

From: [REDACTED]
To: [REDACTED]
Subject: Re: Fwd: CEN23LA327 (N730WL, Vans RV-10, Chevrolet LS3) - Accident Update
Date: Wednesday, August 2, 2023 19:11:58
Attachments: [RV-10 fuel in Muskogee OK.pdf](#)

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Mike,

I got back Tuesday night and started working on everything this morning. The PDF form is about 90+% complete. We are still looking for the maintenance log book and I need information from that to complete the PDF form. As soon as we find the log book I will make PDF copies of the pages you requested and finish filling out the 6120 report.

I did not get the receipt from the fuel pump at Muskogee, but I did find the charge on my credit card statement. I printed the page with the charge to a PDF file and highlighted the charge. That PDF file is attached to this email. Fuel that day was \$5.25/gal, which calculates to just over 35 gallons put in the RV-10 to top off both tanks.

Thank you,
Stuart Davis

On 2023-07-27 18:13, Hodges Michael wrote:

> Thank you.
>
> Mike
>
> Mike J. Hodges, MS
>
> Aviation Accident Investigator, Central Region
>
> National Transportation Safety Board
>
> 14291 East 4th Avenue, Suite 7-300
>
> Aurora, Colorado 80011
>
> Cellular: [REDACTED]
>
> Facsimile: [REDACTED]
>
> Response Operations Center (24/7): 1-844-373-9922
>
> Work Hours: Monday-Friday, 0900-1730 Central Time
>
> "Don't let yesterday use up too much of today." – Will Rogers
>
> -----
>
> From: Hodges Michael
> Sent: Wednesday, July 26, 2023 5:34:13 PM

> To: [REDACTED]
> Cc: [REDACTED]
> Subject: CEN23LA327 (N730WL, Vans RV-10, Chevrolet LS3) - Accident
> Update
>
> Hi sir,
>
> Thanks again for your time on the phone before.
>
> Please fill out and email back to me the NTSB Form 6120.1:
>
> https://www.nts.gov/Documents/6120_1web_Reader.pdf
> [1]
>
> Please be as detailed as possible on the form.
>
> When able, I am also please requesting (digital copies via email):
>
> * Copies of the last three years of the maintenance records for the
> airframe, the engine, and the propeller.
> * Copies of the most recent fueling records/receipt.
>
> Please keep Tim Wells from the FAA Will Rogers FSDO and I in the loop
> on the recovery process with the airplane. Also, please keep us in the
> loop with the plan to have the Chevrolet LS3 engine shipped down to
> Joshua, Texas, to be examined. Please do not do any future teardown or
> examination work on the airplane without prior coordination from the
> NTSB.
>
> Thank you again for your help. Have a good week.
>
> Mike
>
> Mike J. Hodges, MS
>
> Aviation Accident Investigator, Central Region
>
> National Transportation Safety Board
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>

> Links:

> -----

> [1] https://www.nts.gov/Documents/6120_1web_Reader.pdf

Transaction Date	Posting Date	Description	Amount	Running balance
07/22/23	07/22/23	PERKINS RESTAURANT 1046 GRAND CHUTE WI [REDACTED]	[REDACTED]	[REDACTED]
07/22/23	07/22/23	COUNTRY BOBS CAFE SAINT JAMES MO [REDACTED]	[REDACTED]	[REDACTED]
07/21/23	07/21/23	DAVIS FIELD AVIAITON MUSKOGEE OK [REDACTED]	[REDACTED]	[REDACTED]
07/21/23	07/21/23	KUM&GO 0891R VINITA VINITA OK [REDACTED]	[REDACTED]	[REDACTED]
07/21/23	07/21/23	CENEX HOOD S [REDACTED] BOIS D ARC MO [REDACTED]	[REDACTED]	[REDACTED]
07/21/23	07/21/23	ECONOMY INN SAINT JAMES MO [REDACTED]	[REDACTED]	[REDACTED]
07/20/23	07/20/23	SAMS CLUB #8210 BURLESON TX [REDACTED]	[REDACTED]	[REDACTED]
07/19/23	07/19/23	WM SUPERCENTER #220 BURLESON TX [REDACTED]	[REDACTED]	[REDACTED]
07/18/23	07/18/23	TMOBILE*AUTO PAY [REDACTED] WA [REDACTED]	[REDACTED]	[REDACTED]
07/17/23	07/17/23	THE HOME DEPOT #8438 BURLESON TX [REDACTED]	[REDACTED]	[REDACTED]
07/17/23	07/17/23	THE HOME DEPOT #8438 BURLESON TX [REDACTED]	[REDACTED]	[REDACTED]
07/16/23	07/16/23	SAMSClub #4742 FORT WORTH TX [REDACTED]	[REDACTED]	[REDACTED]

From: [REDACTED]
To: [REDACTED]
Subject: Re: CEN23LA327 (N730WL, Vans RV-10, Chevrolet LS-3) - Additional Questions
Date: Tuesday, September 19, 2023 13:15:38

[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.

Mike,

I'm sorry, I should have thought to include most of the information that you are asking for.

The engine examination was done at;
Automotive Machine & Supply Inc.
[REDACTED]
Cleburne, TX 76031 [REDACTED]
by Eric Nichols - owner

Eric started the tear down and inspection on Saturday afternoon 9/16/2023 thru 9/18/2023 when I went to his shop. He is still checking out other details to determine if the engine can be rebuilt.

There was no determination on why the PCV valve failed.

We have not had any previous issues with PCV valves. This was the first time a PCV valve has failed.

We did discuss not using a PVC valve on future engines and replace it with an air/oil separator that vents overboard like Lycoming and Continental engines rather than into the intake.

A small amount of material was found in the inlet to the fuel injector for cylinder #3. The RV-10 had a pre-filter on the fuel lines out of each fuel tank going to both pumps to protect them, and finer post-filters after each pumps to protect the injectors, so how any material got into that injector is not clear. The only possibility we could come up with was material was already in a post pump fuel line or in that fuel rail during assembly. Cylinder #3 did not get lean enough to damage the spark plug, piston, or valves. It was running hotter than the other cylinders.

The RV-10 was originally built with an LS1 engine that served it well for many years. Shortly after we got the RV-10 we discovered damage that the previous own had done during one of the two emergency landings. One of them resulted in a prop strike with the original Hartzell propeller. That resulted in the lower left corner of the bell housing flange being cracked. It looked like two attempts were made to do weld repairs on the crack that did not work. By the time we got the RV-10 the crack had propagated towards the oil filter and went through an oil galley resulting in a non-repairable oil leak that would only get worse. The LS1 was removed and replaced with the LS3.

If you have any other questions just ask me. I will give you the information as quickly as I can.

Thanks,

Stuart

On 2023-09-19 10:52, Michael Hodges wrote:

> Hi sir,

>

> I have a few additional questions please.

>

> * Where was the engine examination performed at? Such as the shop
> name, the city, and the state.

>

> * What date(s) was the engine examination performed on?

>

> * You reported to me about the engine examination findings:

>

> _The preliminary findings on the engine are a failed PCV valve causing
> the engine to suck too much oil out of the crank case and into the_

>

> _intake. Over the long slow climb to 6000 feet this caused the engine
> oil level to get too low eventually causing the oil to overheat. Once
> the_

>

> _oil overheated it was a short time before the engine stopped
> running._

>

> Was there any determination on why the positive crankcase valve (PCV)
> failed?

>

> * Have you had any previous issues with the PCV?

>

> * You reported to me about the engine examination findings:

>

> _Another issue was cylinder #3 fuel injector was not working well
> causing cylinder #3 to run a lot leaner than it should causing another
> source of too much heat._

>

> Was there any determination on why the cylinder #3 fuel injector was
> not working well?

>

> * Have you had any previous issues with the cylinder #3 fuel
> injector?

>

> * Do you know if this airplane was originally built with the
> Chevrolet LS-3 engine? Or was it originally built with a different
> engine?

>

> Thank you again for the help.

>

> Mike

>

> Mike J. Hodges, MS

>

> Aviation Accident Investigator, Central Region

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> Links:
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> [1] <https://www.nts.gov/Pages/home.aspx>