

Lindberg Joshua

From: Brian Welken [REDACTED]
Sent: Monday, August 29, 2016 7:55 AM
To: Lindberg Joshua
Subject: RE: NTSB Investigation CEN16LA314 - N5599X
Attachments: IMG_1132.jpg

Josh,

I will remove the sending units and test them along with the gauges and let you know what we find.

As far as fuel burn calculations, we map our ferry routes and figure our times in the field and add 40 mins onto that. I enclosed a pic of the wall map in our office building where each pilot can calculate their flights.

The spray planes all have in-flight timers that alert the pilot when he is nearing his 30 minute reserve plus return ferry time that was calculated in.

The timer in my plane had actually quit and a new one had been ordered off of Amazon. Fittingly it arrived the following week after the incident.

Thank you

Brian Welken

[REDACTED]

From: Lindberg Joshua [[mailto:\[REDACTED\]](#)]
Sent: Friday, August 26, 2016 3:49 PM
To: [REDACTED]
Subject: RE: NTSB Investigation CEN16LA314 - N5599X

Brian,

That helps, thank you for the detailed explanation. I think it would be beneficial to remove the fuel gauges and sending unit to determine if there was a malfunction. This could be very important if we find an issue with either them. Please let me know how you would like to proceed.

Also, do you have a system in place to perform fuel burn calculations before every operation? Any safety procedures to double check fueling procedures?

Thanks,

Josh Lindberg
Air Safety Investigator



From: Brian Welken [mailto:
Sent: Thursday, August 25, 2016 7:31 PM
To: Lindberg Joshua
Subject: RE: NTSB Investigation CEN16LA314 - N5599X

Josh,

I just finished going over this again with my father who loads for me. He stated that he thought he had fueled me to the $\frac{3}{4}$ level which would have been around 80 gallons since the plane holds 53 gallons on each side. He could not remember how much he put in but did say that the plane was reading $\frac{1}{2}$ tank on the right side and $\frac{1}{4}$ tank on the left before he began to fill. He also said he thought he only filled the left tank which in his mind would have equalized and should have read $\frac{3}{4}$ on both sides upon departure.

I believe I just figured this out, so bear with me.

My loading pad is sloped and normally if the aircraft is pointed north the right tank should read $\frac{1}{4}$ higher than the left because of the fact the plane is leaning to the right.

On this particular Friday the aircraft was initially pointed to the south prior to fueling and then turned around before loading spray solution (this was the first load of the day). I believe my loader confused the readings and neither of us realized that the right tank was giving us a false reading.

Also we had many delays that particular morning and in my haste I did not check both tanks like I normally do prior to takeoff. Instead of departing with $\frac{3}{4}$ tanks I most likely departed with a relatively full left tank and a relatively empty right tank. This would explain and further back up the fact that the right side sending unit was giving false readings.

I also know that when the engine cut out my left tank read empty and my right tank still read $\frac{1}{4}$. It is my opinion that the right tank was giving us false readings due to inconsistent resistance readings coming from the sending unit. (this happened on my Beachcraft Debonair earlier this past spring and I had to replace the sending units.) As far as I know the sending units are still original in the Thrush. With that said I believe my loader did not actually fill me to the $\frac{3}{4}$ mark but filled me according to what he thought would be required to reach the $\frac{3}{4}$ mark.

Looking back I don't think he could have put more than 40 gallons in if he only filled the left side which is what he thinks he did.

Furthermore I don't believe I can argue the fuel exhaustion theory the FAA came up with. But I will say that when we disassembled the airplane and removed the engine prior to the FAA coming out there was fuel left in the lines going to the engine and fuel had been leaking out of the plane somewhat for 3 days prior to their visit, but this is most likely the remaining unusable fuel that would have been left in the tanks prior to the plane being inverted.

Last I do know that I was in flight for just over an hour. I scouted 2 separate fields prior to spraying the one I did that day. I think I confused my spray application starting at 1400 with my actual departure time when I filled out this report. I apologize for the misrepresentation of the times. I am only trying to be completely honest with you as this all started making sense today.

In closing I think this came down to a faulty fuel gauge and myself for not physically checking the fuel levels before departing. I believe the accident could have been prevented if normal protocol would have been followed.

Please let me know if you can follow my thinking in this response and if you need anything further.

Brian Welken

[REDACTED]

From: Lindberg Joshua [REDACTED]
Sent: Thursday, August 25, 2016 3:39 PM
To: [REDACTED]
Subject: RE: NTSB Investigation CEN16LA314 - N5599X
Importance: High

Brian,

According to your accident report, at 1345 the airplane was filled with 80 gallons of fuel prior to departure. The airplane was flown from 1400 to 1448. The FAA reported that no fuel was found in the fuel lines or tanks which would indicate fuel exhaustion. Also, the accident report indicated that 80 gallons were onboard at last takeoff.

If the airplane had 80 gallons at takeoff and 80 gallons were just added prior to takeoff, then the airplane had 0 gallons prior to the refill?

How did this airplane burn 80 gallons in 48 minutes?

Thanks for helping me to understand.

Josh Lindberg
Air Safety Investigator
National Transportation Safety Board

[REDACTED]

From: Brian Welken [REDACTED]
Sent: Wednesday, August 24, 2016 1:52 PM
To: Lindberg Joshua
Subject: RE: NTSB Investigation CEN16LA314 - N5599X

Josh,

I resent this report again today, did you receive it yet?

Brian Welken

[REDACTED]