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News!

August 2020

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Notes from the President

By Bruce Mundie



Well, I did not want to, but I did; I caught COVID-19 sometime mid-July. I have been under the weather for over two weeks now. The summer, that was already on hold, went on double secret probation hold after I tested positive. The good news is that I am nearly through the worst of it, and I am waiting a few more days before I start trying to get tested again, this time I am hoping for a negative result.

That being said, all of the plans that I had for the second half of July have been postponed or canceled. I have not been able to attend to any of the chapter business that I had intended to do, so there is not much for me to report in this month's newsletter.

Even though we are moving into August, the COVID-19 pandemic is still hamstringing our monthly activities. We continue to postpone our chapter events out of the necessity to keep chapter members and guests healthy. We are still planning on having our August meetings at Oracle and we will continue to broadcast our meetings via ZOOM.

Thanks for your patience during these turbulent times.

Bruce

“All engines leak. That is how you know they have oil in them, son.”

By Dick Koehler

*EAA National Tech Councilor Dick Koehler
Reprinted by permission from EAA 186 and Dick Koehler*

A common issue I run into on all aircraft is the low level oil leak under the cowling. Most of us like to keep our engine compartment clean, for obvious maintenance troubleshooting reasons, but also, a leaking engine will usually end up putting oil on the belly, and sometimes on the side of a plane. My father used to say that a teaspoon of dirty oil could cover the entire side of a Cub fuselage, so, we are not talking about big leaks that are usually easy to find, but niggling little seeps and drips that are often extremely difficult to resolve. This article will discuss some tactics I have used to find such leaks.

pay for so there is often a trade-off between leakage and cost to repair. Oil is cheap, compared to labor.

One of the big problems with finding the source of a leak in the engine compartment is the chaotic and high velocity airflow in the engine compartment. I well remember several years ago noticing a few dots of oil on the baffling behind No. 3 cylinder (back right side) on the Lycoming O-360 on my Mooney. After several hours of troubleshooting, the source turned out to be a small leak at the top of the intake pushrod shroud tube on No. 2 cylinder (front left side). In other words, the air was carrying the oil over the top of the engine from left front to right rear, at an angle of about 45 degrees to the direction of flight of the aircraft. Similarly, around the accessory section there can be up flows, down flows and side flows that spread the oil away from the source in otherwise illogical directions.

Last month I was called to look for an oil leak



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I remember an incident when I was a young, just getting started, aviator renting a flying club plane, and I complained about how the entire engine compartment was wet with oil. The chief mechanic snubbed me off with the comment, “All engines leak. That is how you know they have oil in them, son.” It wasn’t until I started doing my own maintenance that I found the error in that statement. These days with modern sealants and seals, properly maintained engines should not leak! Big leaks (a quart or more per hour) are usually relatively easy to find but little ones can be really difficult, requiring many man-hours of effort, which we often do not want to

on a Cessna Cardinal RG, with the IO-360-A1B6D engine. The last letter, the “D,” indicates that the engine has a single drive magneto, with a slightly different arrangement for the accessory case, including a different attach plate for the oil filter (suspect to leakage). The owner had complained for several months of oiliness in the vicinity around and aft of the No. 3 cylinder, where there are several oil lines including those for the oil cooler, air/oil separator, oil filter, prop governor, and oil drain line for No. 3. We had changed out some of the rubber hoses and looked carefully, but could not find a source of the leak. Recently, the oil leak had increased enough that a spot of 8 to 10 inches would

accumulate on the hangar floor within 24 hours of parking the plane after a flight.

First thing I asked the owner was his oil consumption, and he said it had not changed recently and was steady at about 7 hours to the quart. The engine has about 1700 hours on it, so this seemed like very acceptable oil usage, and indicated the leak had to be a small seep. The owner was irritated by the oil spot on the floor and on the belly and lower right side of the fuselage.

Trouble-shooting a small leak? First Step: Super-clean the engine area.

First step in troubleshooting such a small leak is to super clean the engine area. A mineral spirits wash down with a sprayer works well, but even a very careful wipe down with paper towels will usually work. Suspect areas are all oil lines and their fittings, oil filter, governor top and base, oil filter, and magneto seals. After washing down the area, blow it dry with compressed air. At this point there are two techniques I have used to find the leak. Back in my motorcycling days, I learned the trick of spraying the suspect areas with Arid Extra Dry with Powder. Let the deodorant dry and then run the engine. Any oil seepage will mark the dry white powder with a very obvious black stain line. Do a short run, say for only a few minutes, and check. If nothing is obvious, do a longer run and cycle the prop. If still no results, do a high-speed taxi test. Even a short flight around the pattern may be required. Keep at it until an oil stain in the white powder is found.

It is hard to find aerosol deodorant these days, so an alternative is the white developer powder in dye penetrant kits. Spruce sells spray cans of Met-L-Check Developer D-70 for \$9.95 each. It can be washed off with water, but you might also want to purchase a can of the Met-L-Check Cleaner/ Remover. In my case with the Cardinal, I did not have either readily available, so we went the more crude way by taping paper towel "diapers" around all suspect areas.

Looking at the pictures below from the top, we padded the oil filter base, prop governor, oil cooler return line, air-oil separator oil return lines (part of #3 cylinder oil return), and the oil cooler. We just folded pads of clean paper

towel and taped them in place with the cheapest masking tape. The next picture shows the lower part of the area, including the oil cooler and the final picture shows the oil seepage around the top of the oil cooler. It took three engine runs to get enough of a seep in the top of the oil cooler, perhaps accentuated by the oil getting hot. When we pulled the pad from the oil cooler, it had a tattle-tale stain on it. Owner had mixed emotions. We had positively found the leak, but a new oil cooler was several hundred dollars. Once found, removing the old cooler was a half hour job, and installing the new cooler took about the same. We chose to replace the oil cooler hoses since they were about 15 years old, and we handled them, which sometimes induces a crack and leak. The troubleshooting took about two hours for three of us, mostly removing cowling for access and cleaning.

Hope this troubleshooting trick saves you some time and frustration in the future, or better yet, you never have an oil leak and never need the info! Keep building and flying.

Dick 7/2020

July 2020 EAA Chapter 186 Stick & Rudder,

Facebook: www.facebook.com/eea-186

Web: www.eaa186.org,

EAA Chapter 80 Meeting Minutes

July 2020

The chapter meeting was held on July 13th at Millard Airport, Oracle Aviation. The meeting was called to order at 7 PM by President Bruce Mundie. Guests included new member Tim Whyler.

Meeting Minutes: Approved as published in the newsletter.

Treasurer's Report: Bob Cartwright presented the treasurer's reports for July. The opening balance was \$13,571.17. Chapter receipts totaled \$213.89 (donated snacks by Bruce Mundie, and T-Shirt Sales). Chapter expenses totaled \$20.25 (new check order) Ending balance \$13,764.81.

Membership: Bob Condrey reported there are 30 members delinquent for their 2020 dues. About one third of our members have not submitted or have not had their pictures taken for the directory.

Tech Counselors: Mike Howard discussed his engine failure after takeoff and forced landing experience. He was departing East Kansas City airport after the chapter flyout, and lost a radiator hose to his Rotax 912 engine that powers his RV-12. Unable to return to East Kansas City, he found a

for their RV-12, after their RV-12 build is finished.

Fly-outs: There were two fly-outs: one to East Kansas City MO on 13 June, and one to Yankton SD.

Social Coordinator: Harvest days in Plattsmouth has been canceled so there will now be a chapter fly in at Plattsmouth on 13 September. Coordination for the Chapter Christmas Party will start in September. We will be looking at Anthony's Steak House for



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pasture to make a forced landing. The landing was uneventful and the aircraft was undamaged. Engine data pulled from his electronic engine display indicated that the engine did not exceed any limitations, and he hopes to have the RV-12 flying again soon.

Young Eagles: Scott Pridie stated COVID-19 is still preventing any normal large-scale Young Eagles events. Looking to potentially host a micro-event on August 15th, where we invite 4-8 Young Eagles and 2-3 pilots. Stand by for more information.

Tool Report: The chapter trailer was slightly damaged during the Mike Howard rescue operation. Working on having repairs made ASAP.

Builder's Reports: Jim Beyer and Aviation Nation's RV-12 is starting to install avionics.

Chapter's Build: The Chapter's Zenith still needs a place so we can resume building. Bruce Mundie formally asked Oracle if we could use the spot that Aviation Nation uses

our venue.

Old Business: Free raffle tickets were handed out and Bob Condrey won a chapter Tee Shirt.

New Business: Bruce Mundie Will contact Morton Buildings in Waverly to have accost estimate to build a 90x90 hangar.

Presentation: Guest Mike "Spike" Tellier gave a presentation on his role as a 747SP pilot with NASA's SOFIA airborne telescope program

Next Meeting: The next meeting is August 10th, 7pm, at Millard Airport Oracle Aviation.

[The August presenter is Robert Jones. He will talk to us about the progress on his low-power, high performance, aerobatic aircraft project. ed]

EAA 80 Calendar of Events

August 10, EAA 80 meeting, Robert Jones presenting, Millard

August 15 Young Eagles, Millard

September 5 Stem Day, Millard



September 5 Young Eagles, Millard

September 9 Air Mail 100th Centennial Commemoration, Millard



September 13 Young Eagles, Fly In / Picnic, Plattsmouth

October 17 Young Eagles, Millard

EAA Chapter 80 is classified as a Non-Profit Charitable Organization per section 501(c)3 of the Internal Revenue Code. As a result, we are eligible to receive tax-deductible contributions in accordance with Code section 170.



Your contributions will go towards such things as:

- ✓ Aviation scholarships
- ✓ Scholarships to send kids to EAA's Air Academy in Oshkosh, Wisconsin
- ✓ Helping promote Young Eagles events and rallies for the community
- ✓ Many other events that promote aviation in the Eastern Nebraska and Western Iowa region.

EAA 80 is a 100% volunteer organization, there are no paid members to the staff. Our only funding comes from chapter dues and occasional fund raising.

Please visit our website eaa80.org or contact an office to inquire about making a tax free donation.

EAA 80 MONTHLY TREASURER REPORT

Aug-20

Checking

Acct. 310

Opening Balance \$13,764.81

Receipts

50/50 \$13.89

7/13/2020 T-Shirt Sale

Cash \$100.00

7/13/2020 Dues

Cash \$50.00

7/9/2020 Dues

Chks \$25.00

Expenses

Y.E. Expnse

Refresh

Ending Balance \$13,953.70

Asset Accounting

Date	Item	Value	Date	Item	Value
6/17/2020	T-Shirts	\$125.00	5/22/2020	Zenith 750 Proj.	TBD
7/13/2020	Sales	\$100.00			
Total to Date		\$225.00			\$0.00

AS INFO August 2019 \$13966.71

Photos

Guest presenter Mike "Spike" Tellier giving his presentation on his role as a 747SP pilot with NASA's SOFIA airborne telescope program



Upcoming Webinars

[Which RV is Right for Me?](#)

HOMEBUILDERS WEBINAR SERIES
8/4/20, 7 p.m. CDT
Greg Hughes

[Why Valves Stick](#)— Registration at full capacity

8/5/20, 7 p.m. CDT
Qualifies for FAA WINGS and AMT credit.
Mike Busch

[Chapter Chat: Applying for Charitable Status - Filing the 1023EZ](#)

8/11/20, 12 p.m. CDT
Patti Arthur

[Legal Issues in Buying and Selling GA Aircraft](#)

8/12/20, 7 p.m. CDT
Qualifies for FAA WINGS credit.
Kathy Yodice, Patrick Floyd and Alan L. Farkas

[Air Shows: Not Just Events, But a Lifestyle!](#)

8/18/20, 7 p.m. CDT
Grant & Brittany Nielsen

[How to Use Your Pilot's Operating Handbook](#)

8/19/20, 7 p.m. CDT
Qualifies for FAA WINGS credit.

[Experiment in the Cockpit: The Women Airforce Service Pilots of World War II](#)

8/26/20, 7 p.m. CDT
Katherine Sharp Landdeck

[Zenith STOL Airplanes](#)

HOMEBUILDERS WEBINAR SERIES
9/1/20, 7 p.m. CDT
Sebastien Heintz

[Fresh Annual](#)

Qualifies for FAA WINGS and AMT credit.
9/2/20, 7 p.m. CDT
Mike Busch

[Keeping your Rotax Alive](#)

Qualifies for FAA WINGS and AMT credit.
9/9/20, 7 p.m. CDT
Prof. H. Paul Shuch

[Unusual Attitude Training Versus Upset Prevention and Recovery Training: What's the Difference and Why Does it Matter?](#)

9/15/20, 7 p.m. CDT
Qualifies for FAA WINGS credit.
Randy Brooks and Norm Dequier

[So You Think You Can Make a 180 Back on Takeoff? An In-Depth Look at Engine Failure Options](#)

Qualifies for FAA WINGS credit.
9/22/20, 7 p.m. CDT
Charlie Precourt, Chris Glaeser, Rick Marshall, and Terry Lutz

[Founder's Innovation Prize Grand Championship Check-In](#)

9/23/20, 7 p.m. CDT
Terry Lutz

[EAA Young Eagles Workshops: Day Camp Program for Chapters](#)

9/24/20, 7 p.m. CDT
John Egan and Megan Hart

[\\$500 HUD](#)

HOMEBUILDERS WEBINAR SERIES
10/6/20, 7 p.m. CDT
John Muzzoli

[The Looming Mechanic Shortage](#)

Qualifies for FAA WINGS and AMT credit.
10/7/20, 7 p.m. CDT
Mike Busch

[Emergency Bailout Procedures for Pilots and Survival Equipment](#)

Qualifies for FAA WINGS credit.
0/20/20, 7 p.m. CDT
Allen Silver

[Van's RV-14](#)

HOMEBUILDERS WEBINAR SERIES
11/3/20, 7 p.m. CST
Greg Hughes

[RANS S-21 Outbound, All Metal, All Purpose](#)

HOMEBUILDERS WEBINAR SERIES
12/1/20, 7 p.m. CS
Randy Schlitter

These are the current webinars listed on eaa.org. Please check the site at: www.eaa.org/en/eaa/news-and-publications/eaa-webinars to see if there are other webinars available.

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EAA CHAPTER 80 2020 APPLICATION FORM

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E-MAIL ADDRESS			
PROFESSION		RETIRED	

MEMBERSHIP PROFILE							
OWNED ACFT		N-NUMBER					
ACFT BUILDER	TYPE:		COMPLETE %				
PILOT LICENSE							
AIRPORT BASE		HANGAR #					
EMAIL GROUPS	FLY-OUT		BUILDERS		YOUNG EAGLES		
PUBLISH INFORMATION IN CHAPTER DIRECTORY			HAVE A NAME TAG		YEAR JOINED CHAPTER 80		
YOUNG EAGLE VOLUNTEER		YOUTH PROTECTION TRAINING CURRENT					

OFFICE USE: (DUES \$25 PER YEAR)									
2020		2021		2022		2023		2024	
PAYMENT	TYPE				AMOUNT			DATE	

Last updated: 1/3/2020