



Aviation Specialists LLC

205 Airport Drive
Brewton, AL 36426



DATE 8-4-14

Stephen Stein
Air Safety Investigator
National Transportation Safety Board

Mr. Stein,

As per your request we conducted an inspection of the fuel system on N5923P today. Nina McBride FAA Aviation Safety Inspector was present for and witnessed each step of the inspection. We were not able to run the aircraft engine due to the damage inflicted to the engine and the airframe from the crash. The following is the finding of our inspection.

The left wing of the aircraft had been severed from the airframe at the wing root during the crash. The resulting damage to the wing tore the inboard end of the fuel bladder from the wing and the airframe. We disconnected the left wing fuel line from the fuel tank selector valve, pressurized the fuel line with low pressure air (3 lbs) and found no obstructions from the valve to the fuel bladder attach point. There was dirt and debris in the ruptured fuel bladder. The fuel cap was secure on the fuel inlet of the fuel bladder and there was no indication of leakage. The fuel bladder vent was located on the severed wing with the remains of the bladder in the wing. The fuel bladder vent was clean with no obstructions. We could not conclusively tell you that the dirt and debris was there before the crash. The crash has been stored outdoors and the exposed bladder has been in atmospheric conditions.

The right wing was still attached to the airframe. The fuel cap was in place with no indication of leaks. There was fuel in the bladder and the bladder was not collapsed. We were not able to hoist the aircraft to fully drain the bladder so I can only estimate that there is approximately three gallons of fuel still in the bladder. We located the bladder vent and found it be partially obstructed with wood fibre consistent with the type of tree that the aircraft struck during the crash. We disconnected the fuel line from the fuel tank selector valve, pressurized it with low pressure air (3 lbs), found no obstructions from the valve to the bladder and air flowed freely from the bladder vent as well.

We removed the fuel selector valve from the airframe. We applied low pressure air (3 lbs) to the valve, from the left and right fuel tank connections to the engine outlet port of the fuel valve and found no obstructions or debris. The valve was functioning normally when switched from left tank to the off position and from the off position to the right tank. There was no indication of fuel leakage from the valve prior to our removing the valve from the airframe.

We removed the electric fuel boost pumps from the airframe. We then applied low pressure air to the fuel line from the fuel selector valve to the firewall connection for the fuel boost pump and found no obstructions or debris. The pumps were wired so that when power was applied from the cockpit fuel boost pump switch, both pumps would be energized. We applied twelve volts to the boost pumps and both pumps worked spraying a

very small amount of residual fuel from the pump outlet and there was suction on the pump inlet of both pumps.

Upon examination of the carburetor, we found the fuel bowl screws were still in place and the screws were still safety wired. The fuel inlet strainer was still in place and the safety device was still engaged. We removed the carburetor fuel bowl and discovered a small amount of rust and debris in the bottom of the fuel bowl. The carburetor was broken off of the engine during the crash and has also been exposed to atmospheric conditions since the crash. We removed the fuel strainer from the carburetor and it was clean with no restrictions or debris. Also, there were no indications of water or rust in the fuel strainer area. We then removed the carburetor float to access the needle and seat of the carburetor. The carburetor float was normal. The float was a black plastic float and did not contain any fuel or other substance inside it. There was no debris or restrictions in the needle and seat. The main carburetor jet, accelerator pump, fuel nozzle and venturi were all clean and debris free.

Thank You,

Freddie W. McCall, Jr.

Stein Stephen

From: Freddie McCall [REDACTED]
Sent: Wednesday, March 11, 2015 2:04 PM
To: Stein Stephen
Subject: Re: N5923P Engine Exam

Yes sir we did. There were no issues with it
Freddie

Freddie McCall, Jr.

On Mar 11, 2015, at 12:59 PM, "Stein Stephen" [REDACTED] wrote:

And for fuel line continuity I saw that you test from the bladders to the electric pump. Did you make it to the engine drive pump and the carburetor as well?

From: Freddie McCall [REDACTED]
Sent: Wednesday, March 11, 2015 1:57 PM
To: Stein Stephen
Subject: Re: N5923P Engine Exam

Yes sir I did hand test the pump and it worked as it should with no contaminates.
Freddie

Freddie McCall, Jr.

On Mar 11, 2015, at 9:32 AM, "Stein Stephen" [REDACTED] wrote:

Hi Freddie,

I'm writing up this case now, but don't see anything in your report about testing the engine driven fuel pump? Did you test it?

Thanks,

Stephen

From: Freddie McCall [REDACTED]
Sent: Tuesday, August 05, 2014 2:01 PM
To: Stein Stephen
Subject: Re: N5923P Engine Exam

Thank you very much for the feedback. Yes, I can take a credit card. Need the card numbers, exp date, CCV code, and the billing zip code for the card. I can send the receipt to your email address.
Freddie

On Tue, Aug 5, 2014 at 12:34 PM, Stein Stephen [REDACTED]
wrote:

Freddie,

Do you take credit? I can also pay you in check, but credit card is preferred.

The report looks good. The only feedback I have is given the amount of information I might suggest placing it in a report format and input headings for each category (e.g. carburetor, fuel selector...etc) as opposed to the letter format.

Stephen

From: Freddie McCall [REDACTED]
Sent: Tuesday, August 05, 2014 11:25 AM

To: Stein Stephen
Subject: Re: N5923P Engine Exam

Mr.Stein,

Your USPS tracking number; EK103563343US

Please critique the report that I sent you so that I can improve what we do. I would like to perform these types of inspections for you in the future and I want to be better at how I transmit the information to you.

Thank You for your business,

Freddie McCall, Jr.

Aviation Specialists, LLC

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[REDACTED]

On Tue, Aug 5, 2014 at 6:41 AM, Stein Stephen [REDACTED]
wrote:

Freddie,

Sounds like no anomalies to me. My address is below:

Stephen Stein

NTSB

45065 Riverside Parkway

Ashburn, VA 20147

From: Freddie McCall [REDACTED]
Sent: Monday, August 04, 2014 4:03 PM
To: Stein Stephen
Subject: Re: N5923P Engine Exam

Please see attached letter. I need a mailing address to send you a signed copy of the attached letter as well as a disk containing the photos and a bill.

Thank You,

Freddie McCall

On Wed, Jul 23, 2014 at 3:24 PM, Stein Stephen [REDACTED]
wrote:

Nina/Freddie,