



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety

Western Pacific Region

January 4, 2021

ONSCENE EXAMINATION

WPR20FA063

This document contains 5 embedded photos.

(9 Pages)

A. ACCIDENT

Location: Billings, Montana

Date: January 11, 2020

Aircraft: Cessna T182 Skylane

NTSB IIC: Stephen Stein

B. EXAMINATION PARTICIPANTS

Stephen Stein
Air Safety Investigator (IIC)
National Transportation Safety Board
Federal Way, Washington

Troy McClanahan
Aviation Safety Inspector
Federal Aviation Administration
Helena, Montana

Andrew Hall
Chief Air Safety Investigator
Textron Aviation
Wichita, Kansas

C. DETAILS OF THE INVESTIGATION

HISTORY OF FLIGHT

On January 11, 2020, about 1801 mountain standard time, a Cessna TR182 airplane, N736YU, was destroyed when it crashed in mountainous terrain near Billings, Montana. The airline transport pilot and three passengers were fatally injured. The airplane was registered to and operated by the pilot as a personal flight, conducted under the provision of Title 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed and a flight plan was not filed for the cross-county flight, which departed Billings Logan International Airport (BIL), Billings, Montana at 1656.

According to a family member, the pilot had planned a recreational flight from BIL with intermediate stops in Hardin, Montana and Roundup, Montana and was expected to return to his home about 1930. Preliminary radar information obtained from a commercially available source was consistent with the family member's recount of the pilot's flight path. Following its departure from BIL, the airplane landed in Hardin, Montana about 1715 and subsequently departed about 1740 and flew a straight track. The radar track ceased at 1801 about 700 ft from the accident site.

PERSONNEL INFORMATION

The pilot, age 69, held an airline transport pilot certificate with a rating for airplane multi-engine land. Additionally, he held a commercial pilot certificate for single-engine land and a flight instructor certificate with ratings for multi-engine land, single-engine land, instrument airplane and glider. His most recent second-class medical certificate was issued on August 7, 2018, which included one limitation: "Must wear corrective lenses." At the time of the examination, the pilot reported that he had accumulated 13,800 total flight hours and 20 hours in the previous 6 months.

The pilot's flight records were retrieved from a logbook that spanned July 30, 2018 to December 26, 2019. His previous records were stolen from his car two years prior to the accident. According to the flight record, the pilot amassed a total of 42.6 flight hours; 27.4 of which were in the accident airplane and took place from July 12, 2019 to the final entry.

AIRCRAFT INFORMATION

Federal Aviation Administration records showed that the airplane was manufactured in 1978 and was registered to Marginal Aviation, LLC, a company managed by the pilot and another individual on October 2, 2017. The airplane was powered by a Lycoming Engines O-540-L3C5D, an air cooled, 235 horsepower, reciprocating engine. Maintenance records indicated that the airplane's most recent annual inspection was completed on January 3, 2019 at a total time of 3,101.6 flight hours. The engine inspection was completed simultaneously at 3,903.7 flight hours time since new and 0 hours since overhaul. The engine had recently been overhauled by a separate maintenance facility that was defunct at the time of the accident.

METEOROLOGICAL INFORMATION

The 1753 recorded weather observation at BIL included wind 240° at 14 knots, visibility 10 statute miles, few clouds 12,000 ft, broken clouds 16,000 ft, temperature -01° C, dew point -10° C, and an altimeter setting of 29.66 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The airplane was located in mountainous terrain area at an elevation of about 4,252 ft mean sea level. All major sections of the airplane were accounted for at the accident site. The initial impact point (IIP) was marked by several bent cross members and a broken guy wire about 65 feet high on an approximately 185 foot-tall radio tower. Several sections of the outboard left wing were located about 100 ft north of the tower and two pieces displayed longitudinal signatures consistent with impacting a wire. The remaining section of left wing was found in the debris path about 300 ft from the main wreckage. Several airframe and engine fragments were distributed along the energy path, which was oriented on a heading of about 295° magnetic. A 5 foot-long intermediate ground scar was located about 120 ft from the main wreckage. The main wreckage was located about 600 ft northwest of the IIP in a coulee and comprised of the right wing, fuselage, empennage, and engine and oriented on a heading of 122° magnetic.

One propeller blade separated from the blade hub and was located along the debris path. The other propeller blade remained attached to the blade hub and was collocated with the main wreckage.

ADDITIONAL INFORMATION

Tower

The tower was owned and operated by Yellowstone County and its height was 185 ft. According to Federal Aviation Administration (FAA) Advisory Circular 70/7460-1L, under Chapter 2.1 “Structures to be Marked or Lighted,” “Any temporary or permanent structure, including all appurtenances, that exceeds an overall height of 200 feet above ground level or exceeds any obstruction standard contained in 14 CFR Part 77 should be marked and/or lighted. However, an FAA aeronautical study may reveal that the absence of marking and/or lightning will not impair aviation safety. Conversely, the object may present such an extraordinary hazard potential that higher standards may be recommended for increased conspicuity to ensure aviation safety.” The excerpt continues to describe FAA action on structures that are less than 200 ft above ground level. “The FAA may also recommend marking and/or lighting a structure that does not exceed 200 ft above ground level or 14 CFR Part 77 standards because of its particular location.”

An FAA Sectional Chart valid from September 12, 2019 to March 26, 2020 did not list the tower as an obstacle. The FAA sectional chart legend lists the lowest obstruction marked on the sectional chart as “Above 200 ft agl.”

One source indicated that the area where the accident occurred is a normal practice area for pilots. According to sources close to the pilot, he had been flying in the Billings area for nearly 50 years and was familiar with the mountainous environment north of the town of Billings. A friend of the pilot reported that the pilot was familiar with the route of flight he took the night of the accident.



Photograph 1: Radio Tower



Photograph 2: Radio Tower Damage



Photograph 3: Longitudinal Signature on Left Wing



Photograph 4: View of Left Wing in Foreground Facing Main Wreckage



Photograph 5: View of Main Wreckage