



PROP WASH

Dedicated to aviation, safety, friendship, community involvement and education since 1984

www.auburnaviationassociation.org

August 2007

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President's Message

We had a great cookout at the July meeting! The burgers were delicious and there were many great dishes brought by our members. Thank you, Chefs and our "Hospitality Committee" who put the whole dinner together. They work really hard every month.

I want to thank our speaker, Ken Dwelle, for taking time to present the Dwelle's flying machines. I am definitely biased but I thought he had a great program! (Sorry, moms get to do this sometimes.) We hope you enjoyed it, also.

The great migration to Oshkosh is about to begin. The EAA Air Venture goes from July 23rd to 29th and is the world's greatest aviation celebration. Tom and I will be there and I know many of you are going, too. See ya' there.

A little business...we are looking for an Events Calendar Editor to help Andy Robinson with the Propwash each month. All that is needed is an update emailed to Andy each month of the dates of aviation events for our newsletter. You can get them in any flying publication. All are available to look through in the pilot lounge at the new TGH AIRPORT SHOP. This should take just a small amount of time and would really help Andy with the very BIG job he does for us each month. Incidentally, if you haven't been in to visit the new Airport Shop you are missing a treat. It is a great addition to our flying community and staff is exceptional.

The City Council will consider adopting the Airport Master Plan at the July 23rd meeting. This has been a long time coming but hopefully will pass without difficulty. They are also keeping up with the Parkside Nazarene Church conditional use permit the County is trying to approve for a school in the Airport flight path. BAD idea. Stay tuned for updates as we must be vigilant about protecting the Airport and the people who are near it.

Fun stuff...our new hats should be here for our next meeting which happens to be our 23 anniversary of the Auburn Aviation Association. More fun stuff...Joan Knierim won \$39 in the 50/50 raffle. Congratulations!

VP Don Anderson has invited Ted Ross to speak on the SR-71 at our next meeting. He has many hours in the Blackbird and should be really interesting. So see you on August 1st, at 6:00.

Blue Skies and Happy Flying

Peggy Dwelle
2007 President

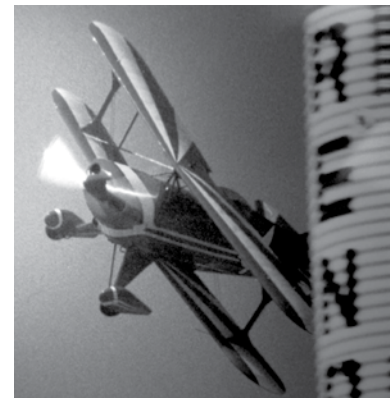
Aviation Dates

August 4, 5, 6th 2007, 10am - 4pm daily
August 25, 26, 27th 2007, 10am - 4pm daily
 Antique Aircraft Display at Auburn, CA

Wednesday September 5th, 2007
 Auburn Aviation Association Meeting, 6.00pm

September 12th 7pm
 TGH Aviation - Garmin Evening
 Auburn Airport Terminal

September 12th - 16th 2007
 Reno Air Races, Reno Stead (4SD), NV
October 4th - 6th, 2007
 AOPA Expo 2007
 Connecticut Convention Center, Hartford, CT



The Safety Wire

Richard Pearl, CFI-G

This is the third of a continuing series of Aviation Safety articles. All pilots are asked to contribute their insights (and no, you don't have to be an instructor, commercially rated, multi-everything pilot to participate). I will be the coordinator of the series and ask that you send your articles – of whatever length – to me: (Richard Pearl) at: pennyrich@aol.com .

MOUNTAIN FLYING – III (ENVIRONMENTAL CONSIDERATIONS)

The first two articles on mountain flying discussed the Pilot, and the Aircraft. This article will explore Environmental issues. Recapping the first two articles:

If you are flying into the mountains, be prepared with a higher level of situational awareness when traversing hostile terrain, and certainly be aware of the serious and insidious effects of oxygen reduction and hypoxia. (Personal story. This last weekend I was giving a sailplane lesson at Truckee. It was fairly hot on the ground with not much cooling at altitude (think density altitude). The soaring forecast wasn't that great – maximum 15,000 feet (generally optimistic) - so I wasn't too concerned that we didn't have much oxygen on board. We flew in the 10-12,000 range for awhile. Being clever, I conserved the O2 in case we were able to break out for a higher flight. All of a sudden I noticed very small black spots in my vision. Amazing how they disappeared as soon as the O2 went on. My student, also in his early 60's, experienced the same thing.)

Aircrafts perform dramatically different in the mountains under high density altitude conditions. Ground speeds are greater, take offs and landings will most likely be longer, patterns wider, and adjustments need to be made for sea level Vx and Vy speeds.

Mountain environments are no place for OJT! One article I read that over twice as many per hour accidents occur in the mountains than in the flats. This article will explore some of the more usual conditions typically found in flying the high country. Our club is fortunate in having many mountain-experienced pilots. Seek them out and learn from their experiences.

GETTING STARTED

I am constantly amazed at how quickly things can change in the mountains. If the situation looks bad, it will most likely get worse before it get better. As they say, better to be on the ground wishing you were in the air, than in the air wishing you were on the ground.

Generally speaking, the air is most often fairly benign in the mountains until about 10 AM, when the ground starts heating up causing updrafts (thermals, yea!) and the winds increase. Afternoon can bring cloud over-development and scattered thunderstorms. If

at all possible, leave early...or leave late when things tend to calm down somewhat.

The first key to an enjoyable mountain experience is to plan your route. The safest route is not always the shortest route! You most likely will be flying over un-landable terrain. Check your charts for flat land along your route and know how far you would have to glide to get there. Even if you fly by GPS, keep your chart handy. Flying i.f.r. (small caps) or I Follow Roads can be a prudent option.

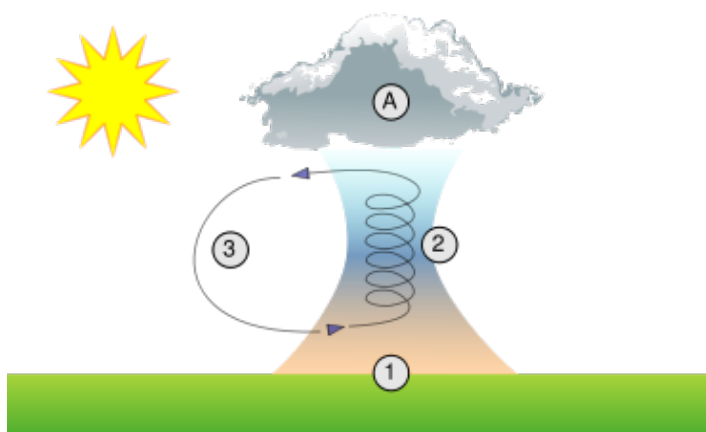
Second, know your airplane. A fully loaded C-172 is a marginal-at-best mountain aircraft, and more so without extensive mountain experience. There's nothing scarier than hitting a downdraft and not being able to climb out of it even at full power. Downdrafts of 1,000+ feet per minute are not uncommon in the mountains and they can extend for a fair distance, especially in the lee of mountains. In the sailplane world we know that areas of sink are larger than areas of lift. The stronger the downdraft the greater the airspeed you need to escape the "sink." Maneuvering speed (Va) or max-cruise are good options. In sailplanes we call it speed-to-fly and it is the airspeed that will give us the greatest distance over the ground for any particular atmospheric condition. Our rule of thumb: speed up in sink, slow down in lift.

TOPOGRAPHY

Mountains make their own weather. Certainly check the winds aloft prior to lift off, but don't assume that is what you will encounter when you fly at or slightly above the mountain tops. Fly the course necessary by conditions.

Thermals

Think of a thermal as free gas. Get into one, get high, then move on. Thermals are formed when air adjacent to the ground is heated until it is warmer than the air above it. Warm air is less dense and will start to rise, and will continue to rise until a cooling level is reached (cloud formation). Thermals can be either anchored (dry, rocky hillside) or free drifting (deserts, farmland). Both types of thermals lean with the prevailing wind. When you see a dust devil, that is a form of thermal. Thermals are generally narrow lower down and flatten out as they ascend...visualize a nuclear blast.



Thermals can raise you up in velocities ranging from less than a hundred feet per minute to 1,000+ feet per minute. Why use your precious gas when you can use nature for free? You'll need to bank from 30 to 45 degrees to stay in the thermal core and fly as slow as

practical for your airplane at the desired bank angle. I'll bet I can (initially) out climb you when departing Truckee – even with my anemic 80 H.P. VW engine – by going to our “house thermal” area just east of runway 19 and rocketing skyward while you're fighting for altitude heading west from runway 28. Of course, you and most everyone else out runs me when under way, but I'm only pushing 4.5 GPH in my motorglider.

Thermals are a whole science in themselves. After 1,500 hours in sailplanes I'm still learning from every flight. Let me know if you want some practical sailplane/thermal experience.

Wave

If winds are perpendicular to the ridge line, or within 30 degrees of that line, and blowing at more than 15 knots and increasing with altitude in a stable air mass, you can expect a mountain wave. Mountain wave is created when winds aloft interact with low level winds that have been displaced by terrain features. At its best, it produces some of the strongest, smoothest, highest, and widest spread lift you can find. That's the good news. The bad news is that prior to entering the wave you can experience some of the roughest conditions (rotor) possible.



Waves are most noticeable by lenticular clouds. They can be at one level, or stacked. Just ahead of the “lennie” may be the roll cloud, or “rotor.” Cloud “caps” may also form and may obscure the mountain top. In flying wave it is generally required to hover over the ground to stay in the strongest part of the lift. This requires increasing your air speed to match the (increasing) wind speed. The wave “elevator” can propel you upwards from a few hundred feet per minute to 1,000+ feet per minute in a glassine-smooth environment. Remember your need for oxygen. Note that on the backside of the wave is generally strong sink. There may also be secondary and tertiary waves behind the primary wave, each with less strength respectively. The U.S. sailplane record of 49,000 feet – in an un-pressurized, basically stock sailplane – was set in the Owens Valley in a standing wave. The pilot had two pressure demand O2 systems on board and was still going up when one system failed and he called it a day.

Ridge Flying

Ridges can be your best friend, or your worst enemy. At relatively low-to-the-ridge top altitudes, approach the ridge at a 45 degree angle and 2,000 feet higher than the top. This will increase your ability to turn away from the ridge prior to crossing if necessary. After crossing the ridge fly perpendicular to it to minimize your

time in the probable downdraft on the lee side. In front of the ridge you can expect a sudden increase in upward velocity, followed by strong sink once over the ridge.

Orographic features (bowls) can cause strong thermals to form as on-flowing air is compressed and twisted into thermals. Great for lift, but frequently turbulent. If you are flying parallel to a ridge down low, keep your speed up. Using ridge lift, glider pilots have gone from Pennsylvania to Tennessee and return never getting much above ridge level.

Canyon Flying

This is a whole course by itself, and it represents the most demanding skills in mountain flying. If you're going to do this, get specialized, professional help (no, I don't mean the mental help type). Without a doubt, never fly beyond the point of no return, and always be able to do a 180 degree turn towards lowering terrain. Always, Always have an out.

Just one small example of how things can go wrong quickly in a canyon. You certainly know that it is best to fly on the upwind side of a ridge/ canyon because the downward side has the descending air. If you have to make a course reversal in a relatively narrow canyon you will now be on the descending air side...exactly where you don't want to be! Couple this with the fact that at high density altitudes your course reversal will take significantly more space than it would at sea level, and the Trap has been sprung. As I said, get help before entering this environment.

Other Points to Note:

Mountain passes frequently set up lower air pressure (venturi effect) which may cause your altimeter to read higher than you really are.

Expect turbulence. Keep your belts TIGHT!!!!

Allow one thousand feet of ridge clearance for every ten knots of wind speed.

Use Flight Following, especially in the mountains. File a flight plan if out of range.

We've had sailplane pilots who have landed out and have had to spend over night in the boonies. Keep a small emergency kit on board (water, matches, lighter, survival blanket, signaling mirror, cell phone, hand held air comm. radio).

In a downdraft, head for lower terrain.

In turbulence, reduce speed to V_a for your weight.

These series of articles have only begun to scratch the surface on mountain flying. Link up with some experienced mountain men/gals and go have some (safe) fun in the hills.

Oshkosh Arrival

Andy Robinson

Greetings from Oshkosh, North 40 parking area, row 513. I am literally typing to you from my laptop, hooked to my Honda generator purring away in the cool evening air.....

Outbound Flight

Last month I put fingers to my keyboard and described my 2005 Oshkosh trip. Since I have a shortage of articles for Propwash, I am writing this article about this year's Oshkosh.

Once again, my flight out to Oshkosh took two days. On Friday I left from Auburn, and flew non-stop to Evanston, WY (WYS). A quick refuel, and a rendez-vous with my hangar neighbor, Bill in his C182, I then headed onwards to Valentine, NE (VTN) for the next fuel stop. Once again, I met up with Bill in his C182. We were playing a form of follow-the-leader, his C182 and my Cherokee 6 are very similar in cruise speeds – so the fun was trying to find the optimum altitude where the best tail wind was. This is when some pre-arranged air-to-air communication on the radio comes in handy. After the second refueling, we then parted on slightly different paths, Bill went off to Mason City, IA, I headed slightly further off to Rochester, MN (RST). After a night in a nice hotel bed, I checked the weather at Regent Aviation FBO, and I flew the last leg in to Oshkosh, arriving at 9:30 in the morning. An hour later I was joined by Bill, and then the following day by Derek, a friend of a friend from South County airport (south of San Jose, CA) in his Cherokee 180.

Total flying time was about 12 flying hours for the outbound leg.

After Landing

After shutting down the aircraft one is greeted by one of the many EAA volunteers with a "Welcome to Oshkosh!" and a handshake. One of the many things that is great about Oshkosh is that everyone wants to be there – hey, it involves aviation! The next task is to tie-down your aircraft and get settled in. If you don't have a tie-down kit then there are other EAA volunteers roving around in John Deere ATV carts whom are more than happy to sell you a tie-down kit – and when it is time to leave, they even offer to buy it back off you at 50% of the cost.

An hour after arriving, Bill showed up in his C182. I had managed to coerce the volunteers to allow me to reserve some extra parking spaces, so Bill was able to park next to my plane. Later on, in the early evening, another C182 arrived – Mark and Dan showed up. Here they are landing on runway 09, just a few hundred feet walk from my tie-down:



My brother flew in from the UK on a big twin (B777) in to Chicago. He then drove up on Sunday to meet up. For fun, we had booked a flight in the EAA's Aluminum Overcast B-17. Early on Monday we walked over to the registration trailer for the briefing, then boarded the bus for the short ride to Appleton airport. After a briefing and an walk around the B-17, we were enlisted to turn the propellers of the engine – nine blades per engine. I could write about the flight for several paragraphs, instead I shall share a photo of the view from the nose turret as we flew high over runway 18 at Oshkosh: Attending the AirVenture show requires a lot of walking to get



around. There are also several other forms of transport supplied for the visitors: school buses run routes around the campsite taking campers to and from their campsite to the show blocks and also to the registration buildings. Campers also bring their own bicycles to cycle around on – though these are not allowed on the active flight line – one can lock their bike up at the entrance to the flight line and walk the rest. Trams, pulled by John Deere tractors run visitors from one end of the show to the other. Then there are hundreds of golf carts delivering people around the air show. On Tuesday evening, Simon, Bill and myself were about to head out for a mile or so walk to the other side of the camping area, however, we saw a golf cart with a sole occupant – so we assumed the hitch-hikers technique and held a thumb out for a lift. The driver duly stopped and we were then chauffeured to our destination by General Chuck Yeager!

Here is Bill riding in the front with Gen. Yeager (only at Oshkosh!).



Civil Air Patrol

Each year several hundred Civil Air Patrol cadets and staff attend the AirVenture to assist in all manner of activities. Since most of the arriving aircraft taxi then park on the grass areas of the airfield, it can be quite a bouncy taxi for the plane. With all of the camping gear and other additional supplies stuffed in the back of the plane, ELTs have been known to be set off. One of the activities that the CAP undertake is to search for any ELTs that are activated on the field.

On Monday evening a golf cart appeared on Row 513 with a pair of cadets and their adult officer. They were aiming their ELT direction finders around and pointing at various aircraft. Then they made some more sweeps and homed in on Derek's Cherokee 180, "Sir, can you verify that your ELT is off please? We think it is active." Derek responded with, "Well, I parked here last night and I checked my ELT then." Derek then removed his ELT from the rear of his plane, and sure enough – it had gone off! We think that the switch could have been jarred when he was removing some of his camping gear. The CAP cadets and their officer were quite excited since this was the first ELT they had to find during 2007 AirVenture! If you are not sure what an ELT sounds like, listen to this file: <http://www.lerc.nasa.gov/WWW/MAEL/ag/elt.wav>

**New Planes**

Time to look at some more new planes and aviation gadgets at the airshow. Eclipse aviation flew in their new V-tail VLJ concept jet in to the show. Cessna were showing off their next generation piston aircraft as well as their LSA *Skycatcher* aircraft. I decided to look for a more economic aircraft to buy. This is the new model from Aviat - the human powered Christen Eagle. Very economical engine, and nice and compact for hangar space.

Time to head off for more AirVenture fun - still a lot more to experience and see!



August Guest

Submitted by Don Anderson

Ted Ross

Ted Ross was born and raised in Twin Falls, Idaho - attended High school & the College of Southern Idaho there graduating with an AA degree in mathematics.

In 1970 Ted enlisted in the Air Force, was promoted up to Staff Sgt. and then sent to Colorado State University in Fort Collins to get a his Bachelor of Science degree in Management Information Systems in 1973.

He was commissioned a 2nd Lieutenant through Officers Training School (OTS).

Completed Navigator training at Mather AFB in 1974: then flew - KC-135s & FB-111s and earned his MBA degree from Rensselaer Polytechnic Institute, Troy NY.

In 1982 he was appointed a SR-71 Reconnaissance Systems Officer, and assigned to the 9th Strategic Recon Wing at Beale for the next five years.

In 1987 he joined the B-1B long-range Bomber program and then the B-2 Advanced Technology Bomber Program from 1990 to 1992.

From 1992 to 1998 he was reassigned to Beale managing worldwide U-2 and SR-71 computerized mission planning, U-2 and SR-71 operational issues for 12 Air Force and served as the 12 Air Force unit UAV project manager.

During his Air Force career he earned twenty-two medals and commendations, including 4-Air Medals, 5-Meritorious Service Medals, a Republic of Vietnam Gallantry Cross, and Expeditionary Medals for Saudi Arabia, Grenada and Lebanon.

He logged close to 2,500 hours of flight time in nine different military aircraft, with almost 25% of it in the fastest plane ever built – the SR-71.

Following retirement as a Lieutenant Colonel from his 28 year Air Force career, he entered the private business sector holding key management and executive positions in Sacramento.

After 9/11 he returned to Beale as a Defense Contractor.

Since June 2003 he has been the Northrop Grumman Site Manager for the Global Hawk UAV program.

Ted and wife Barbara live in Penn Valley & have two daughters – Heather, a graduate of the University of Nevada-Reno; and Hillary, a graduate of the University of Arizona.

Membership

Please welcome the following new AAA members:

Nicholas & Kelly Manos PA-28

Gary and Catherine Guckel C-172

J.C. & Glenda Harrison C-182

Dave & Melissa Cowles C-172

Joe Guerra

AAA Committee

Please take a moment to check the front of this Propwash. If there is a colored spot/sticker affixed to the address, then it is time to renew your membership. Please submit your \$20 membership fee along with your address/phone/email details - a form has been printed on the next page for your convenience. Please bring your payment to the next meeting or mail it to Auburn Aviation Association, PO Box 6454, Auburn, CA 95604-6454.

Thankyou. We hope to see you at upcoming meetings!

We look forward to see you at the next meeting!

Auburn Aviation Association Membership Form

Please Provide the Following Information:

Member Name: _____ Spouse: _____

Street Address: _____

City: _____

State: _____ Zip: _____

E-Mail: _____

Phone:

Home: _____ Business: _____ Mobile: _____

Type of License: Student _____ Glider _____ Rotocraft _____ Other _____

Rating(s): Private _____ Commercial _____ CFI _____ Instrument: _____ Other _____

Aircraft(s)

Type: _____

Type: _____

Mail Form plus a Check for \$20 made Out To:

Auburn Aviation Association
P.O. Box 6454
Auburn, CA 95604-6454

For Questions, Call Richard Pearl
(Membership Chair)
(530) 885-8602

Name The Plane!

Garmin @ TGH

The Editor
Last Month's picture



International Twin Sea-Bee.
This particular one was photographed at Chino, CA.

This Month's picture:



September 12th, 2007

7pm, Auburn Airport, Terminal Building

TGH Aviation will be hosting a seminar sponsored by Garmin. A representative from Garmin will be presenting their line of avionic products, as well as offering incentives on the purchase of certain models.

The TGH Aviation Airport Shop will be open approximately 1/2 hour before the seminar, and remain open after the seminar to cater for your Garmin and pilot supply needs. TGH/Garmin have alluded to door prizes and other coll things for those whom attend!

For further information, contact the TGH Shop at 800-843-4976 or airportshop@tghaviation.com.

Antique Aircraft

Editor

For those of you whom own 35 year or older aircraft that qualify for the antique aircraft tax exemption, there will be aircraft show days at Auburn airport on the following dates:

4th, 5th 6th August - 10am - 4pm

25th, 26th and 27th August - 10am - 4pm

Further informaton can be obtained from:
Walt Pease (530) 823-0182

Auburn Aviation Association

Officers 2007

President	Peggy Dwelle	(530) 878-9009	peggy@nellaoil.com
Vice President	Don Anderson	(530) 888-6710	25eagle@sbcglobal.net
Treasurer	Carol Uhouse	(530) 886-5729	carol.uhouse@camoves.com
Secretary	Mary Ann Frank	(530) 885-5809	efmaf@infostations.com

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Scholarship	Manny Munoz	(530) 885-5293	buildingman@infostations.com
Membership at Large	Glen Hartliep	(530) 401-2628	ghartliep@netscape.net
5AC	Don Anderson	(530) 888-6710	25eagle@sbcglobal.net
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Emeritus	Dick Kiger	(530) 885-4364	dolores1@jps.net



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August Meeting

Wednesday August 1st, 2007
6:00pm

A - J Main Dish
K - U Side Dish/ Salad
V - Z Desserts

(Potluck information is divided by first letter of your last name)