

Pilot Interview

5-22-2014

Wiggins Airways Cargo Flight 1042, operating under 14 CFR Part 135

Engines out landing at OB7 (Warren-Sugarbush)

Aircraft: N116WA, EMB-110

Pilot: Warren Neil Patterson

Investigator: Tom Anderson, Vermont Aeronautics

On 21 May 2014 while in my office at Vermont Agency of Transportation in Montpelier, Vermont, the Aeronautics Administrator, Guy Rouelle, received a call with a report of an aircraft "down" and damaged at the Warren-Sugarbush Airport (OB7). At 0800 I was directed to respond to OB7 with Jim Thompson, State Aviation Operations Manager and Ryan Ollis, State Aviation Operations Specialist.

We arrived at OB7 at approximately 0927. Weather was clear with unlimited visibility, wind calm. I observed the aircraft, a Wiggins Airways EMB-110, N116WA, facing southwest on runway 4/22, with its left main wheel (blown) in the grass to the left of the runway. The right main (blown) and nosewheel (intact) were on the pavement. There was a skid mark behind the right main in the direction of the approach end of runway 22. There were some ruts in the grass behind the left main in the same direction.

There was a UPS truck parked behind the tail of the aircraft and two UPS workers were helping the pilot unload the aircraft. The aircraft was approximately 2/3s empty. I asked if FAA had given permission to unload the aircraft, and was told no. I then asked that the unloading stop until the FAA had given permission to unload the aircraft. They then stopped the unloading.

There was no fuel or other fluids leaking. No sign of a fire or was there any sign of any apparent damage, other than the main tires and wheels, to the aircraft. There were no first responders on scene.

With the airport management we decided the airport needed to be NOTAMed closed. Rick Hanson, Chief Instructor and Airport Manager called and NOTAMed the airport closed.

I showed the pilot, Warren Neil Patterson, my credentials. I asked him if he was ok. He stated that he was. He appeared clear eyed, lucid and relatively calm given the event. Throughout my interactions with him he behaved in a professional and cooperative manner.

Captain Patterson stated that he was called in as a back-up pilot to fly the UPS cargo run from MHT to BTV as the regular pilot called in sick. He stated that the normal procedure for fueling is that the pilot at night leaves a fuel order (and last night it was for "1,000lbs a side"), that that was "pretty much their standard fuel load for this run". He did not observe the fuel upload, and he stated that that was normal. This fuel load, he reported, allowed them to (in most cases) fly from MHT to BTV and return to MHT without having to re-fuel in BTV.

Captain Patterson indicated that he performed a normal pre-flight check, which included a flight deck check. He said that he turned on the master switch and that normally the fuel gauges would travel through their full range of indication and then settles back to the amount that the aircraft onboard the aircraft. He stated that he saw 1,000 lbs a side this morning in his check. He stated that he did not observe the gauges cycle through their range of indication, that he was doing other flight deck checks.

Captain Patterson stated that that Wiggins procedures and the aircraft certification allows them to determine fuel on board by using the gauges.

Captain Patterson stated that the flight was progressing normally; he was at 8,000 on an IFR flight plan and was south of OB7 by about ten miles when the fuel low pressure light - boost pump "fail" light came on. He indicated that he followed the appropriate abnormal procedures. He said that he engaged the standby boost pump and that it came on. After a couple of minutes he still had the low fuel pressure indication. Captain Patterson related how in his opinion that a dual pump failure was extremely unlikely and that he knew he had a deeper problem. He began to cross-feed from the left tanks to the right engine – not long after this he stated that the right engine flamed out and shutdown then very shortly the left engine then flamed out and shutdown. He indicated that he feathered both propellers. He contacted BTV approach and relayed his situation. He went to the "nearest airport" mode on his Garmin 530/430 system; it indicated that MPV was the closest airport. Captain Patterson stated that he knew he would not be able to make it there. At this point he was north of OB7 by approximately 5 miles, in his estimation. OB7 did not show up in his "nearest airport" list, in his opinion because the criteria set into the Garmin 530/430 system in the aircraft excluded airports under 3,000' long, OB7 is 2,575' in length. He began looking for a field, but as he turned south towards the Mad River Valley he said he spotted the OB7 Airport, clearly right there. Incidentally, this investigator knows that the airport had just resurfaced the runway and had new line striping completed earlier in the week. The airport "stood out like neon" against the green background very well.

Captain Patterson stated that he arrived in the vicinity of OB7 to the west of the airport. In evaluating the best runway choice, he said he saw the "wind was calm". He saw the area (locally known as "the cut") to the northeast of the approach threshold of runway 22 and said that he chose runway 22 because if he undershot the runway "that the options were a lot better" in that safety area to the northeast. He indicated that he was able to deploy the gear midfield on the crosswind and then turned left downwind for runway 22. He then said he deployed flaps to 25 degrees. He said he touched down "near the threshold" of runway 22 and deployed "aggressive braking", knowing that with both engines not running that he would have "limited hydraulic pressure" and needed to get the aircraft stopped quickly. Without engine reverse or Beta, he said he knew it would be a challenge to stop without departing the runway. (Investigator note – I have extensive personal knowledge of this airfield, in my opinion, a significant feature of this airfield is that landing on approach end runway 22, due to the elevation rise of the runway in the middle, it would have been tough for the pilot to see how much runway was remaining.) Captain Patterson stated that he felt the left tire burst first shortly followed by the right main next. The aircraft stopped and he stated that he secured the aircraft in accordance with the emergency procedures.

In talking about why he felt the situation happened, Captain Patterson stated that he felt the fuel gauges were not working properly and that "the aircraft had not been fueled last night". He demonstrated to me on the flight deck that when the power to the aircraft was turned on that the fuel gauge needles did not move from their less than zero position. This investigator noted and took a video of the fact that the needles did not move on power up. I checked all circuit breakers and they were all in. Captain Patterson demonstrated to me the alternative procedure for verify fuel in the tanks if the gauges were inoperative – the "dripless stick" method. This investigator verified and filmed that indeed the tanks were empty. I did verify fuel caps were on and there appeared to be no sign of a major fuel leak.

This investigator took photos of all Captain Patterson's pilot certificates, aircraft documents, flight manifest, cargo unloaded and still on aircraft when we arrived, skid marks and ruts with main gear. Other investigators gathered other data, (distances below) and took many other photos of the aircraft.

RWY 4/22 – 2575 x 30 - asphalt

Landed runway 22

Distance from threshold to beginning of 2 skid marks on pavement – 475'

Distance from 475' mark to beginning of single skid mark/left main leaves pavement – 942'

Distance from beginning of skid mark to end of skid (where AC stopped) – 1509'

Distance from AC to end of runway – 590'

Distance from left main to runway edge – 6'