



## CASE NOTES

This accident occurred during a lapse in government funding resulting in a furlough of NTSB employees. This case was assigned after government operations returned.

An NTSB Form 6120 was not made available for the investigation.

The responding Federal Aviation Administration inspector collected a transcribed statement from the pilot which stated that while on approach to the Calhoun County Airport (KPKV), Port Lavaca, Texas, the airplane was on the base leg at 2,800 ft with 20° of flaps extended. The engine suddenly stopped making power. The pilot switched fuel tanks and attempted a restart twice and then turned on the fuel pump. Engine power was not restored, and the pilot set up for a forced landing to a field. When the airplane touched down in the field, the nose gear sank into the soft soil resulting in the airplane nosing over and coming to rest inverted. The pilot and passenger were able to egress with minor injuries.

Prior to the accident, a mechanic told investigators that airplane was brought to his shop because the engine would not start and run without the airframe auxiliary operating. Fuel was found to be escaping from the boost pump shaft seal and the fuel pump was sent out and overhauled.

Due to a U.S. Government furlough and wet site conditions, the airplane remained inverted for about 6 weeks before being recovered. Once recovered, an examination was conducted on the engine. The examination revealed the following:

- An engine data plate attached to the upper right crankcase-half confirmed that the engine was a Continental Motors model TSIO-520-H (4) serial number 217423-R.
- The engine was assembled on March 18, 1999 as a Continental Factory Rebuilt engine.
- The three blade McCauley constant speed propeller remained attached.
  - Two propeller blades exhibited slight rearward bends due to contact with the ground. There were no chordwise scratches or gouging of the propeller blade leading edges.
  - The third propeller blade did not exhibit any noticeable damage.
- The engine did not exhibit any impact damage. The exhaust components did not exhibit any impact damage other than a slight bend in the exhaust pipe due to contact with the ground.

- When compared to a Champion Sparkplug “Check-A-Plug” chart, the sparkplugs condition appeared to be “worn-out-normal”.
- All intake and exhaust valves were intact and exhibited normal combustion signatures.
- The piston domes also exhibited normal combustion deposits.
- All six cylinders had been removed and replaced at the 2018 annual inspection with reworked, channel chromed ECI cylinders.
- The engine was manually rotated.
  - All cylinders produced thumb compression
  - Both magnetos produced spark to each individual ignition lead.
- The fuel manifold valve was disassembled while still mounted on the engine.
  - The assembly screws were properly secured with safety wire and a lead seal was intact.
  - When the manifold valve cover was removed, the spring and diaphragm were intact.
  - The manifold valve fuel screen was intact and exhibited only a small amount of contamination.
  - The fuel screen was removed, and no fuel was present in the manifold valve chamber.
- Fuel hoses were removed from the fuel mixture control/throttle body unit and engine driven fuel pump.
  - Only a very few drops of fuel escaped when the fuel hoses were removed.
- The engine driven fuel pump, fuel mixture control unit/throttle body, and fuel manifold valve was sent to Continental Motors for testing.
  - All devices were tested and found to operate normally.
  - Fuel setting were different than factory standard, but this is attributed to being set for the engine’s installation.

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