

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>

December 2018

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 *Festivus*

Tuesday, 18 December 2018
1800 hrs (6:00 PM Civilian Time)
Kommandant's Kwarters
Kwartz Hill, CA

Once again, the *Project Police* will celebrate Festivus (and all other appropriate winter holidays) on the third Tuesday of December, exactly where our interpretation of the desires of the *Seinfeld* writers intended it to be.

Bring your appetites and your fabulous treasures to the **Festivus** dinner and **Kommandant's "Krap"** (that means wondrous treasures) **Gift Exchange** on **Tuesday, December 18** at **1800** at the home of **Pixel** and her Executive Officers **Kommandant** and **Mrs Aldrich**. The address is **42370 61st Street West** in Quartz Hill in case you've forgotten since last year.

Your evening will begin with hostess **Pixel** greeting you at the door. You will then be offered a libation of your choice to consume while you greet your fellow Festivus celebrants.

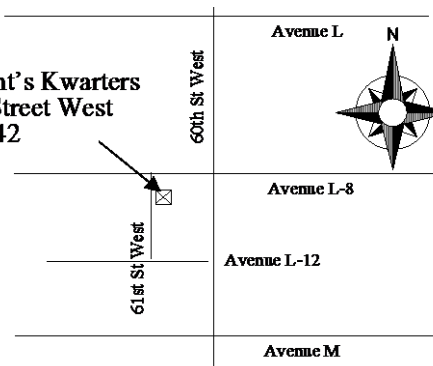
On the command of **Mrs. Kommandant**, we will then all line up for the serving of the traditional **Festivus Dinner**. We're expecting the traditional **LaFestivusagne** with all of the trimmings. Don't forget to save room for dessert—**Mrs. Kommandant** always has offerings that never fail to please.

After dessert, the **Festivus Pole** will be in place for the traditional Airing of Grievances (AOG). Think ahead—this has been cited as a weak area for the *Project Police* in the past. We expect that **Cobra** will air a grievance that no one has aired an appropriate grievance. In doing so he will create an oxymoron that will cause a tear in the space-time continuum and result in the earth wobbling on its axis. Feel free to criticize the way the **Kommandant** has run the chapter for the last year. However, be forewarned that any such complaint may result in the **Board of Directors** summarily appointing you as the new **Kommandant**. It's a risk you take.

Following the AOG, we will depart from the traditional Festivus Checklist for the **Kommandant's Krap** gift exchange. Please note that word "Krap" is used to satisfy our poetic urge to be alliterative and is not a description of the quality of the gift (unless you have a finely tuned sense of irony, which is not the study of how to make steel.) Please bring a wrapped, unmarked gift that you think someone will want. Feel free to also include a piece of true krap that you want to get rid of. If you draw a gift containing alcohol, you may



Kommandant's Kwarters
42370 61st Street West
661-609-0942



get to watch it move around the room as it is repeatedly stolen. Since **Opie** isn't around there's no telling who it will end up with. As always, you are challenged to come up with a gift that is more clever than just another bottle of booze.

After the gift exchange, we will engage in the Feats Of Strength (FOS). The **Hundred Meter Glider Push** hasn't worked out well in the past, due to the logistics of getting a glider to Quartz Hill. The **Kommandant** has suggested **Competitive Leaf Raking**, but I suspect there might be some Tom Sawyer-ing going on here. **Pixel** has announced that she has retired from the **Neighborhood Pixel Chase**, deciding that it is best to retire with a perfect record of no one having actually caught her.

Traditionally the celebration is ended when the head of the household has been wrestled to the floor and pinned. However, since our insurance doesn't cover possible injury to the **Hostess' Representative** (the **Kommandant**), the **Kommandant** will instead "pin" the chapter officers by presenting them with their service pins and cheesy certificates, once again recognizing their service to this band of aviators over the last year. After everything has been distributed, the **Kommandant** will declare "**Victory!**", which is our clue to go home.

Come hungry and happy. As always, a good time is promised.

- **Pixel**

Project Police First Dog

Your Festivus Hostess

(as told to **Evil Editor Zurg**)

*(Rumor has it that **Evil Editor Zurg** may make an appearance. In the Holiday Spirit he promises to not blast too many PPOs)*



Last Month's Meeting

EAA Chapter 1000

Your Location

20 November 2018

You, Presiding

*(As last month's meeting was two days before Thanksgiving, the usual gathering of the **Project Police** was cancelled, and you were tasked with arranging your own program to fill this time. It was recommended that you take this opportunity to take care of your Festivus shopping. As only you know what you were doing at this time, only you can write your version of the meeting report. **Evil Editor Zurg** has graciously provided this space for you to write your own meeting report. Please make a photocopy of your report and submit it to Evil Editor Zurg.)*

- (Your Name Here)

For The Minister of Propaganda

Chapter 1000 of the Experimental Aircraft Association of these United States of America and Occupied Territories

"We have more zeroes in our chapter than any other!"

Kommandant's Korner

My hands
have stopped
shaking enough to
type and my blood
pressure isn't
pounding quite so
high, so I guess it's
time to sit down and write
another entertaining and educational 'Korner.



Why so tense, you ask? Well, this morning was another lesson in the instrument flight education of your NLE **Erbman**. Over the past few months he and I have been sallying forth in the mighty **Combat Bearhawk** in clear weather and calm-ish winds to explore the nuances of flight by reference to the instruments. The clear weather and calm winds criteria remove certain variables from the task of navigating the airplane without reference to God's horizon, but at the same time affords the steely-eyed CFI-I the opportunity to gaze in wonder at all sorts of wild gyrations and unusual attitudes as **Erbman** chases first one, then another of the necessary reference markers while glaring menacingly at the multitude of displays, shouting epithets at them, and secretly praying that at least one of them stays constant while he tries to corral several others. *(It's even tougher to concentrate while listening to the instructor laughing hysterically on the intercom—he could at least have the courtesy to move the microphone...ed.)*

The good news is that learning is occurring! Steady progress continues, with minor pauses as strange new concepts and flying skills are pushed from the frontal cortex to the reptilian brain stem. In the debriefs, the wizard of words has been heard to exclaim, "Geez, this stuff is hard work!" Indeed it is, but the rewards for mastering this skill include increased safety and increased utility of the aircraft in the National Airspace System (NAS).

Recognizing the difficulties of learning a new set of precision flying skills along with complex procedures and regulations, the Friendly Aviation Agency (FAA) requires the new instrument pilot to fly a minimum of 40 hours of instruction...essentially the same minimum required to obtain the Private Pilot certificate. It is not a trivial endeavor and anyone who takes on the challenge is to be congratulated for their increased dedication to the art of precision aviation.

I hope everyone had a pleasant and tasty **Thanksgiving** Holiday. The **Charests (Debra and Mike)** drew the short straw this year and hosted the Aldrich family turkey consumption festival. Superior planning and dumb luck played in the flight planning as we decided to travel north to **Petaluma (O69)** on Tuesday. That day dawned clear with light tailwinds. We launched the **Fightin' Skywagon** with a destination of KSBA. First daughter **Rachel** was camped out in the lobby of Signature Aviation, having visited friends (to include **Mickey Mouse**) and was looking for a ride to the festivities.

After a smooth touchdown on Santa Barbara's runway 15L we taxied over to the FBO to retrieve our passenger and to relieve our bladders. We were on the ground about 20 minutes, requiring nothing but a bit of ramp space, and the kind (?) Signature staff only charged us \$44 for the privilege. I'm going to do more research next time to see if there is any free transient parking at SBA, or if, like many airports in the sights of the AOPA, parking is paid-only and restricted to the FBOs.

Anyway, given the generous southeast winds, the trip from SBA to O69 only took 1+20 or so...a record for the VC-180. The whole family enjoyed the holiday with all the trimmings and copious amounts of torrential rain that started the morning after our arrival and ceased (as if I'd planned it) the evening before our departure on Sunday. We even arranged to have the wind turned around and had a tailwind blowing us back to WJF! One trip for the history books.

'Tis the season! Yes, **Festivus** (for the rest of us) is right around the corner. Little **Project Police Troopers** everywhere are dreaming of airing grievances and waging a strategic battle during the **Kommandant's Krap Exchange** to score that coveted 50-year old, greasy Venturi or maybe a bottle with a decent alcoholic percentage. Regardless of your political, religious, or scientific beliefs, all who attend the "event of the holiday season" at the **Kommandant's Kwarters** in **Kwartz Hill** will revel in, well, the revelry and camaraderie of which Chapter 1000 has become famous. **Mrs. Kommandant, Pixel** the beer hound, and I are looking forward to another great time...see you here!

Fly Safe and Check 6!

- **Gary Aldrich**
Kommanding

Bearhawk No-Flap Landing Flight Test Follow Up

It's one thing to take your Instrument Training in a well-known trainer, where the configurations, power settings, and airspeeds are well known. While taking the training in your own aircraft can be less costly, if the configurations, power settings and airspeeds are not previously defined, you get to figure them out yourself. Fortunately, many of us are flight testers, so this is the kind of thing we do.

Last month in this space I suggested that the appropriate configuration for the **Combat Bearhawk** on final approach on the ILS would be two notches of flaps extended. This would provide sufficient drag to control airspeed while descending on the 3 degree glide slope.



Having now flown several mediocre approaches and one reasonably good ILS, I can now report that with two

notches of flaps, there is sufficient drag on the 3 degree glide slope to maintain an approach speed at 75 KIAS with the throttle sufficiently above idle to allow for appropriate control.

- Russ Erb

The Saga Of Lois Skylane



Chapter 1 - Background, or "We Need A Place To Land!"

The last weekend in July, one of **Lois the Skylane's** "co-owners" planned on taking Lois out of state for one last family trip before withdrawing from the LLC. Although I had some misgivings of taking the airplane out of the area the weekend before the annual expired, I didn't want to say "no" purely on the "what happens if you have a problem and get stranded while her annual expires" excuse. **Murphy** being an optimist, that is exactly what happened.

On the way home from "points East" cruising at 10,500 ft and just West of the Nevada-California border, Lois began losing power and the "co-owner" wisely decided to land Lois, himself, and his kids at the next hard surfaced runway. Good news, there was a runway (002) not too far in front of them. Bad news, that hard surface was the strip North of Baker California - home of the world's tallest thermometer - which was already in triple digits and creeping higher. After an uneventful landing, the co-owner called me to say where he was and why he was there. Having spent time in Baker several times at that time of year, I told him to get to town immediately because he was now in a survival situation.

An hour or so later he called me from "**The Mad Greek**" to relay the full story, including the fact he had two kids with him. It sounded like a fouled plug issue - slight roughness although he couldn't tell me which cylinder was acting up. After arranging for his spouse to pick them up in Baker, he went out and cranked Lois back up for a quick test flight. She was good on runup but started missing before reaching pattern altitude, so I told him to lock her up and we would take over.

Hoping for something simple to fix, but fearing something worse, and REALLY worried about leaving an airplane parked for an extended period at an airport in the middle of the desert with absolutely no services or security, I called a couple chapter members about a possible quick reconnaissance and hopefully a recovery mission. **EAA Chapter 1000 Kommandant, Gary "Paco" Aldrich** responded to my plea for help and we set

an 0600L pickup time at Rosamond. That evening I assembled a bag of tools, spare plugs, handheld radio, snacks, LOTS of water, and started thinking about a "plan".

Chapter 2 - Initial Recovery Mission, or "What A Desolate Place This Is!" (C3PO)

The next day came TOO EARLY and I didn't sleep well at all. After two cups of coffee, the world looked better so I went and moved everything out onto the ramp and was ready when **Paco** taxied up in the **Fightin' Skywagon** at 0600. We loaded the **Fightin' Skywagon** and headed off to Baker.

During the hour flight while my stomach was settling down, I reviewed the "plan" with **Paco**. The "Plan" depended on Lois's "state". If she was well, I'd bring her home. If she was too broke to fly, we'd strip her avionics stack and return with them, but if she was broken but flyable for "a little while", we'd relocate her to the closest field with security and some services, namely **Barstow-Daggett (DAG)**, about 20 minutes away.



Baker Airport...uh...I mean runway on the left

We arrived at Baker a little after 0700L with the thermometer already in the 90s. If you haven't been to the

Baker airport, they have a nice runway, a picnic table, and a post where an emergency phone used to live. No fences, no FBO, no gates, no potty (which I REALLY needed – at least I keep **SAC Form 1** in Lois), plus a public highway about 200 feet from the runway, and nothing else - kinda like someplace Jabba the Hutt's minions would frequent.

Lois was intact and locked up, still with some of the co-owners stuff in her. I did a quick walk around, pulled the prop through, primed her and she started right up. She ran up fine on the ground, but she started running a bit rough a couple thousand feet up, but this time the JPI showed a definite drop in EGT and CHT on #3 cylinder.

I landed and **Paco** and I pulled the upper cowlings and changed out the #3 plugs and cranked again for a hopeful return mission. She ran up fine again on the ground, even at full power (oh my poor propeller ☹), but airborne she started losing power again at about 4000ft AGL. Now the recovery mission risk decision tree came into place:

1. She was flying
2. She was above the altitude I'd decided was my minimum altitude to get to Barstow
3. She wasn't making any funky noises
4. She still had excess power, although her #3 CHT and EGT continued to fall slowly.

After consulting with **Paco** on the radio and hoping for some reassurance on whether to go vs. the really ugly option of staying, **Paco** reminded me that "**You're the PIC, it's your decision**". I was pretty confident Lois could fly for 20 minutes, and the fact **Paco** didn't opine that continuing was a mistake - which I knew he would say if he really felt that way - so I made the decision and announced I would press on to Barstow with **Paco** in loose chase.

With a comfortable cruise power setting set, Lois was still willing to climb, so I continued a cruise climb all the way to Daggett, just in case I'd need the altitude later. I didn't adjust power until over the field and spiraled down from high key in a high energy, high drag configuration just in case her engine decided to stop. Lois kept running fine and I taxied to transient parking, tied her down, and put everything back into the **Fightin' Skywagon** for the return trip to Rosamond. I informed the FBO people I'd be there awhile until we could get her diagnosed and fixed, and **Paco** and I returned home.

On the way to the runway, **Paco** commented "I'm much more comfortable with Lois here rather than at Baker." I shed a tear for Lois's plight on the way out, but **Paco's** comment was validation that we'd done all that was safely possible. Now she was secure, which gave us time to deal with the problem at a reasonable pace.



Lois and the Fightin' Skywagon on the HOT Daggett transient ramp

Chapter 3 - Diagnosis, or "Give Me The Truth Doc!"

A few weeks later (August), **Leigh** and I showed up at Daggett with an air compressor and a compression tester. When we pulled Lois's prop through, we got an audible "chuff" from the exhaust stack every couple turns. "That doesn't sound good" I opined.

It was already getting warm and we needed power for the compressor. The good fellows at **Daggett Aviation** said we could move Lois into one of the stalls in the overhaul sunshade (basically a 20+ bay lean-to). We pushed Lois into the shade, powered up the compressor, pulled the plugs and pulled the prop through, looking for some pressure on #3 so we could check it.



Leigh says "This is much better than doing compressions on the ramp in the sun"

Using the faithful "thumb on the hose" trick, we were unable to get any compression on #3 cylinder. Thinking it possible we had the wrong cylinder, we checked the compression of the previous cylinder in the firing sequence, which was good, then tried #3 again. #3 was as dead as the proverbial doornail. Darn it! That meant pulling and replacing a cylinder. (I wonder how much THAT is going to cost?) Good news is the FAA doesn't really care who pulls stuff off - they're mainly concerned about who puts stuff back together to make an aircraft "airworthy". I'd never pulled a cylinder before, but I HAD seen it done, plus had a Continental O-470 rebuild manual and time.

A couple weeks went by while we planned logistics, and Friday the 24th of August I pulled "Thor" our toy hauler and a bunch of tools to Daggett for the night.



Big Blue and Thor greet the sunrise in Daggett

Early the next morning, another one of the co-owners and I pulled Lois's cowlings, and after much knuckle busting, twisting of wrenches, liberal application of

lubricant, and appropriate misuse of the King's English, #3 cylinder was removed from Lois's crankcase.



#3 Cylinder—so what could be so hard about removing this? ☹



So that's what they look like when you pull them off!

We bagged up all the loose nuts, screws, bolts, brackets, bushings, and exhaust assemblies - and were surprised to hear something rattling in the exhaust heat exchanger. Upending it, unidentifiable pieces fell out of the exchanger looking rather beaten up and heat soaked. The co-owner and I looked at the pieces and I remarked "I don't know what those are, but that doesn't look good". I packed up all the removed parts in Thor, and we bundled up Lois's engine compartment and open engine ports, and headed back to Rosamond.



All bundled up till we get a cylinder

The next day I took the cylinder to the EAA Chapter 1000 expert of all things related to airplane engines and maintenance, **Bill Irvine**. Bill mounted the cylinder on a stand and we pulled the valves, to discover the answer to the mystery of the pieces in the exhaust heat exchanger. We found that the #3 exhaust valve guide had completely disintegrated and only two pieces were still held trapped in the cylinder valve section.



#3 Cylinder disassembly on Mr. Bill's bench

With the exhaust valve guide essentially gone, the valve would offset to one side on each cycle, wearing the valve seat asymmetrically until the cylinder would no longer hold pressure.



Aren't these all supposed to be one piece? (The three pieces on the bottom fell out of the heat exchanger)



Badly worn valve seat – and missing guide

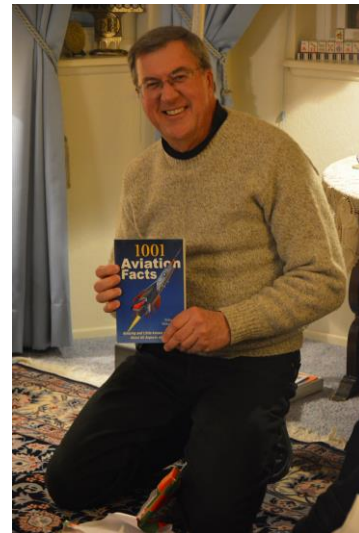
The next question was whether the cylinder was rebuildable or just trash. **Bill** suggested I send pictures to a reputable rebuilding shop to get their opinion. On recommendation from several folks, I contacted **LyCon** rebuilders in **Visalia**, and sent **John Card** pictures of the cylinder and valve seat. John showed the pictures to their experts who thought the cylinder might be rebuildable, but needed to see it in person. That meant a side trip to **LyCon**. *(to be continued)*

- Randy “Kanard” Kelly

Festivus Preview (From 2017)



Gather at the Festivus Table



Collect wonderful gems from the Kommandant's Krap

Web Site Update



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

Dec 11: CNX EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., El Indio Restaurant, Rosamond Skypark, Rosamond CA. (661) 609-0942

Dec 18: EAA Chapter 1000 Festivus Etc Celebration, 6:00 p.m., Kommandant's Kwarters, 42370 61st Street West, Quartz Hill CA. (661) 609-0942

Jan 8: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., El Indio Restaurant, Rosamond Skypark, Rosamond CA. (661) 609-0942

Jan 15: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Feb 12: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., El Indio Restaurant, Rosamond Skypark, Rosamond CA. (661) 609-0942

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

Mar 12: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., El Indio Restaurant, Rosamond Skypark, Rosamond CA. (661) 609-0942

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

Apr 9: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., El Indio Restaurant, Rosamond Skypark, Rosamond CA. (661) 609-0942

Apr TBD: EAA Chapter 1000 Monthly Meeting, 6:30 p.m., Flying Dog Ranch, 4400 Knox Ave, Rosamond CA. (661) 609-0942

May 14: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., El Indio Restaurant, Rosamond Skypark, Rosamond CA. (661) 609-0942

May 18: EAA Chapter 1000 Annual Aviation Event, To Be Determined. (661) 609-0942

Jun 11: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., El Indio Restaurant, Rosamond Skypark, Rosamond CA. (661) 609-0942

Jun 18: 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, George Gennuso, 3119 Lennox Ct, Palmdale CA 93551. 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, 661-256-3806, 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 SERVICE REQUESTED

THIS MONTH'S HIGHLIGHTS:

FESTIVUS CELEBRATION 18 DEC @ KOMMANDANT'S KWARTERS

WRITE YOUR OWN MEETING REPORT

KOMMANDANT RISKS HIS LIFE AS CFII

THE SAGA OF LOIS SKYLANE PART I

