



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety

Western Pacific Region

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AIRPLANE & ENGINE EXAMINATION

WPR18LA056

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WPR18LA056
Perris, California
December 25, 2017
1325 PST
Cessna 150 – N6627G

EXAMINATION PARTICIPANTS

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HISTORY OF FLIGHT

On December 25, 2017, about 1325 Pacific standard time, a Cessna 150 airplane, N6627G, was substantially damaged when it impacted the ground during a forced landing in Perris, California. The private pilot and his passenger were not injured. The airplane was operated as a personal flight, conducted under the provision of *14 Code of Federal Regulations Part 91*. Visual meteorological conditions prevailed and a flight plan was not filed for the cross-country flight, which departed San Gabriel Valley Airport (EMT), El Monte, California at 1254 and was destined for French Valley Airport, Murrieta, California.

According to the pilot's statement, he departed EMT with about 22 gallons of fuel onboard. The pilot maintained a cruise altitude of 5,500 ft until about halfway through the flight when he experienced a total loss of engine power. He described the power loss as "smooth, but very fast." His subsequent attempts to restart the engine by pumping both the throttle and mixture, and

actuating the carburetor heat were unsuccessful. During the descent, he declared an emergency on the aircraft emergency frequency of the aircraft radio band, 121.5 mhz. After he selected a landing site, the pilot circled the airplane while he configured it to land. He initially turned the airplane to the north, but then decided to maneuver after he observed a road that would have inhibited his landing roll. The pilot then turned to the east, fully extended the wing flaps and descended quickly to fly beneath a set of power lines. The airplane touched down normally in a soft field and once the nose landing gear made contact with the ground, the airplane nosed over and came to rest inverted.

The airplane's global position system (GPS) radar track was mapped using a web-based mapping application. Following its departure from EMT, the airplane immediately climbed to the southwest momentarily before turning to the southeast. The airplane reached a cruise altitude of about 5,400 ft approximately 16 nm from its departure airport and maintained this altitude for the duration of the flight. At 1319, as the airplane reached the halfway point of the flight, it turned to a northeast heading and began a slow descent at a rate of about 1,000 fpm. Two minutes later, the airplane turned to the southeast for several seconds before making a momentary turn to the north. The radar track ended seconds later after the airplane made a 180° turn to the south.

A postaccident examination of the airplane by the Federal Aviation Administration (FAA) revealed substantial damage to the engine firewall, engine mounts, and empennage. Additionally, the lower engine cowling was crushed vertically. In the days following the accident, the airplane was recovered to a covered area nearby, where it remained until the date of the aircraft examination.

METEOROLOGICAL INFORMATION

The 1455 recorded weather observation at RHV included wind 330° 6 knots, visibility 10 statute miles, broken clouds 10,000 ft, temperature 19° C, dew point 06 C, and an altimeter setting of 30.04 inches of mercury.

ADDITIONAL INFORMATION

Airplane Examination

Airframe

The airplane and engine were examined by technical representatives of Textron Aviation and Continental Motors, Inc. under the oversight of the Federal Aviation Administration.

Flight control continuity was traced from the cockpit to the elevator, rudder, and ailerons. The left aileron cable and through cable were both fractured in tensile overload at the aileron-flap junction. The elevator trim actuator was extended about 1.4 inches, consistent with a takeoff position; the wing flap position could not be determined.

Fuel line continuity was confirmed from both wing tanks to the engine. The fuel tanks were not breached and the tank filters were free of debris. The fuel strainer expelled fuel when the drain

valve was opened and fuel flow ceased when the drain valve was closed. Trace amounts of fuel that resembled 100 low lead aviation grade gasoline and some debris were expelled from the fuel strainer. A large amount of corrosion was observed in the fuel strainer bowl along with some debris. The right fuel tank cap was observed with a significant amount of rust around the filler neck and on the cap.

Engine

Continuity of the mixture and throttle controls were confirmed from the cockpit to their respective arms on the fuel control unit.

Several ounces of fuel that resembled 100 low lead aviation grade gasoline were drained through the fuel strainer, which did not present any contamination or debris. Fuel line continuity was confirmed from the door posts to the fuel selector valve, which moved normally through each of its detents.

The top spark plugs were removed and thumb compression and suction were obtained for all four cylinders and in the proper firing order. Mechanical continuity was established throughout the rotating group, valve train and accessory section as the engine was manually rotated at the propeller.

The engine spark plugs were gray in appearance with light colored combustion deposits, consistent with normal wear when compared to the Champion Aerospace Aviation Service Manual. Both magnetos remained attached to the engine accessory case, the impulse coupling engagement was heard, and all 8 ignition harness leads exhibited sparks when the propeller was rotated by hand.

Carburetor Examination

The carburetor had separated from the induction risers at the mounting flange, but remained partially attached to the engine by the throttle and mixture control cables. Full travel was achieved for both linkages when the levers were moved. The carburetor fuel inlet screen was free of obstructions. Partial disassembly of the unit revealed no anomalies with the carburetor floats, needle valve, and venturi. The accelerator pump nozzle was covered in corrosion.

An examination of the carburetor was performed by the manufacturer with oversight from a representative of the FAA. The accelerator pump control, throttle, and mixture controls on the carburetor did not show any resistance when moved by hand. The unit failed the manufacturer flow test as the accelerator pump did not deliver any fuel to the throat of the throttle body. Debris was observed in the carburetor float bowl, the accelerator pump check valve, and the output of the venturi airflow.