

The Cleco



Experimental Aircraft Association • Chapter 393 • Concord, CA

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OCTOBER 1992

WHEELS, 1992 STYLE

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CHAPTER MEETING

October 28, 1992 The 4th Wednesday of every month @ 7:30pm; Old Buchanan Terminal Building, Concord Airport. Bring Chairs. *Wear your 8\$&E@F% Badges please!*

We have finally satisfied Callie with regards to a speaker--a woman. Now this is not just any woman, it's **Cecelia Arragon**, aerobatic pilot extraordinaire. WOW!! She is a member of the United States Aerobatic team and a terrific speaker. Most of you are probably aware of her awesome accomplishments so here is your chance to hear from her in person. She will have a tape for us to view as well as talk about aerobatics. This promises to be another one of those speaker highlights so come early for a seat.

MINUTES OF MEETING 9/23/92

by Callie Joyner

Considering that we have two women in our Chapter, equal rights are demanded. To that end, the ladies thoroughly enjoyed the scantily clad man who streaked through the meeting. However, he ran so fast that no one got a "decent" view.

After our honorable president gained control, Glenn called the meeting to order. The tool loan program questionnaire in last month's Cleco elicited no responses. However, continuing interest was expressed concerning the notion of Chapter owned tools for loan.

Stan Feldman from the Boy Scouts of America presented the program he would like to see our Chapter institute. Basically, he is requesting that our Chapter sponsor an Explorer Scout post. There appears to be a relatively token cost to our Chapter for participation; there would be a significant time commitment by two participating Chapter members. During the ensuing discussion following the departure of Mr. Feldman, a number of issues were brought up. Rich Powell wondered if it might not end up being a heavy, long-term commitment.

The question of whether or not this program might conflict with the EAA sponsored Young Eagle program was raised. In that the facts are not all clearly spelled out, a vote was postponed until the next meeting. (Editor's Note: Refer to the 10/14 Board meeting minutes for the Board recommendation.)

After the dust settled, Glenn introduced the speaker, Rich Harris who is an instructor for Air Combat. He gave a fascinating talk on the Air Combat program. In the "day of combat" every effort is made to make each participant believe for the moment that he or she is at the Top Gun school. He spoke of the helping hand they give to ensure that a given student is not always on the losing end of things. The ultimate assist to the non-stop loser is to cheat a little bit. This was a real outstanding presentation--those who missed it missed a great evening.

Editor's comment: Say Callie, are you sure you were at the right meeting re: the male streaker? Jim Lewis tells me that he remembers no such event.

MINUTES OF BOARD MEETING 10/14/92

All officers present.

Response to the tool loan program has been underwhelming (as have been numerous other programs). The number of responses on the questionnaire in the September Cleco: ZERO. Glenn did indicate that interest was shown at the meeting for Chapter owned tools loaned through Gerry's shop. Glenn indicated that he will investigate an ultrasonic device for determining the soundness of sandwich glass structures.

The notion of sponsoring an Explorer Scout post was discussed in detail. A couple factors would appear to forestall a definite vote. First, for this proposal to work, a heavy commitment will be required by two chapter members (the responsibility will not be chapter-wide). Two individuals have yet to come forth. Second, some of the "fine print" regarding the full implication to the Chapter and the two sponsors seems to be unresolved. Glenn will take the responsibility of clarifying all of these issues and making a solid recommendation to the membership. He will attempt to have this completed for the upcoming meeting; if not, he will make his completed presentation at the November meeting.

Callie presented her recommendations for the final arrangements of the Christmas dinner. Your reservation form is included in the last page of this newsletter. Be sure to tear it off and get it back to Callie with your check. **PLEASE NOTE: The cutoff for reservations is November 24--no additions or changes after that date.** With a change in operations at the Officers Club, she has really had to jump through the hoop to maintain the line on the cost and quality we experienced last year. Thanks Callie, your fellow Board members fully recognize the effort you have put into this endeavor and we really appreciate it.

PRESIDENT'S MESSAGE

... as an interviewer was asking a man on the street concerning the issues of the day...

Interviewer: It has been said that the problem with the issues at hand is the ignorance and apathy of the citizens that they affect.

Man on the Street: I don't know and I don't care!

We have heard it said that the best things in life are free. Well, that statement is at least in part false because someone paid the price for the freedoms that we enjoy in this country. If we don't arm ourselves to defend those freedoms, then the Founding Fathers gave their lives to give us liberty only to have it coast to a stop in only a few generations. "To be born free is a privilege, to die free is an awesome responsibility."

John Adams said, "I am well aware of the toil and blood and treasure that it will cost to maintain this declaration and support and defend these states. Yet through all the gloom I can see that the end is worth more than all the means." I can see that the "support and defense" is something that pertains to maintenance of our freedoms.

Every freedom is sacred because it took the blood of American soldiers and the blood of many of the fifty-six men who signed the Declaration of Independence, to secure those freedoms. Perhaps "secure" is incorrect because these freedoms are eroding away everyday because we perceive them to be free. We as citizens of America do precious little to "support and defend" our freedoms. Special interest groups with selfish motives are gaining public attention with the purpose of taking away freedoms to fulfill their own sometimes perverted agendas.

- 1) Our children cannot read the Bible or pray in school, but they are protected if they read pornography or use profanity over the P.A. system as a freedom of expression.
- 2) As business owners we cannot hire a person based on their qualification before first considering the quota system.
- 3) We must hire a person who has a communicable disease and pretend it doesn't exist.

Do you look at these and other developments and consider it business as usual? These are a few of the many examples of the loss of freedoms that troubles me.

I talked with several of you over the summer concerning the issues that we face as United

States Citizens and as Aviators, and I believe that we all agree that the freedoms are eroding away. But aren't some of them eroding, not so much due to outside influences, but due to our own neglect? Is the freedom of flight going to die with us? Because local residents may see no useful purpose for another individual to build or fly an airplane, will we lose that privilege?

Airplanes aren't buggy whips!

There will always be a need and a use for general aviation. It will generate advancing technologies that will lend themselves to other areas of progress in all areas of life. Let's not stop here!

I was told earlier this week that I was an "evangelist" for aviation. And although I am not sure how that comment was meant, I'll accept it as a complimentary gesture. (If it wasn't meant that way, you'll just have to try harder.)

I'm not asking you to fight the Redcoats in a revolution, but I am asking you to consider devoting some time to preserving some (or one) of the freedoms we possess. Here are some nifty ways to preserve our heritage:

- 1) Evangelism - To interest other people in joining our organization.
- 2) Letter writing - Dust off your creative writing talent and write your Congressman when you see a freedom disappearing. Example: more TCAs and wider coverage of existing TCAs. Express your opinion with your freedoms and your children's freedoms in mind.
- 3) Get involved - Share your talent or ability with others.

The Young Eagles program is a terrific way an individual can have an impact on the youth by providing them with an exposure to aviation and how it relates to us. An Explorer Post is custom made to allow people like us to help the next generation to take the ball and run with it. The direction that they run is determined by the type of Explorer Post it is (engineering, law enforcement, sea exploring, aviation, etc.) and the type of leadership that they have.

When you are asked to consider an idea to promote a cause or to defend a freedom, listen to yourself say "Not me, I'm too busy." Are you saying "I am too busy taking the best things in life, because they appear to be free."? You must be able to see the freedoms disappearing around you. I would hope that you feel some of the burn that our Founding Fathers experienced when they fought for our liberty - liberty that they themselves perhaps didn't live to enjoy.

Glenn


PRESIDENT'S MESSAGE--A COMMENT

Now that you have read Glenn's message, I will make some comments of my own. It's very easy to skim something like that and pass it off as pie-in-the-sky idealism. Then get on with whatever task is at hand.

However, I refuse to pass it off that easily. Glenn hits the nail on the head with a lot of his observations. We allow a very small minority of individuals to exercise inordinate control over our activities because of their action and our own indifference and inaction. As Glenn says, our rights and privileges will continue to erode away unless we do something to protect them.

In my own experience, I find it disappointing that so few will take a few minutes and contribute to the Cleco. Even tearing out an article from a magazine that you feel is worth sharing with your fellow members would be a step in the right direction.

So please, go back and read Glenn's editorial and give it some serious thought.



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ADVERTISING RESULTS??

Strange things are happening around here. It seems that since I have been newsletter editor, not *one single* advertiser has remarked to me: "Say Will, the ad in the Cleco really works; last week someone called and said...."

Come on people, these advertisers help support us by paying for an ad; help them out by doing business with them. Remember our advertising patrons cover a lot of bases: Duplicating services, aviation sales & services, air conditioning, real estate, welding, insurance, eyeglasses, and carpeting. A great collection.

A NEW MEMBER???

Larry Laughlin appears to practice what he preaches, re: membership in EAA. He brought the latest addition to his family, Heather. Way to go, Larry. Maybe she can be the next newsletter editor.

THE RAFFLE

Hey!!! What's going on with the raffle??? At the August meeting, we had *four* prizes raffled off. That means we should have had four prizes for the September meeting. But not so! Only one winner from the previous month brought an item. Come on, **Rick Brophy**, **Chuck Hull**, and **Keith Mantz**--you owe the kitty a prize. Also, the two winners from September (we didn't get your names), please bring something to the upcoming meeting.

HELP-HELP!!



You may or may not know that the Cleco is by far the largest expenditure for 393. The cost of production and mailing are distressingly high. (Furthermore, I resist the budget control measure suggested by my fellow Board members of reducing my 70K salary.) One solution to controlling the cost is to reduce the size of the newsletter--after all, who needs ten pages of this drivel. The production cost for a four page newsletter would be 60% less than the current cost, a significant saving in these desperate times.

When I review previous issues of the Cleco, I see that some of the columns have been extracted from other publications, some are written by you the members, and the rest written by me. Perhaps I should simply eliminate those coming from other publications. After all, most of them are simply informative, educational, and/or humorous--who needs it?

Anyway, the person who has been typing these outside articles for me is no longer available. (She was a BIG help; she typed the articles into a computer then sent me a disk.) Unfortunately, she retired and decided to see the country. Considering that I simply don't have the time to take on additional typing, the simplest thing to do would be to drop the outside material and save some money in the process. Like I said, "who needs that garbage?"

But, of course, if there is *someone* out there who does feel that those columns should be retained, perhaps we could reach an accommodation. You enter them into a computer for me and I will publish them.

In other words, the whole point of this ridiculous column is to get me some help. Do we have a volunteer (a member, spouse, companion, friend, enemy, or whatever) who will lend a hand to a worthy cause by doing some typing? It doesn't matter what word processor you use, I can convert it to mine. Call me at 254-2267. Will.



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THE LEARNING CENTER--VOCABULARY

Remember, in the August issue of the Cleco I promised you the rest of the vocabulary. Well, in spite of the mass protests and demonstrations against it, here we go.

IFR: Usually begins a question, e.g., "IFR goin' over to the administration buildin'..."

INSTRUMENT PANEL: A musical line-up.

LANDING STRIP: Undressing on final.

LAPSE RATE: The time to complete a speed course.

LEADING EDGE: The advantage of being ahead.

LIFT: The most overused and misunderstood command issued during the placement of a partially completed kit aircraft on a trailer; often confused with *drop, let go, twist*, etc.

LOAD: The result of a near mid-air collision; usually messes up the seat.

LOG BOOK: Tree identification guide.

OVERBANKING TENDENCY: The tendency to save too much money. Most kit builders do not suffer from this affliction.

OVERDEVELOPMENT: What happened to Dolly Parton.

PARASITIC DRAG: A cockroach race.

PROP WASH: A detergent for propellers.

RED LINE: The iron curtain.

SHEAR LINE: A run in a stocking.

SLIP-SKID BALL: 1) A new Major League pitch; 2) a party held at a skating rink.

SPEED-TO-FLY: Coffee.

SPOILER: An egg-salad sandwich that has inadvertently been left in the cockpit all week.

STABLE AIR: An atmosphere tinged with the odor of fertilizer.

STALL: Cubicle located in a barn from where arises the stable air.

TERMINAL VELOCITY: Speed limit imposed on electric-cart drivers at airports.

TIE DOWN: A spouse.

WAKE: Not asleep.

WAKE TURBULENCE: An alarm clock.

WIND SHADOW: A shadow cast by moving air; usually invisible.

WIND SHEAR: Thin air.


WIND SHIFT: A lever in the cockpit which, when employed, shifts the direction of the prevailing wind to suit the landing area.

WING-OVER: An expression used by the pilot after losing a wing (see **FLAPS**).

YAW: "You all." Southern colloquial.

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PERSONAL PROFILE--RYAN YOUNG

This month we get around to Ryan Young. He is the one guy in the Chapter who has always bugged me. Whenever there is some kind of discussion at a meeting he almost always has something of substance to say. Furthermore, he has a real knack for articulating his thoughts. I frequently say to myself: "Now why didn't I think of that?" or "Why didn't I put it that way?" Like I say, he bugs the hell out of me.

If you recall, Ryan is the person who did the two part article for us on his choice of the Sonerai (which he is currently building). In a way, his Sonerai is the realization of a 20 year old dream. As a teenager, he started reading *Air Progress* and became fascinated with airplanes. Then he saw an article in *Popular Mechanics* describing an airplane designated the KR1 that could be built for \$500. At the tender age of 13 he decided that was for him. Then and there he decided to build his own airplane, learn to fly it, then solo at age 16. Don't know if I would say he's slow in getting around to his plans, but 20 years instead of 3 years???

But hey, let me get first things first. Ryan was born in Northern Minnesota but cleared out at age 3 after deciding that was not for him--to damned cold. So he move the family to Pittsburgh. Hey Ryan, what kind of good judgement is that? Hot and humid in the summer and cold in the winter. His move to the West Coast at age 5 was a step in the right direction, but *Southern California??*

As does any good Southern Californian, he learned about the beach in a hurry and spent much of his spare time body surfing. Bicycling was an essential activity (and remains so today) as that was his means to the beach. He tells me that much of his focus was limited by a couple of factors: as a kid he was very shy and reserved, and his eyesight is very poor. In fact, without his heavily corrected glasses he borders on being legally blind. But neither of those "minor" problems stopped him from playing rugby in both high school and college. He commented that one does not need to see very well to play many sports. I was fascinated with his description of how he adapted his vision by interpreting forms and colors. He surmises that as a kid he was probably considered a bookworm because he was a voracious reader--he would read everything he could get his hands on. To this day he reads extensively. That undoubtedly accounts for the fact that he usually has something pertinent to say regardless of the topic during discussions at our meetings.

**NAVAJO AVIATION**

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When we started talking about airplane building, he told me that he has always been interested in anything that moves be it a car, a boat, or some weird mechanical device (such as an airplane??). As I wondered where he thought that ability came from, he told me that it was probably genetic. His grandfather was a civil engineer/contractor and his father is a graduate civil engineer. In fact, his father is presently employed by McDonnell Douglas working bugs out of the C17 assembly line. (The C17 is the replacement for C130 and C141.)

His father always had a fascination with cars and took Ryan to all kinds of auto events: concours, autocross, gymkhana, drag races, and whatever else was scheduled. With this interest, there was always a substantial supply of auto magazines around the house for him to read. In fact, his father now has every issue ever published of *Road and Track* magazine.

It appears that aviation was also in his genes. His father got his instrument and commercial ratings 20 years ago. Ryan remembers doing endless figure eights around buoys in Long Beach Harbor. But like Jim Lewis, the impetus to get with it himself did not come until years later.

What about other activities as a kid? As a explorer scout, he completed about 2/3 of the requirements for his Eagle rating--not bad for a shy kid that could barely see (or for anyone). In the scouts, he did a lot of camping, snow-shoeing, mountain climbing, etc.--really enjoyed the out-of-doors.

He also got into sailing as a teenager. He told me of fond memories riding his bike eight miles to Newport Beach to go sailing. He actively sailed and raced for 10 years--has sailed J24's, Santa Cruz 27's, etc..

His higher education took place at U.C. Berkeley where he graduated in 1981 with a major in Mechanical Engineering & Naval Architecture. The minute I opened my mouth and said the word "house" he quickly added that a naval architect is **not** a person who designs houses for naval bases. Well, how in the hell am I supposed to know?

His first job was with Earl & Wright Engineering (San Francisco) working on the analysis of mobile off-shore drilling rigs. He did what they called static stability analysis: for instance, making certain the rig does not go belly-up with wind and sea action. Another important facet of his work was analyzing various damage scenarios with regard to the resulting stability of the rig.

In answer to my question about maintaining the position of the rigs, he pointed out that some rigs are anchored and others float using huge propellers beneath the surface to continually control the rig positioning.

In describing his work, he speaks with real enthusiasm about the exciting engineering challenge of what they were doing. But the thrill of the engineering was countered by his concern over the negative affect on the environment of off-shore drilling. (I quite understand the dichotomy that he experienced. In the early 1960s I worked for Westinghouse on the Polaris project. I felt both the thrill of cutting edge engineering and the remorse of working on a system of mass destruction.)

After the bottom fell out of the price of oil he could see the handwriting on wall, so he left and went to Coast Guard Research and Development Center in Groton, Connecticut. There he did full-scale testing of Coast Guard ships including hovercraft, hydrofoils, twin hull,

and other research vessels. He considers that a real learning experience as he gained experience in a variety of fields including telemetry, signal theory, and instrumentation.

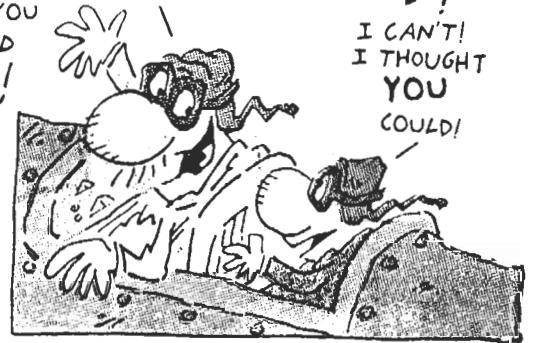
After three years he was transferred to the Maintenance and Logistics Command of Pacific (Alameda) where he is employed to this day. He is now supervisor of technical services writing specs for contractors to repair problems on ships. He does serve as a consultant for difficult problems.

About that getting his pilots license at age 16?? Well, he finally started flying about three years ago. He took ground school at the College of Alameda (he has nothing but good words about their program). Then he joined the Alameda Aero Club and trained in 150s and 172s. He has a total of 250 hours with a fair amount of mountain flying. He says he has enough flying time to be dangerous.



THIS IS GREAT! I HAD NO IDEA YOU COULD FLY!

ME? I CAN'T! I THOUGHT YOU COULD!



Ryan's First Flying Adventure

When I asked him if he's had any hair raising experiences, he smiled and said "Oh yeh, who hasn't?". It seems that on his first attempt at long cross-country he had a carburetor ice problem (over Lake Berryessa). He was cruising along comfortably doing his ground speed checks from point to point according to the book. Based on his descriptions of the event, his conversation with himself must have gone something like the following.

"Hey!! Why in hell is the time to this check point so long--am I losing speed?" A few moments later it's "Hey, why is my engine starting to run rough?" But Ryan is quick of mind: "Well, I'll fix that--let's see full power and full rich." As the engine responded with power and smoothness, it's "Good thinking, Ryan baby." Then the engine flat-out quit. With that he uttered the airmen's

standard words of distress: "Oh shit!!" Since he had flight following, he pressed the key and said "Center, the sky is falling, the sky is fa...--no, no, I mean I am falling, I am falling." After the controller gave him instructions, he heard the next best thing to his Mother's soothing and comforting voice: his CFI. Coincidentally, his CFI was on the same frequency and overheard the entire conversation. He suggested that Ryan use carb heat because the problem sounded like icing. Lo and behold it worked.

After finishing the story, Ryan said sheepishly: "Ahhmmm, I probably would have thought of that myself, eventually."

Regarding his building activity, he bought a Sonera one year ago. He got a partially welded fuselage, gear installed, and the rest in pieces. (He is the fourth owner of the project.) He had hoped to spend 10 hours per week but has fallen way short of that with an estimated 200 working hours for the year. Keep at it Ryan; remember, Pete Wiebens took 10 years.

As I've said before with other people, I am continually amazed at the versatile and interesting people we have in the Chapter. You fit right in, Ryan--it was a pleasure and an honor to interview you.

Eric Schuldt

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"WATER PROOF" LIGHT WEIGHT CANOPY COVERS

By George Craig, EAA Chapter 62

Taken from the "Intrepid Airman"

Weight conscious homebuilders are eventually faced with the need for a cockpit, or canopy cover. Regular canvas covers can be heavy and bulky. I tried using nylon rip-stop for mine. It is light weight and very strong because the nylon has a heavier thread woven in to make quarter inch squares. The fabric resists tears and it folds into a small package. I used Camp-Dry and Thompson's Water Seal, but returned to my plane after a heavy rain and found 1 1/2" of water in the cockpit. I'd forgotten to drill drain holes in the fuselage and the nylon had leaked like a sieve.

In desperation I called every canvas tent and awning manufacturer in the Santa Clara County area. No one could help me.

Finally, I tried Western Mountaineering in Town and Country Village on Santa Clara Avenue in San Jose. They had a solution.


TRON DAK, INC. in Lynwood, Washington makes a product called *Aquaseal*, *Polycoat* that is especially for nylon. It is a water soluble solution so cleaning up is easy. After it sets, the fabric feels like plastic coated material. Since I only found this by chance, I assume it is worth passing along to other homebuilders.

A COUPLE OF COMMANDMENTS

Recently I was in a hospital (visiting) and noticed a list of 10 commandments written by the nursing class of 1916. The following two appealed to me.

Thou shalt develop a sense of humor if thou hast none.

Thou shalt reserve thy opinions about the faults of others for at least one month.

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DON'T WORRY, SELL IT TO A HOMEBUILDER

What's the title of this column all about? All I can say is that it appears to be the attitude of some people in the aircraft industry regarding salvaged and/or repaired aircraft parts. If you have been a continuous reader of the Cleco, you know that I had a crankshaft break on me just prior to Oshkosh. My engine was salvaged from a '74 Mooney (1250 hours TT) following a prop strike. Because the crank was bent beyond tolerance, it was replaced by one that had been rebuilt.

The failure bugged me to the point that I finally took the crank up to John Schwaner at Sacramento Sky Ranch. (Note: Talk about engine-wise--he is the guy.) The report I received from him (included at the end of this column) absolutely blew me away. The bottom line is that the crank was garbage to begin with and then was rebuilt using unacceptable procedures.

This brings to light two factors that I find very distressing. First, and to reiterate, there are some people out there selling parts and equipment that do not meet any semblance of airworthy standards. Their attitude of "it's only for a homebuilt" seems to suggest that since we can use parts not yellow tagged, they can pawn garbage off on us that would otherwise be headed for the trash heap. Nothing like a little more money in the till.

The solution to that problem is to buy only yellow tagged items. Right? Being new to this aviation business, I had assumed that a "yellow tag" was a real guarantee of a good solid part. Sorry, but it ain't necessarily so--the second factor that I find distressing. As I have gone about the post-mortem business of my engine, I've gotten quite an education. I have heard numerous horror stories of yellow tags accompanying (1) substandard work, (2) parts that should have been junked but were repaired, and (3) even work not done at all. Don't know about you, but I find that pretty scary.

In general, John tells not to trust the yellow tag on face value. Whenever you intend to purchase a yellow-tagged part, find out when it was tagged, by whom, and

get a maintenance record. For once, I am following my own advise. The rebuilt crankshaft coming for my engine is accompanied by all of that information. Furthermore, it is being shipped directly to Sacramento Sky Ranch for a complete inspection before I put it in my engine. I hope to live a little longer that way.

In general, your emotional well-being will be well served (and perhaps your longevity even prolonged) by being damned careful of used or reconditioned equipment you buy. "Yellow tagged" and "more expensive" are not always a guarantee of quality. However, "not yellow tagged" and "cheaper" can often spell trouble. For testimonial on that (and your real eye opener), read the following report on my recently "deceased" crank.

Crankshaft examination

John Schwaner
Sacramento Sky Ranch

Lycoming O-360 A1D
Serial Number: L-20090-36A

Recent repair history:

Propeller strike examination and crankshaft change at 1,245 hours. Engine failure at approximately 1,305 hours.

Received condition:

We received a crankshaft with nose seal installed. Crankshaft fractured at #4 rod journal. The #4 rod journal surface shows metal galling and seizing that is consistent with bearing failure from lack of lubrication. Lack of lubrication was a result of the fracture preventing normal oil film pressure. Crankshaft main and rod journals were ground .010 inch undersize sometime after manufacturer by Lycoming.

Crankshaft Identification:

Flange electric pencil marked 74709 100966. Marking consistent with factory part number identification. 74709 is a crankshaft subassembly for 74708 crankshaft. This crankshaft is not Lycoming approved for the O-360-A1D engine.

Analysis:

Crankshaft webbing (non-journal area) has been painted with a metallic colored paint. This is highly unusual and not approved by Lycoming. We removed the paint from portions of several webs to reveal surface oxide coloration of the surfaces next to the journals. Oxide coloration is present on #4 main journal web and #2 main journal web. The dark to bright blue oxide coloration occurs at surface temperatures of approximately 550 to 570 degrees F. This is well above the engine's normal operating temperature of 200 to 245 degrees F. The existence of the oxide coloration suggests that portions of the crankshaft have been exposed to high temperatures that might occur during a previous engine failure or during welding. The oxide coloration is not caused by the fracture of #4 rod journal since there is no abnormal coloration in this area.

This crankshaft was subjected to temperatures in excess of 500 degrees F. before or during the repair.

Such exposure, in the opinion of the manufacturer, Textron Lycoming, renders the crankshaft unairworthy.

The crankshaft was magnetic particle examined at 3,400 amps DC head shot. A map is included showing crack sights on the crankshaft.

Summary of crack indications:

#1 Main Journal

Approximately 60 thermal stress cracks in fillets. Longest crack 1/4 inch. Cracks caused by improper grinding during repair attempt.

#2 Rod Journal

Extensive thermal stress cracks in fillets. Several cracks in journal. Cracks caused by improper grinding.

#2 Main Journal

Forward fillet has a 2 inch long crack. Aft fillet has 2 each 1/4 inch long cracks. Fatigue crack resulting from attempted repairs reducing fatigue strength and increasing residual tensile stress above materials fatigue strength.

#3 Rod Journal

Extensive thermal stress cracks in both fillets. Cracks caused by improper grinding. One 2-1/2 inch long crack in aft fillet to web hole. Small piece missing from oil hole. Small metal sliver folded into oil hole because of the grinding operation.

#4 Rod Journal

Number 4 rod journal fractured. Aft fillet has approximately 200 thermal stress cracks caused by improper grinding.

Analysis of crack indications:

Multiple small thermal stress cracks are visible signs of residual tensile stress that exceeds the material's tensile strength and lowers the materials fatigue strength. The excessive tensile stress was created by improper crankshaft grinding. Larger cracks in fillet radius are fatigue cracks.

Other artifacts:

The area immediately surrounding #2 rod journal oil hole is weld material. This area has a 1/4 inch long seam with numerous porosity holes. An acid etch solution of 5% nitric acid was applied to the area to bring out the grain structure. The area within the seam is of different metallurgy than the rest of the journal. The oxide coloration in the adjacent webs may be the result of welding heat. Any welding of the crankshaft is unapproved and highly dangerous.

The fillet radius on most rod journals has been reduced below minimums from grinding. This is especially evident on #3 rod journal. In some places a very sharp ridge occurs between the journal and the start of the fillet. Reduction of fillet radius and sharp grinding ridges raise the stress levels and will cause fatigue cracking.

Hardness Tests:

Several informal hardness tests were performed on the crankshaft using a Rockwell hardness tester and file. Hardness varied widely from journal to journal. Low readings of 18 to 20 on the C scale were obtained from journal surfaces. Hardness in the area of the fracture was comparable to mild steel. Previous grinding and heat exposure on this crankshaft has reduced the hardness resulting in reduced fatigue strength.

An acid etch test showed that grinding of the surface has removed the original nitride hardening. Much of the crankshaft's strength is derived from surface hardening through nitriding. Removal of the hardened surface significantly reduces the crankshaft's fatigue strength and renders the crankshaft unairworthy.

Analysis of fracture surface:

Beach marks indicate fatigue cracking originating at surface from forward fillet radius and progressing approximately half way across journal until structure was sufficiently weakened to fracture.

Cause of failure:

Improper repairs to the crankshaft resulted in lowered fatigue strength and higher stress levels. This combination led to fatigue failure of the crankshaft at #4 rod journal.

It appears that the crankshaft was painted to hide the damaged created during the attempted repair.

MIKE MARTIN	20	TONY TIRITILLI	20
GLORIA MARTIN	20	CHRIS VAN WOLBECK	20
MIKE MARTIN	20	LARRY WELTER	12
JOHN McCOMBS	20	DICK WHITE	20
Charles McMullen	12	JOHN YATES	20
GREG MILLER	20		

The second list identifies those who we would like to bring into the annual cycle. PLEASE take care of this with Callie--don't make us beg month after month. If your expiration date is 10/30, this is the last issue of the Cleco you will receive.

Name	Exp.Date	Dues	Name	Exp.Date	Dues
VERN BOLTZ	12/30/92	3	RONALD ROBINSON	12/30/92	3
RICK BROPHY	10/30/92	7	BILL STAUFFER	12/30/92	3
PAUL KUNKEL	12/30/92	3	Phillip Young	11/30/92	5
JOHN LORAM	09/30/92	8			

CALENDER OF EVENTS

The calender of events looks pretty slim this month. Guess that's a true indication that summer is over. If you know of any winter events of which I am unaware, please let me know so that I can publish them.

Nov 8 Half Moon Bay Fly-In and Airport Day.
Call Joe Reid (415) 726-3417.

OTHER EAA CHAPTERS

Now that the calender of events list has pretty much dried up, those of you that like to go flitting from here to there are in bad straits. But not to worry, we at the Cleco have another alternative for you. The fact is, there are others out there--other EAA chapters. So if you happen to stray from your project, consider attending the meeting of some other chapter. Following is a list of local chapters and their meeting details. Refer to your latest EAA directory for more information.

Chico	327	3rd	Thurs	7:30	Ranchaero Airport
Eureka	771	2nd	Tues	7:00	Murray Field N. Air Term.
Fresno	376	Last	Tues	7:30	Chandler Airport Aero-Sqdn
Hayfork	824	3rd	Thurs	7:00	Hayfork Airport
Livermore	663	1st	Thurs	7:30	Livermore Airport Terminal
Modesto	90	1st	Tues	7:00	Modesto Airport Hanger 1
Montague	654	1st	Thurs	7:30	
Monterey	204	2nd	Wed	7:30	Salinas Airport, Hanger 0-5
Napa	167	1st	Tues	7:00	Napa Airport Bridgeport Rm
Paradise	735	1st	Wed	7:00	7420 Skyway Meeting Hall
Placerville	512	3rd	Wed	7:30	Placerville Airport (EEA Hanger)
Redding	157	3rd	Tues	7:30	
Redwood City	20	2nd	Tues	7:30	Ampex Cafeteria
Roseville	526	2nd	Wed	7:30	Placer S&L, 110C Harding Blvd
Sacramento	52	Last	Tues	7:30	Executive Airport
San Andreas	484	2nd	Fri	7:00	Calaveras Co. Airport Hgr B
San Jose	338	2nd	Tues	7:30	Ewert's Photo, Santa Clara
San Jose	62	1st	Thurs		San Jose H.S., Julian St.
Santa Rosa	124	1st	Wed	7:30	Sonoma County Airport
Susanville	794	1st	Tues	7:00	Susanville Airport Lounge
Watsonville	119	1st	Wed	7:30	4410 Opal Cliff Dr., Santa Cruz

RICHARD S. POWELL



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1855 SAN MIGUEL DR.
WALNUT CREEK, CALIF.
94596

(415) 935-8822

DUES NOT DUED (OR SOMETHING)

Here we go again!!

CURRENT CLECO RECIPIENTS: *Come on, guys, PLEASE read over the list which follows. If one of your friends is on this list, get after him or her to return to the fold. Note that this is the last time you will see this list in the Cleco, so don't mess up and fail to do your part.*

Following are lost souls who have been axed because of their oversight in paying dues. If your name is included and it should not be, please check with Callie and have her relay it to me. PLEASE accept our apology and have mercy on us.

Name	Dues	Name	Dues
BRUCE BAUMRUCKER	20	PETE MITCHELL	12
DAVE BEHNE	20	NEIL MUNRO	20
DOUGLAS BLANKENSHIP	20	RAY NILSON	12
JAY BROADWELL	20	PAUL ORTIZ	15
DAN CANADY	20	STEVE PARIS	20
IRV EASTIN	20	RONALD PARTAIN	20
EDWARD FERNANDEZ	20	BRAD POLING	12
RICHARD FORSETH	20	LES PORTER	20
MARSHALL FREEMAN	20	LEO ROLLEN	20
JERRY GROVE	18	DENNIS ROMANO	15
TOM HOFFMAN	20	DAN SANDERSON	20
JORDAN JONES	20	Rick Schell	20
LAWRENCE JONES	20	Wallace Smith	12
LAWRENCE LANSBURGH	20	NORM SPITZER	12
BUD LEWIS	20	DICK STUDER	20
Jim Mandley	12	HARRY STYLOS	20
ANDREW MARSHALL	12	JAN SWITALSKI	12

Larry Kett Laughlin



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New Carpet & Vinyl
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EAA Christmas Dinner

All Members, Wives, Companions, Guests, and Others welcome

December 11, 1992

No Host at Officers Club, Weapons Depot (same as last year)

Note: A map will be included in next month's Cleco

Friendship Hour: 6:30 to 7:00

Menu: Prime rib \$17.00 per person
Breast of Chicken ala Kiev \$15.00 per person

Mail your check and the following order form to:

Callie Joyner
3037 Justin Way
Concord, CA 94520

The new management at the Officer's Club is not very flexible, so all reservations **must be received by November 24**. This also means that no changes after the 24th will be possible.

<i>Menu Item</i>	<i>Number</i>	<i>Price</i>	<i>Cost (Number times price)</i>
Prime Rib	_____	\$17.00	_____
Chicken	_____	\$15.00	_____

TOTAL ENCLOSED _____

Name(s) of attendee(s)

NOTE: Please enter the fullname of each attendee as you would like it printed on the name tag.

TROUBLE AT THE POST OFFICE!!!!

Please don't ask me what's going on; all I know is that our post office box was screwed up. It seems that the Post Office decided that we were not in good standing so they cancelled our box and returned all the mail that was in it. Enter your faithful servants; it's all squared away now. Please don't ask what happened. Just recognize that if you had something returned with "BOX CLOSED" stamped on it, try again. We are back in good standing.

BUILDER'S TOOL BIN

The following 393 members have equipment they are willing to loan to fellow Chapter members. The phone number and item(s) are listed.

Glenn Werner (676-8786) Flat bed trailer
Pete Wiebens (933-7517) Flat bed trailer
Nico press

COMPOSITE BUILDER SUPPORT GROUP

For information about the Composite Builders Group, call Lyle Powell at 938-3217. To be placed on the mailing list for the CBG, send your name and address to Jordan Coonrad, PO Box 2878, Alameda, CA 94501 or call him at 769-9766.

UNCLASSIFIED ADS

FOR SALE--WILL NEGOTIATE!!!

Sea Hawk project/Glass Goose. All difficult parts completed. Materials, many instruments, and manuals/newsletters required to complete are included. Asking \$16,000; willing to negotiate. Note: This is a real winner. R. L. Giffin (510) 935-2887.
0592

FOR SALE

Glasair 3 kit. Fuselage together, horizontal stab and elevator completed. (Editor's comment: There are some other goodies that I did not understand from Glenn's scribbled notes.) Owner has invested \$42,000 in the kit and parts (no engine). Will sell for \$36,000. John Martin (510) 672-8200 (work) or (510) 672-1813 (home).

The END

The C eco

Experimental Aircraft Association
Chapter 393
P.O. Box 272725
Concord, CA 94527-2725