



NTSB MEMORANDUM FOR RECORD

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Eastern Region, Office of Aviation Safety (ERA)
National Transportation Safety Board

Date: 11/13/2018
Person Contacted: Dale Hoff (FAA Inspector)
NTSB Accident Number: ERA19LA022

Narrative:

The following memorandum was provided to the NTSB investigator-in-charge via email:

"On October 20 at approximately 01:00, Eastern Standard Time a 1962 Piper PA 22-108 aircraft, N5581Z, was destroyed after colliding with trees as it descended and impacted the ground. The accident occurred in the Jackson-Washington State Forest just south of Brownstown, Indiana and west of South County Road 50 West.

The student pilot occupant did not suffer serious injury and there were no passengers onboard. The aircraft was registered to the pilot and was being operated under provisions of 14 Code of Federal Regulations Part 91. It was a personal visual flight rules (VFR) night cross-country flight. No flight plan was filed.

The student pilot stated that he was alone and that he was conducting a night VFR flight from Indy Metro Airport, KUMP, in Indianapolis Indiana to Crossville Memorial airport, KCSV, in Crossville Tennessee. He had taken on 15 gallons of fuel at KUMP before taking off around 2300 hours; the aircraft has an 18-gallon fuel tank. He stated that he was flying at or just under 3000 feet to avoid the traffic altitude requirements that are required above 3000. He states that about an hour into the flight that he lost all electrical power and at the same time that he lost engine power. He stated that he cycled his master switch from the "Spare Fuse" position, to the "Main Fuse" position. (The pilot's normal operating procedure is to have the master switch in the "DOWN" or "SPARE FUSE" position for flight). He stated that he did not have lights when he placed the master switch in the "MAIN FUSE" position but that he cycled through with the starter switch in an attempt to restart the engine. He stated that the engine did not start so he cycled the master switch back to the "Spare Fuse" position and tried to restart the engine. He state that he still had no electrical power and that the engine did not restart. The pilot stated that he had been flying with the navigation, strobe, landing and taxi lights on. He also stated that he was operating the panel lights at full illumination. He stated that at this point, instead of attempting to restart the engine that he concentrated on flying the aircraft, he claimed that he was



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at about 1700 feet at this time. He commented that he looked for the darkest spot to land as he was told by others that that would likely be a field that he could land in. His landing was in a forest area and he was able to walk away from the aircraft.

An examination of the wreckage revealed the following items. The aircraft wings had been separated from the aircraft during the decent through the trees. The fuel tank had been compromised but had remnants of fuel and the ground around it indicated a spill. The cockpit of the aircraft was twisted but was relatively intact. The seats were secure and the seat belt were in good condition. The wind shield was missing. The tail section of the aircraft was still attached to the cockpit but was folded to the left around a tree. The nose gear was collapsed forward under the engine. The main left main gear was intact and the right main gear was liberated from the aircraft but was nearby. The propeller spinner was crushed from a tree impact and the propeller condition revealed that it was not turning during the decent through the trees or when the fuselage impacted the ground. The propeller shaft was bent about 15 degrees off center. The engine was intact with the carburetor liberated from the intake manifold.

The engine had liberated from the top engine mounts but were still attached to the lower mounts. The throttle, mixture, and carburetor heat levers were all in the full forward position due the engine being liberated from the top engine mounts. The fuel lever was in the on position; this aircraft has one 18-gallon fuel tank. The mag switch was in the "BOTH" position and the master switch was in the "SPARE FUSE" position; which is the position that the pilot says he uses when flying.

We found that the fuse for the master switch "SPARE FUSE" position was compromised. When we selected the "MAIN FUSE" position on the master switch, we were able to power the radios and the VOR locator. We swapped the fuse positions in the fuse block and with the good fuse in the "SPARE FUSE" position, we were able to power up the radios and the VOR locator. Likewise with the compromised fuse in the "MAIN FUSE" position we were not able to power the radios and VOR locator. When the battery ground wire was disconnected for safety reasons, the ground cable fell out of the crimped connector at the frame-ground lug and it fell off on to the floor of the aircraft.

When we were able to check the engine, we found that the engine would not make a complete 360 revolution. We were able to confirm compression on cylinders 1, 2 and 4. We could not get sufficient rotation on the engine to confirm compression on cylinder number 3. All plugs were pulled and all displayed normal firing conditions. The lower plugs in cylinders 1 and 3 were oil soaked which was consistent with the orientation of the engine due to the accident. The right mag was replaced in January 2018 and provided spark when checked. The left mag was replace in August 2018 and provided spark when checked. The carburetor was checked and it had fuel in the bowel and the floats and float valve work as expected. The mag switch was not able to be



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tested at the accident site but the owner and the mechanic stated that it was replaced with a new ACS switch in March 2018.”