

Cawthra Joshua

From: David Prescott [REDACTED]
Sent: Tuesday, June 29, 2021 7:42 AM
To: Cawthra Joshua
Cc: Rush, Curtis; Michael Walker
Subject: B-25 fuel calculation
Attachments: B-25 Fuel Calculations with run up. 10-2-20.pdf; fuel chart B-25J.JPG

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Josh,

I did not want to go too long without getting back to you on your request to see my calculations.

As you are aware - I was not present at any time from when the plane was fueled last before the accident.

I was only contacted on several occasions by Taigh regarding getting checked out by Mark Henley in my aircraft for his B-25 recurrent. I simply stated the same as I did to Rob Pinkersten - they could get renewed if they each paid for their own fuel. I never heard from Taigh again until after the crash. They were approved to transit from Chino to Stockton directly - all other stops and flyovers were not authorized or approved by me. The passenger rides out of San Diego were approved as these were Navy persons that helped move the aircraft on the USS Essex.

In reading the statement from Andres and verbally confirming that fuel was to be topped off 3" below the filler neck - I did a rough calculation of volume with the fuel bladders and came up with approximately 37 gallons less than your measured max volume of 670 gallons if measuring to bottom of filler neck - if 670 is higher into filler neck then aircraft started flights with less than 630 gallons of fuel.

Taigh has never sent me the fuel chart he used for fuel planning.

While ADSB times appear to be higher and Taigh's time does not appear to account for startup and taxi time - using attached B-25 fuel flow chart which a copy was in the aircraft and this is the same make and model engine - you will see for operations at 2000ft which is a majority of flights is over 150gph. Taigh noted that his power settings were lower than the low power setting on the chart which have been according to chart very little fuel flow difference as manifold pressure was very close to same just at lower RPM this is more load on engine at same power setting. I verified this information via Vintage Carburetor who also verified that while they rebuilt with flow on the richer side of tolerance - they are in US Army tolerance called for.

OF NOTE - fuel chart actually shows higher fuel burn at 7-8000ft than at 2000ft.

Using Taigh supplied time of 4.2hr at 150gph - you already arrive at 630 gallons of used fuel which when using your on-site observation of likely 10 gallons per side unusable due to outlet on side of tanks and complete coverage of outlet.

This also does not account for another issue which should have prevented this accident - departure from Nut Tree was exactly at sunset according to weather records for the day in question - therefore they were required to have 45 minutes of fuel aboard after reaching Stockton for VFR night flight.

Checklist which is in the aircraft has checklist item to check oil and fuel prior to engine start. There was a wood fuel stick - which regardless of markings would have clearly shown user dangerously low fuel level in Nut Tree prior to engine start for Stockton.

This matches the findings post crash of no remaining usable fuel in the tanks. Taigh simply lost track of fuel usage and ran out of gas. Nick Couches a commercial pilot, also a warbird owner and operator as additional required flight crew also had accountability to verify fuel level and should have also been looking for at least 140 gallons per side to meet landing fuel requirements for night vfr.

I arrive at no calculations with information provided which B-25 departed final leg with fuel Taigh indicates nor based on statements from passengers or Nick were there any fuel checks performed to back this information up.

You mentioned on the post-crash inspection that both fuel gauges appeared to read accurately once water volume in tank was over 60 gallons per side. From time of purchase we had never operated the aircraft at below 100 gallons per side, following Collings Foundation operation procedures as all of my Flight Instructors flew for them. American Aero and my staff would have never had a situation in which we would have known of this issue. I presented this information to Andres Morales the A&P mechanic present with the aircraft during incident crash and was present with Taigh during flight operations in Hawaii. Taigh is quoted by Andres as to asking if the gauges had been fixed yet to read full quantity below 60 gallons in main tanks – I believe he desired to work on them in Stockton. Taigh as an A&P IA mechanic was aware of the operation of the fuel gauges prior to sale of the aircraft and knew the status based on this prior knowledge which is ironic when taking into account the photo of the flight deck supplied minutes before crash. I would suspect that dipping the tanks which was standard procedure would have clearly shown both pilots that fuel was dangerously low and they needed to fuel prior to takeoff. It is also clearly reported by Andres that they were in a hurry to takeoff because of darkness which is a core focus of making the right decision making steps with the FAA.

Taigh and Nick were both Collings Foundations trained pilots and while this aircraft and flight were not covered by their procedures as a Part 91 flight – both pilot had an operating standard that they violated. They had both completed ground school on the B-25.

Thanks

David Prescott