



THE LEADING EDGE

NEWSLETTER OF MUROC EAA CHAPTER 1000

Voted to Top Ten Newsletters, 1997, 1998 McKillop Award Competition

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

November 2000

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:



Inside The World Of Aviation Art

Tuesday, 21 November 2000

1700 hrs (5:00 PM Civilian Time)

Speaker: Mike Machat

USAF Test Pilot School Auditorium

Building 1864

Edwards AFB, CA

Hey, everyone...Could I have your attention here for a minute? And you guys in the back, NO hitting each other, and pay attention to this. I'm only going to say it once. OK. Let me tell you what we've got planned for the next meeting. I can't believe it myself, but, we are going to have **Mike Machat**...Yup, yup, you heard right, Mike Machat the Aviation Artist. Right, the same guy that's painted all of those paintings that are framed and hanging in the TPS and a whole lot of other famous places. And for those of you that don't know about Mike, here's a little bit about his background so you don't feel stupid when you meet him.

Mike Machat is one of America's most well known aviation artists. Fascinated with airplanes since early childhood, Mike spent countless weekends sketching planes at New York area airports, and as a teenager, traded his artwork for flights in all types of aircraft, eventually earning both his private and commercial pilots' licenses.

After completing the Foundation Art Program at New York's Pratt Institute, Mike served in the U. S. Air Force as a technical illustrator and then relocated to Southern California. Earning a Bachelor of Fine Arts from California State University at Long Beach, he joined Douglas Aircraft Company serving as a Staff Illustrator for seven years before leaving the firm in 1984 to establish his own aviation art studio.

Mike was elected first president of the American Society of Aviation Artists, and is past president of the Society of Illustrators of Los Angeles. He has been an active participant in the U.S. Air Force Documentary Art Program, with 24 works in the collection. Mike's artwork has also won awards in the Illustration West Exhibits, Experimental Aircraft Association and ASAA art competitions, and graces displays in the Pentagon, National Air & Space Museum, and many airline corporate headquarters worldwide.

As an aviator, Mike enjoys aerobatics and soaring, having accumulated more than 2,000 flights in sailplanes. He has flown in nearly 200 different types of aircraft from the B-1 to the Concorde, and in such tactical fighters as the A-4, F-104, F-14, F-15, and F-16. Continually blending his love of aviation with his artistic talents, Mike is a firm believer in "living the experience" of flight.

Mike's list of clients includes McDonnell Douglas, Lockheed, Airbus Industry, Pan Am, Finnair, Continental, Flying Tigers, Lufthansa, and Delta Air Lines, plus NASA, U.S. Air Force, Navy, and Coast Guard. He has written numerous articles for major aviation publications, and has illustrated stories for such magazines as Reader's Digest and Popular Mechanics.

Known for his thorough research and choice of unusual subject matter, Mike has built a strong collector following and has emerged as an important contributor to America's aviation art. He lives with his wife, Sheri, and their two daughters in Los Angeles, CA.

Just having Mike here for a presentation is really great, but listen to what he's planning. His presentation is an "inside look" at the world of aviation art. He covers how projects are conceived, designed, and produced, and there's LOTS of flying involved, which is also covered. The program consists of three phases: 1.) A "Name-The-

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Plane" contest (from the inside!) to 'warm up' the group, then 2.) a 30-minute or so slide presentation, and his favorite part, 3.) Q&A.

To top it all off Mike is going to donate a signed Mike Machat Thunderbirds poster as the "Name-The-Plane" contest prize. And don't feel uneasy about this contest because he is going to feature many of the great Edwards projects that he's had the privilege to do over the years, including the new Museum mural.

As always after the meeting we will take Mike over to the BK Lounge for some sumptuous dining and paper napkin project solving. So, lets get together and welcome Mike to the famous (infamous?) Edwards/Muroc EAA Chapter 1000.

- **George Gennuso**
Vice Kommandant

Edwards Open House 2000



On 21 October 2000, Edwards AFB opened its gates to all citizens with congressmen to come out and see what their Air Force was doing for them this year. As

always, EAA Chapter 1000 was there to take over Hangar 1600 to show them the widespread and varied opportunities available in the world of sport aviation. Well, sort of...

A chain of events led to a classic example of poor planning gone awry. Early on there was a high level decision to take over the entire Hangar 1414 all day long for a couple of one hour moderated discussions between Chuck Yeager (didn't he retire from this sort of thing?), Joe Engel, and David Hartman. This displaced all of the vendors and OWC bazaar down to Hangar 1600. EAA Chapter 1000 was informed that our area for displaying aircraft would be scaled back to about 30 feet by 50 feet, enough for maybe two airplanes. Then the OWC bazaar fell through because no one volunteered to head up the organization of the event.

The end result was a huge empty spot in the middle of the hangar that would have easily fit another 15 to 20 airplanes. Since we didn't know this until the night before, we could not react. Therefore our display consisted of **Paul and Victoria Rosales' Oshkosh award winning RV-6A, Mike and David Sizoo's Velocity, Ray Gibbs' Benson Gyrocopter,** and, of course, **Erbman's Pedal Pitts.**

We also brought the Booth out of storage and had it set up to greet the masses. The primary activity was talking to people about the Young Eagles Program, signing up Young Eagles for later flights, and helping to

dispose of **Frank Roncelli's** collection of old aviation magazines.

Present to accomplish the mission were (*this list from my memory—errors may exist*) **George Gennuso** (Vice Kommandant and on-scene Kommander), **Doug and Gail Dodson, Russ Erb, Miles Bowen, Paul and Victoria Rosales, Bill Irvine, Donna Drucker, and George Heddy III.**

Paul and Victoria were thrilled to be there with **N628PV**, which has been at the Edwards Open House in various bits and pieces for the last several years. Paul gave us the impression that this was a bigger emotional event for him "to have finally made it" than taking it to Oshkosh for the first time. We're happy to please.

We're hoping that Paul and Victoria will bring their RV-6A back next year, but hopefully it will have to share the spotlight with **George Gennuso's Pulsar** and **Jim Piavis' Boredom Fighter.** Jim was unable to make it down this year, and as for George, let's just say it has to do with our favorite bureaucracy that has a name very similar to EAA....

- **Erbman**
Psuedo-Secretary

Kommandant's Korner

Indecision 2000! Isn't it marvelous to be witnessing such an historic event. Regardless of who wins (still "too close to call" at this writing) the voter turnout and national fascination with the election shows that the system still works...kudos, Founding Fathers!

Why am I waxing political in the 'Edge? Well, it's time once again for our own political process to be exercised. Next month's newsletter will contain a ballot for you to express your vote for this year's vacant chapter leadership positions. I urge you to respond with your affirmation of the nominated candidates, or with a write-in vote for your favorite individual. Of course the system will only work if there are folks out there in the membership that are willing to be nominated and to serve the chapter's needs. In that regard, you may be fielding a call from a Board member asking you to assume an elected position. Please, please, please accept the offer. I know these positions don't hold the lure of national office...what with all the power and interns and such; but, like those positions, ours provide an opportunity to serve a cause you must believe in and support or you wouldn't be reading this fine publication.

Finally, as we press on into the "not so perfect" flying weather season let's continue to come out for the Young Eagles rallies and chapter activities. After all, if it's too nasty to fly, the next best thing is swapping flying stories with a group of your fellow **Project Policemen.**

Fly safe and check six!

- **Gary Aldrich**
Kommanding

N628PV Rollout Party!

(Okay, so we're a little behind in our reporting after all of the Oshkosh coverage...this event happened shortly after Oshkosh...join us in the Way-Back machine as we look at what happened...)

On 19 August 2000, **Paul** and **Victoria Rosales** celebrated the completion of their RV-6A N628PV by holding a rollout party at **Area 29**, the secret flight test facility appearing on maps as **Doug** and **Gail Dodson's** place at Rosamond Skypark.

When your crack **Leading Edge** staff arrived, Herr Rosales was going around the pattern at Rosamond Skypark, apparently having trouble with N628PV's gravity switch again. This was a persistent problem throughout the flight test program, and we're not sure he's ever gotten it fixed. It seems that when the main gear touch the runway, the gravity switch is not engaging, resulting in the throttle advancing to the firewall and the airplane jumping back into the air. It seems the only way to get the airplane to land is to introduce sufficient air into the fuel tanks. Some have suggested that Paul was just having too much fun flying, but that is way too simple of an explanation for this group.



While Paul was fighting the gravity switch thing, **Ed Dutreaux** arrived in the pattern from "up north." After some quick FAA requisite briefing over the CTAF, N628PV and N444ED formed up for a formation flyby at a safe altitude. Here we see Paul doing a fighter break for another try at the gravity switch.



Well, he finally figured out the gravity thing and managed to get the airplane on the ground and taxi victoriously (*make up your own joke here*) into Area 29.



It must be true what they say about the RV grin...



The happy trio—Paul, Victoria, and N628PV.



Beware of RV pilots bearing water glasses. It never occurred to Paul that it would be odd that 5 pilots would all be carrying cups of water when plenty of sodas and beer were available. It was quite hot and they were all fighting off dehydration...yea, that's it...

It started out when Ed Dutreaux suggested that I take a picture of all of the RV pilots present. On the call of "Ready, Ready, HACK" the pilots present (including Ed and **Gary Sobek**) proceeded to give Paul the traditional "washdown," seen in progress here.



Here we see Paul with the shock still on his face a few seconds later, basically about as fast as I could wind the camera and shoot another picture. Paul was heard later to admit that it felt pretty good in the temperatures hovering around the 100's.

Showing that RV builders are a chivalrous lot, Victoria was **not** invited to participate in the previous picture.



Paul still liked the idea of a picture of RV pilots, so he insisted that we take this picture for real.

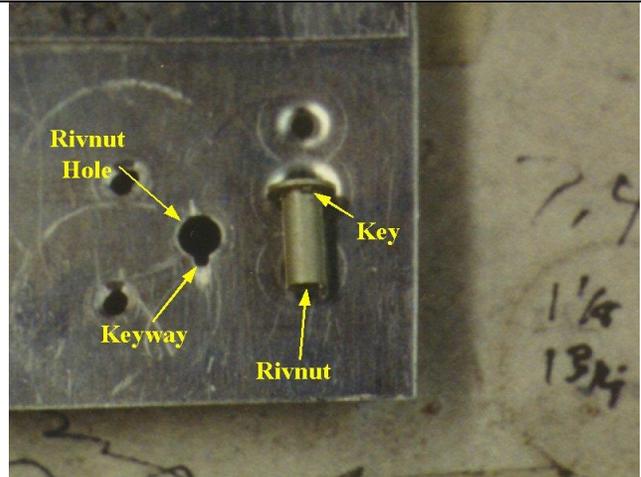
Paul had his Outstanding Workmanship award on display, which was pictured in these pages last month. Good times were had by all, and much was consumed. Thank to Doug and Gail for hosting this party.

- Russ Erb

Installing Rivnuts

Rivnuts are similar in function to nutplates, in that they provide a permanently mounted nut for bolts and machine screws. The advantage of a Rivnut is that it can be installed from one side of the material, much like a blind rivet.

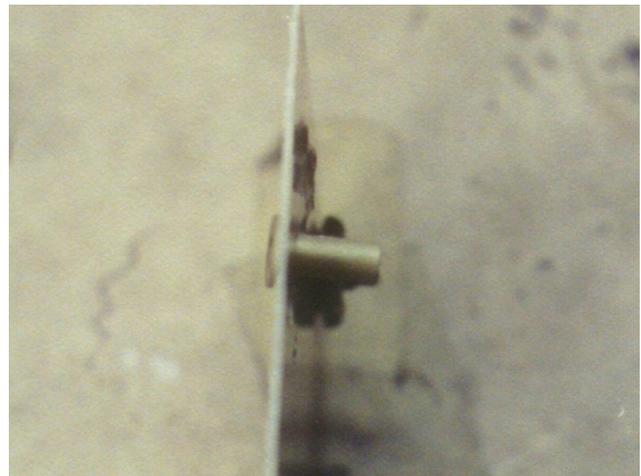
Given a choice, I would prefer to use a nutplate, as a nutplate will naturally resist torque better. Additionally, nutplates can be made with slightly deformed threads to provide friction based "self locking."



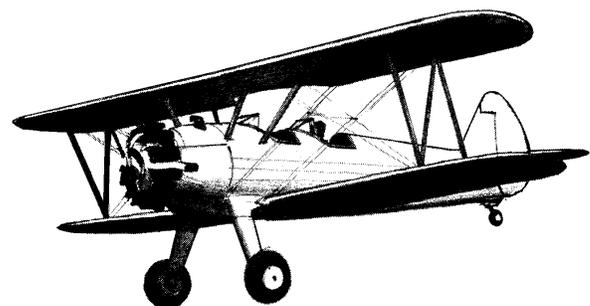
Rivnuts are available keyed and unkeyed. An unkeyed rivnut depends solely on friction to resist the torque of the screw. Eventually it will probably start rotating with the screw making it close to impossible to insert or remove the screw. At this point you'd probably try to drill it out, but it would just spin with the drill. Yuck! I'd avoid unkeyed Rivnuts.

Keyed Rivnuts have a small blivet on the back of the face that requires a slot (or keyway) to fit into. This key gives some mechanical resistance to the torque of the screw. I used the edge of a file (Swiss Pattern Needle File Set from Avery) to file the keyway into the hole.

Typically Rivnuts will be inserted into thin sheets. It is important that a quality hole be drilled, which probably won't happen with a twist drill bit. In thin sheets, twist drill bits tend to make triangular holes. Therefore, use a uni-bit or a reamer to make the holes for Rivnuts.

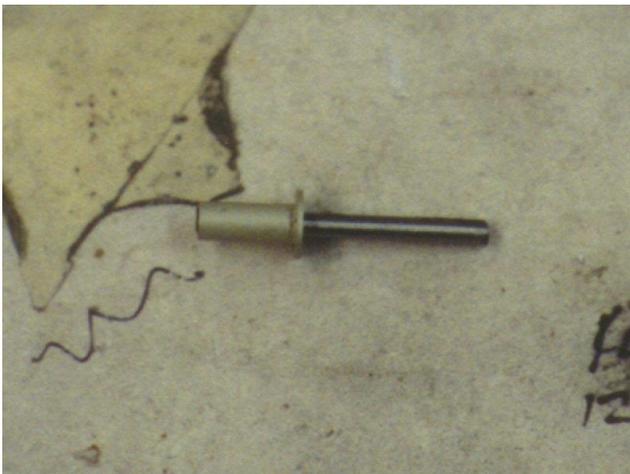


Rivnut inserted in hole prior to upsetting.

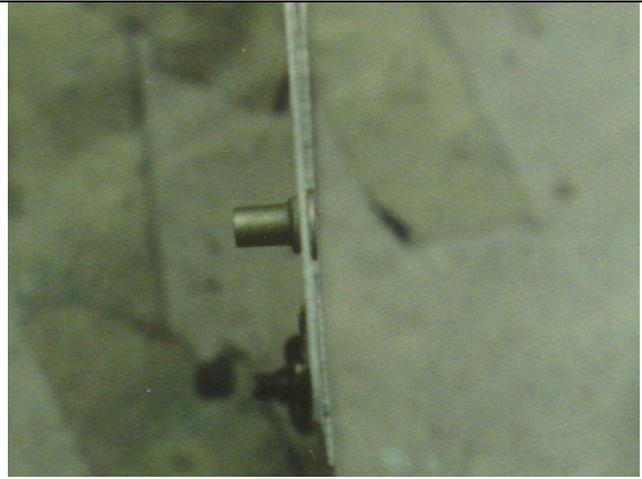
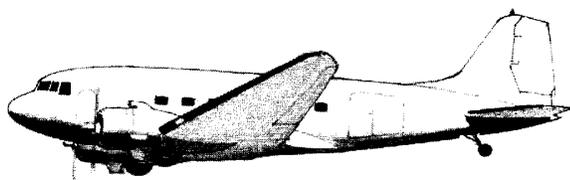




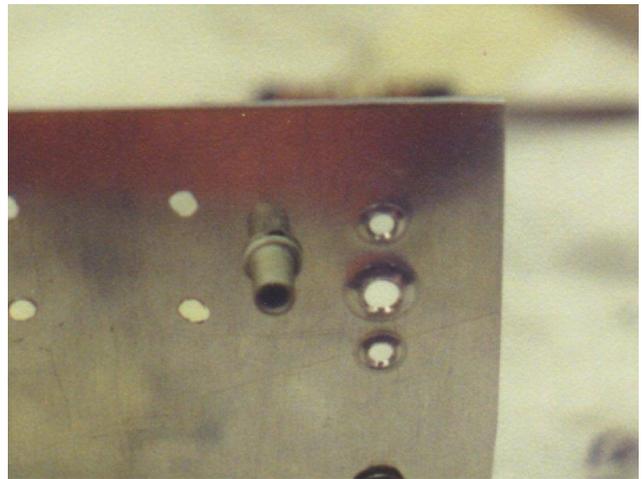
Rivnut and upsetting tool. This tool is intended for use with a conventional blind rivet puller. I paid \$11.50 for this tool and it wasn't worth 1 percent of that. It was too short for effective use. The rivet puller jaws dug into the tool, and after pulling about 5 Rivnuts the tool was so damaged that the rivet puller wouldn't hang on to it. At that point, I went to the local hardware store and bought 3 feet of 6-32 all-thread rod for \$1.19, about 10 percent the cost of the previous tool. I cut off about a 3 inch section and used it to pull the remaining 100 or so Rivnuts. Interestingly enough, the threads somehow interacted with the jaws on the puller and prevented the jaws from chewing through the rod with repeated use. If you are using larger Rivnuts, you'll need to turn down part of the rod to get it into the rivet puller. Of course, this can be as simple as chucking it in a drill press and filing it down as it turns.



To upset the Rivnut, the tool is screwed into the Rivnut. The Rivnut is upset by pulling on the same threads that the screw will eventually thread into.



The Rivnut is inserted in the hole with the key aligned in the keyway, and the tool is pulled with a blind rivet puller. Unlike blind rivets, the tool is not pulled until it breaks! The initial pull on the Rivnut will be fairly hard as it starts to upset, with the force to pull dropping off as it upsets. When the force required increases again, STOP PULLING! If you keep pulling at this point, you will pull the tool out of the threads. Even so, several times I pulled a little too hard and the tool skipped a thread. Oddly enough, the Rivnut seemed to still be okay, accepting the screw with no problems other than a little more torque needed on the first insertion. I think part of the problem may have been that my threaded rod was about .010 inch undersize from the screws that I was using.

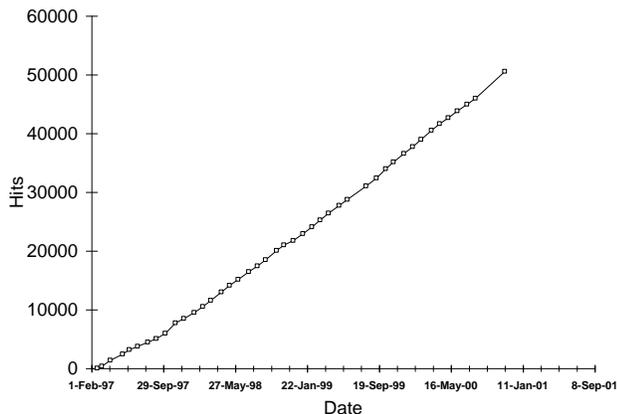


Backside of Rivnut showing upset. The upset region isn't very big, but it is big enough if used in a good quality hole.

- Russ Erb

Web Site Update

As of 12 November 2000, the hit counter stood at **50542**, for a hit rate up to 47 hits/day since August. So of this additional attention may have come from being the featured Chapter web site on the national EAA web site. See the latest graph of activity below.



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

Qnet 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 661-538-2028.

Assorted Ads

*Stuff that has come in recently to the **Leading Edge** and usefully fills up these pages...*

I have quit flying. That's good news for you that still fly. However, I have a few things I'd like to dispose of, and if you would spread the news around your chapter, I would appreciate it.

FOR SALE: Unused plans:

BARRACUDA with wing rib jig. Cost \$225.00 On sale \$150.00 OBO.

CORBY STARLET complete with rib drawings Cost \$200.00 Onsale 150.00 OBO

SONERAI II LS Complete. Cost \$95.00 On sale \$45.00

POBER SUPER ACE. On sale \$35.00

FREE to good home: Aviation library. some historical, some technical. Bring boxes and take them home.

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TELEMETRY ENGINEER. EC III Inc., is looking for an energetic RF Engineer with experience in telemetry – for an exciting career in testing state-of-the-art military aircraft, vehicles, and weapons systems at Yuma Proving Ground, Arizona. Yuma Proving Ground is one of the country's largest and best Major Range and Test Facilities, and EC III, Inc. is its major supplier of engineers and test support personnel. EC III is an equal opportunity employer, providing competitive salary, training, major health, and other benefits. Contact: David Williamson, phone (520)328-3330, fax (520)328-6505, email at david.williamson@yuma-exch1.army.mil, or mail to EC

III, Inc, ATTN: David Williamson, PO Box 6546, Yuma, AZ 85365.

Hangar Space available for Experimental at Fox. The hangar is one of the 3 box hangars located next to runway 24 at Fox. The location is prime for runway access and plane watching. Hangar would be shared with an RV-4 & 172/TD. \$150/month, 661-297-4655

Gordon Kister
661-297-4655
EAA # 536796



The final plane will look like this

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PLANS. FULL SIZE RIBS AND FORMER \$125.00 FUSELAGE. ready for covering, TAIL section, ready for covering TURTLEDECK aluminium, (Pitts type) \$4,500.00

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Kommandant's Oshkosh Photo Gallery



Spirit of St. Louis Replica II. There was a replica true to the original in the museum. This one appears to have been modified to make it more suitable for appearance at fly-ins, with bigger tires, a cockpit step (Lindbergh would never have accepted such drag), a different exhaust system (probably a different engine), and what looks like a removable panel to uncover a (gasp!) windshield. Then there was that tailwheel...



Wastin' Away In Margaritaville in the "Hemisphere Dancer"



How much money could we save if we put the Skywagon, the Boredom Fighter, Paul, Gary, and Ed's RVs in here to fly back to California? But what about the Skywagon wing span?



Of course, we can just fold the Skywagon wings—where was that switch...



A wing and a spare...



That's Rosales ...let's confuse him—send him to Runway 18... heh, heh, heh ...

Chapter 1000 Calendar

Nov 21: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Nov 18: EAA Chapters 1000/49 Young Eagles Rally, 8:00 a.m., General William J. Fox Field, Lancaster CA. (661) 822-0462

Dec 6: EAA Chapter 49 Monthly Meeting, 7:30 p.m., Sunnysdale School. 1233 W. Ave. J-8, Lancaster, CA. (661) 949-7214

Dec 12: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., Edwards AFB. Test Pilot School, MOL Room (661) 609-0942

Dec 16: EAA Chapters 1000/49 Young Eagles Rally, Tehachapi CA. (661) 822-0462

Dec 19: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Jan 3: EAA Chapter 49 Monthly Meeting, 7:30 p.m., Sunnysdale School. 1233 W. Ave. J-8, Lancaster, CA. (661) 949-7214

Jan 9: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., Edwards AFB. Test Pilot School, MOL Room (661) 609-0942

Jan 16: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Feb 7: No EAA Chapter 49 Meeting

Feb 13: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., Edwards AFB. Test Pilot School, MOL Room (661) 609-0942

Feb 20: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

For Sale:

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

To join Chapter 1000, send your name, address, EAA number, and \$20 dues to: EAA Chapter 1000, Doug Dodson, 4431 Knox Ave, Rosamond CA 93560-6428. Membership in National EAA (\$40, 1-800-843-3612) is required.

Contact our officers by e-mail:

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Inputs for the newsletter or any comments can be sent to Russ Erb, 661-258-6335, 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!

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MUROC EAA CHAPTER 1000 NEWSLETTER

C/O Russ Erb

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

ADDRESS CORRECTION REQUESTED

THIS MONTH'S HIGHLIGHTS:

REGULAR MEETING 21 NOVEMBER AT TPS

MIKE MACHAT, AVIATION ARTIST TO SPEAK

N628PV ROLLOUT PICTURES

INSTALLING RIVNUTS

