



THE LEADING EDGE

NEWSLETTER OF MUROC EAA CHAPTER 1000

Voted to Top Ten Newsletters, 1997 McKillop Award Competition

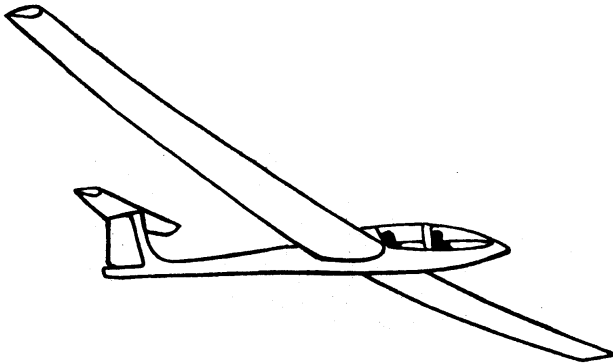
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<http://www.eaa1000.av.org>

October 1997

Chapter 1000 meets monthly on the third Tuesday of the month in the USAF Test Pilot School Scobee Auditorium, Edwards AFB, CA at 1700 or 5:00 PM, whichever you prefer. Any changes of meeting venue will be announced in the newsletter. Offer void where prohibited. Your mileage may vary. Open to military and civilian alike.

This Month's Meeting:



Glider Racing

Speakers: Jim Payne
Tuesday, 21 October 1997
1700 hrs (5:00 PM Civilian Time)
USAF Test Pilot School Auditorium
Edwards AFB, CA

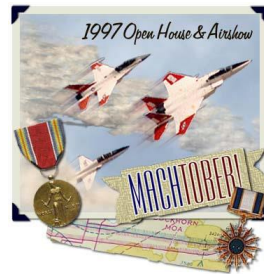
Glider Racing...the term might seem an oxymoron when you conjure up the common perception of graceful, lithe composite shapes wafting along on gentle breezes; but to folks like Chapter 1000 member **Jim Payne**, racing in a sailplane is as much of a challenge in technology, pilot skill, and luck as in the fire-breathing monsters that rip around the pylons at Reno (albeit a tad quieter). This month Jim will speak to us on the topic of racing as well as his extensive experience (and success) in capturing state, national, and world records in motorless flight. Jim has over 2000 hours in sailplanes and has captained the elite team of glider guiders America has sent to the World Glider Championships for the past several years. He's also been over 40,000 feet powered only by the forces of nature. His presentation promises to be both enlightening (no pun intended) and educational. If you're proud of your 15:1 glide ratio, come out and listen to someone who's not happy unless he's doing better than 50:1!

To review reports of Jim's previous exploits, surf on over to these two files:

<http://www.eaa1000.av.org/fltrpts/1000kilo/1000kilo.htm>

<http://www.eaa1000.av.org/fltrpts/1000kilo/record.htm>

Machtober Is Here!



That's right! Even though this term was coined by someone describing the month in which the team of Col Al Boyd, Capt Jack Ridley, Capt Bob Hoover, Maj Cardenas, a whole mess of Bell, NASA, and Air Force people, and some captain named Chuck first pushed an airplane above Mach 1, it also describes the pace of activities available for members of EAA Chapter 1000 during the month of October.

Copperstate Fly-In

If your lucky, by the time you get this newsletter, you won't have missed your chance to attend the Copperstate Fly-In, 9 - 12 Oct 97. Of all of the big regional Fly-Ins, this is the closest one geographically to us. This year's fly-in is again located at Williams Gateway Airport in Mesa, Air-Zona. Many of our members are planning to fly to the fly-in. If you are interested in going to the fly-in but don't have access to an aerial conveyance, contact **Russ Erb** by Thursday, 9 Oct 97 to find out who has an open seat (*I'm leaving for the fly-in on Friday*). Find out more details at http://www.primenet.com/~eaa_ariz/.



P5 (Project Police and Previous President Pelletier) plans to be there and to forward a report to *The Leading Edge* so as to establish the Tucson Detachment.

Edwards AFB Open House



THIS IS THE BIG ONE! You need to be there!

NOTE

You are receiving your newsletter one week early this month as one last attempt to see that you don't screw up and miss your chance to volunteer to help with this all-important event! If you show up at TPS next Tuesday, you won't

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find the Chapter Meeting, but you will be asked to join the Board of Directors meeting, which all members are always welcome to attend.

Most of the planning details are already taken care of, and if you're involved, you already know what you're responsible for. If not, **your mission is to show up** (by ground transpo--no unarranged fly-ins) at Edwards Air Force Base at some time in the range of 0730 - 1700 on 18 or 19 October 1997. See airplanes, watch the air show, schmooze, spend money, and most importantly, come by the Chapter 1000 booth in Hangar 1600 (the big one) and help us indoctrinate educate the great unwashed masses about the exciting world of homebuilts and sport aviation. There in Hangar 1600 will be many homebuilts, many of them award winners at major fly-ins, projects in progress (see some of my *Bearhawk parts!*), a demo version of the Chapter 1000 web site, and *Nemesis*, promoting the upcoming Fox Field National Air Races. The Air Force also insisted that we display their B-2 in there, but has reduced greatly how much space they want for it.

While the Air Force is billing this event as a celebration of the 50th Anniversary of Supersonic Flight, this is also Chapter 1000's primary opportunity to advertise our existence at Edwards and to inform large numbers of people who otherwise would probably not attend a fly-in about sport aviation and EAA. This is one of our four big events of the year (Flabob Fly-In (Feb), Scotty Horowitz Going-Away Fly-In (May), Edwards Open House (Oct), and Fox Field National Air Races (Nov)), and **its success depends on your participation!**

Find out more details at
<http://www.edwards.af.mil/usaf50th/index.html>.

Chapter 49 Weight and Balance Clinic

Need to get the official weight and balance on your aerospace vehicle updated? Have we got a deal for you! On 25 October 1997, Chapter 49 will be hosting a Weight and Balance Clinic at Fox Field. Weighing will be under the supervision of a person authorized to make an official entry in your log book. The prices announced at the October Chapter 49 meeting were \$40 for Chapter 49 members and \$60 for non-members. Some quick math suggested that if you are not a Chapter 49 member, you could sign up with Chapter 49 for \$20, take the lower price and still come out even. You'd even get their chapter newsletter and all of the benefits of membership as well.

Additionally that day will be a Fox Airport Association pancake breakfast, an "Old Buzzards" rally where you can swap rides with other EAA members, and Open Hangar day where you can do some **Project Policing** of some local projects.

The days festivities will start at 0800 and continue until they're done.

If you want to sign up to get your airplane weighed, contact **Ozzie Levi** at 805-942-7149 or at ozzielevi@hughes.net.

Fox Field National Air Races

Before you get your next newsletter, the fourth big event on Chapter 1000's annual calendar will occur. Qualifying rounds will be on 31 October, with the actual

aces on 1-2 November. We are responsible for the Fly-In portion of the festivities. The big areas we will be covering will be aircraft parking, the EAA booth, and Young Eagles flights. Chapter 49 is responsible for setting up the Fly-In Banquet on Saturday night.

Our primary contact for the FFNAR is **Bill Grahn** (760-373-4587 or grahn%tsi.edw@mhs.elan.af.mil).

Contact him and find out where you can be involved. This year's Air Boss is our own **Norm Howell**, so we're expecting things to go a bit smoother this year. Don't be surprised if someone calls you up soon and asks for your support. Hint--the correct answer is "Yes!". Find out more at this month's meeting and at

<http://www.eaa1000.av.org/races/races.htm>.

Rubidoux Sundown VI



Okay, so **Rubidoux Sundown VI**, our annual **Project Police** "inspection" of Chapter 1 and Flabob International Airport isn't actually scheduled until sometime in February 1998. That doesn't mean it's too early to start planning for it. We expect operatives of Chapter 1 to be in attendance at the Edwards Open House and the Fox Field National Air Races. Our intelligence personnel expect to be able to determine the best time for our "inspection," probably shortly after a Chapter 1 operative hands us a flyer for the event. Start thinking about it now!

Project Police Fashion Tips

Project Police Officers are reminded that the official uniform for any of the above events should include one each black **Project Police Tactical Assault Force** uniform T-shirt if possible.

- Russ Erb

Last Month's Meeting

EAA Chapter 1000

Milestones of Flight Museum, Lancaster, CA
1730; September 16, 1997

Gary Aldrich, presiding

Because of the unusual venue of this meeting, a formal call to order was not issued. In other words, this meeting "just happened". Those who attended filtered in out and around to see what there was to see, so there was no time at which everyone was in sight at once for an official head count.

Program:

For those who did not attend, the minutes will consist mainly of what there was to see at the Milestones of Flight.

Outdoors, there were several artifacts reminding us of the earlier days of aeronautical fire fighting. Among them were a C-119 and a British Argosy, both used to parachute fire fighters and equipment into the fire area. According to



Dave Kleiman, the curator of the museum, the C-119 was particularly popular for this purpose due to its rear clam shell doors.

Also in residence outside the museum, was a well worn (you could SEE through the tail!) KC-97, formerly used by the Air National Guard.

Indoors, the largest collection of parts still in formation belonged to the fuselage and center section of Howard Hughes' B-25 that Mr. Hughes had converted for his personal use. An interesting choice of airplanes for personal transport, due to the fact that you would have to be a gymnast to scale the wing's center section to get from the relatively civilized rear air-stair door to the cockpit.

Mr. Kleiman reported that there used to be an A-26 at the museum, but was traded to Kermit Weeks for the hangar in which the museum now resides. Formerly, the entire collection was outdoors. Among the smaller aircraft belonging to the museum was an apparently complete Pietenpol AirCamper nicely fitted with a Model A Ford engine, and the partially completed fuselage of a Wing Derringer (2-place twin).

From the early days of rotary wings there was a relatively complete specimen of a Sikorsky H-19 formerly used by the U.S. Forestry Service.

Powerplants available for perusal at the museum range from a 1910 Hall Scott engine of 30 hp (purportedly used to power irrigation pumps), to an alcohol/liquid oxygen rocket engine of about the size and shape of that used to power the X-1 to the first supersonic flight, although Mr. Kleiman could not verify this particular engine's original purpose.

In between, there were two YJ93 turbojets used to power the XB-70 Valkyrie experimental supersonic bomber, one still fitted with the afterburner section. Also, there was an R-2800 with a sign stating that it had once been on a DC-3. (Does there need to be more research here?) Last but not least, what aviation museum would be complete without an OX-5?

Keeping the memorabilia company were several flying/flyable aircraft belonging to Chapter 49 and 1000 members: Mac Mendoza's beautiful 210 hp Swift, Steve Erikson's Fiesler Storch (temporarily down for engine change), and the George Gennuso/Chuck Firth Stinson 108 awaiting about a week's worth of TLC to be eligible for separation from its shadow.

Thank you, Mr. Kleiman for a very educational and entertaining meeting.

Surprise PPTAF Raid:

In attendance at his first meeting since joining Chapter 1000, **Chris Reeder** made the mistake of flying his Pitts S-1C in. Of course, he was detained pending inspection by plain clothes **PPTAF** officers. All would have gone well for Chris had he remembered the high-fructose bribes for the inspectors. As it was, we put a curse on the AEIO-320 engine, resulting in two start attempts before escape was possible.

Old Business:

None.

New Business:

None.

Adjournment:

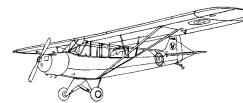
The meeting was adjourned about 7:00 to the In and Out in Lancaster, where good times and good food were had by all.

- Miles Bowen

President's Two Cents

"Now is the time for all good _____ (insert gender-neutral term) to come to the aid of their party!" Seems like only last month I was writing my first column as your president. (Hmmm, it was last month.) Last month I enjoined you all to dig deep into your discretionary time budgets and help turn our two major events into rousing successes. For those that have stepped up to the challenge, thank you. For those not yet contacted, please say yes when called and I'm sure the rewards will justify your effort. Now, my task is to motivate you all to perform your most important duty as chapter members... participate in the selection of the leadership team for the next year. Nominations will be opened at the meeting this month, with elections planned for November. Every one of you reading this is fully qualified to serve as one of the chapter officers for next year. All it takes is the willingness to devote a little more time to maintaining the quality of our chapter and the donation of the suggestions I know you all have for improvement. If you're happy with the way the chapter has been running, join in and stay the course. If you're sure that one or more of the officers is a bozo (*hey!*)...now's the time to step in and get the job done right! Remember, "nomination" is really a misnomer in volunteer organizations like EAA. Don't sit back waiting for a ground swell of public support to sweep you into office. The person who knows your capabilities and potential value to the organization best is...you! Please share your ideas and dreams with your fellow members and have a hand in it's future. Fly safe!

-Gary Aldrich





**Young
Eagles
Update**

Thanks for another successful Young Eagles Rally. This month's rally was held September 13 at Fox Field, Lancaster CA. We had 19 pilots (yes, nineteen!) and 8 ground crew volunteers. I'm glad so many of you decided to volunteer this month, because 56 Young Eagles showed up for their free rides (we invited only 35).

With the large pilot turnout this time, the ground crew team, was scrambling to process the paperwork quick enough to keep up. At times it seemed like the line of pilots waiting to take out the next Young Eagle was longer than the line of Young Eagles waiting for their rides!!! Somehow we managed, though. Thanks for your patience waiting for **Russ Erb's** computer to print forms and certificates. He did a great job getting all 56 certificates printed, even though his printer was not cooperating.

Special thanks to non-members **Tanya Adams, Evelyn Callison, and Cyndi Greene**, who volunteered for ground crew duty. This month, we needed all the ground help we could get!!

Russ Munson traveled all the way from New York City help us fly Young Eagles!! Well, he was in the local area working on some stories for *Flying Magazine* and heard about our rally. Welcome Russ and many thanks for spending a Saturday morning with us.

Thanks again to Comarco for donating fuel this month. You may have noted that we have been getting less fuel lately than in the past. We have been scrutinized by Comarco and the airport for taking more than our fair share of fuel. Comarco would like to donate us the fuel we use for flying our Young Eagles' sorties only. Some of us in the past have been guilty of flying only one sortie and getting a full tank of gas.

Ozzie and George Hedly have discussed the situation with Comarco and have agreed that we need to improve the way we ration fuel. We think that an honor system would work the best. For those of you who fly upcoming rallies, please keep track of the number of sorties you fly and estimate the amount of fuel you used flying Young Eagles and provide this information to the fuel attendant. If this system works at the next rally, it will become our new way of rationing fuel. If you have any inputs, please contact **myself**, or **George Hedly**.

Comarco is doing us a great favor by donating fuel for the Young Eagles program. Many thanks for their past support and with our members help, we hope to keep their strong support of EAA in years to come.

Please note, **the October Rally has been canceled**. After reviewing all the EAA and flying events for the month of October, George and I have decided to cancel this rally. Our next rally will correspond to the Fox Field Air Races (November 1 and 2). Since the Young Eagles rally during the Air Races will be a choreographed flying event, we will fly a limited number of young eagles and

we plan to have only a limited number of aircraft participate. If you are interested in flying or volunteering for ground help, please give **George Hedly** or **myself** a call ASAP.

See you at the races!

Ground Crew:

Pre-Flight Participant Registration

Tanya Adams **Evelyn Callison**
Russ Erb **Cyndi Greene**

Post-Flight Certificate Presentations

Norm Howell **Mike List**
Paul Rosales **Dave Webber**

Tower Tours

Tanya Adams **Cyndi Green**

Flight Crew:

<i>Pilots</i>	<i>Equipment</i>	<i>#YE</i>
Gary Aldrich	C-180K	2
Ron Applegate	C-140	3
Joe Biviano	PA28-140	5
Miles Bowen	C-170	4
Herb Carlson	C-172	9
Bryan Duke	VariEze	3
Mike Hartenstine	C-170	2
George Hedly	C-172XP	3
Norm Howell	Long EZ	1
Keith Kelly	Long EZ	2
Ozzie Levi	Cruisair	3
Gretchen Lund	Mooney M20J	2
Russ Munson	PA-18	1
Con Oamek	F-33-A	6
George Prewitt	PA-28-236	2
Shel Simonovich	Mooney M20F	1
Bob Stambovsky	T-34A	2
Hal Underwood	BE23 Musketeer	4
Bob Waldmiller	Long EZ	1

Young Eagles Flown this Rally: 56
Young Eagles Flown this Year: 355
Young Eagles Overall Total: 1787

Pilot Operations:

George Hedly
948-4431

Ground Operations:

David McAllister
David.McAllister@dfrc.nasa.gov
256-4829

- David McAllister

New Member

You may have wondered if our Chapter Web Site was being noticed outside of our little group. Well, besides the hit rate, we now have further proof. One of the options on the web site is to print out a membership form with information on how to fill it out and send it in to become a member of Chapter 1000. We welcome **Bernie Nitz** of Milan IL as the first person to take advantage of this capability. As such, he joins that small band of paid Chapter 1000 members who have never actually attended a chapter meeting. This group also includes **Lee Erb, Jon Goldenbaum**, and until recently **Chris Reeder**. **Bernie**

and his wife **Chris** own a Vari-Eze N12BN and a Cessna 152. Apparently that is not enough, as he is currently building a Cozy Mk IV. He is a Flight Advisor for EAA Chapter 75 and a Flight Instructor. He's been an EAAer for some time with an EAA number of 128674. To fund his activities, he works as a Product Support Engineer for Litton Systems, who manufacture aircraft oxygen systems. You can reach him at bernien@qconline.com. Say **Bernie**--how about an article for *The Leading Edge* on what every EAAer should know about aircraft oxygen systems?

Bohunk Fly-In

Bill Safranek, that rotten old curmudgeon (he gets upset if you say nice things about him) of Chapter 49 and proprietor of Bohunk airport, recently hosted the annual Bohunk Fly-In. You can find Bohunk airport on the Los Angeles sectional southwest of Fox Field right at the edge of the Fox Class D airspace. You actually have to call the Fox tower to tell them that you are landing there. As a result of the proceeds of the Fly-In, Bill has made a \$68 donation to Chapter 1000. Likewise, a donation was also made to Chapter 49.

Golden West EAA Regional Fly-In

(From Clear Prop! -- the Chapter 49 newsletter)

The Golden West EAA Regional Fly-In Association, Inc. is trying to get a major EAA Fly-In event established here in central California. It will be call the Golden West EAA Regional Fly-In and if all continues to go as planned it will be held at Castle/Atwater Airport (MER--the former Castle Air Force Base). The first fly-in is scheduled for 25-27 September 1998.

The location lends itself well to participation by EAAers and the general public from all over the west coast. The additional benefit of the Castle Air Museum on site is an added attraction of mutual benefit to the museum and the EAA Fly-In.

Participation by anyone who wishes to make this a reality is needed. There is plenty to do and the time is a lot shorter than you think. If you wish to take part in making this a major aviation west coast event please contact:

Golden West Aviation Assoc., Inc.

President: Kay Morgan

P.O. Box 447

Shingle Springs CA 95682

kay_1_morgan@ccm.fm.intel.com

For subscription to their newsletter contact:

Golden West Aviation Association, Inc.

Newsletter Editor: Wayne Sweet

1520 Highway 68

Monterey CA 93940

wsweet@inreach.com

The ownership of Castle/Atwater Airport (MER), a publicly owned airport, is now listed as CASTLE JOINT

POWERS AUTHORITY and is open to the public. The manager is Richard Martin 209-384-7325.

Corrosion Control--Types of Corrosion

Although there may be some differences of opinion on types of corrosion, I look at all corrosion as an electrical (or galvanic) process. The cause of the galvanic process is usually listed as the type. A designer will select material and processes that best suits the design requirements including avoiding or mitigating corrosion.

Electrolytic Corrosion

I prefer to use this term when moisture is present creating an electrolyte to permit electron flow. The moisture may come from condensation after takeoff as the trapped air cools at altitude or after landing as the cool aircraft causes condensation of the local humidity. This is very insidious and is part of the reason for commercial airliners to have the lower skin replaced periodically. It usually happens at the faying (that's an old ship builder's term) surfaces. Sometimes you cannot find it until you have taken rivets out and separated the parts (rib from skin, etc).

Salt Water Corrosion

This I consider an extreme form of Electrolytic corrosion but it is one that just about everyone understands. This is what Navy aircraft have to fight the most. In most specifications for a new airplane the Navy will give a minimum thickness of aluminum alloy such as .026 inch. Anything thinner loses a high percentage of its strength by the time corrosion is noticed.

Electrical Power

This type of corrosion is galvanic corrosion that is accelerated by being in the path of an electrical power circuit. Most homebuilt aircraft do not have a lot of accessories that are electric powered. They can stay away from this type of corrosion by having a wire for return circuit. More in the future on electrical bonding.

Intergranular Corrosion

This can be caused by poor processing during manufacture of the alloy (hence the need to be sure it meets a given specification). Usually it is caused by selecting the wrong chemical in attempting a conversion coating on a given alloy. Poor control of heat treatment processing is also a cause.

Over-etching aluminum can cause this type of corrosion.

Exfoliation Corrosion

This type of corrosion is similar to intergranular corrosion except the corrosion follows grain boundaries and "large" chunks fall out. Extrusions can be susceptible where grain boundaries are stretched and/or rough surfaces occur during the extruding process.

If you have a corrosion critical part you may wish to use bar or rod material that has been wrought instead of

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extruded. In industry extruded stock is used a lot but it usually goes through several inspections before going on an aircraft.

Fretting Corrosion

Fretting corrosion is caused by two surfaces rubbing together at a very small amplitude. I sometimes think that it should not be considered so much a corrosion as a wear. It can be eliminated by placing a very thin sheet of Nylon or Teflon between the surfaces.

Stress Corrosion

The high-strength heat-treatable wrought aluminum alloys in certain tempers are susceptible to stress-corrosion cracking, depending upon the product, section size, direction and magnitude of stress.

Stress corrosion cracking is where the internal stresses (residual stresses) vary across a section so that when they are loaded with additional outside forces, the grain boundaries at the surface start to break. When a part (sheet, extrusion, etc) is quenched and the outside layer cools too quickly, tension stresses are set up on the outside and compression stresses in the middle. This is sometimes taken care of by stretching or shot peening.

Local stresses (assembly stresses) can also be caused by selection of too small diameter of high shear fasteners (such as bolts), shrink or press fits, taper pins, and clevis joints in which tightening of the bolt imposes a sustained bending load on the clevis lugs.

I will never use 7075-T6 because the residual internal stresses can cause cracking without ever being loaded. I will use 7075-T7351.

I am aware of one light airplane that suffered stress corrosion around a bushing in the main spar of a wing. I suspect that particular airplane had been flown many times outside the design envelope.

Embrittlement

Improper heat treatment can cause an embrittlement of an otherwise ductile material. Titanium makes a very good light weight spring but Titanium embrittlement can be caused by Cadmium. The cadmium, under pressure and/or heat, will flow (infuse) between the grains of titanium. This weakens the grain boundaries and when the titanium is stressed, a crack will initiate.

Cad plate applied on steel bolts and not subsequently baked can cause the bolts to break from "hydrogen embrittlement." More on embrittlement in the future.

Galling

Galling is not a corrosion but with all the talk about corrosion between dissimilar metals, galling problems should be discussed.

Galling is a condition where two parts (made from the same alloy) slide over one another and start ripping the surface between them.

Nuts and bolts are not made of the same material. If they were, they would gall and disassembly would be impossible. Each is made from a different alloy. To me it is interesting that the nut is always made the sacrificial member. If there is any shearing of threads, the nut will shear first. Many times if a nut is unknowingly sheared on

assembly, it will fall off and the bolt will remain in place, averting disaster. More on bolts and nuts sometime in the future.

Thanx

Thanks to Bob Urban and Stan Klein for trying to get me to understand.

References

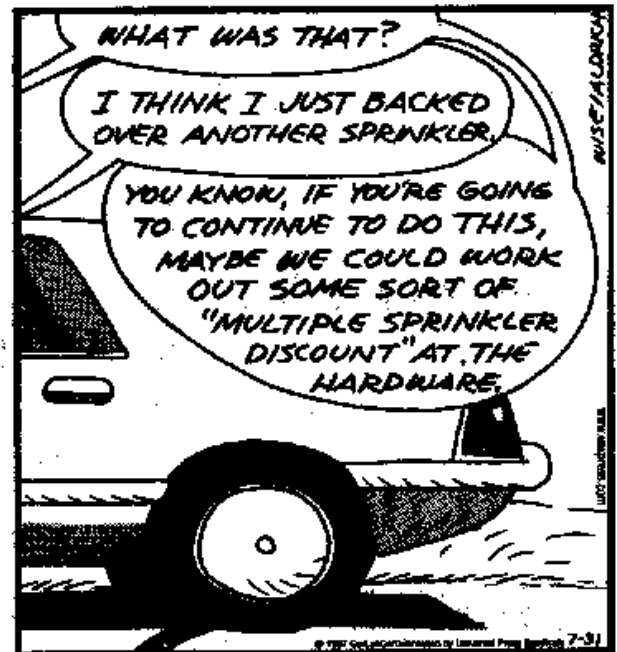
1. "Dissimilar Metals," MIL-STD-889
2. "Metallic Materials and Elements for Aerospace Vehicle Structures," Military Handbook, MIL-HNBK-5
3. "Aircraft Corrosion Control," available from EAA (1-800-843-3612, stock number 21-37597, \$10.95

- Lee H. Erb

EAA Chap 1000 Det 5, Arlington TX; EAA Chap 34
LeeErb@compuserve.com or (817) 275-8768

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Cal City Fly-Out/Drive Out

Just in case you haven't had enough EAA activities after Copperstate, Edwards Open House, Weight and Balance Clinic, and the Fox Field National Air Races, then fly or drive out to the Cal City Airport (L71) on 8 November 1997. Meet at the restaurant for breakfast at 0800.

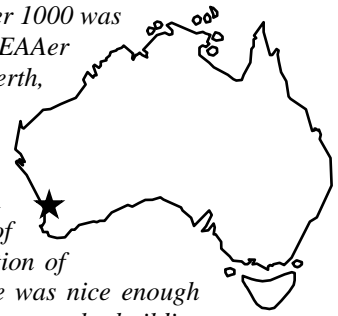
Boredom Fighter Update

Jim Piavis, undercover somewhere deep in EAA Chapter 1 territory, sent us some pictures of his Boredom Fighter project. Jim is currently working on that severe aft cg problem. You can see these pictures in full color on the **Project Police Picture Pages Phor Pilots** on the Chapter 1000 web site.



Down Under Report

(You may recall that Chapter 1000 was recently visited by a fellow EAAer from down under in Perth, Australia while on his way to Oshkosh '97. He wrote a report of his experiences while here for Western Flyer, his local magazine of the Sport Aviation Association of Australia (SAAA), which he was nice enough to share with us. He is currently building a Zodiac CH601, which we may get to hear about in the future.)



EDWARDS AIR FORCE BASE / MOJAVE VISIT

One of the more fascinating meccas of aviation must be Edwards Air Force Base in California as it was the place of so many historic aviation 'firsts'. The most famous of these was the breaking of the sound barrier by Chuck Yeager on the 14th. October 1947. It is interesting that this year (to celebrate the 50th. anniversary) there will be a re-enactment of this by Chuck Yeager in an F-15. This will be timed to occur at the same time and date as his earlier achievement in 1947. As mentioned in a recent article in 'Air and Space' magazine, Edwards was the place where Mach 1, 2, 3, 4, 5 and 6 were broken as well as where altitudes of 100,000, 200,000 and 300,000 feet were exceeded. Almost all new military aircraft since WWII were tested there as well as the first Space Shuttle tests and, of course, the Voyager round the world flight took off and landed there.

As a keen follower of aviation history I had wanted to visit Edwards for quite a while so I decided that on this visit to Oshkosh I would try to get there. I was fortunate to be 'surfing the net' and came across the web site for the EAA Chapter 1000 which is based at Edwards and the website manager is **Russ Erb**. I contacted Russ by email - wonderful stuff this web - and he kindly offered to show me around. Russ, incidentally, is a Major in the USAF and he works in the Flight Test area so I had a good guide.

Anyway, after getting a rental car at LAX and getting lost trying to find my way out of the airport vicinity I braved the LA traffic and eventually got to the motel in Palmdale. By this time I had been travelling for something over 30 hours from Perth so was due for a bit of sleep. The following morning, Saturday, I drove to Edwards and Russ took me on a tour of the base and to their museum that is being established. Edwards is not the most beautiful place in the world but it is easy to see why it was set up as a flight test centre with it's 44 square mile lakebed and good flying weather. Certainly there are no near neighbors to complain about the noise.

In the afternoon we went to the nearby Mojave Airport where there was a big welcome home party for **Mike Melvill** and **Dick Rutan** after their round the world flight(s). The hangar was full of people who enjoyed a good meal and were entertained by Mike and Dick with tales of their exploits. Their talk went on for about an hour and was very interesting. They had some very kind words about their reception at Jandakot which was in direct

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contrast to some of their other stops where officialdom was at its worst.

One particularly interesting episode related to their flight from Cocos to Jandakot. At Cocos they could not get Avgas so they had to settle for Mogas instead. They were very particular about obtaining permission to use Mogas prior to their arrival at Cocos in case they got stranded there - this was forthcoming so they were relieved. Once on Cocos they filled up their empty tanks with Mogas and conducted test flights to prove that all was OK.

In the afternoon they took off using some of the Avgas remaining in one of the tanks and then switched to the Mogas. To their consternation they found that their CHT's were higher and the motors were running rougher - hardly the sort of thing you want leaving Cocos for Jandakot. Anyway they decided to push on as they did not like the idea of being stranded on Cocos and they did some experimenting with changing fuel tanks. The roughness smoothed out when they changed from the rear seat tanks to the wing tanks - why? Their only explanation was that they had taken off in the late afternoon and the fuel was quite warm, especially in the fuselage tank, while the fuel in the wing tanks had cooled down somewhat due to the smaller amount of insulation around those tanks. Maybe this is a point to consider in our climate!

There were a lot of other interesting tales told during the afternoon but unfortunately they had to call it a day because their throats were too sore to continue.

Later that afternoon Russ took me over to nearby Rosamond Airpark to visit another builder, **Robert Waldmiller**, who is building a modified Corby Starlet. Robert is an aircraft design engineer working for Scaled Composites at Mojave and he has extensively redesigned the Starlet to have double the design G loads to handle Unlimited aerobatics. He is planning to use an O200. Howard Jones - eat your heart out!!! The weight will only be slightly increased and so far it really looks the goods.

The area he lives in is an aviators dream with each house backing onto a taxiway leading to the main airstrip. In Robert's hangar there was a Cherokee 140 that he was refurbishing, a LongEze (not his), a sailplane plus his Corby project. Outside was a Mooney and a Cessna. Most of the hangars seemed to have one or two planes parked outside but I don't know what was inside.

On the way home with Russ we passed another garage where a guy (*Tony Ginn*) was working on his aircraft - he was sharing with two other guys and between them they had about 5 aircraft in various stages of building or rebuilding - 2 T18's, RV-6, Cessna 150 etc.

I stayed on at Palmdale for another couple of days and on one day when returning to town I saw a pair of Lockheed U-2's flying in formation at low altitude. They continued this for about an hour and by this time I had reached the end of the Palmdale airstrip in time to see one of them shooting touch and go's. The approach path was right over my head at about 200 feet. When he had finally landed a F-117A came in overhead and landed - quite a bit of entertainment. One of the local plane watchers told me that he had never seen U-2's flying formation before so it was a unique experience.

Palmdale is, by the way, the location of the famous Lockheed Plant 42 where a lot of their secret development work was done. Nearby is the Blackbird Airpark where there is an A-12, an SR-71 and a D-21 drone on display.

If you get the chance it is worth a visit.

- **Graham Byass**

Oxymorons Inc.

Sign seen at a Denver CO tool store: "Tools Unlimited Ltd."

Design Group - The Joys of Major Modifications

(An e-mail from Brian to another Q-200 builder)

What I've seen since day one on 557BM is a back wing that wants to go flying before everybody else on the airplane. Having a copilot on board really helps the thing behave better. I had assumed that my original leveling boards were good and that the aircraft was set up right. The first hint that something might be a little different was when my taxi testing got fast and the tail went up in the air.

During first flight I ended up driving my reflexer to maximum aileron trailing edge up. Then I had to dial in 8 degrees of trailing edge down elevator. There is still a good bit of pitch authority there, but you are carrying trim drag and I essentially lost a great trimming device in the reflexer (mine is powered by a electric actuator via a coolie hat switch on my control stick) because it needs to stay where it is. Several months into flying the thing Gene Sheehan stopped by to see how everything was going and I told him about my laundry list of problems. After fixing the venting problem that vexed my Ellison (By the way, I'm back to using the TBI with good results) I again spoke to Gene about the 8 degree trim thing. He said, based upon his experience, I would need to change the incidence of one of the flying surfaces. He estimated about 2.5 - 3 degrees. He also said that you've "got what you got" no matter what you set the wings to. Gene said I could change the canard or the wing. He said another option was to change the outboard slot cores on the wing to a little trailing edge up, but I never liked that since that's another trim drag problem. He also told me to just keep flying it as long as I felt comfortable with the handling qualities, which is what I did. I figured I'd eventually do the back wing since there was less to move around.

Anyhow, I was getting a little irritated with not having my reflexer fully engaged and tired of the trim so I decided to do a little research into what I had. I made up some new leveling boards with the little angle finders epoxied to the level lines and it showed a 2 degree error.

So, Saturday I got started and by 1800 Sunday I had the wing free. It took me 16 man hours working alone to get this far. I don't care what a lot of other folks have said...this is a major pain-in-the-butt. I had to split the seat back bulkhead and the FS-94 bulkhead at the top. I'll have

a number of repairs to do before its all over. Sometime this week I should be able to get back up to Mojave to finish the sanding and get the wing retacked. I'm estimating a three and a half week down time.

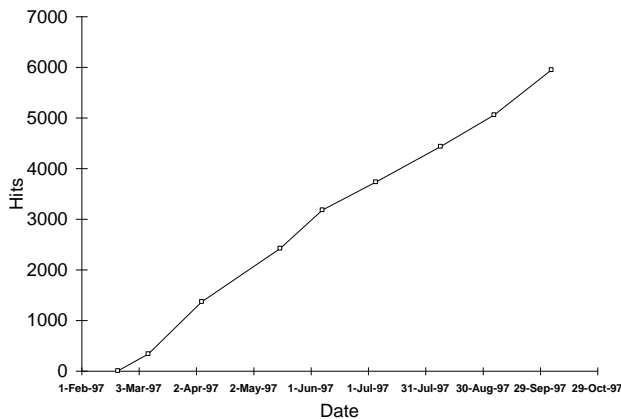
I went through 100 fluid ounces of water at Mojave today (I wear a Camelback hydration system when I work on the plane up there and I just plain sucked it dry) and I was still parched. As I write this, I still have a dehydration headache.

You don't ever want to have to do this, friend, because it puts you back on the emotional roller coaster. And, of course...I'm itching all over from the glass dust.

- Brian Martinez

Web Site Update

As of 5 October 1997, we have **5944** hits on our Web Site! See the graph of the activity below.



Usage History on <http://www.eaa1000.av.org>

Recent additions to the Chapter 1000 web site run the gamut from humorous to useful. In another Chapter 1000 story that won't die, you can check out a picture of some mysterious crazing that **Bob Waldmiller** suffered in the rear window of his FC-140 Fighting Cherokee. **Norm** wasn't even involved with this story!

Jim Piavis has supplied us with some nice pictures of his Boredom Fighter. He's roughly at that 90% stage, where 90% of the work is done, with only 90% to go.

In the History section, you can keep track of our many detachments on the official Chapter 1000 Det List.

Ever wonder what FAR 23 has to say about control stops? Curious what the new FAR 61 has to say about carrying your pilot certificate? Our reference section is now linked to the official FAA site with the complete text on-line of the FARs.

Finally, if you have a sound card in your computer, bring up the index page for the **Project Police** reports for a good laugh.

You can find your way to all of these items from the "What's New" page, directly accessible from the main Home Page.

Jim Ivey, President of Chapter 125 in El Paso TX, sent a message saying, "Awesome web site!!! I'll have to meet some of y'all someday; you seem to have a humorous

and addictive attitude in your chapter." (*Did he call us addicts?*) Thanx, Jim!



Just a reminder that the EAA Chapter 1000 Web Site is hosted courtesy of Quantum Networking Solutions, Inc. You can find out more about Qnet at <http://www.qnet.com> or at 805-538-2028.

Dues (\$15) Due In January! Pay Early And Keep The Treasurer Happy!

Chapter 1000 Calendar

Oct 9 - 12: Copperstate EAA Regional Fly-In, Williams Gateway Airport, Mesa AZ. (520) 228-5480

Oct 14: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., Edwards AFB. Test Pilot School, MOL Room (805) 490-1476

Oct 18 - 19: Edwards AFB Open House and Air Show. Homebuilts on display in Hangar 1600.

Oct 21: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (805) 490-1476

Oct 31 - Nov 2: 1997 Fox Field National Air Races. Fox Field (WJF), Lancaster CA. (805) 940-1709

Nov 5: EAA Chapter 49 Monthly Meeting, 7:30 p.m., Sunnydale School. 1233 S. Ave. J-8, Lancaster, CA. (805) 942-7149.

Nov 8: Wings and Wheels fly/drive-out breakfast, California City (L71). Meet at the restaurant at 8:00 a.m. (805) 256-8433.

Nov 11: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., Edwards AFB. Test Pilot School, MOL Room (805) 490-1476

Nov 18: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (805) 490-1476

Dec 3: EAA Chapter 49 Monthly Meeting, 7:30 p.m., Sunnydale School. 1233 S. Ave. J-8, Lancaster, CA. (805) 942-7149.

Dec 9: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., Edwards AFB. Test Pilot School, MOL Room (805) 490-1476

Dec 16: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (805) 490-1476

Feb 21-22, 1998: EAA Chapter 1 Open House, Flabob International Airport, Riverside CA.

Feb 21, 1998: Operation Rubidoux Sundown VI. (805) 258-6335

**Attention earthlings!
Your Chapter needs
your support to make
the Edwards Open
House and the Fox Field
National Air Races a
success! Find your
marching orders in this
newsletter...Comply, or
you may find yourself
trying to escape from
the Roswell Ramada!**

(Insert evil maniacal laugh here)

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Sonerai IIL project. Fuselage and wings 95% complete. Modified for A65 engine. Engine torn down for overhaul but complete with a great many spare engine parts. Includes instruments. Hydraulic brakes. All excellent work. Call Fletch Burns 760-373-3779

New Mitchell miniature electric 6-gauge back plane with oil press, oil temp, fuel press, hours, volts, and amps with remote shunt. Press and temp senders not included. Cost new over \$645, sell for \$400. Charlie Wagner 760-769-4336

To join Chapter 1000, send your name, address, EAA number, and \$15 dues to: EAA Chapter 1000 Treasurer, Mike Meyer, 6809 Spaatz Dr, Edwards CA 93523. Membership in National EAA (\$35, 1-800-843-3612) is required.

Contact our officers by e-mail:

Gary Aldrich: gary_aldrich@pobox.com

Miles Bowen: bowenfam@tminet.com

Mike Meyer: aerosong@ptw.com

Inputs for the newsletter or any comments can be sent to Russ Erb, 805-258-6335, by e-mail to erbman@compuserve.com

From the Project Police legal section: As you probably suspected, contents of The Leading Edge are the viewpoints of the authors. No claim is made and no liability is assumed, expressed or implied as to the technical accuracy or safety of the material presented. The viewpoints expressed are not necessarily those of Chapter 1000 or the Experimental Aircraft Association. Project Police reports are printed as they are received, with no attempt made to determine if they contain the minimum daily allowance of truth. So there!

THE LEADING EDGE

MUROC EAA CHAPTER 1000 NEWSLETTER

C/O Russ Erb

6708 Doolittle Dr

Edwards CA 93523-2106

<http://www.eaa1000.av.org>

THIS MONTH'S HIGHLIGHTS:

REGULAR MEETING 21 OCTOBER AT TPS

EDW OPEN HOUSE/FFNAR DETAILS

TYPES OF CORROSION

PIAVIS BOREDOM FIGHTER PIX

