

# The Cleco

Official Publication of the Experimental Aircraft Association  
EAA Chapter #393 POBox 272725 Concord, CA 94527-2725

MAY 1999

## CHAPTER MEETING MAY 26, 1999

Vice President Scott Achelis supplied this invitation: Do you know the single most important thing you can do as a pilot to give your engine the best chance of making it to TBO?

What engine maintenance items are considered a "must" at every annual condition inspection? Do you know what can go wrong with an engine in flight, and how to trouble shoot the problem? Do you know the pros and cons of Millennium Cylinders, and if they are right for you at the next overhaul?

For answers to these and other engine related questions come join us Wednesday, May 26 at 7:30 PM in the Old Terminal Building (near the base of the Tower). The speaker will be Terry Medeiros Sr., the owner and CEO of Air West Engines (previously Chuck's Engine Repair) in San Carlos. Terry has been involved with aircraft and aerospace for the past 35 years, and plans to bring a "big box of broken parts," along with the information we need to keep our engines from ending up in one of his future "show and tell" stories.

The results are in! Thanks once again to Brad Poling for developing the thorough Chapter 393 "Inquest." As might be expected 393 members like to eat, and give the Summer Picnic, the Christmas Dinner Party and Chapter Fly Outs high approval and interest ratings. Other areas of shared interest include trips to Oshkosh, avionics, fuel systems, and electrical and exhaust systems.

If you can't wait for a program in your area of interest, then call Technical Counselor Rick Lambert who is ready to assist you with your project. Your Board Members are always interested in how we can make the Chapter meetings and activities more meaningful and interesting. Feel free to call Ron, Scott, Louie or Doug anytime.

## ALARM!!!!!!!! DELINQUENT DUES!!!!!!!!

Only 91 of our members have paid their \$20 annual EAA dues that were due February 1. Louis Goodell has begged the non-payers to pay. This is the worst rate of dues delinquency that Louis has ever faced in his many years as Treasurer. If something is bothering you non-payers, please tell us, but PAY! Out of desperation, we are printing the names of those who have not paid. They are: Don Best Sr., Jeff Harts, Al Humbert, Laurence Marion, Dennis Mingear, Brad Poling, Tony M. Requist, Robert E. Rudolph, and Larry Welter. Please pay Louie now! Fill out and return the form on the last page to EAA Chapter 393, P.O. Box 272725, Concord, CA 94527-2725 with \$20.00.

## PRESIDENT'S CORNER

President Ron, Vice President Scott, and Treasurer Louis are attending an official EAA Leadership Conference in Placerville. Full Report in June Cleco

## **WINGS AND WHEELS AIRSHOW & MOFFETT FIELD AIRSHOW**

The County and Buchanan Field will sponsor this event again this year the day before Father's Day, on Saturday, June 19 from 9:00 AM to 5:00 PM. EAA Chapter 393 will have a roped off area so that we can display our planes. Since it is on Saturday, you can still make it to Moffett Field on June 20, 1999 for the Airshow there. The link to the airshow is (thanks to Duane Allen) <http://www.wingsofhistory.org/flyin.htm>

## **CHAPTER FLY OUT ON MAY 29**

Meet at 11:00 AM Saturday May 29 at President Ron Robinson's hangar D-17 on the East Side. There will probably be a spare seat for you. The last fly out on May 1 consisted of a flight to Auburn for lunch. Scott Achelis flew his RV-6A and took Rob Hadley. Lou Ellis enjoyed the company of Laura Henne in his Glasair 1RG. Ron Robinson had Jerry Aduna as his enthusiastic passenger. Rick Henne flew with Bob Decker in Bob's Glasair 1RG. Phil Jenkins gave a lift to Bob Belshe in Phil's Glasair 1RG. (Bob Belshe is waiting for a new prop for his own plane.) Tony Tiritilli brought Linda Reed, Vi Egli, and Fred Egli in his Cherokee. The above mentioned Jerry Aduna gave the Chapter a very generous financial contribution because President Ron Robinson had given Jerry's son Danny a Young Eagles flight. President Ron wrote a gracious letter of thanks to Jerry and reiterated our strong belief in the Young Eagles Program.

## **THE YOUNG EAGLES FLY ON MAY 22**

Lisle Knight and Duane Allen have scheduled the next Young Eagles Flight for Saturday, May 22. Young Eagles, Pilots and planes should meet at the base of the Tower at 9:00AM. Duane Allen reminds us that the Moffett Field Young Eagles event is June 12. John McAvoy is in charge and can be reached at 408-263-1684 or [JBMcAvoy@earthlink.net](mailto:JBMcAvoy@earthlink.net) if anyone wants to sign up. For basic information about Young

Eagles, Duane Allen says you can use the pointer to the Chapter 62 Young Eagles page at <http://www.eaa62.org/ye-info.htm>

## **MEMBERS ACTIVE IN GOLDEN WEST**

We proudly note the participation of 393 Members in Golden West Aviation Association Inc. Ken McKenzie is the official Treasurer, and Chairman of the Sales and Finance Committee. Linda McKenzie is in charge of Banking. Charles Adkins is a Director. Bob Belshe is a Director and newsletter editor. Tracy Peters is a Director and Chairman of the Site Support Committee. Jack McKenzie is Coordinator of FAA Forums & Exhibits. These jobs involve many meetings, work parties and a lot of talented effort. We at Chapter 393 are very proud of them and we appreciate their dedication.

The current Golden West newsletter requests volunteers in all areas. The Hot Jobs needed NOW are Air Show Coordinator, Chapter Presentation Coordinator, and Event Program Ad Coordinator. The Fun Jobs are FSS Coordinator, Aircraft Registration Coordinator, Admissions Coordinator, and Campground Operations Coordinator. The Most Fun Jobs needed are Media Services Coordinator, Operation Thirst Coordinator, and Guest Services Coordinator. The Leadership Jobs now needed are Convention Services Chairman, Aircraft Operations Chairman and Activities Chairman.

Call one of the Directors mentioned above if you can help.

## **IS OUR INSURANCE COVERAGE ILLUSORY?**

The following is part of a letter that I sent to Avemco and to EAA:

April 12, 1999

RE: Avemco Insurance Company v. William Davenport 140 F3rd 839 (9<sup>th</sup> Cir. 1998)

Gentlemen:

I am a retired and inactive lawyer, the proud builder of a RV-6A, the editor of Chapter #393 newsletter, the Cleco, insured by Avemco and EAA Member #454852. I have just had the opportunity to read the full text of the above case involving William Davenport, the builder of a Vari-Eze, which crashed.

Based on the facts stated in the decision, I am outraged that Avemco even sought a "policy defense" in this case, which was, in my opinion totally inappropriate and unfounded. Davenport had applied for and gotten FAA certification for his plane, made some changes to the fuel system and then re-installed the fuel system as originally certified by the FAA. He then crashed and apparently caused damage to persons and property unknown. There was no showing that the fuel system was a cause of the crash, and no showing that the experimentation with other fuel arrangements and the reinstallation of the fuel system as originally certified was a cause of the crash. There was no showing that recertification by FAA would have prevented the crash. There was no showing of any factor that could have affected Avemco's risk. Based on Avemco's arguments, and the Court's reasoning, none of us has any certainty of insurance coverage for anything.

I request that EAA cause EAA legal counsel to confer with Avemco to remove the "exclusions" that are unrelated to reality or to Avemco's risk. If Avemco holds fast to its present position, EAA should stop recommending Avemco.

I would appreciate a reply from both EAA and Avemco. If my facts or assumptions are wrong, please tell me. Otherwise, I plan to sound an alarm with all EAA Chapters.

Sincerely,  
DOUGLAS R. PAGE

#### RESPONSES FROM AVEMCO AND EAA

**James A. Lauerman, Executive Vice President of Avemco** responded with a detailed letter on April 22, 1999. He said that Avemco was justified in refusing coverage in Davenport's case because

Davenport had failed to re-install the two fuel pumps in his gas line, and that the two fuel pumps were a mandatory requirement in the designer's construction plans. Davenport was apparently relying on gravity at the time of his crash. The NTSB report stated that fuel starvation was a cause of the accident. These facts were not stated in the Court's legal opinion, and in my opinion, Avemco was thus not guilty of bad faith or unfairness.

**Bob Mackey, EAA Vice President, Chapter Relations** responded on April 22 and said that EAA was working on the problem. EAA had already persuaded Avemco to change its policy so that the airworthiness exclusion prohibiting insurance coverage would apply only if the major change was a causal factor in the accident. **Bob Mackey was very concerned that EAA builders were changing props, starters and other items without notifying FAA in writing. Be warned! Notify FAA.** In a follow up letter dated April 30, Bob Mackey said that this new change applied automatically to all existing Avemco policies even though Avemco may not have sent us a written notice.

Avemco has insured me since November 12, 1998 and my policy does reflect this new change. It states:

"The **exclusions** contained within that Endorsement which exclude coverage after a modification which requires recertification by the FAA shall **not** apply **unless the modification** contributes to or **causes** bodily injury, property damage or loss." (Emphasis mine)

Apparently, Davenport did not have this clause in his policy, and even if he did, his modification in violation of the plans and of his certification would have excluded him from coverage anyway.

#### Could Some 393 Member Please Become a Designated Airworthiness Representative?

Much of our trouble with insurance coverage could be solved by prompt and definite written responses from the FAA. A Designated



Airworthiness Representative could possibly do this for us, just as DAR Dave Morss did inspections and certification for Harry Heckman and Fred Egli. This topic is covered in Part 183 of the FAR's.

183.11(e) states: "The Director... may select DAR's from qualified persons who apply by letter accompanied by a "Statement of Qualifications of Designated Airworthiness Representative."

The FAA told me last week that if we changed something like a prop, **we should not fly** our plane until we have written ok from FAA. Our insurance coverage depends on this. Since we are always changing and experimenting, and since FAA is understaffed and underbudgeted, FAA cannot always get back to us promptly. A responsible 393 member could be at least as qualified regarding experimental planes as some FAA inspectors to say whether or not the change was substantial and whether or not the change affected airworthiness. Will somebody please step forward? Bob Mackey, Vice President of EAA said in his letter of April 30 that EAA was negotiating with FAA to allow those of us who have a repairman's certificate to file a "337" type form about our modifications. Bob had no idea when FAA would get around to adopting this change. So, in the meantime, we could all benefit from having a nearby DAR.

#### **MINUTES OF THE REGULAR MEETING OF APRIL 28, 1999**

We had one of the best meetings ever with Frank Gurko, a representative of the Champion Spark Plug Aviation Division as the speaker. A spark plug must function in an environment that could reach 4000 degrees Fahrenheit, 2000 PSI, and 24000 volts, and fire 8 million times in 100 hours. Plugs come with 3/4-20 "H" threads and 5/8-24 "E" threads. Aviation plugs have a built in resistor to concentrate the firing impulse to prolong life. Plugs come in long reach versions and short reach versions. If you put in a long reach plug in a Lycoming engine designed for short reach plugs, the plug will strike the piston and prevent prop

rotation. Aluminum Oxide is now used as the insulator, but it is brittle and will break if you drop a plug. There are hot plugs and cold plugs and the proper type must be used in your engine to dissipate the plug heat properly so as to avoid "glow plug" detonation. Detonation will do massive damage in a few seconds. A plug works best in the 1000 to 2000 degree heat range between the cold fouling that results from oil and fuel at lower temperatures, and lead fouling and detonation which occurs at higher temperatures. Champion uses only iridium in the electrodes, which works well up to 2000 degrees. Do not wire brush your plugs, but bead blast cleaning is fine. Low power settings, poor tune up, or sudden rises in temperature cause a bridged gap between the electrodes. Lead silicate fouling (a greenish tinge) results from dust or silica getting in when you have left the air cleaner off. Lead fouling looks like melted solder.

A plug is still serviceable even though fouled if it is cleaned, and if the center electrode is still round and not football shaped, and if the ground electrode retains one half of its original thickness, AND if it is properly gapped.

If your plug shows a cracked core nose, it was caused by detonation which in turn was caused by excessive leaning on full power takeoff, or use of stale gas which has lost some of its octane rating. (Detonation will break the top of the piston, and push the oil out of the crankcase.) If the electrodes are gone, they have melted due to excessive heat, which commonly results from leaving the plug loose in its threads so that heat is not properly dissipated.

Examine the plugs every 50 hours and rotate them odd to even and top to bottom to get maximum plug life. A great meeting!

We had little time left for business.

Louis Goodell whispered to me that:

Savings were \$2580.39 and Checking was 1787.90.

President Ron announced the Saturday Fly Out on May 1 with everybody meeting at his hanger, EAST D-17 at 11 am.

Ron also announced that FAA was considering installing radar at CCR. Some members were opposed and some favored it, but apparently it is in the hands of FAA.

Ron urged everyone interested to attend the EAA leadership conference in Placerville on May 15.

### **A MEMBER WHO HELPED TO PUT CHAPTER 393 ON THE CUTTING EDGE (OR, "BEEN THERE, DONE THAT")**

Gerry Greth had been a hot rodder, hot rod engine builder, drag racer, and Navy Bombardier-Navigator on a Douglas A-3D, a twin engine, carrier based bomber. He raced at Bonnieville, Utah and for four years drag raced Doten Pontiac's GTO.

Until recently, he was everybody's favorite aircraft mechanic as owner of Gerry's Diablo Services, and a knowledgeable source of help about planes and engines.

Many EAA members dream of building a cutting edge plane and building an auto engine conversion to outperform the 1930's technology certified engines. Beginning in the mid 1980's, Gerry started building his dream plane and dream engine. On one of his many trips to Oshkosh, he saw Cirrus V-K30, that manufacturer, Alan Klapmeier claimed was a 300-mph, high altitude sensation. It was a pusher. Gerry signed up for Kit # 3 right on the spot. It featured a mid fuselage engine, an 82 inch unsupported aluminum shaft leading from engine to pusher propeller. It was supposed to carry 4 passengers. It was a big plane with a 42-foot wing span. Gerry made a deal with the manufacturer to get his kit at half price in return for Gerry's help in writing a manual for the plane. (Gerry found out later that Alan Klapmeier had hauled the prototype to Oshkosh by truck) The kit is no longer made, but Gerry says it looked like a Lear Jet. Gerry proceeded to build the plane and to build an auto conversion engine, spending his life savings, and his retirement funds on the project.

Gerry, utilizing his hot rod experiences, chose a small block Chevrolet V-8, but absolutely nothing

was stock. He started with a Donovan aluminum block costing \$3800. He bought aluminum heads, special steel rods, and special pistons. He reground the camshaft approximately to the profile of a Lycoming camshaft to produce high torque at a lower RPM. Gerry's objective was to build an 800 HP engine and then run it at half power to achieve a safety factor. Gerry ran his engine on the Dynamotor in his shop and blew up the engine 2 times while he was exploring its outer limits. He tried an Ellison Throttle Body, but it did not work, and Gerry modified a Holley racing Carburetor by putting in a barrel valve for mixture control. His ignition was a Vortex Magneto. He elected not to put in a redundant magneto, reasoning that 2 plugs per cylinder were not needed in a V-8 for combustion efficiency, and that ignition failure was unlikely. He spent \$32,000 developing the engine. Gerry tried several propeller reduction units, found that belted units were far too noisy, and finally used a Hy-Vo Chain drive produced by Universal Engineering. The prototype Cirrus used a Continental 550 engine, but Gerry's V-8 developed twice as much torque, so the V-8 engine was a success. The 82-inch aluminum shaft created unacceptable harmonic vibration and Gerry substituted a 6-inch diameter carbon fiber drive shaft, which worked ok. Gerry used an MP wood and fiberglass constant speed three bladed prop, which cost \$12000.

Unfortunately, the plane was not properly engineered, particularly the wing. The wing would suddenly stall without warning in unanticipated situations. The first test pilot experienced a wing stall while landing, belayed in and told the designer that there were problems. When the designer refused to make changes the test pilot quit. The manufacturer directed "Do Not Spin" because nobody knew how to get the plane out of a spin. The manufacturer concealed the problems with the wing from kit purchasers, Gerry said. The landing gear strut was not strong enough to deal with the high landing speeds and sudden wing stalls that could occur on landing.

The manufacturer red-lined the plane at 230 knots, but Gerry said it would go a lot faster with his V-8

and he once inadvertently allowed the plane to get up to 260 knots while doing a fly by at the Livermore Air Show.

Gerry rushed to complete his plane to fly it to Oshkosh in 1991. Will Price, flying his Lancair, and he were more or less flying together. Will landed at Casper, Wyoming where he had problems of his own with wind shear in a takeoff. Gerry landed at Rawlins Wyoming. Crosswind was not a problem; the wind was straight down the runway. Severe wind shear was a problem, and Gerry purposely came in "hot" to attempt to compensate. Despite this, the plane stalled too high. Gerry added power, but with a pusher prop, it takes a long time to develop wind flow over the wing and the plane fell in hard crushing the landing gear, and causing the plane to cartwheel. Gerry and his ATP co-pilot were not hurt but the plane was destroyed. Gerry was so busy testing his plane in flight, that he had not had enough experience with touch and go's, although, to this day, he does not know what he could have done differently to land the plane in the wind shear that existed. From insurance and salvage, Gerry recovered only about one half of his investment. The crash sobered Gerry substantially. In the Navy, he had been taught that he would never crash and that he would live forever. The crash brought that belief to a sudden halt. Rich Harris and another close friend were killed in crashes. Gerry began flying his Twin Comanche only occasionally. At age 60, Gerry had arthritic pains in his hands and back, which made it difficult for him to "wrench". He needed quiet and serenity. In 1998, he sold Gerry's Services and his plane. He is now the General Manager of Bruce's Sun Valley Goodyear. He bought a sail boat, and dreams of sailing around the world. However Gerry retains his enthusiasm for EAA and for flying. He now dreams of building a RV-6 with an aluminum Chevrolet V-6 with a propeller speed reduction unit from Jim Stewart of Mustang kit fame. Such an engine and PSRU could be built for about \$20,000. He figures such a plane would leave other RV's such as those of Chris Kenyon

and Rick Young far behind his wing tip turbulence and prop wash.

### **BOARD MEETING OF MAY 10**

The Board met at President Ron's hangar at 6 PM. Scott and Ron have been donating their used flying magazines to local hospitals, and at Scott's suggestion, Louis Goodell is preparing some nice stickers advertising EAA Chapter 393 to be placed on each donated magazine. All members are invited to donate their flying magazines to some public waiting room and to use the new stickers. Also at Scott's suggestion, President Ron will henceforth gavel the meeting to order promptly at 7:30 PM, welcome everybody, and turn the meeting over to Scott who will introduce the speaker. We will win our raffle prizes and conduct our business in the second half of the meeting.

### **CALENDAR**

May 22 Young Eagles Flights  
May 26 Regular Chapter 393 Meeting.  
May 28-30 Watsonville Fly In and Airshow  
May 29 Regular Chapter 393 Fly Out  
June 19 Buchanan Open House and EAA Display  
June 19-20 Moffett Field Airshow  
July 17 Chapter 393 Picnic  
July 28-August 3 Oshkosh  
September 10, 11, 12 Golden West  
September 16-19 Reno Air Races  
October 7-10 Copperstate

### **EAA WANTS YOUR E- MAIL ADDRESS**

So EAA can send you an electronic newsletter called Chapter E-Gram. Send your address to [Chapters@eaa.org](mailto:Chapters@eaa.org)

### **CLASSIFIED ADVERTISING**

For Sale: 50% completed Tri-cycle Glastar; wings closed and mounted on fuselage. Inspected twice by Technical Counselor, Rick Lambert. Good workmanship. No engine. Current kit price plus \$6,000 obo. Located in Walnut Creek. Call Rick



Lambert for further details at 925-934-5007 or at work, 925-676-9377

Rick Lambert has a Bernie Warnke 68x79 wood prop in good condition for sale. \$200 obo. 934-5007 or work, 676-9377

#### NEWSLETTER SUBMISSIONS

Submissions may be e-mailed, hand written, typed, or on any IBM diskette (in ASCII or MS Word). The deadline for submissions to the editor is the 14th of every month (newsletter is produced and mailed by the 17th). The editor's address is: 400 Arbol Via Walnut Creek CA 94598 Telephone: 925- 943-1581 E-Mail: dougpage@earthlink.net Fax # 925-943-2338

#### RECOMMENDED WEB SITES

If you goof while flying and want to file a preemptive NASA report you can download the form from <http://olias.arc.nasa.gov/asrs/ASRS.html> and file it to help keep you out of trouble with the FAA.

Edwards Air Force Base has a great website about VFR flyways around and through the Edwards area at <http://www.edwards.af.mil/psafety> Be cautious nevertheless: ground based radar misses high-speed aircraft and radar on board the military planes misses low speed aircraft.

Ed Lester sent a fascinating web site sponsored by a retired Navy crash investigator, Commander Donaldson, about the crash of TWA Flight 800 and the apparent coverup of the evidence showing that the plane was brought down by a shoulder-fired missile. Whether this is fact or conspiracy fantasy, we leave to the reader. See <http://www.twa800.com>

For a discussion of Aviation Survival Kits, evaluation of commercial kits, and assembling your own kit, See <http://www.equipped.com>

#### WHAT FAA LOOKS FOR IN A RAMP CHECK

Guy Minor spoke at Chapter 29 recently and listed the items they look for in a ramp check:

Missing Stuff: fairings, wheel pants, wing tips, spinners, and fill port placards

Added Stuff: cooling baffle seals, fairings, STOL kits, landing lights, antennas, paint over placards, avionics installation and paper work

General Condition/Damage: dents, cracks, working rivets, broken antennas, hangar rash, funky repairs, bald tires, strut inflation, propeller condition, hose condition, fluid leaks, fluid odor

Interior: registration, original airworthiness certificate, approved flight manual, weight and balance, equipment list (as originally weighed), compass correction card, missing or unusual placards

#### JOKE DEPARTMENT

From Scott Achelis:

A fighter pilot goes to a bar after good days flying. Whilst there he meets a young, attractive and available lady. She is charmed by his tales of aerial combat, high-speed flight, and death defying feats. The inevitable happens and they slip away to somewhere more comfortable for an evenings intimate entertainment. Much later that night the pilot drives home to his long-suffering wife. On the way he puts on his oxygen mask and draws the straps up as tight as they will go. When he gets home he removes the mask and bravely enters the house. Immediately he tells the wife exactly and honestly what he has been up to that evening. She replies: "Do not lie to me, I can see you have been flying that damned airplane yet again".

Also from Scott Achelis:

A student had made his first solo landing when the instructor complimented him on his good landing from the hand held radio. The student mentioned that he was really nervous. The Instructor told him that "it was like the first time that he had sex, you were nervous at first but that you got over it once things got moving".

The student immediately said "Maybe, but sex didn't last as long as this pattern did"!!

### WOULD ANYBODY LIKE TO ACCOMPANY THE EDITOR IN VISITS TO PROJECTS?

I would like to visit projects such as Ken France's RV-6 at Gness Field, Roger Raley's RV-6 at Lincoln, Brad Poling's beautiful stick and fabric BiPlane in the East Hangers, Dick Rihn's One Design, Bruce Milan's Questair Venture, and every other project now underway. Is anybody else interested in going along? Give me a call.

I am also interested in a small informal fiberglass workshop where I can be taught how to make fairings easily and correctly. Brad Poling knows how to do this with the finish and techniques of an artist. Is anybody else interested in this little workshop? Give me a call at 925-943-1581.

### OIL CHANGE INTERVALS?

The textbook advice for oil change intervals is 25 hours or 4 months for engines without a filter, and 50 hours or 4 months for those with a filter. This information is pretty widely accepted as the gospel. There is a little more to it than that...

Most people respect the hour recommendation religiously but fail to heed the calendar recommendation. Both are important but several factors determine which is more critical to your particular operation.

I fly an RV-4 with a 160 hp 10-320 without a filter. It has 270 SMOH. I analyze every change. I fly about 15 hours per month, more in the summer, and I have only added one quart of oil to it since I bought it (160 hrs and that wasn't really needed) The wear metals on the analysis are consistently low. Because of this I run about 30 to 35 hour drain intervals.

Here are some important factors to consider regarding oil drains intervals:

Where do you live?

How much do you fly?

Do you analyze?

How much oil do you use?

Where is the oil you use going?

Do you have a filter?

How hot does your engine run?

How high does your oil temp. get?

Let's discuss these individually.

Where do you live? if you live in a high humidity area or where the day to night temps vary greatly with high humidity your engine will make water. Water is an enemy in any engine. However if you fly regularly it will be boiled off and cause no problems. However, if you routinely find drops of water on your dipstick when you pull it out, don't push drain intervals. If, on the other hand, you live in AZ and the humidity is nearly zero your oil can last longer on the calendar.

How much do you fly? If you fly a lot, and regularly, the water that your engine makes gets cooked out often and the number of days between drains can be more. This is a situation where you might consider stretching the Hobbs interval some. If an engine is run at all the oil should be changed at least 2 times per year and 4 would be better, without regard for hours at all. This is especially true if you live in the North or on the Coast as described above. If you plan to go for 3 months and not run your engine you might want to change the oil and install desiccant plugs in the cylinders to prevent corrosion depending on the climate.

Do you analyze? Used oil analysis is a tremendous tool to give you some more insight into what might be happening in you engine. Oil analysis will not predict all failures, but very often it will give you warning signs that something is going wrong before it actually fails. If you use oil analysis consistently and have a history on your engine you can use it to safely extend your drain interval on the Hobbs meter. If you don't use oil analysis you need to take a look in the mirror and ask yourself, "WHY NOT?"



out of the crankcase is letting contaminants in to the crankcase and all the harmful combustion by products that come with it. This would not justify any increase in drain interval on the Hobbs meter. If on the other hand it is just running out or passing through the blower seal or turbo bearings, the continuous supply of fresh oil might mean you can again safely extend your drain.

Do you have a filter? Obviously the filter removes particulate contaminants down to about 10 microns. This will help prevent wear in your engine and keep your oil cleaner longer. The old standard screen serves almost no function other than to catch parts large enough to have part numbers visible when you check it. Hence, it is very important if you have a filter, that you also have a filter cutter so you can make sure there are none of those part # size parts in your filter.

How hot does your engine run? This question is about heat. If you have an extremely tightly cowled airplane that runs very high CHT's and a very effective oil cooler you could be burning up your oil and still have normal oil temps

Temperature accelerates oxidation. For every 18 degrees of oil temp. above 210 oxidation rates double. Typical oil temp. gauges measure the temperature of the oil being returned to the engine. That should be the COOL EST point in the system. If you are running 210 degrees there, you can bet the oil temps around the valve guides are far in excess of that. Especially if you get aggressive with the mixture lever....

How high does your oil temp. run? This question is about not enough heat. If you don't get your oil temp. up to 180 you will not effectively boil off the water that is formed by condensation. Shell had an excellent aircraft ad campaign recently about oil temperature gauge calibration and the importance of not running with your oil temp. too low. Water when in the presence of combustion by-products will make acids. These acids are corrosive and destructive and the reason why, if your engine runs at all, the oil should still be changed regularly by the calendar, without regard for hours.

This article was taken from the N/L of Van's Air force, Ontario Wing and was written by Doug Rosendaal (doug@petroblend.com)

## EAA Chapter 393 Concord, CA Membership Renewal & New Membership

Date: \_\_\_\_\_

Dues will be due in February, they are \$20.00 dollars a Year. Your mailing address tells when it is due, some have paid ahead.

Send this Form in with \$20.00 dollar check or bring it to the meetings.

First Name: \_\_\_\_\_ MI. \_\_\_\_\_ Last Name: \_\_\_\_\_

Address: \_\_\_\_\_ Spouse Name: \_\_\_\_\_

City: \_\_\_\_\_ State \_\_\_\_\_ Zip: \_\_\_\_\_

Home Phone: \_\_\_\_\_ WorkPhone: \_\_\_\_\_ Pager# \_\_\_\_\_

E-Mail Address \_\_\_\_\_

Project / Plane \_\_\_\_\_

EAA National # \_\_\_\_\_ Exp.Date: \_\_\_\_\_

Licenses /Ratings: \_\_\_\_\_

Hanger # \_\_\_\_\_ Eastor West Hanger Phone # \_\_\_\_\_

What are you Flying Now: \_\_\_\_\_

Your Area of Expertise or

Interests \_\_\_\_\_

Mail Checks To : EAA Chapter 393  
P.O.Box 272725

make checks out to EAA Chapter 393

# THE EXPERIMENTAL AIRCRAFT ASSOCIATION CHAPTER #393 NEWSLETTER, APRIL, 1999

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