



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>

August 2004

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:



PROJECT POLICE BIENNIAL OSHKOSH REVIEW

Kommandant and Erbman
Tuesday, 17 August 2004
1700 hrs (5:00 PM Civilian Time)
USAF Test Pilot School Auditorium
Edwards AFB, CA

It has come to the attention of the *Project Police* Board of Visitors Directors that many *Project Police* Officers (PPO) are unaware of their biennial requirement to receive a first hand review of the goings on at the big AirVenture show (aka Oshkosh). (It's right there in the *Project Police* Bylaws—look it up yourself...that is, if you can find a copy of the unpublished bylaws) To assist you in fulfillment of this requirement, your Kommandant and his faithful Kopilot NLE endured 27 hours of aviating and 4.5 days of walking, standing, and dealing with teeming crowds just to bring you this required report. With no thought of the safety of their checkbooks, they willingly threw themselves to the vendors, unable to leave until their bank accounts were thoroughly scathed. Come hear about the Kommandant's narrow escape from the MacCauley "Wheels of Death". Investigate how they both got "hosed" into draining all of their oil. Find out why Erbman's oil filter has been banished from the accessory case.

Of course, you wouldn't expect our krew to take all of this without fighting back. Come hear about the upgrade

of the *Project Police Kommand Bunker* and kamping with the Garbagemen. See how the Kommandant was whisked around in a luxury stretch limousine Oshkosh style to the gawking eyes of Oshkosh attendees. See how their mere presence convinced other kampers to invite them to dinner. Find out how they were invited up to check out the best P-51 Mustang while the mere mortals gawked in disbelief. See how Bearhawker #164 held court at a gathering of Bearhawkers. They even uncovered an unauthorized copying of the *Project Police* logo!

Details on the exact contents of the presentation were not releasable at press time, mostly because, in true *Project Police* fashion, the presentation hasn't started to go together yet. However, a verified rumor states that our team found evidence of what PPO Nathan Davis looked like in 1971!

You won't want to miss this—you may even find the answer to the ageless question "What goes where on the Lycoming accessory case?"

The usual round of schmoozing with C³s is planned for 1700 in the TPS lounge, plus the solving of aviation's toughest problems afterwards at the BK Lounge.

- Erbman

Subbing for the Schmoozemeister



2004 Aerospace Walk Of Honor 11 Sep 04

The *Project Police* of EAA Chapter 1000 will be out in force at the 2004 Aerospace Walk of Honor Aviation Faire on 11 September 2004. The event opens to the public at 1000 and is usually wrapped up around 1400-ish. That's right—due to increased efficiencies the *Project Police* accomplish in 4 hours what used to take two days at the Edwards Open House (which may or may not actually happen this year).

Planning details are still CLASSIFIED, unknown even to the Kommandant, but you can expect the usual—Bearhawk on display (maybe even with an engine hanging), possible other aircraft, and of course the lightweight, Skywagon-ready Chapter Booth Mk II Mod 0.

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Details to follow through the usual sources, but plan to be there no later than (NLT) 0800 to help set up. We'll need your help, since **Opie/Houdu** is expected to be gone to his USAF Academy 20th Reunion and the **Kommandant** will have part of his brain filled with thinking about planning for late night packing for his cruise with **Mrs. Kommandant** the next day. Even **Erbman** will be sweating out flying 36 swabbies the next day and hoping the cell phone doesn't ring with news of a car stuck in Palmdale. At least he won't have to rush to get ready to sing a concert that night.



Operation Rubidoux Sundown XII – 18 September 2004

Yep, it's that time of the year again—time to “inspect” the progress of

EAA Chapter 1 in its effort to drive aviation infidels from the Flabobian region.

Last year the Flabobians escaped inspection by cleverly scheduling their event on the same day as the **Project Police's** participation in the **Aerospace Walk of Honor**. They must be feeling cocky now, because this year it is a week after that event.

Planning details are still sketchy, as it appears that the usual **Aerial Assault Vehicles** will be available. It may be necessary to go “Old School” and use **Ground Assault Vehicles**, such as the infamous **Project Police Paddywagon**.

Expect details to follow, as it is now too late for the details to precede.

Last Month's Meeting

EAA Chapter 1000

Scobee Auditorium

USAF Test Pilot School, Edwards AFB CA

20 Jul 2004

Gary Aldrich, Presiding

This is the section of the EAA Chapter 1000 news-rag where Secretary **Kent “Cobra” Troxel** usually enralls us with a recounting of what happened at the last chapter meeting gathering—even when he was not there himself. But, alas, his usual spy and informant was not able to make it to the last...uh...whatever we're calling it now. Therefore, **Evil Editor Zurg** has thrust it upon me to try to recall “the events as they may have happened.”

Having been embarrassed at the last one of these events that **Lathan Collins** had shown up with a Powerpoint® presentation and they had none, the **TPS** assigned **PPOs** went to work. In keeping with **PPO** standard planning guidance, none of these presentations were started prior to lunch the day of the event.

Russ “Erbman” Erb started the evenings presentations off on the coattails of just returning from a high successful and well received run of 1 night at EAA

Chapter 34 in Arlington TX. Mercifully, for us he chopped the 1.2 hour “Whatsa Bearhawk” presentation down to about four slides. He talked about engaging in homebuilding (shedbuilding?) in its truest form, having spent since December building a shed in the back yard to move all of the storage area out of the garage to make room for the almost final push of Bearhawk building. It seems that with all of that **krap** (also the airport identifier for Rapid City Regional airport in South Dakota – KRAP) he didn't have room to make the engine installation on the Bearhawk. The garage had just finished being rearranged in time for the July EAA Chapter 49 Project Tour.

Erbman also showed pictures of how he had mocked up his instrument panel in foam core board and mailing tubes. From the looks of how well everything fit between the structural members, it was obvious that much careful planning had gone into the design. Of course, the truth was that there was much more dumb luck involved than careful planning.

Teaser photos of foam blocks carved in the shape of wheel pants by **Master Foam Carver George “Knife” Gennuso** and a Lycoming O-540 engine sitting in a box in **Bill “I Need A Callsign” Irvine's** hangar were shown. Also on display were an actual Approach Systems Avionics hub and several examples of avionics cables, which came into play during **Opus' brief**.

Next up was the **Kommandant** with his **Powerpoint® Ranger** brief (assisted by **Powerpoint® Instructor Ranger Erbman**) showing through exciting animation the transformation of the radio stack in the **Fightin' Skywagon II**. The assembled **PPOs** sat in wrapped amazement as the radio stack morphed from a King/Apollo stack into the **Kommandant's** preferred Garmin-centric stack. An exciting transformation requiring an outlay of only a few more **AMUs** than you'd care to think about.

With the group now in a near-catatonic trance, **Opus** stood up to give the 1-year update of the **F-1 Rocket**. Many of us scoffed and jeered a year ago when he claimed he would be flying in about 18 months. Viewing the 1-year report, we're starting to think that a nice helping of **crow** would be very tasty for an EAA Chapter 1000 banquet. Now he's in the same boat as **Erbman**—waiting for an engine to show begging to be installed on the fuselage.

At this point we were done with the TPS presentations (**Opie** didn't have one, but he hasn't done anything on the Glasair for years, though it looks like he's about to start again) and were so excited that we all jumped up and headed to the **BK Lounge**. Later we realized that we hadn't ~~forced~~ asked the other members present to report on their progress. Oh, well. If anyone felt slighted, they are invited to report at the next meeting.

We were successful in solving all of aviation's problems once again, but the solutions were immediately CLASSIFIED by a horde of aviation lawyers who swooped down upon the scene fearful of losing their livelihood.

- Erbman



Kommandant's Korner

Hmmm, Evil Editor Zurg is hounding me about my column while, at the same time, restricting its content so I don't give away all the juicy news from Airventure 2004. Well, I'll do the best I can to ramble on about other topics...



If you've spent any time in the pattern at WJF or in the local area in the last month or so, you've probably had to deconflict your operation with both helicopter and fixed-wing aircraft supporting the fire-fighting efforts. On a recent TPS-curriculum mission I was told flatly, that "the pattern is closed" by Fox Tower and summarily dismissed with a "frequency change approved" call. While this was an impact to our training objectives for the day, I willingly obliged and retired to Rosamond for our pattern work. It's very easy to see the fire-fighting traffic as an imposition or annoyance on normal operations...and when the tower personnel appear to give more priority to their operations than would seem necessary; one could be tempted to question that priority. However, we all need to realize that the fate of people's property, livelihood, and perhaps health and well-being depend on the ability of those tankers to make fast and efficient turn-arounds and return to the front lines. Short of some emergency on my part that requires me to land immediately, I can't think of a reason worth challenging the Tower's authority or priority assignment on this issue. So, what can we local pilots do to help the situation? For one, keep SA (situation awareness) of local fire-fighting efforts. This may include monitoring the local news outlets or asking Flight Service for fire-related TFRs that are within 50 miles or so of Fox Airfield...even if not in your intended route of flight. With Fox serving as a support base for a lot of southern California, the pattern is affected even when the fire may not seem close enough to matter. If we're going cross country, it's probably a good idea to leave extra time for delays on departure and extra fuel for a possible hold or divert on arrival. It's also handy to remember that the tankers can only fly until 30 minutes past sundown, so night ops are not likely to be affected. Let's give our aerial fire-fighters the same consideration we afford their land-borne brethren.

The other "issue" you've probably dealt with at WJF is the on-going construction both on and off the field proper. From the looks of Avenue G, we may soon be able to turn left out of Barnes Road and get to the freeway. I, for one, may have a tough time re-learning that turn as it seems like forever since they tore up the road. My "highly placed source in city government" has assured me that we will soon be seeing lots more construction in the vicinity as Lancaster's plans for the "Fox Airport Corridor" are realized. Hopefully, that construction will have less impact on airport access. On the airport you've probably noticed the large black pipes laying about. These are the water lines that will enable future expansion of airport businesses, to include hangar development that is sorely needed. All in all, the improvements are a good thing for

the airport and the community...even if we have to put up with a little inconvenience for now.

I hope everyone is enjoying the great flying weather we've had this summer. Remember to stay hydrated and alert for your fellow aviators. See you at the meeting when Erbman and I will regale you with our latest adventures.

Check 6 and Fly Safe,

- Gary Aldrich
Kommanding

Corrosion Control: 4130 Straps Against Wood Spars

I recommend that home builders do not cad plate steel parts for two primary reasons: (1) Cadmium is toxic to humans and animals; (2) 4130 in particular when cad plated is susceptible to hydrogen embrittlement unless baked for a specified period of time. Hydrogen embrittlement results in eventual cracking and failure.

Also in a high humidity atmosphere the cad will corrode rapidly and disappear. Cad will have to be maintained with multiple cleaning and applications.

I recommend that steel parts be at least primed. It is best to also paint steel parts to have a hard protective barrier.

There will be some small fretting movement between wood and steel. The hard paint surface will be beneficial. Cad would rub off easily. A semi-flexible sealant should be placed around the joint to prevent moisture entering.

I assume you have read the corrosion control and maintenance sections in AC 43-13-1B (included in Russ's CD). Especially the section on converting land planes to seaplanes.

- Lee H. Erb
EAA Chap 1000 Det 5, Arlington TX

High CHTs Caused By Excess Flashing?

(from the Bearhawk group via the BD-4 group)

This is very useful tech info from the BD4 group!

- Bruce A. Frank

To: bd4@northwest-aero.com

From: Bob Steward

As many of you know, I also participate in the Grumman e-mail list, and this week while consulting with a well known engine shop over a problem that they'd been working on for 3 weeks a new discovery was made that suddenly dropped the CHTs 40+ degrees on engines that were running too hot.

Here is my message to the Grumman list, and you'll find that the issue is also known among Experimental pilots with GEM, JPI and EI engine monitors.

If you have a digital CHT and have noticed spreads in temp between cylinders, this information is for you...

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The names mentioned in the message are familiar to those in the Grumman owners group, but probably mean little to anyone here on the BD-4 List.

On my way back from the Chicago area, picking up a wing panel for a Tiger, I stopped in at Bill & Carol's Precision Engine in KY to put a fresh pair of eyes on a plane that had been bedeviling them for the last 3 weeks. Bill had called and left a long message on my answering machine, and I KNEW he'd been having fits with a plane that I'd previously worked on, and knew the owner well, so I decided that a 2 hour detour would be a reasonable thing to do.

A 74 Traveler with a fresh Precision High Compression STC O-320 was running high CHTs on #2 and #3 (LF and RR) cylinders. They'd top 420 full rich at cruise and break 450 at full power and #1 & #4 were in the 370-385 range, right where you'd like them to be.

After hearing the full story this morning of all the things that had been rechecked and swapped with known good test parts on this fresh engine, I told Bill that I thought the next step in troubleshooting was to pull 1 pair of cylinders and swap them front and rear to see if the high temp followed the cylinder or stayed with the same location on the engine. Of course on the heels of a 3 week thrash with the owner living in their spare bedroom, he really didn't want to pull the cylinders. I offered to give him a hand swapping them and figured that before dark we'd be able to test fly it and have a decision on if there was a cylinder problem or some odd internal engine problem (cam?) that was causing the high CHTs.

During the course of visually inspecting the cylinders as currently installed, and recalling the 3 sets of cylinders that were installed on Hal Beauchchene's Tiger before similar high CHTs were corrected, it occurred to me that with Carol's water tight baffles, and all the rest of the work Bill had done to this engine, that it HAD to be something outside the items that are normally checked during OH, and something that Bill's 3 weeks worth of troubleshooting had not detected.

After Hal's engine gave him such fits, and it had been inspected and instrumented by LoPresti East and ECI in Texas, and ECI had provided a second set of cylinders that were just as hot as the first, we were pretty vexed about it. Eventually Hal was able to convince ECI to sell him a set of the then new Titan cylinders and take the "hot" ones back in trade. We put the 3rd set on in Hal's hangar in Elba AL, and it ran cool right out of the box, even during break in, and at that moment we both knew that the CYLINDERS THEMSELVES can cause high CHTs, even if the baffling and the rest of the engine are perfect. Not just hotter than usual, but the kind of high CHT that prevents you from even pulling the mixture back at all because to lean even the slightest amount will spike the CHTs into the 450F and rising range while in 130 knots cruise flight in January OATs.

Upon inspection of the offending cylinders on Hal's engine we noticed that SOME of the fins around the spark plug were partially obstructed with casting flashing. Not BAD, just some thin aluminum scrap poking out the sides of the fins about 1/2 way down. A tool made of a broken

off hack saw blade allowed some guesstimating as to how obstructed some of the slots were.

The NEW cylinders were the latest revision of the Titan cylinders with a different alloy and a different fin pattern, so they didn't look quite the same. And we didn't really follow up on it at the time because the new cylinders cooled no matter what one did with the red knob, so Hal was happy.

Coming back to Bill's problem engine, I spotted the SAME flashing problem on the Genuine Lycoming cylinders Bill always uses (He hates ECI), as opposed to the 2 sets of ECI cylinders that we'd been through on Hal's engine. The problem was obviously worse on the #2 and #3 cylinders with much more "flash" filling the slots and limiting the air flow, though #1 and #4 were somewhat affected. Before altering the cylinders, Lycoming Tech support was consulted again, Bill had been picking their brain(s) for possible causes. They had never HEARD of such a thing as casting flash in between the fins restricting the air flow.

After using a set of needle files to file the flash off of the fins (6 fins, vertical around the plugs), the owner and I flew the plane at 2500' and 5000' at 2650 RPM leaned to roughness and the enriched until smooth for a 30 min test flight. We discovered a 43 degree drop in CHT on #2 from the multiple previous test flights before the fin clean up. #3 which hadn't been as vigorously filed and cleaned showed a 16 degree drop.

WOW! From 420 to 377 in one 45 minute operation!

At this very minute we are filing and smoothing the flash on ALL the cylinders to make the fins straight with no casting flash protruding and to open up the fins that had had little if any opening between them. Comparing several cylinders that Bill had lying around, some from the 70's, we were able to establish what "normal" fins should look like and see that there should be NO core shift or parting line flash blocking the 6 fins airflow.

Bill happened to have another customer's Cheetah engine in the shop and it was back for a warranty replacement of three jugs for excess valve guide wear in only a couple hundred hours. 3 of the cylinders were on the bench, and 1 which had showed acceptable wear was remaining on the plane. After examination of the 3 "bad" cylinders that Lycoming had already sent replacements for, and then the 1 "good" one that had passed the SB-388B wobble test, the exact same flash was found to correspond to each of the cylinders that were "bad". The owner reported being unable to keep them cool in a 105 knot climb at full rich based on engine monitor data.

The one "good" cylinder was clear through all the fins. We were able to eyeball a good view straight through all 6 fins to see the floor. So that supported the hypothesis, flashing = high CHT and rapidly wearing valve guides.

In another hour we'll go for a second test flight and see what the additional clean up does for us. If #3 drops to a similar temp like #2 did after the clean up, and possibly #1 and #4 go lower too, you may hear the shout all the way from Owensboro!

So there you go: Check your cylinders on the 6 vertical fins between the spark plug and the valve cover. There should be 0.060" - 0.090" clearance on both sides of

the fins. Look down between the fins about 1.5" for the parting line of the casting molds and you'll see the flashing of which I'm speaking. In the diagonal corners 90 degrees to the fins we found openings ranging from NONE to 1/8" holes that appeared to have been drilled post casting to a distorted "Y" at the outboard corner and a 5/8" long slot at the inboard corner.

This explains why some planes in the fleet DON'T have CHT problems, and some DO, and some do only on 1 or 2 cylinders. It may be that being blessed with 4 good cylinders lets you brag to your buddies about your low CHTs, and they might never be able to achieve those readings if their cylinders have the flashing at the mold parting line!

Grumman owners rejoice, a persistent problem, oft blamed on shoddy maintenance of the baffles has been tracked down on a plane that may well be among the best instrumented and certainly one of the most obsessed over and well baffled in the fleet. And you know if Bill and I are happy with it (and you know how picky we can both be), that everyone else should be pleased with the results, too.

And the follow up message after the second test flight was even better with very tight groupings of the CHTs and the ability to lean at will without over heating the engine.

A couple of folks have already run out to their aircraft and inspected for flashing on the hot cylinders they've been battling. And guess what? They have the exact situation described earlier on the engine Bill had just completed. Both were Genuine Lycoming cylinders and I was on a New Tiger.

It was very difficult to get pictures down in the fins, the camera wanted to focus on the tops of the fins (damn autofocus).

I've got some cylinders here that I will use my camera that has too many buttons on it to manually focus down into the fins and get some pictures. I'll post the URL as soon as I get them up.

We did go out for that second flight after cleaning out the fins on ALL the cylinders, and the CHTs grouped very tightly and the temps at 5,000' DA and 2700 RPM leaned to roughness and then smoothed back out (on the high side of 80% power), indicating 130 mph (blunt nosed Traveler, TAS ~143) OAT 64° F.

385-390 on 3 of them, and the 4th one has a "combo" CHT to share the hole with the LASAR ignition (deactivated for testing) and we were advised by JPI that it "reads 20 degrees low", was showing 352. But it's been consistently low in all the testing.

So now with the CHTs tightly grouped and able to lean at will and run high power settings, the only thing left to prove is that this cleaning out of the fins will extend the valve guide life. Check back next year for that proof, as the owner has made the suggestion that he is going to put 4-500 hours on it in 12 months, so we'll have some idea how the guides are doing next year.

In a 90 knot climb we'd see the CHT on 1 cylinder (#3 that had been 420 in cruise and sneaking past 450 in a climb earlier) tickle the 400° number but never higher than

404. As soon as the nose was pushed over the temps went right down.

A word of caution. I'm NOT suggesting you take files or broken hack saw blades to your cylinders. The discovery phase is here, the answer to how you in the field can correct this matter remains to be seen. Hopefully with the continued discussion between myself and Lycoming and the input from those that have digital gauges and have eyeballed the fins, we can build enough data to move the giant Textron corporation off dead center and get a Service bulletin issued that gives approved limits for filing to offers exchange cylinders for those with defective ones.

Don't put a big sticker on your plane that says "Experimental" just yet. <G>

I'll post the URL for the web site once I get the pictures and drawings completed.

- **Bob Steward** A&P IA
Birmingham, AL
BD-4 Serial #1
<http://www.mindspring.com/~n76lima/n624bd/>

Plastic Mangling, Part II

*(more pix from the April 2004 meeting that we've been waiting for space to publish—photos by **Opie**)*



Bob "Waldo" Waldmiller and Ben Harvey of Scaled Composites inspect the Bearhawk



Bob Kraus with the visiting Aero 456 cadets

THE LEADING EDGE



The Kommandant comments that the stick grip seems awfully plain. Of course, that may be because the stick grip is not installed yet...



Placing the raw material in the thermal chamber



Strapping the patient...er...wingtip down



Proper alignment of the Pusher Doofer Assembly (PDA)



Lecturing the troops on the fine art of plastics



George "Knife" Gennuso and Cadet Nick Garasimowicz stretch the hot and floppy acrylic (Plexiglas®) over the nose of the wing tip



Forming the lens with the PDA as Ben Harvey stands by



Videographer Aldrich records the action (videos available from Erbman in *.wma format on CD)



Ben Harvey directs the Reverse Vacuum Doofer onto the plastic to cool it



Marking the cut line on the cooled plastic



Eventually it cools enough, but until then...



Erbman and Bob Kraus show the final product prior to trimming

THE LEADING EDGE



Bearhawk Pot Rack, constructed of 4130 steel. The only pot rack known to have an airworthiness certificate



Quick, change the subject and hope nobody notices...



Opus describes progress on the F1 Rocket to the cadets



On to the wing construction...



Pondering the answer to that tough question...



Well, where do you get your shop rags from?

Project Police Aircraft Spotters Quiz

Evil Editor **Zurg** was pleased with the response to last month's obscure aircraft photo.



The first to respond was **Zurg's** old teacher, example, and mentor, **Erb The Elder**, who said:

"I know where you got the picture! (*it was out of a book I had bought him for Father's Day*) So I will disqualify myself except to say that at one time I had a Strombecker model of the DC-4E. It was many years before I found out why the C-54's did not have 3 verticals. The book has the most concise description of the sequence.

The DC-4E was the same time period as the Boeing 314 seaplane which had to go to 3 verticals. The 314 had the same wing and engines as the XB-15. The XB-15 had less lateral area and seemed to get by with the small tail. I have often wondered if the B-15 had gone production if it (like the B-17) would have gone to a large vertical. Even the B-24 had marginal directional stability for bombing.

Erb the Elder"

The next response (and fully qualified for bragging rights) came from **Ron Wilcox**:

"My guess is this is the original DC-4, which was a one-of-a-kind build (not the production DC-4). This is in the "sleeper" configuration and I think was sold to the Japanese. **Ron"**

To which **Zurg** responded:

"Reeeeeeeal close, but as Alex Trebek would say, 'Be more specific'..."

"About the only other thing I can add is I think it was called a DC-4E. Be waiting to find out all actual info on it in next month's newsletter. **Ron"**

Then we heard from the East Coast...

"Dear Russ,

The triple-tail mystery plane is the Douglas DC-4E prototype which first flew on June 7, 1938. I remember it well since my birth date was a mere 8 days later. Much of the test flying was done by Benny Howard. This ship began an extensive nationwide shakedown tour by United Air Lines in November of 1939 which proved that changes were needed. The production Douglas DC-4/C-54, which was slightly shrunk and sported a single vertical stabilizer, was a wonderful airplane as we know, but the prototype was unloved. It was sold to Japan Air Transport in late 1939 and later crashed. (Info courtesy of Jane's All The

World's Aircraft vols.1939 and 1940, and Juptner's U.S. Civil Aircraft, vol. 8.)

Best to all, **Russ Munson"**

Sensing that the **PPOs** had had sufficient time to respond, our own airliner expert finally weighed in:

"Hey Russ,

Many thanks for the nice write-up and plug for our magazines in your latest newsletter. The PR coverage is greatly appreciated! (*alas, he didn't send any free subscriptions...*)

Also, although I'll officially de-qualify (*would that be disqualify??*) myself to allow other members to score on this, the 'Aircraft Spotters Quiz' entry this month is the Douglas DC-4E - predecessor to the actual DC-4 and C-54 transports of World War II fame. The '4E was just too complex, too expensive (\$1.6 million each), and too far ahead of its time when it rolled out in 1938, and although it was beautifully flush-riveted and was the first airliner "with provisions for pressurization" (the Boeing 307 was first to fly with pressurization), it was basically a scaled-up four-engined DC-3. Although those upper fuselage windows gave the appearance of an upper deck, those were actually for the sleeper berths that folded down from the craft's ceiling. The lone prototype was sold to the Japanese in 1939, and served as the baseline for their bomber fleet that appeared shortly thereafter.

Thanks again and keep up the great work.

Best, **Mike Machat"**

So this month **Zurg** is taking it easy on you. Here's a mystery aircraft you shouldn't have to dig too deep to identify



Now your part is easy—simply identify the aircraft and send that information to erbman@pobox.com or to the editor's address seen on the last page of this newsletter. Include any other information you know. Links to web sites with more info are a plus. Next month we'll tell you who (if anyone) was correct.

Web Site Update

As of 7 August 2004, the hit counter stood at **92325**, for a hit rate of about 19 hits/day for the last two months.



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

Aug 17: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

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

Sep 11: Lancaster Aerospace Walk of Honor Street Fair, Lancaster CA. (661) 609-9042

Sep 11: EAA Chapter 49 Old Fashioned Fly-In, General William J. Fox Field, Lancaster, CA. (661) 948-0646

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

Sep 18: Operation Rubidoux Sundown XII, Flabob International Airport, Riverside, CA. (661) 256-3806

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

Oct 5: EAA Chapter 49 Monthly Meeting, 7:30 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

Oct 12: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

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

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

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

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

Dec 21: 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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**THE LEADING EDGE
 MUROC EAA CHAPTER 1000 NEWSLETTER**

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ADDRESS CORRECTION REQUESTED

**THIS MONTH'S HIGHLIGHTS:
 REGULAR MEETING 17 AUG AT TPS
 AEROSPACE WALK OF HONOR COMING
 TROUBLESHOOTING HIGH CHTS
 MORE PLASTIC MANGLING PIX**



The Leader In Recreational Aviation