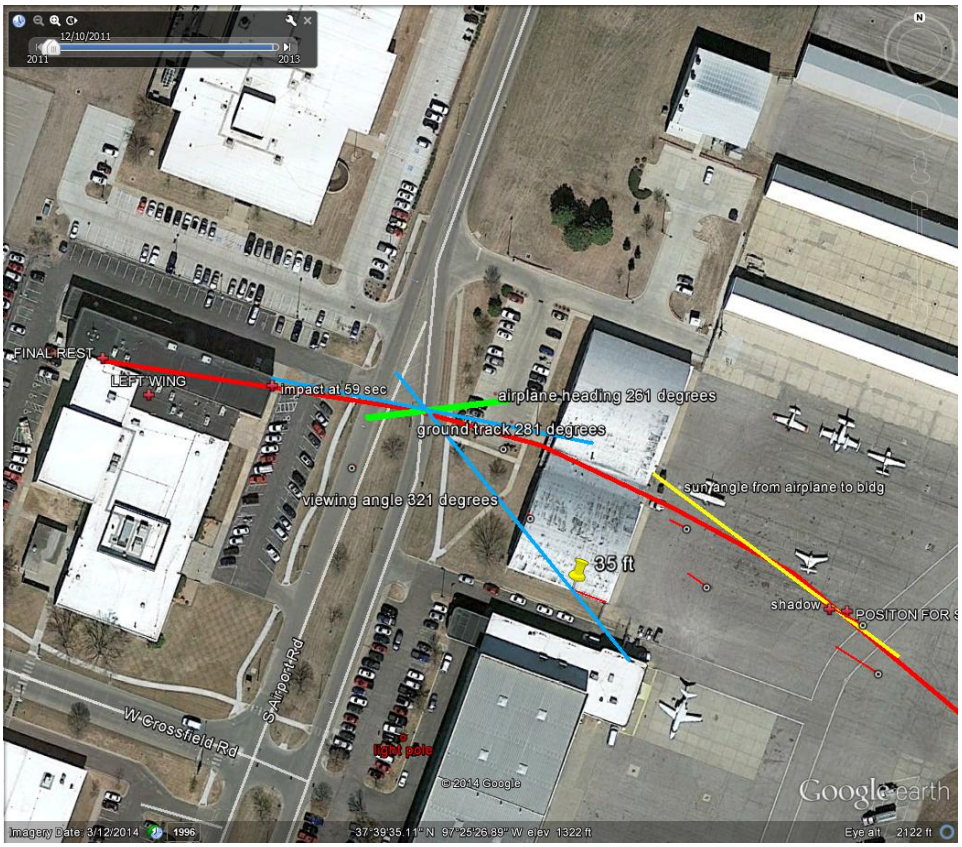

Image 7 - The difference between the heading of the airplane (261 degrees) and its ground track (281 degrees) is 20 degrees.

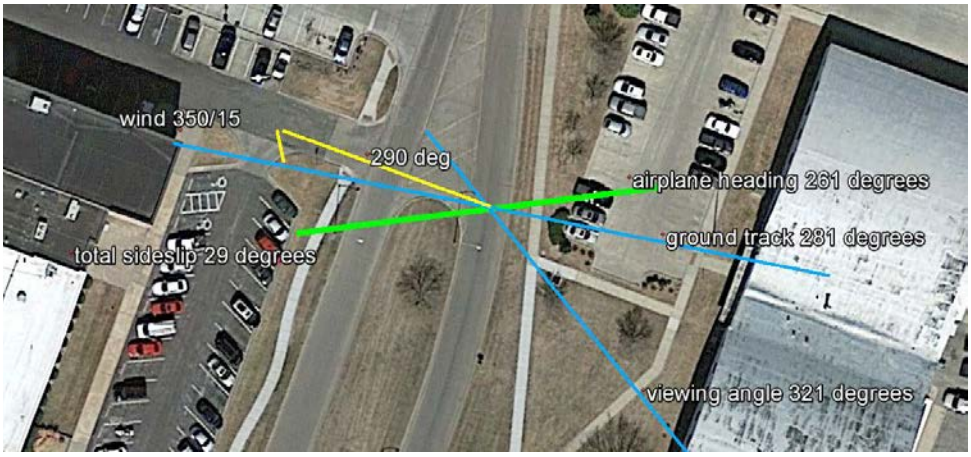

Image 8 – The wind was from 350° at 15 knots. The wind changes the airplane ground track 6 degrees. The "apparent" ground track would be 290 degrees (yellow line). The sideslip angle is the difference between the apparent ground track and the heading, or 29 degrees.

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