



# 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>

February 2006

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:



### Movie Night at the Old<sup>1</sup> TPS Auditorium

Tuesday, 21 February 2006  
1700 hrs (5:00 PM Civilian Time)  
USAF Test Pilot School Auditorium  
Edwards AFB, CA

We, the *Project Police*, were able to get our hands on a pristine copy of the movie "The Blue Max" so that is going to be our meeting for February. Those of you that have seen it know what it's all about, but for those of you that have not seen it, I'll tell you a little bit about it.

<sup>1</sup> Same as the current TPS Auditorium

Based on a novel by Jack D. Hunter, **The Blue Max** is a World War I aviation drama, told from the German point of view. Low-born infantryman George Peppard becomes a pilot, almost deliberately stepping on the sensibilities of his aristocratic comrades in the process. A national hero, Peppard wins the Blue Max, the highest award that can be bestowed upon an aviator. His fame is exploited by a General played by James Mason, who tolerates Peppard's affair with the General's wife Ursula Andress. The canny General knows that, eventually, Peppard will be expendable, and a "heroic" death can be arranged.


This movie was made in 1966 and is 2.6 hours long. It received many high reviews when it was introduced in the 1960's, so let's see how it holds up to the members of EAA Chapter 1000. As an additional benefit, there will be some trivia about the movie. Several factual errors (see if you can spot them) and some memorable quotes from the film.

There will be chips and dips, and beverages before the meeting. And as you know, we don't have a meeting until all of the Chocolate chip cookies are gone, so chow down and let's get cracking, it's a long movie. (*Don't delay showing up—we may just start early without you...*)

- George "Knife" Gennuso  
Vice Kommandant

## Pay Your Dues! Now! This Means You!

(If you have already paid your dues, please disregard this notice)

Send your cash, check, money order, or other legally negotiable instrument to any chapter officer, or pay online by  through the [EAA Chapter 1000 web site](http://www.eaa1000.av.org).

Do it now and avoid the embarrassment of appearing on the **Dues Delinquent** list next month!

## Last Month's Meeting

### EAA Chapter 1000

Scobee Auditorium

USAF Test Pilot School, Edwards AFB CA

17 January 2006

Gary Aldrich, Presiding

The January meeting was held at the Edwards AFB Test Pilot School auditorium following the customary consumption of drinks, chips and salsa and C<sup>3</sup>'s.

As I was not in attendance, I am uniquely qualified to objectively report the events as they **may** have happened.

The Kommandant introduced the classified **C-KRIT** video "**Black Budget Aircraft**" which was sent to us unsolicited back in 2000 by the author (**Mike Schratt**) who indicated that he is a "Private Pilot". He offered to come speak at a chapter meeting, but we think he was just trying to worm his way onto the base to do some more "investigating". Mr. Schratt posed the following interesting questions in the video:

1. Is NASA a public relations smoke screen to hide the real space program?

2. Does the U.S. Government use the "extraterrestrial phenomenon" to cover it's (sic) own black programs?

3. What advanced aerospace prototypes are now being test flown at Area 51?

4. When will U.S. taxpayers (and the world) be given specific details regarding these programs?

Unfortunately, none of these questions were ever answered.

The video presented lots of pictures from such authoritative sources as *Popular Science*, *Popular Mechanics*, the *New York Times*, and library books. **Mr. Schratt** asserted that the B-2 electrically charges the air coming over the leading edge and also leaving the trailing edge, which is, of course, proof that the airplane uses an anti-gravity device. He also showed his model of a UFO type craft that is capable of 30,000 MPH and can make zero radius 90 degree turns with the astronauts feeling no g forces at all. He points out that this craft was on display at the 1998 Norton AFB Open House, but apparently went unnoticed by the aviation press.

As Rod Machado says, "**Truth is stranger than fiction, because fiction has to make sense.**"

Eager to participate in the "top this" theme for the evening, **Russ "Erbman" Erb** stood up and went through several pictures discussing boring things like electromagnetically held bucking bars, aluminum vs steel firewall penetration seals, brakes for rotisseries, **Vice Kommandant Knife's** handiwork glazing over his elevator counterweights, priming, and how to hold several thousand screws for painting. **PPO Vince "Opus" Sei** offered many supporting comments that followed the theme of "Do it the way Russ did. I tried to cut corners and the results weren't as good."

**Russ** also mentioned that he recently traveled to the **EAA Chapter 1000 Det at Polyland** (code name "Poly-

Fiber" at Flabob) to pick up covering supplies for the mighty **Bearhawk**.

Next up was PPO Francis X. Gentile, who briefed the assembly on his "Project Festoon" to improve aviation safety through instructions and training.

At that point, our brains were full. Still, the **Kommandant** was able to blurt out that "**Victory is ours!**", so we adjourned to the BK Lounge to fill other cavities.

- **Kent "Cobra" Troxel**

Secretary

## Erbman's Boring Meeting Pictures

So let's say you're working for Kelly Johnson at Lockheed back in the '30s, and he presents you with the problem of bucking rivets in a very confined space. Specifically, you're trying to rivet the panel below from a P-38, photographed at Ezell Aviation in Breckinridge TX.



The edge of this panel is shown below. The sheets on either side are about 1 to 1-1/2 inches apart with an aluminum web between them. This web needs to be riveted to both sheets, and the channels are 2 to 3 feet long.

So, Mr. Zenith builder, you think you're so smart and suggest that you use Cherry Max blind rivets. There's only one minor problem—they haven't been invented yet.



Well, the boys at Ezell Aviation did some digging and found some clues in some obscure publications. The answer came in two parts. The bucking bar was mounted on a long rod, with another rod of the same length attached



to it. The bucking bar was inserted down the channel, with the extra rod on the outside showing where the bucking bar was located. Sort of like an overgrown rivet hole finder.

But how do you hold the bucking bar against the rivet? That's the second part of the answer. You need a rivet gun with a large electromagnet around it. The electromagnet attracts the bucking bar and holds it against the rivet. Of course, you can search the Avery Tools catalog, and even the U.S. Tools catalog, and you won't find an electromagnet equipped rivet gun. The boys at Ezell Aviation had to build their own, shown below.



Does anyone know where to get a large electromagnet with a hole in the middle? By the time you read this, **Bill Irvine** will already have the McMaster-Carr catalog out and will be calling looking for sources.

Our next photo shows a common trap that **Erbman** and other **PPOs** have fallen into. These spherical "Eyeball Firewall Assemblies" are popular for making firewall penetrations for control cables. They look nice and allow the cable to come through at a wide range of angles. The problem is in the ball material.



One series of assemblies (Aircraft Spruce P/N 05-00956 through 05-00959), the ones shown here, have aluminum balls. That's right—aluminum. World renown for its low melting point and generally poor suitability as a firewall material. Perhaps the manufacturer thought the thickness of the solid one inch ball would provide enough protection by taking a while to melt through.

But there is a better way. Just below these assemblies in Aircraft Spruce catalog are similar assemblies with "balls of steel" (Aircraft Spruce P/N 05-00764 through 05-00768). These are described as "Same as SE961B Series above but ball halves are manufactured from plain steel, plated and hollowed out reducing weight by 30%." The price difference? \$29.50 for the steel balls versus \$26.30 for the aluminum balls. Besides getting better fire protection for your additional \$3.20, you surprisingly get a part that is actually slightly lighter! This result confirmed by actual measurements in the **Project Police** labs. Another fortunate result for the **Erbman** was the balls are interchangeable in the same mounts, so he doesn't have to remake the firewall.



You've seen pictures of **Erbman's** fuselage rotisserie. Here's the secret to keeping it from turning when you don't want it to. The axle is a 1-1/2 inch diameter 4130 tube, selected because it was available. The brake is made from a 1-5/8x.058 tube, selected because it just fit over the 1-1/2 inch tube and was also available on site. The vertical tube shown here was a 3/4 inch tube welded to the 1-5/8 inch tube and held in place with a 1/2" EMT conduit clamp from the aviation supply section at Home Depot.



Two pieces of heavy steel sheet, in this case 0.090 4130 that was in stock, were welded to the 1-5/8 inch tube about 1/4 inch apart. After cooling, the bandsaw was used to cut out the tubing between the plates. Once in place, a Vise-Grip clamp squeezes the brake to produce the friction. Adjusting the clamping force can allow the

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rotisserie to be rotated without releasing the brake if desired and stay in position, or not allow rotation without releasing the brake.

Moving right along, **Erbman's** elevator counterweights are made of lead shot embedded in epoxy resin. This left a rough surface that the fabric covering could beat against and possibly cause damage. **Knife** informed **Erbman** that this section would be covered with micro to smooth the surface under the fabric. Originally the plan was to do this with epoxy micro as was done on the wingtips, which would have taken overnight to cure. Ever on the lookout for new ways to do things, **Knife** had discovered "Platinum Plus Finishing Glaze" in the aviation aisle at the local auto parts store. Although it mixes up much like Bondo, this putty does not have the density of lead like Bondo. It is still polyester based, so there is the possibility of shrinkage. However, it is in a thin enough layer that hopefully that won't be a problem.



Within about 10 minutes of mixing, the glaze is semi-cured and ready to be shaped. Here **Knife** does his magic with a rounded Surform® blade.



Progress has continued on the **RB-4 Bearhawk**. During some time off from serving "The Man" around Christmas, **Erbman** was able to get the fuselage frame sand blasted and primed with Poly-Fiber Epoxy Primer.



Besides the fuselage frame, all of the remaining extant pieces were primed (except the inevitable one that got missed). After many less than successful attempts to build a suitable rotisserie over the years, **Erbman** finally came back to wood as a material. Though rather heavy, 2x4s did have the advantage of high stiffness, so that the rotisserie frame did not bend under the weight of the parts. This used the same brake as used for the fuselage frame. Details of the rotisserie construction will be saved for a future edition of the 'Edge.



**Opus** pointed out the necessity of fully supporting the parts to be sprayed so that they don't move under the wind blast from the spray gun. He stated that he didn't take the time to do that and probably spent more time fighting with the parts moving trying to get them coated than he would have spent tying them up correctly.

So how do you hold a few thousand screws to paint the screw heads so that they blend in with your paint job? **Erbman** found this plastic mesh from McMaster-Carr (part number 9314T29, 36" wide, \$0.92 per foot). With 0.15"x0.15" openings, it is perfect for pushing #6 machine screws into. With a little more effort, #8 screws can be pushed in too. The plastic mesh was strung up on the rotisserie, although painting it on a table would work too. The plastic also held up to sandblasting the screw heads, but there's suspicion as to how many more times it would. However, it is cheap enough for one time use.





**Kommandant's Korner**

Hey, it's a tough job, but somebody's gotta do it! Yup, about a week ago I had to load on the ol' aluminum people tube at Bob Hope Airport (BUR) to do the boss's bidding. He **DIRECTED** me to attend the 2006



Annual Convention of the Soaring Society of America, held in Arlington, TX (a suburb of Dallas...or Ft Worth). *(Hey!--residents of Arlington (Erbman's home town) would point out that it is a suburb of neither, but a city of its own in between those two...we'll dispense with the two page persuasive paper to prove that)* I briefly considered flying the Fightin' Skywagon out there, but the pressures of the TPS curriculum along with the ridiculously low \$236 round trip fare on American convinced me to leave the VC-180 in the hangar in favor of standing in line with my shoes off with a few hundred of my closest friends. There really was an official reason for me to attend the convention...honest. After all, I am the **Chief Glider Guider** for the **USAF Test Pilot School** (and probably the highest paid glider pilot around...).

Anyway, I thought I'd give you a little update on the "silent" sport. If you haven't been keeping up with that segment of sport aviation, you might not be aware of the state-of-the-art. The newest offering by Alexander Schleicher is the ASG-29. This 20 meter (wingspan) ship boasts a 52:1 glide ratio. Yes, you read that correctly... A tow to a mere 6000 ft AGL over WJF could, in still air, land you in Apple Valley! Try that in your RV-x. If you can't bring yourself to fly with no motor, there's an outfit called "ALISPORT" that grafted a couple of jet turbines designed for super-scale model aircraft to a slick single-seat glider. The result is a self-launching sailplane that burns kerosene for the climb and then stows the torches to

soar with the best of them. Very cool (*hot?*)...and also very noisy.

Although the eye-candy-laden display halls were hard to leave, there were also some very interesting presentations by some big names in the sport. These presentations ran the gamut from whimsical to highly (read PhD-level) technical works. **Jeff Byard**, who has hosted the Chapter a couple of times at his Mountain Valley hangar, gave a terrific talk on restoring antique gliders. If I had a wood and fabric bird, I'd sure keep his phone number handy. Other talks included NASA updates on an autonomous soaring experiment (for extending the range/endurance of UAVs) and presentations on new or improved soaring gear. Ultimately, I achieved my twin goals of becoming familiar with the current hot sailplanes and renewing my contacts in the national soaring community. Thanks to all you taxpayers out there who made this trip possible!

**ALUMINUM OVERCAST** is back...and scheduled to land at Fox Field on 10 April. The boys from <http://www.b17.org> are bringing the newly repaired Fortress back out to the left coast for a tour this Spring. We (**you**) will be hosting the airplane again...as we did last year with "**Fuddy Duddy**". Last year's visit nearly doubled our treasury from our share of tour and ride revenues. And...all it took was a few volunteers to stand around the airport and help people on and off the airplane. Let me repeat. We **HAD** to stand around the airport and talk about flying...another tough job. By the way, several of those volunteers also earned a ride in the legendary bomber for their labors. I will be contacting members soon to help out with this worthy endeavor. I'd like to see some fresh faces out there. Please see if you can help us out this time and give your Chapter officers a break.

Fly safe and check 6!

- **Gary Aldrich**  
Kommanding



ASG-29



**ASG-29**



**More Super Ships...**



**20 meters...that's...umm...66 feet! Where do you hangar that sort of thing?!**



**World's slowest jet? It definitely pushes (pun?) the idea of "Silent Wings"**



**So just how do they keep from burning off the tail cone when retracting the powerplant? Inquiring minds want to know!**



**More eye candy...**



**Project Police Take Over Microsoft?**

Well, not quite. However, **PPO Jim Piavis**, who with **Bob Waldmiller** and **Vern Blomquist** started EAA Chapter 1000, now works for Mr. Bill at Microsoft. He sent this message recently...

Hey Erbman,

Hope everything is going well down there!

A funny thing happened on the way to the forum this week. Once again, the small world syndrome strikes again. We held an initiation meeting for a new EAA Chapter up here on Tuesday night. There's no chapter here in Bellevue/Redmond/Sammamish/Mercer Island with a local EAA population of 540 within 10 miles of Redmond! As these things seem to evolve, there were at least 10 guys at Microsoft building (sound familiar?) which we knew about via an internal mail list, so another RV builder and I got in touch with EAA and, what do you know, we only need 10 to start a chapter. **Been there – done that, paid the dues, and got a picture in Air & Space.**

Well, we had a meeting and **Tom Skaggs**, who said he knew all you guys, showed up! **Instant Flight Advisor.** Very cool indeed! We had over 75 respondents to a mass EAA e-mailing targeting those within 10 miles of Redmond and actually had 40 come to the initial meeting. Best part was 12 decided to volunteer to help get this thing off the ground.

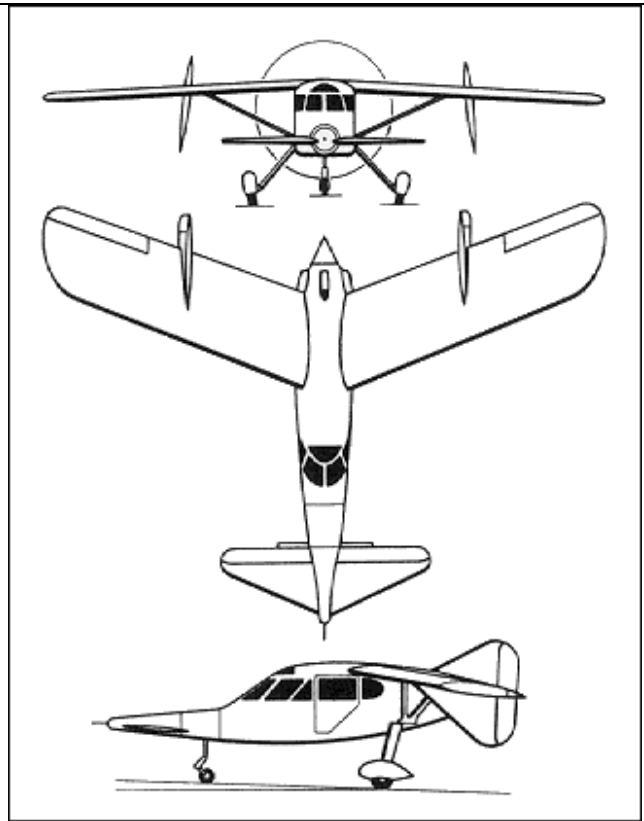
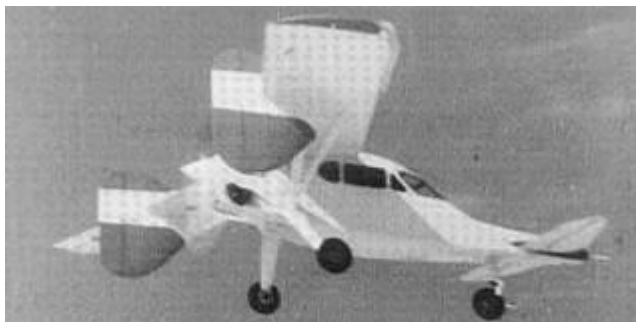
Here we go again...**Project Police**...hummm, name taken. Maybe something along the lines of the **“Dark Helmeted Lords of the Empire”**. Might have something there...

Jim

*Hmmm...maybe they can set up to have their meetings on the Microsoft campus, where half of the membership would have to get special permission to enter. After all, that method has worked really well for us here...hasn't it?*

**Project Police Aircraft Spotters Quiz**

**Evil Editor Zurg** was pleased that somebody was courageous enough to step forward with a correct identification of last month's aircraft. To review:



**PPO Lathan Collins**, Sonerai builder, sent in this correct answer: “The aircraft is a **MiG-8** built in 1945 to study the behaviour of a swept wing in low speed flight. Made out of wood and fabric, it flew well and handled well. It was considered as a liaison aircraft but there were already aircraft filling that role.

Ref: <http://www.ctrl-c.liu.se/misc/ram/mig-8.html>”

**PPO Lee Erb** came in a few days later also correctly identifying the aircraft as the MiG-8 Utka. “I finally found it. I new I had seen this years ago but could not remember pre WWII or after or German or Russian. I assume Utka means duck. In the early 1930's Focke had a canard Ente or duck. That time period it seemed like all canards were named "duck."

I used the Ente for a undergraduate paper on how you could change the signs in the longitudinal static stability equation to account for the canard. I was naive to say the least and it was worthless except to help me get through the Airplane Design course. Oh the things we did when we did not know what we were doing.”

**Evil Editor Zurg** would have given you another obscure airplane to identify, but we seem to have run out of room, so find your own picture and identify it.

**Web Site Update**

As of 11 February 2006, the hit counter stood at **104975**, for a hit rate of about 26 hits/day for the last month.



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.

**Chapter 1000 Calendar**

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

**Mar 7: EAA Chapter 49 Monthly Meeting**, 7:30 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

**Mar 14: EAA Chapter 1000 Board of Directors Meeting**, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

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

**Apr 4: EAA Chapter 49 Monthly Meeting**, 7:30 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

**Apr 10-12: B-17 Aluminum Overcast** at General William J. Fox Field, Lancaster, CA. (661) 609-0942

**Apr 11: EAA Chapter 1000 Board of Directors Meeting**, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

**Apr 18: EAA Chapter 1000 Monthly Meeting**, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

**May 2: EAA Chapter 49 Monthly Meeting**, 7:30 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

**May 9: EAA Chapter 1000 Board of Directors Meeting**, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

**May 13: Fifteenth Annual Scotty Horowitz Going Away Fly-In**, Rosamond Skypark (L00), Rosamond CA. (661) 256-3806

**May 16: NO EAA Chapter 1000 Monthly Meeting**, go to Fly-In instead

**Jun 6: EAA Chapter 49 Monthly Meeting**, 7:30 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

**Jun 13: EAA Chapter 1000 Board of Directors Meeting**, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

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

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.

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Inputs for the newsletter or any comments can be sent to Russ Erb, 661-256-3806, by e-mail to erbman@pobox.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**

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

**ADDRESS CORRECTION REQUESTED**

**THIS MONTH'S HIGHLIGHTS:**

**"THE BLUE MAX" 21 FEB AT TPS**

**ERBMAN'S BORING MEETING PICTURES**

**KOMMANDANT FORCED TO HAVE FUN**

**PROJECT POLICE FOUNDER AT IT AGAIN**



**The Leader In Recreational Aviation**