



National Transportation Safety Board
Office of Aviation Safety – Central Region
CEN18FA336 Investigation Summary

Date: August 16, 2018

Location: Rhome, Texas - T76

Aircraft: N2893Q - Cessna 172L; s/n 17259893

History of Flight

On August 16, 2018, about 1935 central daylight time, a Cessna 172 airplane, N2893Q, impacted trees and terrain shortly after departure from Rhome Meadows Airport (T76), Rhome, Texas. The commercial pilot was fatally injured and the 3 passengers sustained serious injuries. The airplane sustained substantial damage. The airplane was registered to and operated by the pilot under the provisions of Title 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed at the time of the accident and no flight plan had been filed. The local flight had just departed T76 at the time of the accident.

Witnesses who were located near the northwest side of the airport, reported that they saw the airplane fly one time around the area then landed. The 3 passengers then boarded the airplane and the airplane taxied to runway 13. The witnesses stated that the takeoff roll was longer than expected and the airplane struggled to lift off. Once airborne, the airplane made a left turn and descended as the engine power decreased. Sounded like idle power. The airplane continued to descend until it impacted trees about 350 yards north of the departure end of runway 13.

Male family member who first responded and pulled the occupants out of the plane: They got this airplane out from under the open-air shelter for “family fun night” and pilot was giving rides to different family members. First two flights were short and just flew around the area. 3rd flight of the night was accident flight. Departed runway 13, left wing dipped after takeoff, airplane leveled then the gear clipped the tree. They flew this airplane last Thursday before the storm came in. They flew it longer last Thursday than they did all 3 flights this time. They have fuel cans which are filled at a local airport. They fueled the airplane sometime before the accident flight but it was unclear exactly when.

The adult in the back seat, he was found in the dashboard area with his arm caught and couldn't get out. The youngest boy was also in the back seat and he was already out of the airplane by himself. The older boy was in the front left seat and was out of the airplane already. The pilot was in the right seat and still had the lap belt holding him in upside down.

Pilot's wife: Stated there are no logbooks to accompany the airplane. Bought the airplane from a guy named "Cowboy" who was an A&P IA. He kept the airplane at his place even after they purchased it (several years). They finally moved the airplane to Skydive Cowtown and didn't get any maintenance logbooks with it. It was just one of their other airplanes that sat outside. Pilot did not keep any current logbooks. He might have some from the 1990's but he hasn't kept track of his flight time in years. She was sure he didn't have any current logbooks. Occupants were family and were here for the regular family fun night.

Maintenance Records

No logbooks ever used according to pilot's wife. They were reportedly never received from the previous owner. A representative for the previous owner looked through his house and did not find the logbooks anywhere. No record of recent Annual Inspection.

Accident Site and Airframe Examination

33.147949° x -97.489946° about 350 yards north of the departure end of runway 13 at T76 airport.

2 empty Keystone Light beer cans were found in the front left floorboard area near the rudder pedals. A rodent's nest was found inside the left wing near an area that had been impact damaged.

Airplane came to rest inverted facing ~158°. No smell of fuel or any immediately noticeable fuel blighting noted at the accident site. Propeller spinner tip was bent but the rest of the spinner was mostly undamaged. The 2 propeller blades were straight and undamaged with no chordwise scratches or leading-edge damage were observed. The left wing leading edge was crushed aft and sustained damage and tree strike indents and the wing was partially separated from the fuselage and distorted aft. The right wing leading edge was damaged and crushed aft. All flight control cables positively traced from end to end with no separations. Trim tab was slightly nose down but near neutral. Flaps were retracted. Right control yoke impact separated. Left control yoke impact damaged.

No shoulder harnesses installed. All 4 lap belts appeared to have some stretching in the webbing indicative of the belts being worn during impact. The pilot was reportedly hanging from the lap belt while the airplane was inverted. The right rear lap belt was

loose from the eyelet at the floorboard. The eyelet was fractured from the floor and found in the grass under the airplane. Left front seat was improperly safety wired – wire was wrapped from one side around the back to the other side.

A large amount of cob webs were noted in the engine compartment.

The fuel selector handle and valve were found in the OFF position, which was moved to OFF by the first responders. A small amount of blue in color fuel was found in the firewall fuel strainer. The fuel was tested for water using water finding paste and no water was detected. Both fuel tanks were impact damaged but about 2 gallons of fuel were drained from the tanks during the recovery process. The fuel strainer was disassembled, and organic debris was found inside the strainer screen. The strainer bowl was mostly full of blue colored fuel consistent with 100 LL aviation gasoline.

The ELT was observed with battery acid residue covering the case. The airplane's battery was an 'EverStart' automotive battery.

Engine examination

The fuel system was intact. The gascolator was removed on scene and was examined. It was noted that an unidentified organic substance was observed in the gascolator screen. The main fuel line from the gascolator to the carburetor was a hydraulic line manufactured in July 2013 and featured a Department of Transportation marking, consistent with an automotive hydraulic line.

The carburetor was removed and disassembled, it was noted that the float chamber contained ~5 mL of fuel, this was tested using Kolor Kut water disclosing paste – results were negative.

Both magnetos were secure on their respective mounts. The ignition timing was verified at 25° before top center on the left magneto. The left magneto was rotated using the propeller, it furnished spark at all outlet points. The right magneto was secure on its mount. The ignition timing was verified at ~30 degrees before top center. The right magneto was removed from its mount and rotated using an electric drill, it furnished spark at all outlet points. Only the top spark plugs were removed and examined. They displayed a color consistent with normal combustion.

Airbox was clear of obstructions.

The accident team that responded to the accident site observed oil in and on the engine. At the examination facility the oil dip stick displayed four quarts of used engine oil. The oil cooler was examined and a large mud dauber nest was observed on the fins of the oil cooler. The oil filter was a very old red colored filter that has not been used in many years.

The engine was rotated by hand using the propeller. Thumb suction and compression was observed at all cylinders. Normal rocker and valve movement was observed and all accessory gears were observed rotating at the back of the engine. This confirmed valve train and crankshaft continuity.

The exhaust system had sustained impact damage to the heat exchanger which was breached. All of the flame cones were deteriorated and had been vented out the exhaust down pipe.