

CEN19FA044
Piper PA24-250
N6785P
12-13-2018 @ 1044
EXAMINATION SUMMARY

12-13-2018

FAA was on-scene earlier and NTSB IIC arrived about 5:30pm and was accompanied by airport personnel to the accident scene. No parties were present on this date.

Only on scene documentation of the accident scene was performed. The accident reportedly occurred as the airplane was taking off from runway 09 at the Porter County Airport (VPZ), in Valparaiso, Indiana. The airplane impacted the ground at coordinates 41:27:6.09, 87:0:16.04. The airplane impacted in a nose low attitude and was facing runway direction. The forward fuselage was crushed aft and up in relation to the airplane coordinate frame. Two propeller blades were protruding from the dirt and neither showed significant evidence of rotation. Authorization was given to airport personnel to move the airplane as it was resting in the grass adjacent to runway 09. At the time of the NTSB IIC arrival the weather conditions were rain and there was no perceptible odors of fuel detected.

12-14-2018

The airplane had been moved to a T-hangar on VPZ for examination. The following parties were present: Jon Hirsch-Piper, Mike Childers-Lycoming, Jim Lobash-FAA, Spencer Cull-FAA.

Examination of the airplane showed that all of the major airframe components and control surfaces remained attached and in their appropriate locations. The engine was pushed rearward into the forward fuselage and the forward fuselage was pushed rearward as well. The cabin roof had been cut by first responders and was folded back over the top of the aft fuselage. The aft fuselage had wrinkling of the fuselage skins and the tail surfaces appeared intact and undamaged. Both wings had rearward and upward crushing of the leading edge indicating a nose low impact. The right wing outboard section was bent upward and twisted (leading edge up). All of the wing fuel tanks were ruptured. The main wing tanks were of bladder construction and the bladders were ruptured. The tip tanks were aluminum and split open.

The control system continuity was established from the cockpit controls to each respective control surface by pulling on cables. All control cables were intact and pulling on them resulted in appropriate movement of the related surfaces. No cable breaks were identified. In addition to the control cables coming from the cockpit, the aileron balance cable was identified and verified to be connected, unbroken, and operating correctly.

The engine was removed from the airplane and suspended on an engine hoist and the propeller was removed. The engine could be rotated at the crankshaft flange. Most of the accessories mounted on the rear case had been broken loose due to impact. The top spark plugs were removed and no anomalies were noted. The engine was rotated and thumb compression and suction were identified on cylinders 1,2,3,4. Cylinders 5 and 6 did not initially indicate thumb compression and pushrod damage was identified on both of these cylinders. The rocker arms for these cylinders were removed and the engine again rotated and thumb compression and suction were identified on cylinders 5 and 6. During rotation, valve action was identified and gear rotation identified at the accessory case. The cam for the mechanical fuel pump was also confirmed to be operating. The mechanical fuel pump mounting flange

was broken off, so the unit was disassembled and examined. No defects were noted other than the broken flange due to impact damage. The right magneto was broken loose from the engine. When turned with an electric drill the magneto produced spark on all leads. The left magneto did not produce spark. Removal of the cap from the unit confirmed that impact damage which produced a hole in the side of the magneto case had also fractured the ignition point pivot block, rendering the points inoperable. The vacuum pump was fractured open, and the internal components exhibited impact damage but the vanes appeared intact and of sufficient length. No pre-impact defects were noted. The carburetor was broken loose from the engine and the bowl was split open due to impact damage. The bowl was removed and no pre-impact anomalies were noted with respect to the carburetor. The oil suction screen and the propeller governor screen were examined and both were free from debris. Oil drained from the engine as it was suspended from the engine hoist.

The electric fuel pumps were removed and connected to a 12V DC power source and were confirmed to be functioning. The gascolator was removed and examined and contained a small amount of debris in the bowl, but the filter screen was clean and unobstructed. The fuel selector was found positioned for the right fuel tank and appeared to be in the detent for that position. A small amount of fuel dripped from the selector valve when removed. The gascolator contained fuel in its bowl. A small quantity of fuel dripped from the electric fuel pumps when they were removed. A small amount of fuel dripped from the mechanical fuel pump when it was removed from the engine. The carburetor had no fuel due to the compromised fuel bowl. The fuel captured from the electric fuel pumps was tested using color cut water finding paste and it tested negative for the presence of water.