EXPERIMENTAL AIRCRAFT ASSOCIATION

CHAPTER 1098

SHAWNEE, OKLAHOMA

The Shawnee, OK, EAA Chapter 1098 is an official chapter of the EAA, Wittman Airfield, Oshkosh, Wisconsin 54903. Phone 414-426-4800. Chapter1098 was organized to promote aviation in the community, provide camaraderie, sharing of aeronautical knowledge and skills among those with interest in grassroots aviation and who share the objectives of the EAA. Chapter dues are $20.00 per year, payable on 01 January. Normally our meetings are held on the fourth Saturday of the month at 2:30pm at Gordon Cooper Tech Aviation Campus, 2600N Airport Dr, Shawnee, OK 74804, Shawnee Airport (KSNL). Time, date and place are subject to change. Please check newsletter for latest meeting information.

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Welcome to the March issue of EAA Chapter 1098 newsletter. In this month's newsletter, we have a great article from Kyle where he walks us through all the work he's been doing on his RV-6 airplane. Don't forget to ask him about what he's still plans to do ! We also have the usual VMC and IMC questions.

This month's meeting will be on Saturday 25Mar23 at 2:30pm, Gordon Cooper Aviation Campus, Shawnee Airport, Oklahoma. This month, Gary will be talking to us about his recent trip to JAARS and the great work he did while visiting.

Vans RV-6 Annual Condition Inspection – Kyle Rausch

Cold Condition Inspection

It is almost flying season in Oklahoma. I purchased my Vans RV-6 in June of 2022. I can honestly say I was not looking forward to doing a condition inspection in the winter months in Oklahoma. I had identified a few things that I wanted and needed to address during the upcoming inspection and we will discuss those later.

First, a disclaimer, I am not a certified A&P mechanic. I have been authorized to test for my A&P from the FSDO in Oklahoma City from my experience prior to and during my naval career. Therefore I know which end of the screwdriver to use. Thankfully our EAA chapter has a wealth of knowledge and experience and I urge anyone doing maintenance on their aircraft to utilize the valuable assets available to them!

Prior to purchasing this aircraft I did have a pre-buy inspection completed by an IA knowledgeable with

Vans aircraft. As previously mentioned I was aware of some issues with the aircraft. One of the issues was high oil temperature. In cruise flight temperatures were manageable and kept below 200 degrees Fahrenheit. The problem would be in low altitudes and in the traffic pattern. Temperatures would easily get in excess of 220 degrees Fahrenheit in an Oklahoma early morning summertime flight. This was inconvenient when one is trying to obtain their tailwheel endorsement. One had better make good use of those 5 landings because you were landing one the 6th one!

I began to research the issues of high oil temperatures on the forums and asking other Vans pilots. I noticed that you had either high oil temperatures or low oil temperatures in these make/model aircraft. My first instinct was airflow, so I repaired some baffling in an attempt to direct airflow. Adding a "snorkel" on the front of the air box helped by keeping the pressure lower in the lower cowling area. This helped with cylinder head temperature greatly but didn't help the oil temperatures.

This is when I began to utilize the knowledge base available to me. I sought the knowledge of one of our Technical Counselors, John Myers. I made sure to bring as much information as possible for phases of flight so he had a clear picture of the issue at hand. We discussed the airflow issue and what had been done. He then suggested the vernatherm, my reply was, " the Vern o what?" John then began to explain what it was, similar to a thermostat for a cars coolant system except for the oil system in an aircraft engine. As your oil temperature increases it reaches a specified temperature and the vernatherm begins to open, allowing the hot oil to go through the oil cooler and reduce the temperature of the oil.

I continued to fly the airplane monitoring the oil temperature and keeping it within limits. I continued to do research about the vernatherm and gather information for my upcoming condition inspection. Now the seasons have changed and ambient air temperature had also! We decided to fly to Fairview for their early thanksgiving breakfast as we heard great things about it. Needless to say it was cold! Outside air temperature on the flight up was 37 degrees. The heater in the RV-6 could not keep up! Thankfully it was full sunshine that day!

I expected to see a change in the oil temperature. OAT is 37 degrees, I expected to see a maximum of 190's. Again, 220 degrees! This did not make sense and there was definitely an issue. Everything that John and I discussed and what I was seeing all pointed to the vernatherm. The weather was changing for

the worst so my decision was made as the condition inspection was looming, time to put her in the barn for the winter.

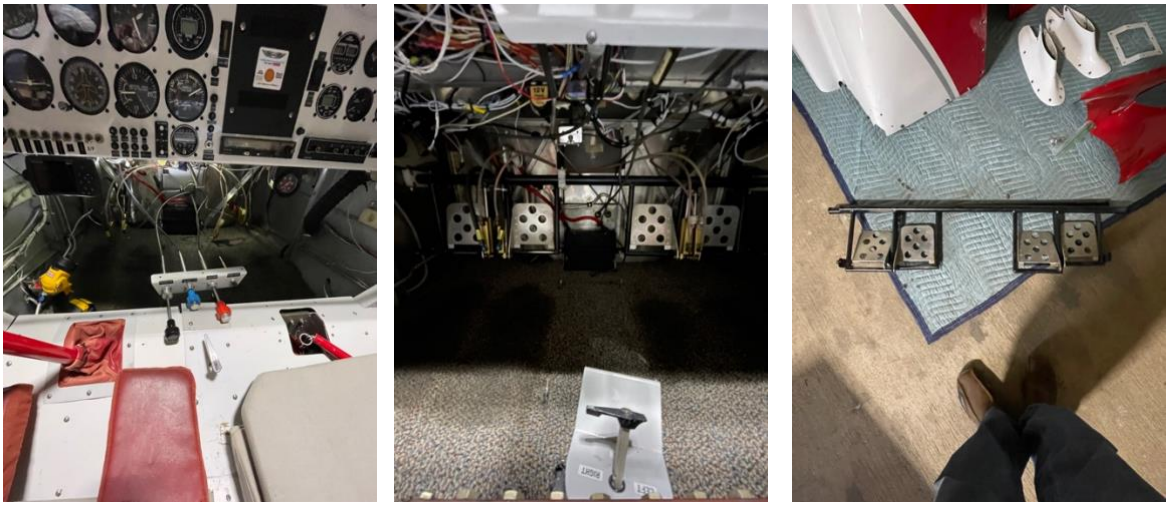

Figure: Adding gusset fillet weld to the rudder pedals.

In preparation for my inspection I looked at all the applicable service bulletins for the aircraft, engine and propeller. I dug deep to find a service instruction 1255A dated 2016. This instruction identified the direct issue I was having. There was no more second guessing, especially when there was no change in temperature during the last flight.

Long story longer, the condition inspection was due end of December 2022, we finished in February 2023. I had made the decision to have the constant speed propeller overhauled. There was a revision to a service bulletin from Vans on the RV-6 rudder pedals. No longer could you inspect for cracks and if none noted continue to fly, you must remove the rudder pedals and install gussets (supplied by Vans) or purchase replacement rudder pedals. I removed, stripped and welded the gussets onto the rudder pedals and reinstalled into the aircraft. 6 hours to remove and 5 to reinstall! VERY uncomfortable! The rest of the inspection went well, engine, airframe and electrical checked out good. Installed the overhauled propeller (updated propeller log with proper model).

Test flew the airplane and everything worked as advertised and the new vernatherm fixed the oil temperature issue. The first six months of being an aircraft owner was eye opening! I would still be pulling my hair out if not for the our EAA chapter members and tech counselors John Myers and Gary Manning. I cannot emphasize enough to utilize ALL the tools you have available to you. There is a wealth of knowledge available, you just have to ask! If you have a condition inspection due in the winter

months FIND A HEATED HANGAR!

Figure: Changing the Vernatherm to fix high oil temperature.

VMC and IMC

VMC

Question: What is a Special VFR (SVFR) clearance, and under what conditions can a pilot get one?

IMC

Question: We all know that for IFR flight, the pitot-static system must have been checked within the preceding 24 months. When we set the altimeter on the ground before departure, what accuracy must be observed?

Ray Aviation Scholarship

The EAA Ray Aviation Scholarship Program is funded by the Ray Foundation. Through the support of the Ray Foundation, EAA can provide up to $11,000 to youths for flight training expenses. In total, there is $1.6 million gifted in annual scholarship funding.

More than 300 youths have earned their private pilot certificate with support from the Ray Scholarship Program. Take it from our Ray scholars who have been able to do just that.

Ray scholar Kritti Prasad of California expected to earn her certificate 2-3 years after graduating from high school and having the financial capabilities to do so but was able to earn it much earlier.

"Receiving the scholarship was a life-changing opportunity that I was honored to be granted," Kritti said. "The fact that I was able to get [my certificate] so soon felt like a dream."

Ray scholar Antonin Stoddard of Oklahoma said one of the first things he did after receiving his certificate was fly Young Eagles to help others experience the joy of flight.

"I would like to say that I take a lot of personal pride in having been selected for this scholarship," Antonin said. "As a high school student, without the Ray Foundation Scholarship, it would've been very financially difficult for me to achieve this goal." Both Kritti and Antonin see a future as successful airline pilots.

EAA is able to grow The Spirit of Aviation through its Ray scholars. Without scholarship donations such as these, we wouldn't be able to support young pilots and make their dreams come true. Thank you for your support.

VMC

Answer: In controlled airspace, the minimum conditions for VFR flight include a 1,000-foot ceiling and 3 miles visibility. If conditions are lower, a pilot can ask for a Special VFR clearance. To use a SVFR clearance, the visibility must be at least one mile, and the pilot must remain clear of clouds.

An SVFR clearance can be granted from sunrise to sunset even for both instrument and non-instrument rated pilots. Instrument rated pilots may be given an SVFR clearance at night if flying an aircraft that is IFR equipped. Pilots should contact ATC (typically the tower) to request a SVFR clearance, although not all facilities will allow SVFR. For uncontrolled airspace, pilots should request an SVFR clearance from Flight Services.

Reference: FAR 91.157

IMC

Answer: When set to the proper altimeter setting, the altimeter must read within 75 feet of the published field elevation. (AIM 7-2-3)