



MEMORANDUM FOR RECORD

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Air Safety Investigator
Eastern Region Aviation

January 21, 2019

Subject: NTSB investigation ERA19LA074, N346MA, Diamond DA20, McCormick, South Carolina, December 19, 2018.

The pilot/mechanic Bryce Kimmel provided the following two statements:

Statement 1:

I was asked to go and work on N346MA at McCormick County Airport. I was working under an open Falcon Aviation Work Order. I reviewed all my tech data and printed out what I need as necessary. We flew to S19 in McCormick County, SC.

Once I arrived I did a quick check of the oil and ran the aircraft to check and see how the engine was performing. I noticed that the engine was not running smoothly. After installing the calibrated gauges to the engine to check unmetered and metered fuel pressure output I ran the engine again and noticed that the unmetered fuel pressure was above the limits at 1000 rpm and at full power the metered fuel pressure was below the limits set forth in the Continental standard practices Manual M-0. I decided the first course of action is to replace the fuel servo and after doing so I performed another unmetered and metered fuel pressure check but was unable to adjust the fuel pump to Continental specifications. My next action was to replace the engine driven fuel pump and again perform the fuel pressure checks with improved result but still could not adjust the pump to be within the Continental specifications. I checked output through the flow divider to the nozzles and the flow was very inconsistent. Now I decided to change the fuel flow divider and after doing so I once again checked fuel pressures and on initial check they were close and only required minor fuel pump adjustments to meet the Continental specifications. I checked idle, idle mixture, mag check, and full power output. Engine ran smoothly and with parameters per the aircraft AFM. I shut down the aircraft removed the gauges and had my coworkers do a second look over everything before cowl. Jon checked all fuel lines for tightness with a wrench, after everything was checked satisfactory. We cowed the aircraft and I signed off the aircraft in the maintenance logs.

Statement 2:

On December 19, 2018 I was dispatched from KCCO in (Newnan, GA) and dropped off at S19 (McCormick County, SC) to work on N346MA a Diamond DA20-C1 for issues with the engine. I hooked up our gauges to check pressures on the fuel system and found them not acting quite

right. So with the advice of my boss, I changed the throttle body. I also changed the engine driven fuel pump because it was leaking from the weep hole on the side of the pump. After changing those components per the Maintenance Manual, I ran the engine again with better results but still not per the Maintenance Manual. I did not have a fuel distribution manifold with me, so Jon Hudson brought me a fuel distribution manifold and I replaced that per the maintenance manual as well. Once I replaced the manifold, I noticed that all the fuel pressures were acting within Maintenance Manual limits, and I adjusted the fuel pressures per the Continental manual specifications. I ground ran the engine and the aircraft was operating at its normal values. I signed off the Aircraft in the logbooks and we got ready to go.

I did a normal preflight check as per the aircraft AFM and company procedures, especially checking the fuel sumps for contamination, I did three sumps per drain to make sure I had no debris or contamination. I checked the fuel and had about $\frac{3}{4}$ of a tank on board. I got in the plane, ran my checklist, did a normal start and ground run with successful magneto drops within maintenance manual limitations. I back taxied to runway 36 for departure, ran all my checklists before takeoff and made all appropriate checklists before departure. I performed a short field takeoff. After takeoff I climbed out and did a left climbing turn to see how the engine was running and started on the downwind. Once I felt comfortable with the way the engine was performing, I proceeded to intercept my course and somewhere between 3000 and 3500 feet I lost engine power. The engine RPM went from around 2500 RPM to about 1000 RPM. I could still hear the engine running, but I had no throttle command. I ran all appropriate checklists and then started troubleshooting at that time, I made sure all mixture was rich, the fuel pump was on, and throttle adjusted to give the maximum amount of success. I turned back to head to the runway at S19, I was on final for runway 36 but when I reached a certain altitude, I could not see the runway, and I made the decision to go into the biggest clearing possible which was at Georgia Pacific. We escaped from the hole that was in the canopy and cleared the area. I verified that the passenger was safe. We protected the crash site until first responders arrived. Once first responders took over the scene, I contacted my employer.

-Bryce Kimmel

Jon Hudson, the maintenance manager at Falcon Aviation provided the following statement in an email forwarded to the Federal Aviation Administration:

On Tuesday, Marshesoni called us because he had to make a precautionary landing at 519. He stated that the engine lost power, and would shut off on the ground if the fuel pump was turned off. I had him perform a few checks. The engine would run slightly better with the primer running. He left the plane and hitched a ride back to KCCO via KAHN. On Wednesday morning, Bryce K was dropped off at 519 to troubleshoot, repair, and fly N346MA back to KCCO. He found that the fuel pressure was very low, so he installed an overhauled servo and fuel pump. Brad, Patrick, and me were headed to KAHN in the 182 (a fine plane), so I called to see if he needed anything else. He stated that he now had better fuel pressure, yet only had fuel flow from 2 of the 4 fuel lines. So, we brought him a divider after our stop in KAHN. We installed the divider together, set the fuel pressure, and everything ran great. I looked over the engine and checked all the fuel lines plus mixture and throttle linkage. This was a visual inspection plus a wrench was put on every fuel line and nut that was taken off that day. Bryce made a hand written log entry in the maintenance records. Bryce and Patrick loaded up and planned to fly back to KCCO. They performed a before takeoff check and taxied to runway 36. They took off while Brad and me waited to hear that everything was ok from Bryce. They passed over the airport at what looked like about 2000 feet and said everything was fine and that they were turning west for KCCO. We took off in the 182 and turned towards KFFC. I called Bryce to confirm his altitude (3100) and told him we would level off below them and stay with them back towards KCCO. He immediately called back and said he was turning back to the airport. He called again and stated that the throttle had no response. We followed them from above towards the airport, but lost sight when they landed in the trees. Brad called 911 from the 182. I tried to contact Atlanta on 121.5 but heard nothing back since the ELT was going off. We landed the 182 after spotting the plane with the medics on site. This was about 2:30PM.

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