

## **Examination Summary – Emails provided Viking Aircraft Engines Representative**

The main problem was that each fuel pump had its own fuse and the ECU had its own fuse, however, the individual items also had a main fuse taking the complete load. This was the fuse that did not seat well in the fuse holder causing the arching/intermittent circuit. The fuse was labeled as main engine power.

You are also correct in that the ECU should have been wired to the main buss.

Let me know if you have any more questions, more than happy to help.

Thank you,

***Alissa Daniel***

Viking Aircraft Engines

**From:** alissa [REDACTED]  
**Sent:** Tuesday, September 22, 2020 2:42 PM  
**To:** Sauer Aaron [REDACTED]  
**Subject:** Re: NTSB Contact - Accident involving N210WP

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Hey Aaron:

Thank you for reaching out, I'll kind of summarize everything below and if you need anything further do not hesitate to reach out to me.

Sunday, September 20th we arrived on site of the accident of N210WP, owned by a Jim Clemens (second owner of the aircraft)

They were already at that time able to use a tractor and get it on the mains of the aircraft before we had arrived.

From previous experience we had already concluded that it was likely nothing wrong with the engine and be able to restart it at the scene.

After going through the various systems, this proved to be correct and the engine restarted. From the description received from the owner of what happened it initially seemed to be fuel related. He said the engine had, stumbled, he went to use the backup fuel system, the engine continued to run and then stumbled and quit after another 15 minutes. The fuel system seemed to be okay after careful inspection of; the amount of fuel in the aircraft, the

location of various fuel valves, the proper drainage from the wings to the central header tank and the pickup and feed from each high pressure fuel pump into the engine all seemed correct. At this point the owner mentioned that when the engine finally quit it sounded more like an electrical issue (an instant stop). At this point, we tried to restart the engine (after checking fluids) and it started right up.

It seemed an intermittent mechanical or electrical issue, we started to inspect the wiring related to the engine. It only took a couple seconds to look underneath the panel and see the problem, the main fuse block to the engine had turned "whiteish" from the normal black color. By extracting the main 25 amp fuse it was clear we had found the intermittent problem. The automotive blade type fuse had arching/burn spots on it. This was so severe that we had concluded this to be the cause of the initial and secondary engine hesitation/stoppage.

As stated, the wiring system found, was not up-to-date or in-line with our website recommendations for this engine installation, where the ECU power does not have a fuse and is wired directly to the main buss.

Thank you,

***Alissa Daniel***

Viking Aircraft Engines