



RECORD OF CONVERSATION

Jim Silliman
Air Safety Investigator
Central Region

Date: June 28, 2017
Person Contacted: Mr. Clayton McMartin, Pilot
NTSB Accident Number: CEN17LA096

Narrative:

I informed Mr. McMartin that the engine run was accomplished and that the engine ran fine on the engine test stand. I asked him if he had any ideas about the loss of power during the accident flight.

He stated that in his opinion, the engine experienced fuel starvation. He wasn't sure what caused the fuel starvation, but he thought the likely reason was the lack of adequate fuel head pressure going to the carburetor when the airplane was in a nose high attitude during the climb out from the practice forced landing. That would result in not enough fuel getting to the carburetor.

He stated that there were 25 gallons of fuel onboard the airplane. The flight only lasted about 10 – 15 minutes. He stated that both fuel caps were secured on the tanks but that they came off during the ground impact. He stated, that the sight gauges in the airplane for each wing tank also indicated that they had fuel. He said he thought that there would be fuel stains on the aircraft's fabric if the fuel caps were not installed properly and if the fuel had been siphoned out of the fuel tanks. He said there were no fuel stains to the fabric. He stated that the original PA-18 had a header fuel tank installed on the airplane, but the replica N712AZ did not have a header tank.

He stated that he will make sure that he installs an electric fuel boost pump on the next experimental airplane he builds/owns.

The TMX Mattituck O-360, serial no. 30-6, did not have an engine driven fuel pump installed on the engine.



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Narrative:

I informed Mr. McMartin that the TMX O-360 engine did not have an engine driven fuel pump installed on it. He was aware that it didn't have an engine driven fuel pump installed on it, but he had not thought of installing one on the engine. He stated, "Honestly, I don't know about it."

He stated that he bought the airplane from another builder and the engine came with it.

The kit builder "Smith" was bought out and is now "Back Country Cub." They are producing new version of the replica Super Cubs.



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Date: June 29, 2017
Person Contacted: Mr. Clayton McMartin, Pilot
NTSB Accident Number: CEN17LA096

Narrative:

Mr. McMartin confirmed that N712AZ had leading edge slats installed. The leading-edge slats allow for a higher pitch angle than a standard wing, and allow the airplane to be flown at a very high pitch. He stated that the airplane is very stable at slow airspeeds and slow flight. It drives the stall speed down. He still thinks the airplane can stall, but it is at a very slow airspeed.

He stated he wasn't really paying attention to his pitch attitude when the engine quit. He was more concerned about getting the nose down and increasing his airspeed so it didn't stall. He was confident that the engine would restart, and he thought the engine was about to restart, but it hit the trees before he could fly it away. He stated that the nose up attitude when the engine quit might have been 35 to 40 degrees nose up pitch, although he could not be sure.

He stated that the carburetor was trying to get as much fuel as possible, but the angle of the airplane – the low point in the fuel system to the carburetor – didn't provide enough head pressure to supply the carburetor with enough fuel.



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Date: June 29, 2017
Person Contacted: Mr. Rick Richmond, A&P, IA
NTSB Accident Number: CEN17LA096

Narrative:

Mr. Richmond is a friend of the pilot and has a hangar near Mr. McMartin's hangar. He is an A&P mechanic and IA. When N712AZ was going through some extensive maintenance, he was able to examine the airplane and he provided some interesting information about the airplane's fuel system

Mr. Richmond stated that the airplane's fuel system was a gravity feed system to the carburetor. The fuel lines used on N712AZ were 3/8 in in diameter. He stated that most Cessna's and other aircraft use 1/2 in fuel lines. The fuel went from the wing fuel tanks to the low point (belly) in the system so it could be checked at the gascolator. Then the fuel went up to the fuel selector before being routed through a fuel transducer which measured fuel flow. He stated that the diameter of the line going through the fuel transducer was very small and it would restrict the fuel to the carburetor, especially one in a nose high attitude.

He stated that the airplane had leading edge slats which would allow for a very nose high attitude.



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Date: July 3, 2017
Person Contacted: Mr. Bruce Reed, Backcountry Super Cubs
NTSB Accident Number: CEN17LA096

Narrative:

Mr. Reed stated that the current production of Backcountry Super Cubs all have Lycoming engines installed and all are equipped with engine driven manual fuel pumps. He recommends that builders also install electric fuel boost pumps to ensure adequate fuel flow to engines that demand more fuel at high power settings. It's also because the slats on the leading edge of the wing allow for a very high nose up attitude, probably 40-50 degrees up, which could cause fuel starvation unless there's adequate fuel pressure and fuel flow to the carburetor.

He stated that the fuel lines are 3/8 inch in diameter. Typically, the fuel goes to the fuel selector valve before it goes to the gascolator, which can be installed on either side of the firewall. He recommends on the engine side of the firewall is preferred. He stated that experimental builders can make modifications to the suggested fuel system design.

He stated that if a Smith Replica PA-18 had the leading-edge slats installed on the wings, it was possible for the airplane to climb at a very steep angle, which would put the carburetor higher than the wing tanks. He stated that it was possible for the engine to stall due to fuel starvation if there was no engine driven manual fuel pump or electric boost pump to deliver the fuel to the carburetor. He stated that a purely gravity feed fuel system could experience an engine out due to fuel starvation, since there is inadequate fuel head pressure to deliver the fuel to the carburetor. He stated that having a fuel transducer would further restrict the fuel to the carburetor in a gravity fed system.