

From: [Friedrich Neuhoff](#)
To: [Stephen Stein](#)
Subject: Re: Question
Date: Monday, November 13, 2023 12:25:35 PM

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Hi Stephen,
To your recent questions:

1. The ignition check is part of the preflight checklist:

- With the engine running at about idle and both ignition switches in the top position = ignition on, first switch IGN A to the center position = ignition off. The RPM should drop by some 50 to 100 RPM.
- Switch IGN A to the bottom position = ignition B will power both A and B. The RPM will thus increase by 50 to 100 RPM.
- Switch IGN A again to the center position and verify a RPM drop as before.
- Return IGN A switch to the top position and verify that the engine returns to the initial RPM setting.
- Repeat the same procedure for IGN B.

I followed this checklist - like all checklists - all the time and there was no difference this time.

2. There is no display which clearly tells you how much power is drawn from which battery. The engine monitor only displays voltage and current draw for the whole system. There are limits set for both these measures, which - once exceeded - will change the color of the corresponding bars. There is also a low voltage warning light on top of the panel which comes on in case of an alternator failure. This one was not on.

3. I glanced at the whole panel and both IGN switches were in the Main position so I did not do anything further.

I hope this helps!

Regards,

Friedrich

On Mon, Nov 13, 2023 at 6:04 AM Stephen Stein <[REDACTED]> wrote:

Friedrich,

Thank you for this. Just a few more questions.

1. I think you mentioned you use these switches sort of like a mag check. Can you describe that process and did you check the system prior to takeoff like during your run-up?
2. Did the system run on both batteries?
3. Were switches both on “Main” when you lost power?
 - a. And if so, did you do anything with the switches after the power loss?

From: Friedrich Neuhoff <[REDACTED]>
Sent: Thursday, November 9, 2023 1:12 PM
To: Stephen Stein <[REDACTED]>
Subject: Re: Question

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Hi Stephen,

To1.

With these switches you select which circuit of the ignition (IGN) you want to use, A or B. In normal operation both are on, but you use these switches in preflight check

to verify that both circuits are working properly. Similar to the magneto check in conventional aircraft. There is no automatic redundancy that I am aware of, but either battery

can run the ignition separately.

To2.

Attached some schematics I have.

On Thu, Nov 9, 2023 at 10:40 AM Stephen Stein <[REDACTED]> wrote:

Thanks. In the interim can you answer the first question? It'll be helpful.

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From: Friedrich Neuhoff <[REDACTED]>
Sent: Thursday, November 9, 2023 10:34:02 AM
To: Stephen Stein <[REDACTED]>
Subject: Re: Question

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Hi Stephen,

I will check for schematics and call you in the afternoon.

On Thu, Nov 9, 2023 at 10:02 AM Stephen Stein <[REDACTED]> wrote:

Hi Friedrich,

I don't know if you received my voicemail. We did make a causal discovery during our wreckage exam today that I'd like to talk to you about.

Two questions for you:

1. We noticed the battery switches on the instrument panel. Do the IGN A and IGN B switches allow you to select which battery source: main battery or auxiliary battery? Is there any automatic redundancy built in or do you

have to manually select the main or aux batteries?

2. Do you have any schematics for the electrical system?

I have a couple of meetings this morning so afternoon might be best [REDACTED]

Thanks,

Stephen

From: Friedrich Neuhoff <[REDACTED]>
Sent: Monday, November 6, 2023 8:33 PM
To: Stephen Stein [REDACTED]>
Subject: Re: Question

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Hi Stephen,

According to Lancair the pages for the Fuelsystem no longer exist!

However, I have a hardcopy of the original (the 60 page document). It addresses mostly a system with a headertank.

I could scan it and email you a copy. This will take a little time, since I will probably have to break it up into a number of e-mails.

Please let me know if I should proceed.

Friedrich Neuhoff

On Mon, Nov 6, 2023 at 2:58 PM Stephen Stein [REDACTED] > wrote:

This is great. Could I get the rest of the description of the fuel system if there's more there?

From: Friedrich Neuhoff <[REDACTED]>
Sent: Monday, November 6, 2023 2:13 PM
To: Stephen Stein <[REDACTED]>
Subject: Re: Question

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Hi Stephen,

Here you go.

My airplane does not have a headertank, so that plumbing is missing!

Friedrich

On Mon, Nov 6, 2023 at 12:19 PM Stephen Stein [REDACTED] wrote:

Yes please

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From: Friedrich Neuhoff [REDACTED] >
Sent: Monday, November 6, 2023 12:18:09 PM
To: Stephen Stein [REDACTED]
Subject: Re: Question

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No Issues with the flight controls.

In the Lancair Kit Assembly Manual is a chapter on the fuel system. Quite lengthy (60 pages), but there are also 2 pages with the fuel system schematics.

Would you like these?

Friedrich

On Mon, Nov 6, 2023 at 9:39 AM Stephen Stein [REDACTED] > wrote:

Also – for the airframe side I was going to examine the fuel system. Did you have any flight control issues?

From: Friedrich Neuhoﬀ [REDACTED] >
Sent: Sunday, November 5, 2023 8:40 PM
To: Stephen Stein <[REDACTED]>
Subject: Re: Question

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Hi Stephen,

This aircraft was originally built with the electronic ignition system from Lightspeed engineering (lightspeed-aero.com).

One issue I recall with the system was a broken contact for one lead wire at the connection to the spark plug. When I discovered that, I exchanged all 8 leadwires (1-04-2022).

At that point I did not notice any damage to any of the other wires.

Earlier - 1-21-2020 - I noticed that one terminal of one ignition coil seemed to be slightly loose. I exchanged that coil and inspected all others without finding any

further damage.

I never had any problems with this ignition system.

Due to fewer (moving) parts this system is generally considered superior to the conventional magneto ignition.

As long as electrical power is available, that is probably true.

A magneto ignition will work as long as the propeller is turning.

A good practice used by some builders now seems to be one ignition system each! That should be the highest degree of **failsafe aircraft ignition system for piston engines**.

Hope this helps.

Regards,

Friedrich

On Fri, Nov 3, 2023 at 4:59 AM Stephen Stein <[REDACTED]> wrote:

Hi Friedrich,

In reviewing the form you filled out you noted “failsafe aircraft ignition system” in the recommendation area. Curious what prompted you to say this. Have you had issues with this system in the past?

Also, when was the electric ignition system installed? There is nothing in the logbook.

Your help with this is greatly appreciated. I’ve copied my engine technical expert for his awareness/followup questions.

Thanks,

Stephen

From: Friedrich Neuhoff [REDACTED] >
Sent: Tuesday, October 3, 2023 4:42 PM
To: Stephen Stein <[REDACTED]>
Subject: Re: logbooks

[CAUTION] This email originated from outside of the organization. Do not click any links or open attachments unless you recognize the sender and know the content is safe.

Hi Stephen,

As just discussed, I would appreciate it if you could save the following personal items not attached to my airplane from the airplane

so that they will not get lost during your examination process:

- Transportable O2 system (tank, regulator, canulas etc.)
- Canopy dust cover
- Trickle charger
- IFR training goggles
- Misc. knick-knacks

Behind the backrest in the baggage compartment there is also a small white plastic box with tools to remove the cowling piano hinge wires,

which might come in handy.

I will be in touch with insurance as well.

Best Regards,

Friedrich Neuhoff

On Mon, Aug 28, 2023 at 11:11 AM Friedrich Neuhoff
[REDACTED] wrote:

Hi Stephen,

Please send them to my home address:

[REDACTED]

[REDACTED]

Regards,

Friedrich Neuhoff

On Mon, Aug 28, 2023 at 10:07 AM Stein Stephen

[REDACTED] wrote:

Hi Friedrich – I have finished photographing the logbooks. Where would you like for me to send them?

Thanks,

Stephen

From: Friedrich Neuhoff [REDACTED]
Sent: Friday, August 18, 2023 1:22 PM
To: Stein Stephen <[REDACTED]>
Subject: Re: Ipad

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Hi Stephen,

Another question from NTSB form 6120.1:

Do you have any information if my ELT went off?

Friedrich

On Fri, Aug 18, 2023 at 10:37 AM Stein Stephen
[REDACTED] > wrote:

Hi Friedrich,

Thank you for following up. I'm working on scheduling the wreckage examination with the recovery facility. Once that's complete I will

release the wreckage. I'm hoping this won't take longer than a month.

Please send the logbooks as soon as you can. We need those before we can proceed.

Best regards,

Stephen

From: Friedrich Neuhoff <[REDACTED]>
Sent: Friday, August 18, 2023 10:02 AM
To: Stein Stephen <[REDACTED]>
Subject: Re: Ipad

[CAUTION] This email originated from outside of the organization. Do not click any links or open attachments unless you recognize the sender and know the content is safe.

Hi Stephen,

First my apology for taking long to respond to your questions: I am on painkillers (Oxycodone) so I always need someone to drive me to e.g. my hangar etc. and I am slow at "work".

The engine monitor: ACS 2002 by - then ADVANCED Flight Systems Inc. , now DYNON - , actually does retain all data that was taken and displayed for a certain time.

After that time, if new data becomes available, the previous data is overwritten automatically. The process to retrieve any data seems a bit complex, but the manufacturer can do that.

I will be mailing my engine and aircraft logbooks to you today.

Do you have a timeline to move the airplane yet?

regards,

Friedrich Neuhoff

On Fri, Aug 11, 2023 at 1:19 PM Stein Stephen

[REDACTED] > wrote:

Hi Friedrich – You may return the ipad.

Stephen Stein

Senior Aviation Accident Investigator

National Transportation Safety Board

[REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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