THE LEADING EDGE

NEWSLETTER OF MUROC EAA CHAPTER 1000

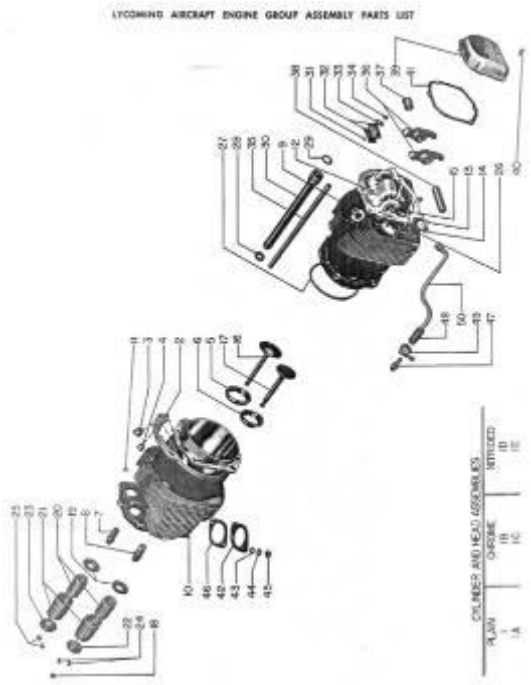
Voted to Top Ten Newsletters, 1997, 1998 McKillop Award Competition

President	*Gary Aldrich*	*661-609-0942*
Vice-President	*George Gennuso*	*661-265-0333*
Secretary	*Kent Troxel*	*661-947-2647*
Treasurer	*Doug Dodson*	*661-256-7276*
Newsletter Editor	*Russ Erb*	*661-256-3806*

http://www.eaa1000.av.org *July 2008*

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:



AvGas to Noise Converter Breakdown

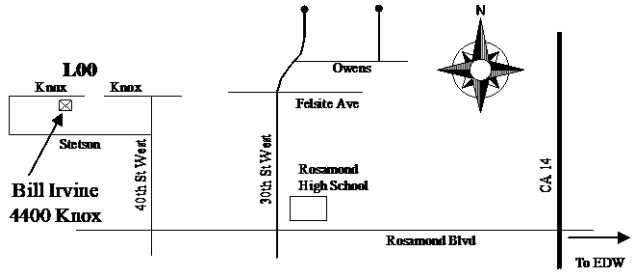
Tuesday, 15 July 2008
1700 hrs (5:00 PM Civilian Time)
4400 Knox Avenue
Rosamond, CA

What evil lurks in the dark recesses under the cowl? What happens if you crack open the steel case of the avgas to noise converter (a.k.a. 'engine')? Does the soul of the beast escape never to be recaptured, forever denigrating the device to the role of door stop? Brave builders of aircraft, renders of aluminum and crafters of fiberglass, lend your attention to our next meeting topic. Our own **Bill Irvine** will host our next meeting at his hangar at Rosamond Skypark, L00, 4400 Knox Avenue.

He has promised to remove and replace a cylinder, thereby dispelling all fears of the unknown mysteries encased in the magic carcass we refer to as "The Engine."

(***Special Bonus:*** *Rumor has it that* ***Stormy*** *has released a wing spar into the jig. Come see if he has modified the Total Rivet Count (TRC) yet.*)

For the one or two ***PPOs*** out there who aren't sure where **Mr. 310's** new hangar is, it's right across the street from **High Cay**. For further clarification, the following convenient map is provided:



- Scott "Stormy" Weathers
Vice Kommandant

Last Month's Meeting

EAA Chapter 1000
High Cay
Rosamond CA
17 June 2008
Scott "Stormy" Weathers, Presiding

The June meeting was held at **High Cay** at Rosamond Skypark, the residence of **Doug** and **Gail Dodson**. More than a dozen members attended the BBQ to clean out the leftovers from last month's **Scotty Horowitz Annual Going Away Fly-in** celebration. The order to "**Bun Up**" was given by stand-in **Grillmeister Kent Troxel** at 1757 local time. **Master Grillmeister "Knife" Gennuso** was otherwise occupied.

Official business was quickly dispensed with and included discussion of **Russ** "**Erbdude**" **Erb's** recent inaugural and 2nd flights of ***Bearhawk*** **Three Sigma**, and a demand that **Evil Editor Zurg** be brought to justice and forced to obtain EAA and Chapter membership.

Otherwise, activities consisted primarily of eating, drinking Doug's beer and swapping of tall tales if not outright lies. Typical meeting.

Filling in for the also absent **Kommandant Aldrich**, **Vice Kommandant Stormy Weathers** declared "**Victory**!" had been achieved, or was at least in sight, so the flight plan was closed.

- Kent "Cobra" Troxel
Minister of Propoganda

Kommandant's Korner

Business, pleasure, service. The **Fightin' Skywagon** performed admirably in all three categories in the last month or so. The third week in June saw **Mrs Kommandant** and I winging our way north on a cool, cloudless Saturday morning. The destination was Metropolitan Oakland International Airport (KOAK). The mission was pleasure…in the form of a week at a neat B&B in the Pacific Heights section of San Francisco. We touched down on 25R and turned off into the Kaiser Air ramp for parking. This airport is THE preferred access, in my opinion, for the "city by the bay". The two parallel runways in the "north complex" are served by several approaches, including an ILS, and are essentially reserved for general aviation. The big oil-burners use the much longer single runway on the south side. The north complex even has a good crosswind runway should some wimpy taildragger pilot need it. Further, the great folks at Kaiser are quick to give you a ten-minute ride over to the BART station at the Coliseum where you can zip into the city. The only down-side…and one that is becoming more common daily, is the rising cost of all that service. There's a $6 "service fee" to land there, $11/day parking, and fuel at $6.75/gal. They do have a self-serve pump that saves a few pennies a gallon and they also give a "double-discount" to AOPA members. We spent an enjoyable few days figuring out the public transit system, eating ourselves silly, and hiking up and down the famous hills to burn off as many calories as possible (probably ended up losing that battle).

On that Friday evening we launched to home with a reasonable tailwind, seeing better than 135 KGS most of the way. This was the first long trip after the "**Electric Skywagon**" mod and I must say that the new electric AI and HI worked flawlessly. I took great comfort in the fact that my vacuum pump was not functioning…because it was in a box in the back of the hangar. We arrived at WJF about 2115 Local where I deplaned **Anne** and a bunch of luggage in preparation for the next leg of the adventure.

Sliding the "accounting switch" to the "business" setting, I cranked up and departed WJF with a direct routing to Phoenix Skyharbor International Airport (KPHX). Well, maybe not exactly direct as I had to dogleg around the pesky restricted area north of Twenty-nine Palms (TNP) where I'm sure the Marines are doing something awful. I elected to put as much distance between me and the invisible rocks below and climbed to 11,500 feet MSL for the nearly 3-hour flight. To keep me sharp and awake I stuck a cannula in my nose and cranked the O_2 up on my portable bottle. I let down into the Phoenix area a little after midnight and re-discovered their famous heat. The ATIS said it was 100 deg F and the CHTs and oil temperatures reflected it. After bedding down the VC-180 at Cutter Aviation I caught a ride to my hotel to catch some shuteye. Skyharbor is also GA-friendly these days with two sets of parallel runways that keep us little guys from being targets for the big guys.

I was in Phoenix to attend a Flight Instructor Refresher Clinic, or FIRC, run by the AOPA's Air Safety Foundation. I've been using ASF FIRCs for many years to "re-up" my CFI certificate (a biannual requirement) as they are always taught by excellent instructors in an entertaining way. I also enjoy interacting with the other CFIs in the audience…in this case, about 60 of them. I arrived back at KPHX around 1800 hours on Sunday evening. ATIS said the temp on the ramp was 44 Celsius (111 deg F!) and it was predicted to peak around 2100 at over 114 deg. My plan to avoid fricasseed Continental was to do everything I could to get ready to take off before starting the engine. That meant dripping with sweat while I pre-flighted the airplane, checked in with clearance delivery and obtained the current ATIS. I threw an "extra" quart of AeroShell in the engine, thinking that more volume would absorb more BTUs. I finally cranked and called for taxi as soon as the radios initialized. Fortunately, I was given a close runway for departure and, after doing the runup during taxi I was airborne with minimum delay. The airborne phase of the "heat plan" involved a shallow climb at about 110 KIAS to maximize cooling airflow and leaving the mixture full-rich for as long as I could stand it to cool the combustion with that expensive ($6.55/gal) avgas. The strategy worked and I was able to reach 10,500 feet MSL about 15 minutes and 30 miles after takeoff. Phoenix approach must have thought I was really heavy or underpowered but they didn't seem annoyed at the slow climb. I was blessed with light headwinds and the return flight was uneventful and relaxing.

The "service" flight involved my second foray into the realm of airborne dispersion of deceased aviators. In this case, I was pressed into service by ***PP*** **Trooper Jimmy Doolittle** who had been contacted by a former Commandant (with a "c") of the Test Pilot School. The dying wish of one **Lute Eldridge** was to have his ashes spread over Edwards AFB. Lute had been a Lockheed test pilot, flying the then-new F-104 with the likes of **Tony Levier**. He passed in early May, but the bureaucracy took about 6 weeks to play out and involved two general officers, a half-dozen colonels, and several civil servants. Ultimately, it was decided that the **VC-180** was the perfect aircraft for the mission and that I (masquerading as "**Cobra 09**") was the perfect pilot. After careful preparation of the remains by **Mike Grimes** (who has the unenviable qualification of having done this several times) we launched with Mike in the co-pilot's chair and **Lute's grandson** in the back seat with a video camera. The morning was relatively cool and still when I saddled up on the Rosamond Arrival to Edwards (over Rosamond Blvd at 500 feet AGL). In about 20 minutes it was over. I slowed the Skywagon to 80 KIAS, Mike opened the co-pilot's window, and Lute drifted gently to his final resting place

in the vicinity of the ruins of **Pancho's Happy Bottom Riding Club**. The short trip back to Fox was flown in silence. While I take no pleasure in the need for this type of mission, I am honored to serve a fallen aviator's final request.

Stay cool and fly safe!

- **Gary Aldrich**
Kommanding

Return To Flight Program Begets Return To Flight Program

Reading through the "What Our Members Are Building and Flying" you would get the idea that first flights all go swimmingly. The badge of honor seems to be saying "It flew hands-off the first time". Well, **Erbman**, who has lived a life of intentionally doing things different than everybody else, unwittingly brought his perverse (careful how you spell that) nature to the **Three Sigma** flight test program.

As you read last month in the immediate after-action report, a planned ~1.0 hour first flight was rapidly changed to a 0.1 hour flight after encountering trim tab flutter upon reaching 80 KIAS. After executing the standard flutter emergency procedure (slow down), it was a quick trip around the pattern (at low power) for "one to a full stop."

Test Director Kommandant Aldrich was there with his trusty digital camera in video mode, capturing (most of) the whole thing (which wasn't much) for posterity. This being the 21st century, you can watch the videos yourself at

Takeoff:
http://www.youtube.com/watch?v=rp1ZEL4dCTw

Landing:
http://www.youtube.com/watch?v=NxqXoGe_WjM

The landing went well, but there is reason to believe that it was more due to luck than skill. While many have said "I'd rather be lucky than good", it's generally not a good plan to depend on luck.

Thus began the first "Return To Flight" program. The cause of the flutter was immediately identified as insufficient spring constant and insufficient damping in the trim tab pushrod. This allowed the air loads to flutter the trim tab, which aerodynamically forced the elevator to flutter at about 5 Hz. Through the wonders of a reversible control system, this caused the control stick to oscillate about ±1 inch with a force that I couldn't effectively damp out. You can tell when this happened in the video by listening to the sound track. When the stick started oscillating I tightened my grip and unintentionally squeezed the transmit switch, hence the open mike sound on the **Kommandant's** radio.

The pushrod conformed to the written parts of the design. While the plans stated that the pushrod had to be bent to clear the elevator hinge line with full up elevator, the amount of said bend was not specified. As seen in this picture, I had bent the rod to be parallel to the surfaces at full up elevator.

Compare this to a photo of the prototype Bearhawk. On the prototype, the bend in the pushrod is the absolute minimum required, touching the leading edge of the elevator in the full up position.

Discussions with several Bearhawkers, including the designer, revealed that several Bearhawks had flown successfully for many hours with the 1/4"x.035 pushrod originally shown in the plans. However, all of them had only the minimum bend required as shown on the prototype. In fact, **Pat Fagan's Smokey Bearhawk** flew fine with the 1/4" pushrods until the day that **Smokey** made an uncommanded taxi into the hangar door, which increased the bend in the pushrod. Even though Pat straightened the pushrod, the pushrod had been sufficiently weakened that some time after that Pat experienced a similar case in flight of trim tab flutter.

The conclusion was that the problem was caused by the excessive bend in the pushrod. The solution was to rebuild the pushrods to conform with a *non-mandatory* engineering notice, which specified using 5/16"x.028 tubing. The thinner tubing weighed almost exactly the same as the 1/4" tubing, but through the magic of **mass**

moment of inertia the tubing had a significantly higher resistance to buckling in compression. Moving the same cross sectional area of steel further from the center makes a significant difference. Additionally, the angle of the bend was kept to the minimum possible. The result was a noticeably stiffer pushrod. After installation, shaking the trim tab resulted in essentially no movement, significantly better than the ±1/2 inch present before.

Another problem identified was oil coming out around some of the exhaust gaskets. While researching exhaust gaskets, an interesting note was found in the Aircraft Spruce catalog. For the solid exhaust gaskets, it says "2 gaskets used per cylinder." This was confirmed with several knowledgeable personages, include **Bill "Mr. 310" Irvine**. No one could explain why two together worked but one by itself didn't, but they all said that's what happens. Therefore, I removed the exhaust pipes and doubled up the exhaust gaskets hoping this would solve the problem. This activity also finished two exhaust studs stripping themselves out, so once again I got to exercise my heli-coiling skills. The oil coming out was an indicator of an exhaust leak, but would later prove to be a problem itself.

On a side note, **Bill** also recommended liberal use of anti-seize on all exhaust system joints. I followed his advice and it made a huge difference—the slip joints became actual slip joints instead of stuck joints. Highly recommended.

At this point, the airplane was fully assembled and pushed out for the "Second First Flight". All of the preflight checklists were followed, and the Data Acquisition System (DAS) on the laptop was fully up and running. Taxi down to the run-up area and step through the run-up checklist. After completing the Before Takeoff checklist, I took a quick glance at the laptop to confirm the DAS was functioning properly, only to find out it wasn't. In the revenge of Microsoft®, some unrelated program had installed an update to itself, and after waiting a few minutes took control of the machine and forced a reboot without my permission. Noticing that the CHTs were starting to approach the limits, I shut down the engine in the run-up area and waited for the computer to finish rebooting. I considered going without it, but decided that the "first flight" was important enough that I wanted to have the data available for analysis shouldst anything else go wrong. That turned out to be a fortuitous decision.

Finally everything was up and running, so I restarted the engine. I repeated the Run-Up and Before Takeoff checklists, scanned the pattern, made the radio call and took the runway. Throttle up for the takeoff and keep the nose straight. I tried to get the tail up this time without much success. According to another Bearhawk pilot it takes more push than I thought. Soon we were off and accelerating. We passed through 80 KIAS with no repeat of the tail flutter. I was watching for 100 KIAS, my planned climb speed. About the time I got there, the engine monitor started complaining about a limit exceedance. Specifically, a CHT above 435° F. It turns out this overheating problem was there on the first flight, but was masked by the flutter issue which demanded low power.

So what did your flight instructor tell you to do if you had an overheating engine?

1. Mixture – RICH (it was already full rich)
2. Airspeed – Increase (I was already flying well faster than best climb speed for just this reason, so the only thing left was...)
3. Throttle – Reduce (which is what I did)

Of course, pulling the throttle back really puts a dent in your climb rate. So for the next several minutes I struggled between gaining altitude and trying to prevent engine meltdown. About the time I decided that "De Nile" is a river in Egypt and it was time to "punt", I heard a radio call from ***Project Police*** **Logistician Gail Dodson** who had somehow determined that I was out flying again. She said something to the effect that I was leaving a smoke trail like **Vanhoy** and **Hojo's Giles G-202**. Of course, they have an airshow smoke system. I didn't. This was further proof that somehow oil was getting into the cylinders and coming out the exhaust.

As much as I was trying to process everything, coming down final it would later become apparent that my brain was full. I started the flare too high, which is interesting since that's one thing that I watch out for in my glider students. While sorting out the altitude thing, I totally gave up tracking my lateral position. The first clue I had that I wasn't over the runway was when I saw the right side of the runway out the left side window just before I touched down. Then the real fun began.

Next I made another classic mistake that I normally watch out for in my glider students. Concerned that I might smack a runway light, I mashed the left rudder to get back on the runway. The problem was I mashed it about two to three times too much. While the remainder of the landing remained on the runway, it was far from straight. In a taildragger, once you start a large deviation, it is very difficult to damp out the oscillation. On this day, I wasn't up to the task. I'm not real sure what happened next, but at some point it became apparent that I was no longer in control. My short personal nightmare came to an end like this:

OUCH!

(BTW, the initial velocity vector was from right to left)

About the time the left landing gear touched the ground, I realized that I wouldn't be going to Oshkosh this

year. Oddly enough, that was a great relief of self-imposed pressure.

Of course, by order of Murphy, any time you commit **Gross Buffoonery**, somebody will be there to witness it. This being the 21st century, they will also be videoing it. Yep, **Gail** was running the video function on her digital camera, but I don't think this is what she was expecting to capture. I have the video—bring me a case of Coca-Cola® or tell me your story of landing or other gross buffoonery and I'll show it to you.

Since I was now pointing the opposite direction of my original velocity vector, I simply taxied in that direction to the first turnoff to get off the runway.

The post-mortem of the wing tip showed noticeable but fairly easily repairable damage. The aileron had no damage to the structure, but needs some fabric tapes added to cover the damage. The sheet metal of the tip rib needs some straightening, which hopefully can be done sufficiently well without having to re-make a bunch of parts. There is also a tear in the tip rib that will need a doubler applied. As for the wingtip, it will need some fiberglass removed, scarfed, and replaced with new fiberglass. Of note is the minimal abrasion on the aft end of the wingtip. **George "Knife" Gennuso** had built up this area heavily with unidirectional fiberglass in anticipation of someone bumping their head into it or backing it into a hangar. We didn't really anticipate this

type of damage, but it seems to have held up well.

As for the problems that started the whole thing, we know that

1. The engine overheats, even well below rated power settings
2. An excessive amount of oil is getting in the cylinders and going out the exhaust pipes (the belly was covered in it after this short flight)
3. The exhaust ports need machining so that the exhaust gaskets will seal properly

After much discussion with local builders and Bearhawkers online, the best solution was still my first response, which was to remove the engine and return it to the guy I bought it from. He told me when I bought it that it came with a one year warranty starting the first time I ran the engine. Now it was time to make a claim on that warranty.

After a few days of work, the nose of Three Sigma looked like this:

I thought this looked so comical that I sent this picture out to the Bearhawkers as a caption contest. These were the submissions:

Erbman:

"Sir, I think we may be aft of the cg limit"

budd davisson:

1. Damn, it was there when I taxied in.
2. I thought it was kind of quiet on final.
3. Yeah, but think of all the fuel I'll save.
4. No, it cost so much I take it home every night.
5. Next time I'm putting it in with Velcro

6. I'm using 300 strands of Pirelli next time.

7. ...and to think I could have been a piano player in a whore house instead.

8. Well, it'll keep me off the streets...and the taxiways..and runways..and...oh, shut up!

9. Golf is looking better and better.

10. Tower, no I mean it. I really lost my engine.

Benton Holzwarth:

An observation more than a caption: If you just focus on the firewall and ignore the extraneous elements, it looks kinda' like Cthulhu.

Paul Minelga:

Stupid thieves! The boneheads went right by the avgas in the tanks and took that POS engine....

Sam Butler:

What a Bearhawk looks like after blowing it's nose

Robert Erb:

Don't leave home without it

Bruce A. Frank:

You should have listened when he said not to do a full power run up with the brakes on!!!

Kent "The Tin Man" White:

She always said divorce was 50-50.

Why didn't they leave me the cowling?

Of course it did feel a little funny on final.....

Yes, I am going to make Oshkosh this year.

I thought sure he told me he needed my "rotor."

Oh, come on! Sign it off for me! It's this close.....

I was decisive on the entire build - until it came to the engine.

Honey, who was that fellow that asked for the keys to the hangar today?

The stolen airplane was found a few miles away, but with the hyper-warpitronic flapivator completely missing!

James Dean's 550 Spyder engine was last seen on this airplane. Information leading to its recovery will be dealt with severely.

Scott Weinberg:

Pilot thinking, "now that is what those bolts were for"

Pilot telling tower "it was there when I went deep into IFR soup, then all hell broke loose"

Pilot telling AI, "you mean those plug wires really have an order to them?--who thought that up?"

Tim Cramb:

For simplicities sake, I should have gone with an air cooled engine

Pete:

You should have made that last engine payment...

Chris Owens:

Well, the plane was hanging on the prop when...

David Weber:

F= M x A

Flight = Motor x Aircraft

What is missing in this picture?

Tom Marsh:

Gesundheit!

Rob "Zipppydoggg" Gaddy:

With southern accent (I'm southern so can say it) while unscrewing pint of cheap Whiskey: "Dang Boy (insert spit of chaw here), there's your problem".

Craig Cantwell:

Ah...guys...the Lord mounts are supposed to cover the holes, not go though them...

Ken Wardstrom:

YES SIR, we kept the engine wiring very basic, just barely enough to keep 'er running.

Dave Wells:

I TRIED to tell you one of the drawings was missing.

Keith Salisbury:

The brochure said I could lose weight fast, but Dayum!

...and my personal favorite:

Rich Davidson:

Theilert said my engine would be here soon.

- Russ Erb

Bring Me The Bobblehead of Bill Dana!

Every year, we host an Aerospace Appreciation Night here at the ballpark in which we honor the local aerospace community. This game has become one of our most popular events, as we give away an aerospace pioneer bobblehead to the first 1,000 fans through the gates. This year, Aerospace Appreciation Night is on Saturday, August 9. We will be giving away a **bobblehead** of **test pilot Bill Dana** and plan on hosting a number of aerospace related groups and events. We would love to include the Experimental Aircraft Association for this great event in August. We appreciate the contribution that the aerospace community makes to our local area and we would like to have your club out for this great event. I look forward to hearing from you soon. Have a great day.

Sincerely,

Will Murphy
Director of Community Relations
Lancaster JetHawks Professional Baseball Club
Class A Affiliate of the World Champion Boston Red Sox

Piavis' RV-7 Flight Test Continues With Only Non-Flight-Critical Issues

(*We pick up our story where we left off last month, stolen liberally from http://www.adap.com/rv7/*)

8 June 2008

On Sunday I headed back to the airport to attempt a little more time on the plane. This time around, I filled both tanks full to get some idea of the additional weight on the plane. The only major difference was the inability to fully trim out the nose at landing speed. At this time, the airplane is about the lightest it's going to be with no interior except for pilot's seat, and full tanks.

With a 1400' ceiling, I departed with the intent of just circling the pattern again for a while. One thing was the GPS wasn't capturing a signal and I just had the LOI annunciation on the 480. This was traced back to a cross threaded TNC connector at the antenna. The Pitot heat didn't work and this was due to a blown fuse.

I had a slightly heavy right wing and burning off the left tank didn't help. I really need to burn off the right tank first, then determine how much it takes to even out the load. Van's says anything under 18 pounds or 3 gallons is minimal. I also want to check out the aileron alignment.

Overall, I flew about 1.0 for the first flight and again un-cowled the engine. So far, no serious oil leaks. The only one noted was a little seep around the oil temp probe.

I went up again and did another .5 and this time the GPS was working fine, but the GPS data isn't finding it's way to the GRT H1 displays. I suspect that I've overwritten the config settings in setting other limits.

On the engine side, CHTs are all running in the normal range although it was only 50 degrees OAT. The #1 seems to be running 40-50 degrees cooler than the rest so I'll use some aluminum tape to block off a little of the cooling, which should also help bring up a slightly low EGT.

Otherwise, it seems to fly like an RV and so far, I'm happy with the results.

14 June 2008

I've been able to get some decent time on the airplane this weekend with almost 6 hours since Friday afternoon for a total of 8.3. The weather here finally broke a bit so I was able to get up to about 5000' and just make big orbits around the airport to continue the engine break-in under nice blue skies. The #1 CHT was running about 50F cool, so after a couple flights testing some speed tape on the front of the jugs, I managed to get the CHTs within about 4 degrees. Good enough. EGTs are also close and I'm continuing to monitor.

Hey Buddy, where'dja get that hat?

I had a right yaw at cruise so a little rudder trim corrected most of that. My heavy right wing is almost gone and I'm continuing to work that a little at a time. The right outboard aileron was standing a little above the tip, so I've been lowering that a little at a time. I can now fly for over an hour without my arm getting tired of holding the wing up and I'm still cruising around at 24 squared, showing about 170 MPH indicated.

Avionics are causing some annoyance. Evidently I shut down after flight and didn't shut down the GPS first, thus dumping the seed position. I've been trying to get the new seed position in but I've evidently been off on the UTC time. I may just do the Master Reset and wait the 20 minutes.

I'm not getting a NAV signal with the Archer antenna. Neither the GNS480 or SL-30 are receiving the signal off the antenna so I suspect a bad connector somewhere in the feed. The upside is that both radios seem to be working well and I'm picking up traffic 75 miles away with no strobe interference so evidently I wired that up correctly.

It's also nice to see the fuel flow showing a reasonably accurate number. Fuel flow indication is showing just over 5% high, which is decent considering I haven't modified the configuration yet. The left/right float indications aren't that great, but the total remaining is very good.

I'm still amazed that the airplane is actually flying as well as it is considering the complexity of the plane. I did have some minor excitement on take-off today with a pretty stiff left crosswind. When the prop bit, I was a bit behind on getting the right rudder in, so I ended up looking at the left side of the pavement. Luckily, the RV was airborne in seconds!

21 June 2008

I did another 2.6 today and spent the first 1.3 going back and forth between Arlington and Skagit. On the second flight I headed south about 40 miles since I'm now outside my first 10 hours and feel a lot more comfortable getting away from the airport. I did manage to do some steep turns and a 1/2 flap stall.

Heading back to Arlington, I did one touch-n-go, and on the second (maybe my best three-pointer yet) the flaps came 1/2 up, then dropped to full down. Well, that ended that flight. Bummer, I was looking forward to a little more pattern work. Upon disassembly of the flap drive covers, I found the drive shaft had broken the safety wire, and the shaft backed out of the rod end bearing. If I'd been at another field, this would not have been fun. Luckily, I just taxied back and parked it.

The GPS still doesn't want to find itself and I spent 2 hours waiting for it to do a Master Reset. The other main issue remains the NAV antenna and I suspect a bad BNC connector at the splitter.

22 June 2008

Alex was on a sleep-over at his Aunt's so I had the opportunity to be up early and heading to the airport. I was at the hangar about 7:30 AM which was kind of nice and really quiet. The flap drive was fixed and I ensured that the jam nut was tightened and this time, I used some .040 safety wire instead of the .021 stuff. With a little extra time, I headed out for a couple trips around the pattern but before launching, I tried the GPS one more time, setting the seed position with another GPS. This time, it seemed to take. Cool. It even started to capture satellites and showed a good fix. Everything seemed to be working with the GPS finally. That is until about 10 minutes into flight when it decided to show a GPS Loss warning and then showed a Fault code and a cycling of the unit eventually. Bummer.

Well, I was heading back for some pattern work and did a couple stop-n-goes. Flaps worked fine and I decided to do a taxi back to see if I could get the GPS up again. This time, a reboot on the unit did the trick. Once again, it ended up showing a Fault code, this time a little different, but it eventually brought itself back on-line. I've already submitted an SR (Support Request) to Garmin so I'm interested in hearing what they say; I'd really like to get some confidence in the GPS since it feeds both the EFIS and transponder.

Overall, a good flight and racked up another 1.1 for a 3.7 this weekend and about 11.5 on the plane so far.

26 June 2008

It's the end of June and I had to vacate the Arlington hangar and get the RV down to Auburn, about 50 miles. The plan was to fly the RV around the AWO area for about 10 hours before I ventured too far, and I reached that point. The weather had been great this week so Dave Parsons agreed to pick me up at Auburn and haul me up to Arlington. We pulled out the RV and both of us flew back using the time for airspeed comparisons. Dave has a -7A, but they are about equal in speed right now. I may be a bit faster when the fairings and wheel pants are installed (hee hee hee).

At left are both airplanes now at home. I scaled both airplanes in Visio to see if they were going to fit and sure, enough, they fit just as Visio said they would.

28 June 2008

Overall, the airplane continues to fly well. At around 16 hours, the engine has yet to consume a full quart, but once the oil settles before the next flight, it may be due. High ambient temps into the upper 80's today had CHTs just over 400 but did come back down into the upper 300's so that seems to be doing well. Although my roll servo is disconnected, I did test the ALT HOLD and that seemed to do its job very well.

After winding up some standard rate 360 turns, left and right, then doing steep turns to put on some G's, I did a chandelle, followed by some nice wingovers. Finally, I did some aileron rolls, left and right. It sure flies like an RV!

4 July 2008

We had the annual BBQ here at the house but I took some of the morning to head down to Auburn to do a couple things and brought Alex along. There were four things I wanted to get done: fix the NAV antenna, do some minor trimming on the forward center fuel line cover, troubleshoot the roll servo, and put some gas in it. It was almost successful as I got three out of four. I still need to get the roll servo fixed. I did manage to get the NAV antenna working; the wing root had a 90-deg crimp BNC, and the center pin wasn't set deep enough for connectivity. I was actually surprised to pick up the SEA VOR on the ground at Auburn. Now to see how far it receives in the air.

- Jim Piavis

Great Men I Knew: Capt Wayne Eggert

Capt Wayne Eggert gave me my first helicopter ride in an H-21C. The first autorotational landing he made on a dry lake bed we felt the rear wheels just barely scuff. No bounce. He was not happy about it and made another landing which I never did feel the wheels touch. That was in early 1955.

The only formation I had to participate in while in the Air Force was for awarding a medal to **Capt Eggert** for a rescue he made at Monache Meadows.

The H-21C was new to the Army and the Army was new to pilot training. **Keith Putman** related a story to us in the office after he and **Capt Eggert** returned from Dothan, AL. They had been requested to talk to the new student pilots and instructor pilots about some of the characteristics of H-21C since it was a tandem helicopter.

During the presentation to the apathetic group, one unidentified young voice in the back of the room spoke up, "Captain, who are you to tell us about the helicopter?"

Keith said that **Eggert** took up a very strict military posture and in a very commanding voice told of his some 6000 hours in helicopters of which some 2000 or more were in experimental helicopters. (I wish I had been there.) I never did find out if he told of his evaluation of the Sikorsky helicopter that became the H-19 versus the Bell Model 48. He lost the tail rotor on the Model 48 during the testing. From what **Floyd Carlson** (of Bell) told me years later, **Eggert's** piloting skill saved the aircraft to fly another day.

The story I wish to relate is one that is still poignant to me even more than 50 years later.

At the Armed Forces Day in May 1956 **Capt Eggert** flew the base support H-19. The helicopter was fresh out of Depot Overhaul. It was decorated with a big clown face. He was chasing an airman around the ramp like the airman was having a nightmare. We knew **Capt Eggert** was not pleased with the script. It was not serious and he believed it was too dangerous.

A week later when he visited Engineering I mentioned that I had taken a lot of 8mm movie pictures of the skit. I did not have them developed yet and said I hoped they were good.

He commented to the effect, "They better be good then, because I will never do that again." When I talked to **Keith Putman**, the following February, he told me that **Capt Eggert** had been killed in the same H-19 while flying to Rosamond Dry Lake to pick up a drag chute. (A missing cotter pin in the control system, something that has influenced my design career.)

Capt Wayne W. Eggert received the Alexander Klemin Award posthumously in 1957.

There are other stories of **Capt Eggert** of which at least one I was on the receiving end (rightfully so).

- Lee H. Erb
Det 5, Arlington, TX

Photographic Evidence

In the "better late than never category" I have included independent verification that Chapter 1000 "***Project Police***" attended the **2007 Copperstate Airshow** at Casa Grande, Arizona (KCGZ), as shown here on 10.27.2007 at 15:05.

- Tim Brien

Project Police Aircraft Spotters Quiz

All right, you slugs! **Evil Editor Zurg** has been combing the archives working to dig up another oddball aircraft that he thinks you have no hope of identifying. Evil Editors are like that. Look below to see what he came up with for you.

Here is your chance to prove old **EE Zurg** wrong. Find yourself a small sticky pad. Write your guess on the sticky pad backwards in blue pen. Peel the sticky pad off and stick it to your forehead. Get your camera phone out and take a picture of yourself in the mirror and send it to erbman@pobox.com .

If that's too much trouble for you, just type your answer into an e-mail to erbman@pobox.com . If you don't know for sure, make something up! The funnier the better! You can also mail 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 5 July 2008, the hit counter showed **122126**, for a hit rate of 14 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

Jul 15: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., 4400 Knox, Rosamond CA. Bill Irvine's Stormy Hangar. (661) 609-0942

Jul 28 – Aug 3: EAA AirVenture Oshkosh http://www.airventure.org

Aug 5: EAA Chapter 49 Monthly Meeting, 7:00 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

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

Aug 19: *Project Police* Night at the Ball Park, Clearchannel Stadium (The Hangar), Lancaster CA. Game starts at 7:00 p.m. (661) 609-0942

Sep 2: EAA Chapter 49 Monthly Meeting, 7:00 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

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

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

Oct 7: EAA Chapter 49 Monthly Meeting, 7:00 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

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

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

Nov 4: EAA Chapter 49 Monthly Meeting, 7:00 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

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

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

Dec 16: EAA Chapter 1000 Festivus Etc Celebration, time and location to be announced (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.

Contact our officers by e-mail:
President/Flight Advisor Gary Aldrich: gary.aldrich@pobox.com
Vice President Scott Weathers: flynwx@pobox.com
Secretary Kent Troxel: kenttroxel@sbcglobal.net
Treasurer Doug Dodson: houdu@pobox.com
Technical Counselors: Gary Sobek Gary@rvdar.com
Bill Irvine wgirvine@yahoo.com

EAA Chapter 1000 Technical Assistants

Composite Construction		
Doug Dodson	douglas.dodson@pobox.com	661-256-7276
George Gennuso	pulsar1@sbcglobal.net	661-265-0333
Brian Martinez	brianmmartinez@aol.com	661-943-5379
Bob Waldmiller	waldmilr@qnet.com	661-256-0932
Wood Construction		
Bob Waldmiller	waldmilr@qnet.com	661-256-0932
Aluminum Sheet Metal Construction		
Bill Irvine	wgirvine@yahoo.com	661-948-9310
Miles Bowen	cessna170bdriver@yahoo.com	661-822-0806
Russ Erb	erbman@pobox.com	661-256-3806
Welding/Welded Steel Tube Construction		
Russ Erb	erbman@pobox.com	661-256-3806
Engine Installation		
Bob Waldmiller	waldmilr@qnet.com	661-256-0932
Doug Dodson	douglas.dodson@pobox.com	661-256-7276
Electrical Systems		
Miles Bowen	cessna170bdriver@yahoo.com	661-822-0806
Instrumentation and avionics requirements for VFR/IFR		
Gary Aldrich	gary.aldrich@pobox.com	661-609-0942

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

THE LEADING EDGE
MUROC EAA CHAPTER 1000 NEWSLETTER
C/O Russ Erb
3435 Desert Cloud Ave
Rosamond CA 93560-7692
http://www.eaa1000.av.org

ADDRESS SERVICE REQUESTED

THIS MONTH'S HIGHLIGHTS:
REGULAR MEETING 15 JUL AT L00
ERBMAN MAKES SECOND FIRST FLIGHT
PIAVIS' RV-7 FLIGHT TESTING
LITTLE KNOWN GREAT TEST PILOTS

EAA™
The Leader In Recreational Aviation