

File

# The Citeco

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

JUNE 1996

## CHAPTER MEETING:

JUNE 26<sup>TH</sup> 7:30PM (4<sup>TH</sup> Wednesday of every month) in the terminal building at the end of John Glenn Drive.

**Jim Weir** of RST Engineering in Grass Valley, will give a talk on avionics for homebuilts. His company manufactures kits for intercoms, antennas, and other neat stuff..

Jim holds certification for CFI, CGI, Commercial, Instrument, Airplane & Glider (all ratings) plus A&P, and BS-Physics, MSEE to High school/college teaching credential (Physics, Math, Industrial Technology, Aviation). Significant projects: Voyager (complete antenna package, engine instrumentation, fuel tank timing). Apollo (landing radar). Surveyor (component reliability). Viking (programmable RF indicators). Since 1972 , Jim has shared his knowledge at Oshkosh forums on avionics and has authored over 100 articles in national magazines on various aspects of homebuilt avionics.

## PRESIDENT'S MESSAGE

I'm still excited about the turnout for the "Photo Session" we had on April 27th. There was great hope that this would really enhance our Christmas party slide show, as well as getting aerial shots of our own beloved birds for ourselves.

Because of the winds and turbulence, some felt rather shy of the closeness required for good pictures. Exercising our right as safe pilots, we flew out a bit too far, but still had fun. At the debriefing barbecue afterwards, we heard a lot of interesting tales and it seemed like everyone had a good time. Louie Godell and I had a great time flying and really appreciated the help and good times.

We were, however, surprised at the lack of support in purchasing the pictures. **Pete, Rick, and Mark** put in a hard day's work shooting pictures and afterwards overseeing the printing. As a club effort, these guys really did their part. It's working together that will make lasting memories-- as recently discussed at our 25th EAA Chapter Anniversary

meeting regarding the restoration of the Woody-Pusher. Please see Louie for your pictures.

Thank you **Louie, June, Dwain, Melody, Barbara,** and all others who helped with the early morning coffee and goodies, as well as the barbecue.

**CONGRATULATIONS** to our Vice President, **Bruce Hobbs**, who is an official pilot as of June 6! He has some good stories from the check ride and we are really pleased to see him clear one of life's rewarding hurdles.

Bruce Seguine

## CHAPTER MEETING MINUTES:

Minutes of the Chapter Meeting Held May 22, 1996

*by Linda McKenzie*

The meeting was called to order at 7:30pm by President, Bruce Seguine. The minutes of the April meeting were approved with the following amendment: Mark Wiebens and Rick Lambert were the photographers at the April 27 Mt. Diablo photoshoot.

### Treasurers Report:

Checking \$1155.22, Savings \$2691.50.

### Photo Shoot:

Anyone who participated in this event needs to pay Chapter 393 \$15 for the photos. Many of the photos ended up being very small because the pilots did not come in close enough to the top of Mt. Diablo. A 300mm lens is the largest acceptable lens on a hand-held camera. A tripod was impractical because everyone lines up in a different place. Another photo shoot will be put on later this year.

### Buchanan Airport Open House:

The Airport Open House is being held on Father's Day, Sunday, June 16. Gerry Greth is requesting that everyone make a special effort to have their project (flying or still being built) on static display for the Open House

## Announcements:

**Truckee Airshow** is June 21, 22 and 23.

**Chapter 393 Annual Picnic** is scheduled for July 20. It will be held on the lawn next to Navajo Aviation.

**Aircraft Scales:** Chris Kenyon has the club's scales in his hangar.

### Program:

Professional air-show pilot, Rocky Hill, showed a video of himself in action with his S-300.

### Program:

**Rocky Hill** spoke with us about his budding career as an airshow performer; this is his second season. Rocky started off showing us his promotional video of his routine titled "Tumble Time," which consists primarily of gyroscopic maneuvers. The video was shot near the Calevaras County Airport in an FAA approved aerobatics box. The scene shifted frequently between a ground view of the maneuver and a cockpit camera view of the same maneuver. The speed and violence of the action is truly astonishing. Wayne Handley is Rocky's coach and occasionally they perform together.

Rocky has two Xtra 300's. The new plane will not be ready for the Watsonville Airshow. It may be ready for Arlington and definitely will be ready for Miramar and Reno. The plane is stressed for 20 g's (-5 to +8). Above +4 g's the airspeed decays. An airspeed of 280 to 290 kts is the upper limit for this plane because the handling gets very weird - like there is separation from the wing. Rocky is currently using a 3-bladed composite propeller from MT. While performing aerobatics the plane burns around 35 gal/hr.

Rocky told us that he has to practice nearly every day to maintain his ability to handle the G forces involved. He also said that he does not get disoriented because he knows how each maneuver is going to turn out. A lively Q & A session followed.

## Introductions:

**Frank Storm** recently went to his 50th reunion. He recited a fabulous poem about growing old. [Frank - please send a copy to Bob so that we can print it.] **Rob Clark** is looking into a Lancair. **Pete Wiebens** is adding 20 gallons additional fuel capacity to his Glasair III using a ship-in-the-bottle method. **Charlie Adkins** is going through the box of Dragonfly parts and still studying the builder's manual.

**Lisle Knight** working on an Osprey II. As Young Eagles coordinator, is looking to have a "big year" with some help from Ron Darcy of Hayward. At the Airport Open House the Young Eagles table will be set up next to the Concord PD D.A.R.E. booth - we will be taking sign-ups only.

**Fred Egli** is working on regaining his Medical. The Lancair IV is going well, ready to start wiring. **Harry Heckman** has obtained hangar space with Ed Lester and is almost ready to move his Lancair 290 to Buchanan. **Bob Belshe** - Lancair 235 - had to repair "smiley" cut into lower cowl by alternator pulley. **Lyle Powell** - the Glasair III has reached its 4th birthday and has 720 hrs on it.

**Scott Achelis** RV6A is now flying and has 5.2 hrs on it. The tach stops @ 2200 rpm. "Flies great."

**Rick Young** RV6 has 112 hrs on it. The Harmon Rocket fuselage kit was just taken out the jig and is coming together quickly. [The RV6 is For Sale] **Ron Caldwell** will be starting on an "Eze" project and needs hangar space. **Chris Kenyon** has just completed the 100 hr on his RV6. Chris is looking for another project. **Terry Gong** is now waiting for the wing kit for the RV8. Also announced that his wife is pregnant.

**Scott Newman** would like to know how to keep the aluminum finish on his 185 polished. **Glenn Werner** has 330 hrs on his Lancair. Just put on a new landing light - 50 watts from a 12 volt bulb purchased at Superior Electric. **Doug Page** is skinning his RV6A. **Tracy Peters** is priming the ribs on his RV6.

**Gerry Greth** is flying his Twin Comanche. 20 people and 8 planes made the trip to Club Med in Mexico. **Ed Lester** his Glasair has moved to San Diego.

## New Business:

**Lyle Powell** expressed concern about the air pollution caused by open field burning in the agricultural areas of Northern California. In an effort to reduce this problem, Lyle requested that members write to our legislators about the problem. A relatively small burn can produce poor visibility over a very large area. He passed out a sample letter with a list of legislator's addresses.

## WELCOME

New member Dennis Hope has just opened the "Lunar Embassy" pilot shop at the Rio Vista Airport. His building is close to the gas pumps, right next to the airport mangers office. He has charts, DUAT computer, and other goodies. Pay him a visit soon, and while you are there take advantage of the \$1.85/gallon gas at Rio Vista.

## SATURDAY FLY-OUTS

At the last board meeting, we discussed the possibility of having regular fly-outs for lunch to some of the many airport eateries within an hour or less. Lyle Powell has made a list of places to visit. Bring your ideas to the meeting.

## TECH TOPICS

Here is a note I received from John Schwaner when I asked for permission to reprint his articles in the CLECO.

Permission to copy is granted as long as you carry my copyright, mention my name and the avweb page.

One day years ago driving back from one of your meetings the wheel fell off on my car. Before the days of cellular phones and being an old car I decided "what the hell" and drove on the rim for 4-5 miles to the nearest phone. I'll never forget all the sparks in my rear view mirror and the awful sound of car on pavement. Whenever I think of the Concord EAA I'm reminded of this experience.

Regards, John Schwaner

### Leaning on the Ground

by John Schwaner ([jschwaner@avweb.com](mailto:jschwaner@avweb.com))

Proper leaning during idle and taxi operations is much more important than most pilots understand. It can solve spark plug fouling problems, reduce valve guide wear and valve sticking problems, and prolong engine life. Here's why.

Mixture distribution is poor at idle. At a rich idle mixture, some fuel doesn't vaporize and enters the cylinder as a liquid where it partially burns and forms carbon deposits.

In addition, a rich idle mixture causes lead fouling. Since gasoline, tetraethyl lead (the octane enhancer in avgas), and ethylene dibromide (the lead scavenging agent in avgas) all have different boiling points, fractionalization occurs in the induction pipes. Some cylinders get a high dose of lead with no lead scavenger while other cylinders get the scavenger but with little lead.

The less of this stuff (carbon and lead) entering your engine at idle the better. At higher power settings and temperatures, fuel distribution improves, lead vaporizes and goes out the exhaust, and the spark plugs are hot enough to burn off the deposits that form at idle.

The idle mixture setting is a simple screwdriver adjustment on your engine's carburetor or fuel injection system. The optimum idle setting is one that is rich enough to provide a satisfactory acceleration under all conditions and lean enough to prevent spark plug fouling or rough operation.

You can easily check your idle mixture to see if it is adjusted properly. With the engine warm and running at a fast idle (1200 RPM), pull the mixture control knob out slowly while carefully observing the tachometer. You should observe a small increase in RPM as you lean. If you lean further, the RPM will drop again, the engine will run rough, and eventually it will quit.

An RPM rise of 25-50 indicates that your idle mixture is adjusted properly. If the RPM rise is greater than 50 RPM, your idle mixture is adjusted too rich. If you get no RPM rise

at all, your idle mixture is too lean. In our experience, most engines are adjusted too rich.

Don't worry about getting the idle mixture too lean. If the idle mixture is too lean, the engine won't accelerate. Just richen the mixture until the engine properly accelerates. You needn't worry about screwing up the takeoff or cruise mixture; adjusting the idle mixture doesn't affect the takeoff or cruise mixture ratio.

If you fly from a high altitude airport, you might want the idle mixture richer to compensate for flying to airports at lower elevations. Temperature changes may require the idle mixture set slightly rich, colder temperatures require a richer mixture.

At idle or near idle rpm, you can't harm the engine by leaning on the ground; over-lean the engine and it just quits. The mixture control knob can be pulled out until the engine starts to quit and then moved slightly in. Return the mixture control to full rich before starting your takeoff checklist. Follow the Pilot's Operating Handbook for proper mixture settings at takeoff.

Now the bad news: you can do serious damage to the engine by taking-off with the mixture manually leaned. Possible engine damage includes preignition, detonation, and high engine temperature. You cannot, however, damage the engine by adjusting the idle mixture setting too lean.

Rather than manually leaning your engine for ground operations, it's better to have your mechanic adjust the idle mixture to a properly lean setting. If you lean manually on the ground, you need to understand the risks.

If you lean close to idle cutoff, the engine won't accelerate when you advance the throttle for takeoff; no takeoff and no engine damage occurs. If you lean just a little, then the mixture isn't lean enough to do any damage if you forget to push the mixture back in at takeoff. However, if you lean in a middle-of-the-road sort of way and forget to push the mixture in during takeoff, then you may damage the engine. For this reason, I'm hesitant to recommend leaning the engine at idle, unless specified in the POH.

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*John Schwaner is AVweb's powerplant expert. John is a world-class authority on piston aircraft engines, and a specialist in the engineering analysis of engine failures. John runs Sacramento Sky Ranch, Inc., a leading distributor of aircraft and engine parts, and probably the foremost aircraft hose shop and magneto overhaul facility in the U.S. John and his wife live in Sacramento, California.*

*John has also written two superb technical books: Sky Ranch Engineering Manual and The Magneto Ignition System. Both can be previewed in and ordered from the AVweb Online Bookstore.*

## NTSB Accident Statistics for 1994

Here are the latest-available figures to save for the next time someone asks you "How safe is flying?" or "Are airlines really that much safer than small planes?"

The NTSB has released preliminary statistics covering aircraft accidents during 1994.

### 1994 Aviation Fatalities

FATALITIES	1994	1993
Private Planes	725	740
Airlines	237	1
Commuter	25	24
Air taxi	63	42
Foreign, unregistered	21	16
<b>Total</b>	<b>1071</b>	<b>823</b>

### Analysis of 1994 Statistics

TOTAL: 1,071 people were killed in 2,106 U.S. civil aviation accidents in 1994, compared with 823 fatalities in 2,150 accidents during 1993. The 262 air carrier fatalities were the highest since 1988 when there were 306 deaths.

MAJOR AIR CARRIERS had 20 accidents, four involving fatalities, for a total of 237 deaths, versus 22 accidents (one fatal) in 1993. The fatal accident rate per million miles flown in 1994 was 0.0008, compared with 0.0002 in 1993. Per 100,000 aircraft departures, the fatal rate was up to 0.049 in 1994 from 0.013 in 1993.

SCHEDULED COMMUTER AIRLINES had 10 accidents in 1994, down from 16 in 1993. Fatalities rose from 24 people killed in four accidents in '93, to 25 killed in 10 accidents in '94. '94 fatal accident rate per million aircraft miles declined to 0.006 in '94 from 0.008 in '93. Fatal accident rate per 100,000 departures fell to 0.097 in '94 from 0.125 during '93.

CHARTER AIRLINES had their fifth consecutive year without a fatality. There were two charter accidents in '94, compared with one in '93. The '94 accident rate per million miles flown was 0.0066, compared with 0.0033 in '93. In terms of 100,000 aircraft hours, the '94 rate was 0.299, compared with 0.141 in '93.

AIR TAXI accidents total 84, of which 27 involved fatalities, compared with 69 total accidents, of which 19 were fatal, during 1993. Total accident rate for air taxis per 100,000 hours flown rose from 3.29 in '93 to 4.20 in '94. Fatal accident rate per 100,000 hours flown was 0.90 in '93, increasing to 1.35 in '94.

GENERAL AVIATION accidents declined to 1,989 in '94 from 2,042 in '93. In '94 there were 392 fatal GA accidents in which 725 people were killed, compared with 399 fatal accidents in which 737 were killed during '93. The aircraft accident rate per 100,000 aircraft hours flown rose to 9.47 in

'94 from 9.09 reported in '93. Fatal accident rate per 100,000 aircraft hours rose to 1.87 in '94 from 1.78 in '93. The accident and fatal accident rates rose -- even though the number of accidents and fatal accidents declined -- because fewer hours were flown in '94 than in '93.

## FOUND ON THE INTERNET

### WILL YOUR NEXT GPS RECEIVER SPEAK RUSSIAN?

The Russians have their own version of GPS, called GLONASS, which offers accuracy unhampered by the selective availability "feature" of the U.S. GPS system. Some U.S. companies now say the use of GLONASS through dual-use receivers is about to accelerate. Last week, Ashtech Inc. announced a compact GPS/GLONASS survey receiver, priced at \$6,000 to \$10,000. Dual-use receivers double the number of satellites, making it more likely that sufficient satellites are available for positioning when sky view is restricted. Although dual use systems are now too expensive for consumers, prices are expected to decline sharply as volume increases.

### PILOT-PERFORMED MAINTENANCE EXPANDED

The FAA announced that pilots may now legally remove and replace panel-mounted nav and comm radios (but not transponders, DMEs or autopilots). They may also update databases in panel-mounted loran, GPS and similar units. Part 135 pilots who fly aircraft with 9 or fewer passenger seats may now remove and reinstall seats, stretchers or oxygen bottles.

## NEWSLETTER SUBMISSIONS

All contributions for the newsletter are welcome! If you have something to say or share with the rest of the club members, do it here! Please submit any articles and/or photographs you think others will enjoy and learn from. The deadline for submissions to the editor is the 14th of every month (newsletter is produced and mailed by the 17th).

Submissions should be done in writing and mailed directly to the newsletter editor. Submissions may be hand written, typed, or on any IBM diskette (in ASCII or MS Word).

## CALENDAR

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- June 21-23 Truckee-Tahoe Airshow and EAA 1073 Fly-In. "Young Eagle Days," Truckee, CA
- June 22-23 Paso Robles Airshow, Confederate Air Force Fly-In, Paso Robles, CA
- June 29-30 Ukiah Airshow/Fly-In, Ukiah regional Airport, CA
- July 10-14 Arlington '96. Northwest Regional EAA Fly-In, Arlington, WA
- July 20 Chapter 393 Annual Picnic. Same place as last year, on the lawn next to Navaho Aviation.**
- July 27 Mt. Diablo Pilot's Association Open House BBQ, Buchanan Field
- August 1-7 EAA Fly-In Convention, Oshkosh, WI
- August 10 Air Expo '96, Yuba County Airport, Marysville, CA
- August 15 Buchanan Field's 50th Anniversary dinner.
- August 24-25 Central Oregon Airshow, Redmond, OR
- August 30-31 EAA end-O-Summer Fly-In, Madera, CA
- August 30-31 EAA Antique/Classic Chapter 29 Antique Fly-In and Airshow, Hayward, CA
- August 30-Sept 1 Annual Gathering of Taildraggers and Swinetasteing, Georgetown Airport, CA
- Sept 21-22 Gathering of Warbirds Airshow, Fresno, CA
- October 4-6 Golden West Fly-in at Tracy airport, volunteers needed.

## CLASSIFIED ADVERTISING

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Items for sale by club members may be placed in this newsletter for **FREE!**

*All I ask is that you submit your **FOR SALE** item to me in writing and no later than the 14<sup>th</sup> of the month. Normally, your ad will run for two issues, unless you request more or tell me that the item is no longer for sale.*

### FOR SALE:

**Prestolite Starter** for Lyc. 320/360 - \$200.00 Call Larry @ 510 758-3533

**1969 Cessna 150.** West coast airplane. Full IFR, two navcoms, G/S, ADF, MB, redone panel, upholstery, recent annual and 100 hr. 4000TT, 500SMOH. Nice paint. \$16,950. Great personal plane or trainer. Bruce Milan (510) 254-4780

**Questair Venture.** We are looking for an experienced pilot as a 1/3 partner. Project is 95% complete, can finance. Bruce Milan (510) 254-4780

**WANTED:** Crankshaft to fit Lyc O-320 E2G. Otto Bischoff, c/o OMB Design Corp., 318 Bullard Ave, Parmaus, NJ, 07652. (201) 967-1021

# THE EXPERIMENTAL AIRCRAFT ASSOCIATION

## CHAPTER #393 NEWSLETTER

JUNE 1996

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