experimental aircraft association

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 *July 2009*

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:

Mr. Smith Goes To Oshkosh

Tuesday, 21 July 2009
1700 hrs (5:00 PM Civilian Time)
USAF Test Pilot School
Edwards AFB, CA

Colleagues,

The upcoming meeting of EAA Chapter 1000 is the last of its kind before beginning the pilgrimage, the trek, the quest, the crusade. You know, the journey to Oshkosh, also known as AirVenture. As such, we plan to spend at least part of the meeting in preparation for that blessed event. We have a spiffy new video from Headquarters detailing some of what we can expect there. If you are planning a trip to Oshkosh this year, you'll come away from this meeting filled with hope and wonder. You will eagerly anticipate the experience that surely awaits you. If you are not planning to attend AirVenture this year, you may feel pangs of regret, an inexplicable emptiness and yearning. Or, maybe not. But, the video is well done. It offers some insight into what's new at KOSH. But, it also lends some insight into the meaning and purpose of this organization that is EAA.

As you may expect, there will be CCCs (chocolate chip cookies), and chips, and beverages. There will be hangar flying and project updates. If pressed, I can share the success of the last twelve rivets in smashed on the RV-8B, bringing the TRC to 2672. We'll talk about other current events.

When can we expect to hear machining noises from the Irvine Aircraft Construction and Refurbishment Center? Is the Strike Mooney really for sale? When can we expect to see Cobra's Combat Bonanza over the skies of Lancaster? All stories must contain a minimum of six percent truth, but anything over nine percent is overkill. And, as you know, the best stories begin, "There I was..."

So, come out to the TPS auditorium on Tuesday, 21 Jul 09 at 1700. After all, if you're not going to Oshkosh this year, you'll need to get your orders in before the gross weight of the **Fightin' Skywagon** and the **Combat Bearhawk** are exceeded.

- Scott "Stormy" Weathers
Vice Kommandant

Last Month's Meeting

EAA Chapter 1000
Simulator Room, USAF Test Pilot School
Edwards AFB, CA
16 June 2009
Gary Aldrich, Presiding

Six intrepid ***PPOs*** gathered together at the USAF Test Pilot School to take **"Evil" Bill Gray** up on his offer to fly the T-38...simulator. Actually, it was an anything simulator, but the T-38 model was currently loaded. This was the best model of anything that TPS currently has.

Minister of Propaganda **Kent "Cobra" Troxel** was AWL doing something else, and thus was unable to write this meeting report.

Bill started by telling the assembled ***PPOs*** of his vision back in 2003 to find a way to enhance teaching TPS

students how to do Handling Qualities testing without burning copious amounts of JP-8. Additionally, there was the desire to show the students bad flying qualities the way we used to do in the F-4, and even to separate out the effects of the various stability derivatives. While the aircraft models, computer hardware, and display technology were readily available, all extant simulators did a really poor job of modeling the control feel. Since a huge part of Handling Qualities testing involves the control feedback forces, it was critical that this be done correctly.

The solution was computer-controlled high-torque electric servo motors to provide the stick forces. An interesting side effect of this is that the stick can be programmed to make defined inputs. This gives the visual impression of an invisible test pilot moving the stick.

The most impressive thing was not that **Evil Bill** was able to design and assemble this simulator. The most impressive thing was that he was able to sell TPS leadership to cough up the money to make it happen.

"Evil" Bill Gray (in the Zipper Suited Sun God outfit) briefs the *PPOs* on the operational concept of the simulator. Apparently Leigh and Tim missed the e-mail on the required shirt color for the meeting

Since Knife Gennuso didn't show up to take the first flight in the simulator, Stormy was pressed into service. Leigh plays the part of the F/A-18 style display that tells the pilot which way to move the stick to recover from the corner he's gotten himself into

Evil Bill schemes for more ways to mess with his Academy classmate Erbman as the Kommandant, Tim, and Hellmuth look on.

Erbman practices his steep turns, wondering aloud if he could take his Commercial Pilot Practical Test in a T-38.

Finally the Kommandant gets in and shows us all the way an afterburner climb is really done

- Russ "Erbman" Erb
Emergency Substitute Minister of Propaganda

Kommandant's Korner

"Hot town, summer in the city!" **John Sebastian** and the **Lovin' Spoonful** could have been talking about the Antelope Valley the past couple of weeks. Of course, we also enjoy (?) the wind… Well, **Trooper Dodson**, myself, spouses, and **1st Dog Pixel** found a way to beat the heat this last weekend. We found a place that, like many caverns is a cool and moist 60-ish degrees F most all the time. Also like a cavern, it is often dark and foreboding. Seasoned readers of this space will recognize the spot of which I speak is in far northern reaches of the Peoples Republic of California, in Humboldt County. This is a land populated by quietly rusting VW Microbuses, dreadlock-wearing hippies, and my senior daughter **Rachel** and her husband **Greg**.

You may recall my column on ORM a while back in which I described the first attempt to make this trip to Arcata (ACV) with the **Dodsons**. While the winds were not an issue on this rescheduled attempt, the METARs and TAFs leading up to departure day stubbornly reported ceilings in the vicinity of 100 feet and visibilities in the hundreds of feet. Never-the-less, on Friday the 3rd the **Strike Mooney** executed a flawless, minimum-comm airborne pickup on the **VC-180** at Fox Field and we struck out for lunch and avgas at **Charles M. Shultz Airport** (STS) in Santa Rosa, CA. As a possible good omen, the clouds parted just in time to allow a VFR recovery into STS where we enjoyed a great lunch of fish and chips on the patio while **Pixel** stood guard under the table.

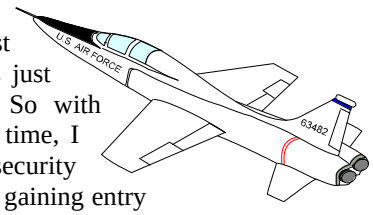
Sensing a brief window when the weather would at least be above the ILS minimums at ACV, we launched separately on IFR flight plans for the final leg. Again, superior skill and cunning triumphed as we were both able to fly the ILS to a touchdown with a reported 500-foot ceiling without ever penetrating a cloud! You'll have to ask me or **Doug** just how that happens. What followed was a very enjoyable, though chilly visit to the **Lady Anne Inn B&B** (www.ladyanneinn.com). We fortified ourselves with copious quantities of the excellent local micro-brews and cheered on the home baseball team (Humboldt Crabs) the evening of the Fourth. The end of the exciting game was accompanied by the report of fireworks over the town…though the low ceilings resulted in muffled booms and eerie glows in the fog.

After a bit of sightseeing on Sunday, we punched up through the overcast and made our way back to the desert, the heat, and the wind. Leaving tomorrow for Idaho. Check this space next month for that report.

Check 6 and fly safe,

- Gary Aldrich
Kommanding

From PA-38 To A T-38



The T-38 simulator offer in last month's newsletter was just too good to pass up. So with preparation and lots of time, I took on the EAFB security forces and succeeded in gaining entry once again (never a sure thing).

Upon arrival the group was briefed by **"Evil" Bill Gray** about the simulator he created and why. The primary reason being to enable "flying" the aircraft in modes that are generally considered unsafe or impossible in a real airplane. That said, we were introduced to the simulator in a small room. No, this is not a fancy full motion simulator, but then it doesn't need to be for the functions it was developed for. It has three large monitor screens (30"?) giving an active 90 plus degree field of view. The seat, stick, and throttle are mounted on a platform above the various feedback motors that are the functional heart of the system. It is these motors and the integration software behind them that Bill is so justifiably proud of. From the base T-38 settings he has he can modify virtually any flying parameter, literally on the fly. It was great fun watching **Russ** fly the airplane with divergent stability, kind of like sitting on a ball and almost as uncontrollable. Our **Kommandant** also flew some and notably performed a beautiful split S. Others flew too, and as I wasn't taking notes I shall refrain from trying to make this a comprehensive flight log.

My first impression sitting in the seat and grabbing the stick was "this is no desktop simulator". While flying, the stick and pedals had a firm authoritative feel to them that can only be described as realistic. Once up and about I was able to, for the first time, really enjoy a simulated flight. Control forces built and diminished relative to speed and G loads. It really felt like flying! Now I don't have much flying time, very little of it is stick or side stick and most of that is about two hours of various barely controlled helicopter introductions. A **Bearhawk** and a **Long Eze** aren't anything like a T-38!

Anyway, it was great flying around in the simulator. It gave me a point of reference that so many of the books I grew up reading tried to do as they described military flying (Stranger to the Ground comes to mind). Everyone seemed to get a kick out of just how much fun I was having (they cycled me through twice). **Russ** made sure that I got in a supersonic run while I could. At 13,000ft blasting along 800kts all I could think was "the ground is moving really slow". The control forces were surprisingly heavy, but then we are not talking a Piper Tomahawk or its speed range. As all flights must come to an end so did mine. Even with the tutelage of **Gary** and **Russ**, I still managed to land short of the threshold by pulling off too much power too soon. Apparently... **Bill** has also accurately modeled the turbine lag.

All in all it was great fun and an educational experience. Hopefully there will be a next time and **Bill** will have an FB-111 up too. Of course now I'm home and planning on adding two more monitors to my system as I

can't afford a T-38 of my own. But if you can, then Chuck Thornton has several for sale and I'd like a ride. http://www.thorntonaircraft.com/body/body.cfm?page_name=mil

A big "Hats Off" and "Thank You" to all at the TPS that made this possible.

- Tim Brien

Krap! What Happened to My August Newsletter?

You're not asking yourself that yet, but you will be soon. **Erbman** figured that **Cobra** was on to something and will be out of town during the normal newsletter cycle. **Evil Editor Zurg** will be TDY joining his old nemesis **Buzz Lightyear** at the Secret Toy Summit Conference.

Hopefully your chapter staff will figure out a way to get you notice of the next chapter event/meeting, most likely via e-mail.

Project Police Tactical Assault Force (*PPTAF*) Formed for Oshkosh Deployment

Your representatives for this year's ***Project Police*** raid on headquarters have been chosen. This year two aircraft have been manifested for the mission—the **VC-180 Fightin' Skywagon** and new to the lineup this year, the **RB-4 Combat Bearhawk**.

As always, the aircraft commander of the **Fightin' Skywagon** will be **Gary "Kommandant" Aldrich**. The First Officer will be aviation legend **Jimmy "JDIII" Doolittle**. The role of additional crewmember will be played by JDIII's grandson **Hunter**.

Aircraft commander of the **Combat Bearhawk** will be **Russ "Erbman" Erb**. The Copilot/Navigator/Funny Man/Scapegoat will be **Scott "Stormy" Weathers**.

Mark your calendars now for **15 September 2009** (regular meeting night) for the Powerpoint® extravaganza known as the ***PPTAF* Oshkosh Report**.

Three Sigma Flight Test Update

At press time, the Hobbs on Bearhawk **Three Sigma** stood at 28.1 hours. On 8 July 2009 I completed 25 flight hours since the DAR inspection, and made the logbook entry officially completing the Phase I flight test period. On 11 July 2009 ***PPO* Doug "Houdu" Dodson** became the first pilot to fly **Three Sigma** besides **Erbman.**

Current efforts on **Three Sigma** are focusing on getting ready for the big cross country to OSH.

In the interest of filling up space and at the risk of you actually learning something, we step into the Wayback Machine and take you back to this pre-condition inspection report

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The Hobbs on Three Sigma has worked its way up to 15.6, which means that we are 13.6 hours into the 25 hour Phase I flight test. For those who are counting, that is 12.3 hours on this engine since the overhaul.

So far, the primary effort has been focused on engine break-in. There are several signs indicating that the cylinders have broken in, but other signs that seem to contradict that conclusion. Initially the cylinder head temperatures were high all around, and the oil temperatures were high as well. Of course, there is some connection between the CHTs and oil temperatures. If one is high, the other is going to be high. If you can reduce either one, it will reduce the other as well.

As you may remember reading, I started making progress when I left the throttle wide open and flew as fast as I could. After making a slow rate climb to my target altitude of 5000 feet (about 2500 feet AGL), I pulled the RPM back to about 2400, which would give 75% power at best power mixture, except I was still running full rich with the economizer open. Makes for about 20-22 gph fuel flow - scary fast. The CHTs were as high as 465 deg F (Lycoming says 500 is the absolute red line) and the oil temperature was 240 deg F. Ordinarily these temperatures would be scary high, but everyone seems to agree that the engine will run hot while breaking in, though no one can tell me what I should expect. The key point was that the temperatures stabilized--which means that some level of cooling was occurring.

I also noticed that pulling the RPM back gave me a way to control the CHTs and therefore control the oil temperature. Additionally, several sources (including Lycoming) state that after the first hour of break-in the power should be alternated between 75% and 65% power in 10 minute increments. Apparently this keeps the rings from getting stuck in one condition. For my conditions, this corresponded to 2400 and 2100 RPM. At 2100 RPM the CHTs eventually got down to around 378 to 416. At 2400 RPM they ranged from 400 to 440.

I started to notice that cylinders #1 and #2 were running at least 20 degrees hotter than the other cylinders. These are the two cylinders in the front. For reasons that I don't understand, the Van's RV-10 baffle kit included aluminum sheets in the front that blocked off the front side of the cylinder heads on cylinders #1 and #2. It seemed it would be an easy fix to drill out the rivets holding these pieces and remove them. The theory was that this would give more cooling from the air striking the front side of the cylinder heads. I removed the pieces, then flew the next day. It had the desired effect of reducing the CHTs on #1 and #2 down into the range of the other cylinders.

At this point a curious pattern became apparent. As a group, the cylinders on the right side (odd numbers) were running cooler than the cylinders on the left side (even numbers). At first I thought this was because the oil cooler was mounted on the left side, stealing air from the cylinders. However, the air for carb heat and cabin heat are pulled from the right side, and that air always flows whether it is being used or not.

Herr Kommandant suggested that I should take time to look around the engine compartment and look for any thing I might find that might be affecting the cooling. I responded that I had done that, but perhaps it was worth doing again.

I had inspected the engine compartment, but I had been looking down toward the cowling exit. Early one morning while doing the preflight I noticed on the left side that the rear baffle seal was flopped backwards instead of forwards as it should be. My first thought was that I hadn't made sure it was flopped forward the last time I closed the cowling. However, the previous day I had quickly pulled the airplane into the hangar and ran away to get to work. Since I hadn't opened the cowl since the previous flight, it was very likely that the baffle seal had been in this wrong position for the last flight, and who knows how many other flights.

Further inspection on the right side showed that the right side baffle seal was pointed forward as it should be, but the baffle seals under the center part of the top cowling were also flopped backwards.

Prior to the next flight, I was very careful to make sure that all of the baffle seals were positioned correctly. During the flight, the CHTs followed the same pattern as seen the last two days.

After the flight, I carefully opened the right side cowl and verified that the right side rear baffle seal was still in the proper position. However, the center rear baffle seals and the left side rear baffle seal had been pushed back to the inverted position. Of course, in this position the seals don't seal very well, as the top deck pressure pushes them away from the cowling and thus allows a lot of the top deck cooling air through without cooling the engine. It was also apparent that this had gone on for some time, as the left side seal showed signs of rubbing the cowl (i.e. lack of dirt) on the "wrong" side but not the "right" side.

Note that the properly positioned baffle seal corresponded to the cooler running cylinders. This was very encouraging.

A quick calculation of the dynamic pressure at 130 KTAS and 6000 ft density altitude shows about 0.33 psi (48 psf). While that doesn't sound like much pressure, over quite a few square inches that can build up enough force to push the baffle seal through to the wrong way.

The problem appeared to be that the rigid part of the baffles (the aluminum) had too big of a gap from the cowling. The solution was equally simple--add another sheet of aluminum to fill some of the gap between the baffle and the cowling. This could be easily attached using the same screws that hold the baffle seals in place. If the gap is small enough (leaving enough room for engine movement) the rubber seals will not be able to push through the gap and will thus seal properly.

The baffle modification was made, and on the next flight there was a significant change in the CHTs. When the flight was over, I looked in the inlets and verified that all of the baffle seals were in their correct positions.

CHTs after the fix are shown below positioned as the cylinders are looking down at the top of the engine, as in

#2	#1
#4	#3
#6	#5

All data are at 5000 feet pressure altitude, wide open throttle (about 24 in Hg MAP), and 70 deg F OAT.

2400 RPM (about 75%)		2100 RPM (about 65%)	
Full RICH mixture		Full RICH mixture	
Oil Temp 215		Oil Temp 199	
421	374	388	355
410	392	386	373
400	404	401	371

Feeling encouraged by these results, I tried leaning the mixture. I don't think I got it leaned as much as it could have been.

2400 RPM		2100 RPM	
Leaned mixture		Leaned mixture	
Oil Temp 218		Oil Temp 206	
408	395	404	373
426	422	410	392
408	418	419	421

I even tried climbing up to 8500 feet and leaning. Soon it was time to return to the airport, so I started a descent. As the CHTs dipped to 320 to 380, I thought to try closing the cowl flap to slow the cooling and was able to actually bring the CHTs back up a little bit, so it looks like the cowl flap will be useful for controlling shock cooling.

The oil fill/check door is a simple sheet of aluminum with no reinforcing on top of the cowling. I noticed today that you can see a slight bend in it in flight as the top deck pressure from the cowling pushes up on the door.

While at altitude I also tried turning off my fuel boost pump and a curious thing happened. When I turned the fuel pump off, the fuel flow dropped from about 14.5 gph to something like 12 gph. My initial reaction was that the gravity flow was not able to keep up with the engine's requirements and the engine was draining the carburetor bowl, to be followed soon by anything from engine stoppage to a really lean mixture. However, on a hunch I tried twisting in the mixture knob. With a few twists I was able to get the fuel flow back up to 14.5 gph, so it wasn't an issue with fuel delivery. If it was a delivery limitation, it should not have changed when I moved the mixture knob. Apparently the fuel flow at a particular mixture setting depends on the fuel pressure into the carburetor. That doesn't match with how I thought a bowl carburetor worked, but that's the evidence. I've found other information that supports this, such as a report that turning the electric fuel pump in a fuel injected Bonanza to HIGH during cruise will flood the engine. Apparently that setting is only intended to be used if the engine driven pump fails.

While droning around the skies I have taken some time to check some other items. The autopilot altitude hold works great. Track hold works too, and by spinning the knob you can change the desired track and make the airplane turn at up to 15 degree bank. It will also track a NAV flight plan, though in one test it wouldn't fly a

holding pattern like it would in the simulator mode on the ground. I don't know if the GPS is supposed to command that or if it is just part of the simulator mode.

Both radios are working well now after I figured out the sidetone volume setting on the GNS 480. The 480 will receive a VOR and ID it. However, I can't get any guidance out of the VOR/ILS. Checking with my avionics guy revealed that I will have to add a separate CDI to get the VOR/ILS to work. We had hoped it would show up on the Dynon, but it's not working that way.

While in flight, I tried turning on the Pitot heat. Prior to doing this, the load meter was showing about 20 amps. The initial inrush current spiked the load meter up to 50 amps, then quickly came back down to about 35 amps.

This was the behavior I expected based on earlier testing. Likewise there was an increase in amps when I turned on the position lights. On a later flight I tried the landing/taxi/flash lights with success. At least the current draw went up—it's tough to see the light during the daytime.

It is tough to see, but it appears that the flaps may be pushed up about 1/4 inch at the trailing edge in flight. The first two notches of flaps don't look like much deflection. As part of the condition inspection, I readjusted the flap cables. The flaps still fly at the same position (flaps up) due to cable stretch, but the first two notches of flap now have a significant deflection.

Part of the fun of being in aviation is suffering the many Old Wive's Tales (OWT) and the folks who believe them. While breaking in my engine, I had to deal with controlling CHTs. The good sources state that it is important to keep the cylinder pressures (mean effective pressure) high to keep the rings pressed hard against the cylinders. I don't question that at all. High cylinder pressures come from running at high manifold pressures. However, many sources and "old wives" forget this and re-interpret the requirement as running the engine at high power. That's not so bad if you have a fixed pitch prop, because the only way to get high manifold pressures is to run at high power settings (high RPM). However, with a constant speed prop, we get another degree of freedom that gives us additional control. I dug up my old equation for Mean Effective Pressure, which is basically horsepower over RPM multiplied by engine displacement and some other constants. I did some checking with my engine power tables, and found that within a couple of percent the horsepower is proportional to RPM for a constant manifold pressure, at least over the range from 75% to 65%. That means that if the throttle is not moved (constant MAP) the cylinder mean effective pressure stays constant as the RPM is reduced with the propeller control. The power is reduced simply because there are less power pulses per minute, which also reduces the heat load on the cooling system. Thus, it is possible to break in the engine properly without being at maximum power. I had several people tell me I was making a big mistake, but the math didn't support their allegations. Had I not had to fix problems with my cooling system, this may have been a moot point.

Oil consumption is undetectable over a two hour flight. There is very little oil on the belly after flight. So far this is true with up to 9.5 quarts in the sump.

Three Sigma turns into a pumpkin and can't fly as of 1 June 09 until I get the condition inspection done. I finally drove to the FSDO and got the Repairman Certificate so that I could do that. Right now I'm favoring getting as much flying done as I can before doing the inspection. That way I should catch more of any problems that come about as a result of flying.

As the end of May approached, the landings got more...uh...how do you say...exciting? **Houdu Dodson** even witnessed several..."excursions" across the runway from the vantage point of a Cessna 172 stopped on the taxiway at L00. Once again, **Herr Kommandant** asked how my toe-in measured. When measured during the build process, the toe-in was down to well under 1/2 degree total. However, when measured now there was significantly more toe-in. My first assumption was that the right axle got bent during the famous ground loop. However, when precisely measured, the toe-in was 1.27 deg on the left and 1.19 deg on the right. The current theory is that when the tread was reduced (at the recommendation of the designer) by shortening the shock struts, the gear legs picked up some additional toe-in because the gear leg pivots are not parallel to the fuselage centerline. The recommended toe-in in the three-point attitude is 0 to 1/2 degree. Discussions with the designer indicated that the gear legs could not be bent cold without overloading the longeron attachment points. Thus, fire would be required, but in such a way that the fabric on the gear legs was not damaged.

The toe-in correction team was **Erbman** on the fiery torch, **Stormy** applying the corrective torque, and **Tim Brien** stabilizing the tail.

To measure the toe-in, square tubes were clamped to the brake disks. Measurements were taken against a centerline marked by plumb lines from the tailwheel spring and crankshaft.

Axle with wheel removed and brake caliper tied up out of the way. The wheel bearings rest on the white part of the axle. The torch was applied and the axle bent at the point shown by the arrow.

The Bar to Apply Torque for the Purpose of Increasing Stress and Strain (BATPISS), an 8 foot long section of 1-1/4 x 0.120 4130 tube that slipped into the axle.

Axle after bending—note red glow. Towel over fabric gear leg is dripping wet to protect the fabric

Stormy writes in response to questions by another Bearhawker:

How much movement was really required in both the axle and long 8 ft tube?

Movement required in the axle was to change 1.2 degrees to fall between 0 and 0.5 degree, right? Movement of the Bar to Apply Torque for the Purpose of Increasing Stress and Strain (BATPISS) was 1.7 inches for each degree of axle movement. [96" x sin(1 degree) = 1.7"] However, in application, the end of the bar was deflected 8 to 12 inches to achieve plastic deformation of the axle. This was exaggerated by the movement of the gear leg as well as some movement of the aircraft when the torque was applied.

How much was the spring back after bending?

As noted above, the intent was to change the angle of each axle approximately one degree. This would require a deflection of approximately 1.7 inches. However, the BATPISS was deflected up to 12 inches and perhaps beyond that value. This was due to not only the elastic region of the axle, but also the elastic deformation of all the aircraft components in the load path. For the second axle, **Tim** stationed himself at the rear of the aircraft. In so doing, he was able to eliminate the deflection of the tail wheel tire and keep the tail wheel from sliding. I estimate that I applied 5 to 8 pounds of force to the BATPISS resulting in an applied torque of 40 to 64 foot-pounds.

Lessons learned:

1. Secure the aircraft as firmly as possible. Significant torque is required to achieve plastic deformation of the axle. If the aircraft is allowed to move, you cannot apply the necessary torque, and you will lose your reference to the initial condition.

2. Support the end of the BATPISS at the force application end. It would be better if that support were fixed to prevent movement. The scale of deflection must be marked on that support. If it moves, you will lose your reference to the initial condition. Mark the BATPISS support with a scale in inches. The zero of this scale should coincide with the point where the BATPISS is just starting to apply torque. A slight movement of the BATPISS within the axle can change the scale calibration by more than an inch.

3. The BATPISS support and scale should be long enough to cover the full range of deflection of the BATPISS in the application of torque. Even with the aircraft firmly secured, this scale should be at least 12 inches.

4. It is not necessary to attach a "remove before flight" flag to the BATPISS. If you find yourself walking several feet toward the wing to reinstall the wheel on the axle, it means the BATPISS is still installed and should be removed before the aircraft is returned to service.

- Russ Erb

Web Site Update

As of 12 July 2009, the hit counter showed **127430**, for a hit rate of 12 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 21: EAA Chapter 1000 Monthly Meeting, 5:00 p.m., Edwards AFB. USAF Test Pilot School, Scobee Auditorium. (661) 609-0942

Jul 25 – Aug 1: Bearhawk/Skywagon Deployment to OSH.

Aug 4: EAA Chapter 49 Monthly Meeting, 6:00 p.m., 4281 Stetson Ave, Rosamond CA. (661) 948-0646

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

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

Sep 1: EAA Chapter 49 Monthly Meeting, 7:00 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

Sep 8: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

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

Oct 6: EAA Chapter 49 Monthly Meeting, 7:00 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

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

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

Nov 3: EAA Chapter 49 Monthly Meeting, 7:00 p.m., General William J. Fox Field, Lancaster, CA. (661) 948-0646

Nov 10: EAA Chapter 1000 Board of Directors Meeting, 5:00 p.m., High Cay, 4431 Knox Ave, Rosamond CA. (661) 609-0942

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

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

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

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MUROC EAA CHAPTER 1000 NEWSLETTER
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http://www.eaa1000.av.org

ADDRESS SERVICE REQUESTED

THIS MONTH'S HIGHLIGHTS:
REGULAR MEETING 21 JUL @ TPS
FROM PA-38 TO T-38
3 SIGMA FINISHES PHASE I
AVIATION PODIATRY

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