# The Cleco

*Experimental Aircraft Association Chapter 393*


**SPEED!!** Our speaker for April 26 is our own Scot Stambough, who will review and summarize *Speed with Economy* by Kent Pacer. This book details Kent's modifications to improve the performance of his Mustang 2 with (mostly) aerodynamic improvements. The principles involved in these modifications are applicable to all of our aircraft. Another book to read is Bruce Carmichael's *Personal Aircraft Drag Reduction*.

Scot is working to finalize additional presentations for our meetings. One that has been set for August 23 is a presentation of Fiberglass lay up techniques by Andy Marshall (author of *Composite Basics*, now in a 7th edition) with a practical demonstration by Bill Call.

**Presidential perspective:**

One of the best parts of being president of 393 is that I get all sorts of interesting emails and letters. So as part of my duties I'm going to pass along some of the more relevant things I've been sent.

- Reedley Municipal airport is having a fly-in Sat. May 20. EAA Ch.376 is providing brunch for $10 from 10:30-12:30. At 11:30 WWII Ace Bruce Porter will speak about his exploits as a Pacific night fighter.
- Golden West Fly-In is coming up and my newest e-pen-pal, Brenda, from EAA HQ wants us all to make sure that the word gets out and plans are made to attend and support our very own regional Fly-In. I personally agree with this and it has nothing to do with the fact that I helped start it and for 6 years poured my heart and soul into making it a success. Anyway, it's June 9/10/11 so mark your calendar so you won't miss it. It's really your only chance to see large numbers of Experimental airplanes reasonably close to home. I highly recommend it!
- Brenda also informs me that there is now an easy(er) way to navigate your way through the strictly IFR maze that the FAA calls the certification process. Available now from the EAA is the new "Amateur-Built Certification Kit". This 15-page, step-by-step Certification Guide walks you through the entire process-from getting an N number to the aircraft inspection - and provides samples of how to complete each required form.

The certification kit also includes all FAA forms, Experimental sticker (in black), data plate, and a convenient placard decal sheet. Cost for EAA members is $12.99 plus shipping. The kit is also available for non-members for $19.99 plus shipping. To order, call EAA Membership Services at 800/JOIN EAA, or visit: http://shop.eaa.org

It sounds like an incredible bargain and just in time for my plane next year.

- Several weeks ago your Chapter President received a packet of information with the Chapter Award Nomination materials. The packet included information for the following Chapter Awards that will be presented at EAA AirVenture Oshkosh:

* EAA Major Achievement Awards
* EAA Newsletter Editor Awards
* EAA Web Editor Awards

Please note, the award nomination deadline is May 31, 2006.

So if you know of anyone in 393 that deserves a nod, speak up at the next meeting and I'll take care of the paperwork.

- We also have a few details to decide related to both the July picnic and Xmas party arrangements so I'll be bringing them up at the April meeting. See you there.

**EAA 393 General Meeting**
March 22, 2006

President Ken McKenzie welcomed members and guests.

There was discussion of the Airport development plans for 9 acres surrounding and including the MDPA clubhouse. The two leading contenders seem to be: 1) a firm from Denver that proposes to build 3 to 4 big hangars and several smaller ones, sell them and then move on; 2) a local group which proposes a similar development, but with some hangars rented out rather than sold, and a much longer development time (3 - 5 years). Both developers would provide meeting facilities for airport groups, e.g., MDPA, EAA, NRI, and the other clubs. It is rumored that Keith Freitas, the airport manager has done a careful review and favors the Denver group's proposal. Aviators are encouraged to visit the Airport Managers office at 550 Sally Ride Drive and learn for themselves about these proposals.

A Central Sierra Helicopter Meet (experimental helicopters) was announced, to take place at Pine Mountain Lake on May 5-7
http://www.avweb.com/events/11414.html
Camping will be available (not on the airport).

Pat Peters announced that Collings Foundation would be at CCR on May 22-24 with a B-17, B-24, and B-25. They will need help.

Pat introduced his guest Greg Holbrook, the new owner of Pacific States Aviation. He is replacing Maureen Bell, who will remain associated with PSA. He says that PSA will continue to help EAA 393 with Young Eagle flights.

Harvard Holmes suggested Watsonville as the next fly out destination. [The weather did not cooperate and there was no fly out.]

**Our speaker was Bruce Seguine** who has an experimental Swift that he rebuilt from scratch, gaining the experimental designation. He has accumulated a great deal of experience with metalworking and has become an expert at metal work - using the English wheel, the hammer mill and welding and annealing.

Bruce introduced his topic by reviewing safety procedures to be used when metalworking. He noted that freshly cut sheet metal has very sharp edges and he recommends smoothing the edges with a belt sander or other tool immediately after cutting the material. The use of gloves, goggles and hearing protection is also essential.

[Photo by Louis Goodell]
He reviewed the materials commonly used to make airplane parts, and noted that his freehand forming is not appropriate for structural parts without a stress analysis. He does not "do" spinners, for example. His favorite aluminum alloy is probably 6061-T1. You can anneal it, work it, and then leave it alone for 3 months and it will age harden. Tonight's demonstrations will use 2024-T3, which is somewhat harder - annealing the material helps work it. Alloys with a T designation can be heat treated for hardness. He knows of a place in Freemont that will heat treat alloys for you.

Bruce noted that working aluminum is a combination of stretching and shrinking the material. To make a hemisphere, for

example, requires expansion in about 30% of the material, and shrinkage in about 70%. To shrink the material, a V is put in it, and the material is then hammered flat. The trick is to flatten one part of the V while letting the rest of the V hold the material together. As the material is flattened, it will flow and become thicker where it is being shrunk.

Often you will make a part in more than one piece and weld the pieces together. The more careful you are with fitting, the easier the welding goes. He uses gas welding for Aluminum, rather than TIG welding.

Answering a question about annealing, Bruce noted that when you work with the hammer you will have to anneal the work often; using the English wheel, annealing is not required so often. E.g., a cowl piece may need to be annealed 2 to 3 times if it needs a lot of work. When you work the metal, you will develop a sense of when the metal has work hardened and you need to anneal it again. Often you will work a piece up to a certain point and feel it get hard to move; then anneal it and find that now it is easy to continue moving the metal.

Asked about annealing in an oven or with a torch, Bruce allowed as how an oven would be really nice, but not always practical. Bruce demonstrated annealing a piece of aluminum. First, he adjusted the torch to have a bit of soot in the flame; then he coated the piece with the soot. Then he readjusted the torch and went over the piece until the soot was burned off.

For welding 6061, Bruce noted that the sodium in the alloy produced an intense orange color. Your welding glasses needed to strongly filter this sodium "line" to make the aluminum more visible while welding it. He recommended good glasses or you will have difficulty seeing the aluminum while you weld it. While welding aluminum, the material gets very soft, so the torch needs to be set to a very low pressure.

**Demonstrations**

[Photo by Louis Goodell]
Bruce demonstrated shaping metal with a plastic hammer, and then with the English wheel and the air hammer. Then the members were invited to try out these tools.

**Break**

Scot Stambaugh took the opportunity to get feedback from the group on a number of ideas for talks. The leaders on this list were:

- Vimy Build Process (John LaNue)
- Aircraft Wiring Basics (Scot S.)
- Flight Testing (Scot S.)
- Painting (?)
- Riveting (Bruce S./Scot S.)
- FAA Certification (FSDO DAR ?)
- Aircraft rigging (Rick Lambert)
- *Speed with Economy* by Kent Pacer (review by Scot S.)
- Aluminum welding (Bruce S.)
- Auto Engines (?)
- Fiberglass Lay-up (Bill Call/Andy Marshall)

- Keeping your medical (local doctor ?)

Scot is working on lining up these talks.

After the break we did more demonstrations rather than introductions.

**Buchanan Master Plan Meeting**
March 22, 2006 7 PM; Crowne Plaza Hotel

Buchanan Field is in the midst of updating its master plan. An updated Master Plan is an FAA requirement to obtain airport improvement funds. We are now in the middle of this master planning process, conducted by The Barnard Dunkelberg & Company Team.
http://www.buchananfield-byronairports.org/ccrMPupdates/ccrMasterPlanUpdates.htm

Dick Sperling attended this meeting and had the following comments:
This was the startup meeting for the Airport Noise Study and not a lot went on. The meeting was lightly attended, about 1/3 of the room. The team showed the noise footprint of the airport, areas where there were different noise decibels. After economic and environmental impact studies they could develop noise abatement procedures, but they are reluctant to do that -- they have no plans to change things.

There was a question and answer period where 20 to 25 people got up and complained about the noise. Dick noted that jets departing on 19R often turn right to depart to the NW, causing noise over his house and DV college. There were no complaints about light aircraft; a few complaints about helicopters.

**EAA 393 Board Meeting**
April 6, 2006
Attending: Ken McKenzie, Scot Stambaugh, Louis Goodell, Harvard Holmes

The Chapter received a request for a paid advertisement in the Cleco from Barnstormers http://www.barnstormers.com/ There was strong agreement that we would like to carry ads, and that we could use the money to support speakers. This could cover gas, hotel or meals, as needed. There was discussion of the rates that we should charge, with consideration of our costs, what the market would bear, and how our rates would compare with MDPA, e.g. It was noted that MDPA has half page ads from Sterling and PSA in their newsletter.

By the end of the discussion, the board agreed on a price of $60 per year (12 issues) for a business card size ad (1/8 th page), $200 for a ½ page ad, and $350 for a full-page ad. Members would receive a 50% discount on the business card size ad (to $30).

Topics for articles for the Cleco were discussed; Rick Lambert and Bruce Seguine were mentioned as sources of knowledge. We need to find someone to interview them.

We need to start planning for the July 15 picnic. We need to ask the members where they want the picnic at the next general meeting.

Harvard Holmes was delegated to contact Sunrise Bistro Catering to see if we could confirm them for the holiday party on December 9. [Sunrise was contacted and they have raised their prices and declined a sit-down dinner for December 9 due to lack of servers. They offered a buffet or a meal's worth of hors d'oeuvres. The buffet or hors d'oeuvres would cost as much or more as last years sit-down dinner. Decision time!
See http://www.sunrisebistrocatering.com/
Last years approximate budget (per person):

| | |
|---|---|
| Catering (default prices = $22.00 plus tax + 18% gratuity) | |
| subtract desert, wine & required gratuity | |
| NET Catering | $19.00/pp |
| place settings & dessert plates | $ 3.40 |
| tax (on $22.40) | $ 1.96 |

| | |
|---|---|
| MDPA (assumes min 50 people) | $ 2.00 |
| gratuity (17.9% of $22.40) | $ 4.00 |
| TOTAL | $30.36/pp |

With 61 people, our MDPA costs per person were slightly less so we came out almost exactly even with our ticket price of $30. In the past the Board has been willing to subsidize costs up to $3 to $5 per person from the dues payments. -HH]

**Treasurer's Report** as of Mar. 7, 2006
Savings: $ 2620.04 Checking: $ 1712.72

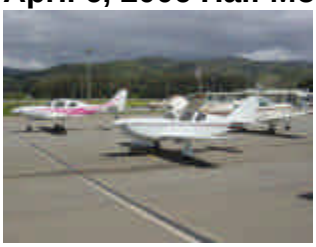
**EAA 393 Senior Fly Outs**
March 21, 2006 Petaluma
The Seniors, those who don't work (as much as they used to), have impromptu fly outs on their own schedule. Bob Belshe took Fred Egli, and Scot Stambaugh took Harvard Holmes up to Petaluma.

Scot Stambaugh took Harvard in his F1Rocket

Looking over Scot's Rocket.

Bob Belshe and Fred Egli returning.

**April 6, 2006 Half Moon Bay**



Fred & Vi Egli, Ron Robinson, Harvard Holmes & Nat Kingsley, and Bob Belshe.

**EAA 393 Fly Out**
There was no fly out this month due to the rain, rain, rain…

**The Radar Screen**

**EAA B-17**
The EAA's B-17 will be at Hayward May 5-7.
http://www.b17.org/tour/

**Hayward Air Race**
May 18-20, 2006; Hayward to Laughlin, NV
http://www.hwdairrace.org/

**Collings Foundation**
Pat Peters previously announced that the Collings Foundation
http://www.collingsfoundation.org/menu.htm
would be coming to CCR, at Pacific States Aviation, on May 22 to 24th.

**Buchanan Master Plan Meeting**
June 15, 2006 7 PM; Crowne Plaza Hotel

**GlaStar Wing/Tail Moving Day!**
by Ken McKenzie

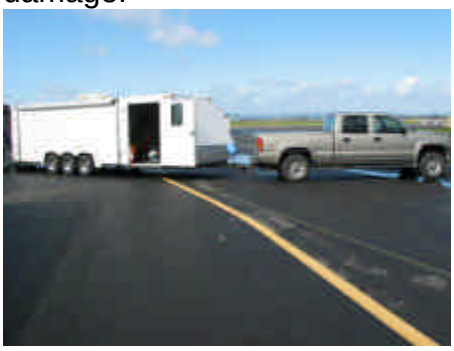
(wing jig & wing w/computers)

March 25, 2006. Moving day. My friends at the Napa chapter had graciously agreed to continue to store my recently acquired, partially assembled wing-jig/ wing/tail kit since October when I made the decision to buy my way to a head start on the GlaStar. For 5 months my new parts had been living rent-free in the stub end of a "T" hangar row at Napa airport. However the storage facility was now being vacated and so I had made arrangements to receive the parts, delivered, at my home in Lafayette. As part of the deal I had made, the Chapter, from whom I had purchased the parts, agreed to deliver them to Lafayette using the same movers (chapter volunteers) that had initially relocated them from Vacaville where the former builder had performed the initial construction.

The day dawned with rain as was the case on almost every other day of the month so far. However, I drove to Napa airport anyway on the off chance that they didn't want to postpone the move to a dry day. It stopped raining long enough for the drive up.

(Horiz.stab.& elev.& rudder)

When I arrived there were several members of the local computer club moving aging computers out of the building that had been blocking the airplane parts. Computer people have little appreciation for the delicate nature of aluminum airplane parts. I had to rescue the horizontal stabilizer from potential damage after one fellow bumped it with a foot as he walked by. After that initial "Ka-Boom" I made sure that they didn't have any additional opportunities to do any further damage.



(truck & trailer)

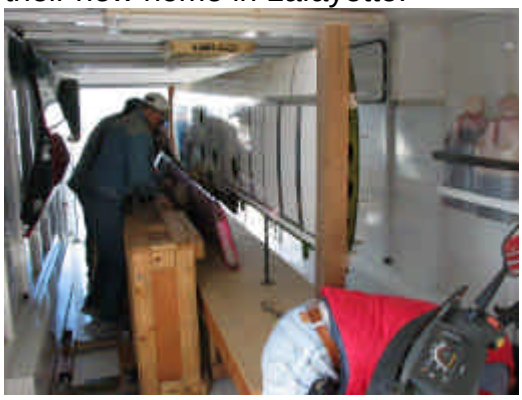
Once the computer parts had been relocated it was time to move the wing jig. The trailer that had been used was normally used to house a drag racing "funny car". As if on cue the truck with a large enclosed trailer arrived and backed into position. The fellow who drove up then opened the back/ramp and proceeded to start the car. After much cranking and a starting cycle reminiscent of a large radial (1 cyl. fires then 2, then 3 then 4...) finally when 7 or 8 cylinders were running he backed out. Dragsters are not at their best on wet pavement (20" wide smooth tires), but he did his best to slip and slide it over to one of the jet hangars that had been offered as temporary storage (cars designed to travel at 150+mph do not do well at taxi speeds).

(loading horiz.stab.)

With 6 of us carrying the jig we slowly moved it into the trailer. At one point there was something less than 1/4" of clearance between the leading edge and the top of the rear doorway. Also the last 3' of the trailer is sloped to meet the tailgate/ramp and consequently meant that the meticulously leveled jig was suspended in the air for the last 3'.

(close up of back of trailer)

Using some makeshift cardboard padding all the rest of the assembled parts and the box of yet-to-be-assembled parts were loaded and secured and we set off for their new home in Lafayette.



(close up of front inside of trailer)

The trip to Lafayette was uneventful except to note that even though we scrupulously adhered to the 55 mph trailer towing speed limit there were actually some cars we had to pass as they were actually going 5-10 mph slower! Unbelievable!

We arrived at my house to find volunteers ready and waiting and the garage ready to serve as a temporary home until such time as I can move the fuselage to it's new temporary home freeing up the needed space in the shop.

393 members Bruce Hobbs, who had come all the way from Reno and a fellow who unfortunately must remain nameless (I've misplaced his card and I told you I was really bad with names) were on hand upon our arrival. Together with the 2 Napa chapter members who drove the truck Linda(wife) 2 friends and 2 club members and I made short work of moving the wing jig and misc parts

(misc parts, painted & paint)
and more parts

(unpainted misc parts)

All in all it went very smoothly. We had more than enough help at both ends. The packing of the trailer turned out to be not as critical as I had imagined as nothing was damaged in transit. All I need now is a few weeks of dry weather so I can dig a few trenches, lay some drainage pipe and electrical conduit. Then I bring in the 20' shipping container to hold the fuselage and then we move the wing jig into the shop and start riveting. I can hardly wait.

**Meeting Schedule (2006)**

| General (Wed.) | Fly Out (Sat.) | Board (Thur.) |
|---|---|---|
| **Apr 26** | *Apr 29* | *May 4* |
| **May 22-24, Collings Foundation @ CCR** | | |
| **May 24** | *May 27* | *Jun 1* |
| **Jun 9-11, Golden West** | | |
| **Jun 28** | *Jul 1* | *Jul 6* |
| **Jul 5-9, Arlington** | | |
| **Jul 15, Picnic** | *Jul 29* | *Aug 3* |
| **Jul 24-30, AirVenture** | | |
| **Aug 23** | *Aug 26* | *Sep 7* |
| **Sep 13-17, Reno Air Races** | | |
| **Sep 27** | *Sep 30* | *Oct 5* |
| **Oct 25** | *Oct 28* | *Nov 2* |

**Our meetings** are open to the public. Everyone can consider themselves invited. EAAers might make someone else happy by introducing them to our Chapter, getting them involved in projects, fly outs and just plain good old camaraderie.

**Our normal meeting time** is 7:30 PM on the 4th Wednesday of the month (except July, November and December) at the old terminal building on John Glenn Drive just south of the tower. Visitors are welcome.

**Chapter 393 Fly-Outs** are open to chapter members and their guests. Meet at the Buchanan Field terminal building at 10 am, and we'll try to match people and airplane seats to take as many as possible. If the weather is bad, the fly out will be postponed to the next Saturday, possibly with a change in destination.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The Leader in Recreational Aviation

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