

# HANGAR ECHOES

July 2012

## Flying The Grand Canyon

By K. Truemper

EXPERIMENTAL AIRCRAFT ASSOCIATION



CHAPTER 168



DALLAS

Near Gallup, NM, a violent storm digs into the sand of the desert a few miles east of our southeasterly route. Strong gusts pitch up plumes of sand past 13,000 ft MSL, above our altitude of 11,500 ft MSL. This is the second close-up sandstorm today. We avoid the sand just as we did earlier, by staying over forested terrain.

Half an hour later, we approach Grants, NM, the second and final stop of the day. Wes, the FBO, says "Wind 220 degrees at 20 kts, gusting to 27." Oh my, the single runway at Grants is 13-31, so this is a severe 90 deg crosswind. As a safeguard for that situation, we have planned as alternate the Double Eagle airport in Albuquerque, which lies 55 nm east and has two runways.

But before we give up on Grants and go to the backup plan, we call back for verification. Wes says "The winds are bouncing around. Wind is now 170 degrees at 18 kts, gusting to 24." For runway 13, this is an easily managed crosswind. We line up for final and hope that the favorable

wind direction will hold. Indeed it does. We land, taxi to the hangar already opened by Wes, and push the plane inside to get it out of the fierce wind. Then comes a deep breath of relief.

How did we get into that situation? It starts easy enough. My son Martin and I have planned to fly to the Grand Canyon, AZ. The month of May seems the perfect time since temperatures will be moderate and we will avoid the tourist rush of the summer.

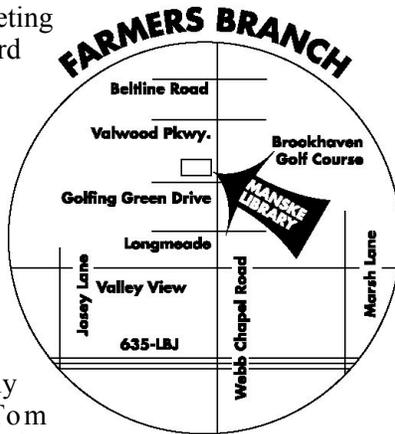
We start with an uneventful flight from the Aero Country airport north of Dallas to the Double Eagle airport in Albuquerque, and stay over the weekend with daughter Ingrid. At daybreak the following Monday, we begin the final leg to the Grand Canyon.

In past trips going west from Albuquerque, we had always followed the meandering Interstate 40 to Flagstaff. There were two reasons for that choice. The route is scenic, and

*See **Grand Canyon** on page 5...*

## July 3rd Chapter Meeting

The July Chapter meeting will be on **Tuesday** July 3rd at the Farmers Branch Library, located on the northwest corner of Webb Chapel and Golfing Green Dr. The meeting will be held in the auditorium and will begin at 6:30 p.m. and finish by 9:00.



Our speaker for the July meeting is Dr. Tom Wightman, MD. He is a former USAF pilot and Flight Surgeon.

Among the topics he will discuss is the new FAA medical application and the joint EAA / AOPA initiatives to remove the requirement for a third class medical for pilots flying airplanes with less than 180 HP for recreational purposes. Additionally he may discuss the effect of non prescription self medication on our flying abilities.

This is a meeting not to be missed. See you there.

## July 7th Fly-out

We plan to visit the McKinney Chapter 1246 monthly coffee and donuts at the McKinney airport, TKI. The 9 a.m. gathering will be at the MHOA hangars located on the northwest side of the airport. Ask the tower for taxi instructions or, if you are driving in, turn north on the first road just before you get to the fire station and proceed through the gate. It should be open. Parking will be obvious down toward the north end of the ramp.

This is a popular monthly event and as always lots of planes to look at. See you there!



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## July 10th Board Meeting

The BOD meeting will be held on July 10th at the Farmers Branch Manske Library at 7:00 PM. The minutes from the June BOD meeting recorded by Frank Prokop are as follows:

In attendance: Michael Stephan, Jim Canniff, Frank Prokop, Bruce Fuller, Brad Roberts, Ann Asberry, Norm Biron, Sam Cooper, Mel Asberry, Pete Miller, Bill Bracken

### General Meeting, Speaker / Subject

Tue. July 3: Tom Whiteman's AME presentation  
 Tue. Aug 7: Oshkosh review + Sun 'n Fun review  
 Tue. Sept. 4: News Operations for "Care Flight" (Rusty)

### Chapter Fly Out

July 7: McKinney KTKI, coffee & donuts, 9 am  
 July 14: NTEAACO officers meeting  
 August 11: Lancaster

### Monthly Social Gathering

Tue, August 28: Jim and Pat Walters

### Treasurer Report

Report given by Brad. Had 0 new members and 6 renewals.

### New Business

- Old Eagles: awaiting guidelines from HQ on how this will be handled.
- New procedure for handling newsletter/membership expiration timings
- Reconsider Asberry's June picnic. It could be scheduled plus/minus a week to avoid other aviation conflicts
- Agreed on the Christmas party for Tues, Dec 4 at the Richardson's Woman's Club, same as last year
- Sam Cooper introduced the concept of having posters present at our meetings. These large posters would show where our chapter has been and where we'd like to take it to; new visitors would then be exposed to the largess of our chapter over the decades (first flights, tech counselors, etc.) and be an encouragement for them to join.
- Michael also suggested that since next year (2013) is our 50<sup>th</sup> anniversary we should incrementally prepare for the celebration by bringing up past events of significance and start submitting them to Pete to be placed on our website.

## July Monthly Social Gathering

Since a lot of folks will be at Oshkosh at the end of the month, it is decided we will not meet locally. There will be an announcement at the July 3 meeting for a Chapter member gathering at Oshkosh. Time and place, etc.

## From the President's Desk

*By Michael Stephan*

It is Oshkosh time of year again. Again, I find myself with plans to be there. At the end of Oshkosh every year I vow that it will be my last, but they keep coming up with displays that I have to go and see. This year the celebration of 40 years Vans Aircraft has me packing my bags again. Of course, there is always the new products to investigate, and there are always interesting planes that require a close inspection. Maybe, this will be the last year, but I doubt it. At the August meeting we will tell you all about it.

But not to get too far ahead of myself, we have some great things in store for July. At the Chapter meeting we have who will talk aeromedical issues. There has been changes and new proposals out there and he will be able to address the topics. Also, Rich Graham will be speaking at UTD campus on July 14th. At the library located on the east side of campus. More information can be found on page 4.

In the past few month's, we have had several chapter members take long flights in their experimental aircraft. Klaus tells his story this month. Brad and Deia Roberts took a weekend trip to the Ozarks, Norm and Helen traveled to the Northeast, and David and Alena Bouno took are still on a long trip to the Northwest coast. I look forward to reading about their adventures.

In the meantime, stay cool and fly safe.

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## Contest 2012

*By David Cheek*

This July from the 9<sup>th</sup> to the 18<sup>th</sup> we will be hosting a glider competition at Texas Soaring Association. This will be the Schweizer 1-26 association championships and the 13.5 meter contest consisting of lower performance economical gliders. There will be practice flying on the first two days (flights will be scored but the scores will not count) and then competition flying on the following days, weather permitting. The objective of the contest is to score points by flying the fastest flight of the day on the assigned task, which changes each day. Daily score are accumulated to produce a final contest score.

Many people have told me they fly over TSA and don't see anything happening or see any gliders. We should be launching gliders starting about 1 PM each day. The actual time will be decided that morning. The gliders will be lined up on the runway or "Gridded" before that time. We plan to have four tow planes available to get the contestants launched as fast as possible. Each contestant will be taken to 2700 feet above sea level, no higher (2000 AGL).

So, if you want o see things work, fly over about 3500 or higher (we are not under class B airspace, we are 3 miles south of it). Just keep your eyes open, because the gliders will be climbing has high as they can after releasing from the tow plane. The might go up to 5000 feet that early in the morning, so if you fly over, keep your eyes open for gliders EVERYWHERE. They will stay within 5 miles of our airport until the contest is started. Once the contest is started, they will be travelling to the south and the west onto the task for that day. Expect many of them to be clustered together in "gaggles" sharing the available thermals.

Later in the day, about 4 PM or later, all the gliders will be returning at various times depending on their progress

around the task. There will be many gliders (20 or more) returning, mostly from the south. We use the town of Maypearl as a "steering" waypoint to insure that everyone is going the same direction headed to the airport and the traffic pattern. Keep a careful lookout in the afternoon.

You are welcome to come over and observe (or help!). We usually have a pilots meeting in the morning about 9 AM to discuss previous day's results, plans for the day and to review safety topics. The rest of the morning is free time for each contestant to prepare for the day's flight.

If you plan on flying over, expect the paved runway to be blocked with gliders after noon. You can land on our adjacent grass runway if your landing gear is suitable for a black land grass runway. (it's fine for my 172, but it takes bumps really well) Just before 1 PM the tow planes will be taxiing out on the grass runway and it will be too late for you to fly in until after launching is complete. All of the tow planes will be landing on the grass runway. If we guessed wrong about the soaring conditions, some gliders could be coming back to land on the grass runway also.

Driving over might work better, you can come and go when you like. We have a nice covered porch that overlooks the runway and it is a good place to watch. We have a low wooden fence that separates the operations area from the clubhouse; I ask that you don't go out into the operations area without a briefing from a member. It is a "hot prop" area and in addition, if you are close to the runway, you could get wacked by a glider wing that silently appears. It is a hazard most power pilots are not used to watching for.

So, if you are interested give me a call before the fourth of July and I can explain things again. After that I may be too busy getting things ready. I can be reached at home at 972-272-5332.

## Rich Graham at UTD

2012 Jalonick Memorial Lecture

Jul 14 (4 p.m. - 5 p.m.)

McDermott Library Auditorium (MC 2.410)



Col. (Ret.) Richard H. Graham knows what speed is. He was one of only 86 U.S. pilots who flew the Lockheed SR-71 spy plane known as the "Blackbird." A flying machine with a skin of titanium, the Blackbird traveled a mile in 1.6 seconds. A flight from Oxnard, CA to Washington DC was accomplished in 64 minutes. An expert on the SR-71 as a crew member, instructor pilot, and squadron commander, Graham will present the 2012 George W. Jalonick III and Dorothy Cockrell Jalonick Distinguished Memorial Lecture. He has written three books about the Blackbird and there will be a booksigning.

## Summer Fun at Shortstop

By Michael Stephan

This was the tenth year for Mel and Ann Asberry to host the Chapter's summer picnic. We had a nice moderate summer day, but a deluge earlier in the week caused the space for airplane parking to be very scarce. We did have the Pober Pixie II, piloted by Mke Hoyer, fly in. Mel and Ann do a great job hosting this event, and those that helped and brought side dishes make it a most enjoyably delicious picnic. There always seems to be a good crowd, and it is one of the few events where we meet the families of our members. And, as always, there is plenty of airplane talk and travel talk echoing in the hangars.

Next year, I promise I will fly an airplane in there. So, plan on attending next year's picnic. You won't want to miss it.



## Young Eagles Event

By Michael Stephan

Last month, at Dallas Executive Airport, our young eagle pilots were able to fly the students from skyline high school's aviation program. It took two tries but it was worth the effort. Our first effort was weathered in May, so we waited a few weeks and tried again. It was worth the wait. It was an excellent morning and nearly all the students were able to make it for the second try. We had enough pilots to make it only just a two flight event for each one of them.

As part of the day, the student brought food for a celebration cookout in one of the maintenance hangars on the field. The owner of the maintenance business was a former student off the skyline program. So, after the flying was finished, we walked over to the hangar and had some hamburgers and hotdogs. We also got a chance to speak with the students, their parents and the instructors. It was a great way to top off a Young Eagle event.

Thank you to all the pilots and volunteers that helped to make it a memorable day for some great kids from Skyline's Aviation Program.



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## Grand Canyon *continued*

the interstate offers a perfect landing site in case of plane difficulties.

But the Rotax engine has proved to be quite reliable for 1400+ hours, so this time we proceed directly west to the Grand Canyon, leaving the interstate south of the route. It turns out to be an excellent decision.

We cross forested mesas and sandstone deserts painted white, yellow, ochre, and red. Extinct volcanoes covered with pale-green shrubs rise from the desert and add to the palette of colors. As we get close to the destination, the Little Colorado River meanders northbound with lush green banks.

The pine forest of Grand Canyon National Park comes into view. Runway 13 of the Grand Canyon airport is in use. It has a significant downhill slope, but our redesigned brakes slow us down reliably.

The FBO personnel is most helpful. That's needed, too. The airport has both GA and commercial flights. Homeland Security has decided that nobody can walk anymore on the tarmac from the GA parking area to the terminal.

Even just going from the plane to the restroom, a ritual required immediately after any long flight, can only be accomplished via a cell phone call. The FBO van fetches us at the parked plane, drops us off at the main building, and after relief brings us back to the plane for unloading and tie-down.

Car rental at the Grand Canyon airport has disappeared, since GA traffic has fallen off precipitously. The large GA parking area holds just three planes: a Lancair, a Cirrus, and our Zenith 601HDS, N314LB. Maybe \$7/gal Avgas has something to do with it.

But there is no reason to fret about transportation. The FBO delivers us to the hotel in the nearby village of Tusayan, and Grand Canyon National Park operates shuttle buses from Tusayan into the park and, within the park, to various sites along the South Rim. We make extensive use of the efficient system.

The first day we hike from the Bright Angel trailhead down to Indian Garden. The trail is 4.5 miles one way and drops 3,000 ft.



Start of the Bright Angel Trail

Instead of hiking, the visitor can make the trip to Indian Garden and beyond by mule. Nestled in the upper left corner of the above photo is the Kolb Studio, where decades ago the Kolb brothers used to take pictures of each mule train. The prints were ready for sale when the mule train returned late in the day. The Kolb brothers were daredevils who explored the canyon and river at great peril. These days, the Kolb Studio is a museum telling the fascinating story of the brothers. Way back when, the National Park Service wanted to remove the Kolb Studio. But the studio sits on ground secured by a mining claim, and those efforts were futile. It is ironic that the studio now is a national historic landmark.

Back to the story of the hike. Walking downhill is fun and easy. At the start, we shiver in the cool morning air of the South Rim. But the temperature rises rapidly during the descent.



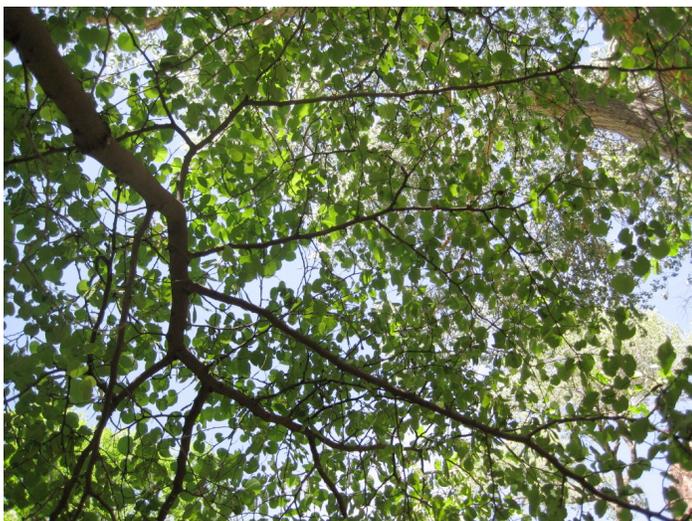
Steepest portion of Bright Angel Trail

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After three hours we reach Indian Garden. Tall spring-fed cottonwood trees and Western Redbud trees provide welcome shade.



In the early years of the park, the spring of Indian Garden supplied the water for the South Rim. But it could not possibly meet current demand. Instead, water of Roaring Springs 3,000 ft below the North Rim flows in a pipe down the Bright Angel Canyon, crosses the Colorado River, then rises to Indian Garden. From there it is pumped up to the South Rim.

We eat a leisurely lunch and talk and relax till 3 pm before attempting the hike back up. This is a prudent decision since the midday sun has turned the trail into a baking oven.



As we climb, the sun shifts further west. Portions of the trail become shaded and much cooler. Half-way up, the entire trail is shaded. We rest a number of times, drink plenty of water, and replenish our water supply at the two rest houses.

After four hours, we step up to the South Rim, tired but not exhausted.

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**WHATEVER IT TAKES TO KEEP YOU POWERED UP**

Going up, young hikers have blazed past us. But folks of more mature age pace themselves just as we do. On the way up, we meet them time and again as they or we rest. “Hello, nice to see you again”, “Hello, have we met before?”, and “Hi, you look familiar” are repeated greetings.



Repeated encounters

Reaching the South Rim, we again meet a by-now familiar couple of mature age. They are visibly exhausted. I comment, “This is a terrific achievement.” He protests, “But so many hikers passed us and did it so much faster.” Clearly, he thinks the glass is half empty when actually it is filled to the brim. I say, “Have you asked those fast hikers about their age?” He smiles.

## HANGAR ECHOES

During the next two days we hike much of the South Rim, first going east with the shuttle and walking back to the Visitor Center, then hiking west and returning via the shuttle.



Battleship Mountain

In recent years, the California condor, which is the largest land bird in North America, was reintroduced into the canyon.

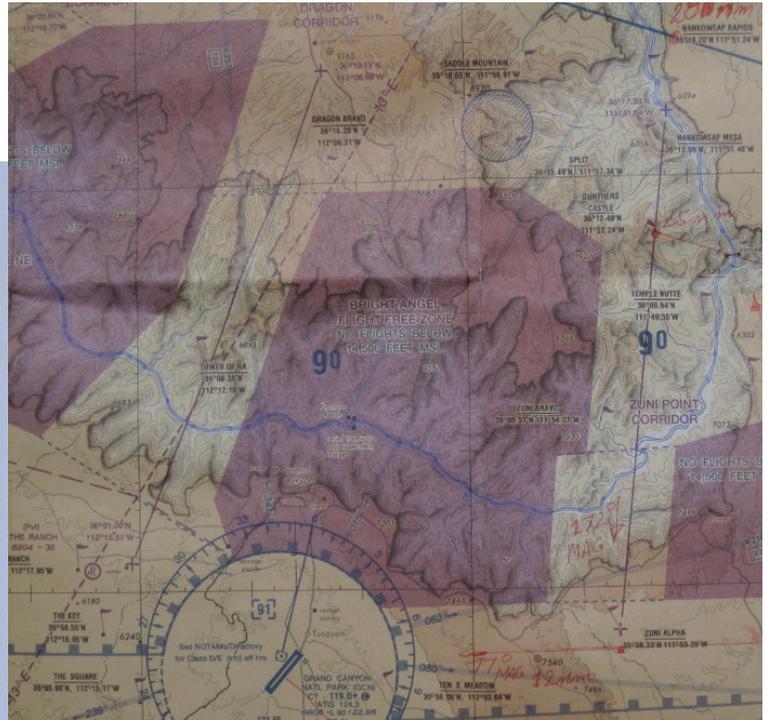


California Condor  
(photo by Jesse Varner)

Much effort is expended to assure success of the project. Each bird has a number tag and electronic tracking device, which is regularly replaced by luring the bird into a trap. Rangers monitor even the feeding of nestlings.

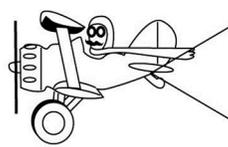
Before departing for home, we want to fly across the canyon. The Las Vegas sectional advises, "The airspace overlying the Grand Canyon National Park below 18,000 feet MSL is subject to special traffic rules." It does not say what these rules are or where they can be found.

A special map, the Grand Canyon VFR Aeronautical Chart, has those rules for air tour operators on one side and for general aviation on the other. The map is not always available from suppliers of navigational charts. [mypilotstore.com](http://mypilotstore.com) sells it for \$3.95. Here is a portion of the map side for general aviation.



Grand Canyon VFR Aeronautical Chart

Purple areas must be completely avoided. There are four VFR corridors indicated by purple lines. They involve special altitude rules: Going northbound, the required



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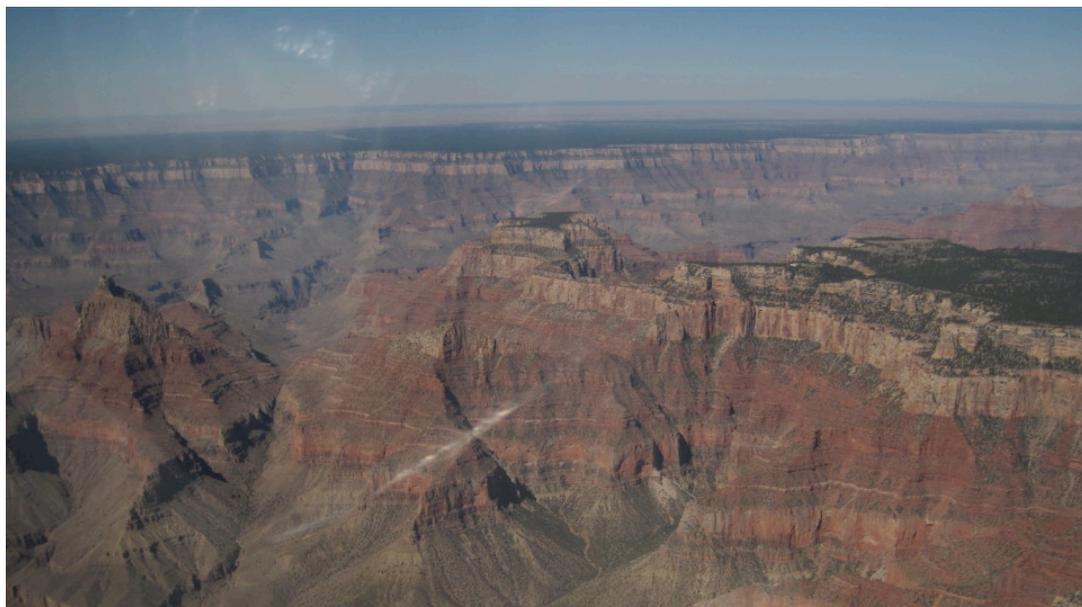
altitude is 11,500 or 13,500 ft MSL. Southbound flight requires 10,500 or 12,500 ft MSL. Note that these rules are not consistent with general VFR altitudes, which, for flight above 3,000 ft AGL, are odd-thousand+500 for magnetic 0-179 deg course and even-thousand+500 for 180-359 deg.

The map does not tell the rules applying outside the corridors, but implicitly they are the cited general VFR altitude rules.

The canyon area is subdivided into several subareas by blue lines. Within each subarea, the pilot must stay above a specified minimum altitude and monitor a frequency that is also used by the tour operators flying at lower levels.

Navigation in the canyon area just by sight should not be attempted due to the lack of landmarks identifying the purple excluded areas. Instead, GPS should be used. We use the Grand Canyon VOR and the Tuba City airport just east of the park for reference radials and distances, and the Colorado river as additional marker. Due to strong winds, we employ the autopilot to guarantee that course directions are closely maintained.

Taking off from the Grand Canyon airport, we fly east and climb outside the canyon area. We pass 10,000 ft MSL as we near the Little Colorado River. At that point, we continue to climb but also turn north, thus beginning to overfly the canyon area. Once we are about 30 miles northwest of Tuba City, we reach the Colorado River near the northern end of the Zuni Point Corridor. We turn south and fly the corridor at 10,500 ft MSL as demanded by the special VFR rules. Since the sun has just begun rising in the east, we should have an excellent view of the canyon to the west. But unfortunately there is morning haze. We include a photo taken a year ago when we had no haze.



Grand Canyon, Zuni Point Corridor

Shortly after, we turn east to leave the corridor. But we stay in the canyon area and fly north to Page, AZ, for refueling via the Marble Canyon. That segment requires just 8,000 ft MSL as minimum altitude and is not a corridor, so the cited standard VFR rules apply. There is still haze, and we can only guess how beautiful Marble Canyon really is.

It is a day of gusty winds. Moderate turbulence has been predicted up to 18,000 ft MSL. "Moderate turbulence" may seem benign. It actually means that the plane can be tossed severely, but not so badly that the pilot cannot keep the plane upright.

The disturbing prediction turns out to be correct near ground level, but fortunately is wrong higher up. Thus, the takeoff from the Grand Canyon airport and the landing and takeoff in Page are in bumpy air. But as soon as we reach 3,000 ft AGL, the air is smooth even though winds are very strong.

From Page, we proceed east to Grants. The southwesterly winds are so powerful that we need a 30-40 deg course correction for wind. Still, we have a slight tailwind component.

A dust storm rises to the east during the first half on the leg. We manage to remain over forested land and are not affected. A second dust storm develops near Gallup as described earlier. Flight Watch is pleased to receive our pilot reports of the two dust storms.

After landing at Grants, FBO Wes tells, "Winds tomorrow are forecast to be 50 kts." A scary prediction. Undaunted, we rise at 4 am, get the weather forecast, file the flight plan, and take off just before the sun rises above the Sandia Mountains in the east. The weather is exactly like the day



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before. Bumpy air near the ground gives way to strong but smooth winds at 9,500 ft MSL, our cruising altitude. Despite a large course correction for the wind, we have a small tailwind component. The same weather prevails at the refueling stop in Plainview, TX, and on the final leg to Aero Country airport.

A comment on landing with strong winds and gusts. The usual rule is, "Add half the gust factor to the landing speed." Barry Schiff, a very experienced pilot writing for AOPA Pilot, suggests an alternate rule: "Fly final of the traffic pattern with GPS ground track speed equal to landing speed." This rule guarantees that there will be no gust-induced stall. This is the day to try it out. As expected, airspeed on final is somewhat high while ground speed matches landing speed. Once over the threshold and low over the runway, we pull the throttle, air and ground speed drop off rapidly, and the touchdown is gentle despite the turbulent air. It is a simple, neat, and safe rule that does not require knowledge of the gust speed.

What else have we learned? Spring flying in the Southwest can be a great experience. But if strong winds are predicted, the route should not be over sandy desert. Sand storms may suddenly rise and quickly clog up the air filter of the engine.

Lastly, sand storms can be deceptive. After we had filed the first pilot report, we heard the Flight Watch specialist advise another airplane about the sand storm, citing our report. The pilot responded, "I do not believe this is dust. It seems to be just some smoke." We hope that he did not come to grief due to this wrong assessment.

Note: This is an abbreviated version of a blog. For the full version, go to <http://passionforflight.blogspot.com/>

## EFB part 2 – HW and SW Choices

By David Buono

Last month, I wrote about the decision to convert to a paperless cockpit. Having made that decision, this month I want to talk about hardware and software choices for implementing an EFB cockpit.

Starting with hardware, the obvious and most talked about choice is the iPad made by Apple. This tablet not only leads the industry, it basically created the tablet market. There is no shortage of aviation related apps, as well, everything from a simple E6B computer to very high end flight planning and even synthetic vision flying apps. The iPad leads the market but is very expensive with a starting price of \$729.

If you want to stay away from the iPad, a tablet that runs Google's Android operating system would be the next logical choice. There are multiple manufacturers that make a tablet running Android. The Asus base model starts around \$350 and has many hardware specs that rival the iPad or even top it. Their top model comes in around \$500 and beats the iPad in more than 50% of the typical comparison specs.

**OUR CHOICE:** we chose the iPad, because one word, "HISTORY". None of the non-Apple brands we looked at have any history in the tablet market while Apple's on its 3rd generation. The other history related thing I couldn't get out of my mind was that in the previous 2 years, many companies produced a tablet only to abandon it just months after its release. Apple obviously isn't going anywhere any time soon, and I don't see them dropping their tablet business in the near future either. Lastly, using the iPad as an EFB is well documented with most of the "gotcha" items already identified.

As of press time, I've only flown with iPad twice, and I was solo both times. The first flight was a short one, and I probably glanced at the thing twice just to make sure it was tracking. The second flight, I actually used it for approach

plate info on a IFR practice flight. It worked exactly as designed, but reading the approach info off a full size 8.5x11 piece of paper is much easier. The iPad's screen is extremely reflective, so it has to be at a certain angle or you can't see anything except your reflection. Look at the first picture vs the second and you can see what a slight change of angle does to the ability to see what's on the screen. This can mostly be mitigated while holding it



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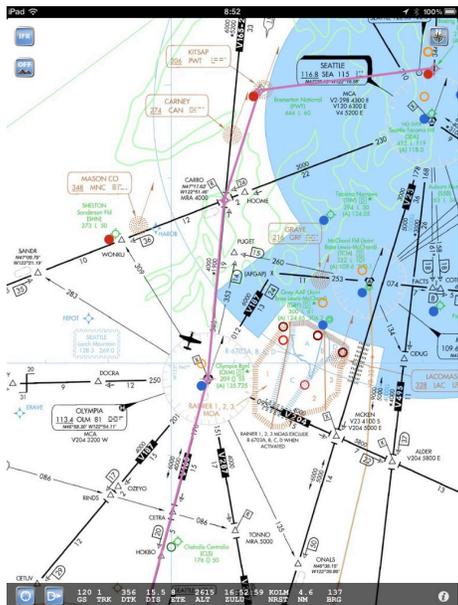
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in your hand, but I would hesitate to mount it somewhere in the cockpit because of this issue.

Now that we have an iPad in our possession, it's time to pick out the flight software. I started by checking out ForeFlight (<http://www.foreflight.com>), which is one of the top flight planning/in-flight apps available. They have a 30-day trial version. It was very intuitive, and after a few minutes, I felt like I could do just about anything I needed to do. I could bring up info on airports, including approach charts and frequencies. It also shows weather, METARs, and many other weather products. However, shortly after takeoff, when the iPad no longer can receive a cell signal, all weather products are "frozen". This app pretty much does it all when it comes to flight planning and using EFB functionality in the cockpit. The downside is the price. Their base package is \$75/year, and the price jumps to \$150/year if you want geo-referenced approach plates and taxi diagrams. The price isn't bad considering what you get, but I felt I'd be wasting a lot of the functionality because I have most of it's function in my other avionics components.

The next software package I considered was WingX (<http://www.hiltonsoftware.com>). It does most everything ForeFlight does and then some. You can connect an AHRS to it and get attitude info on the iPad along with synthetic vision. The price is \$100/year, and that includes all chart updates just like Foreflight. It can do some amazing things, but I overlooked it for 2 reasons. The first is the same reason I decided against ForeFlight; I would be wasting a lot of functionality since I can do a lot of what they do already.

The third software package I looked at, which is the one I ended up choosing, is called SkyCharts (<http://www.skycharts.net>). It is about as bare bones as you can get. All the VFR and IFR (high and low) charts plus approach plates are in there and updated for free. It (just like the other 2) shows your position on the chart (not approaches) as well. It does have airport info along with weather, but just like the other 2, the weather is frozen in time after takeoff. I prefer to use XM weather anyway. SkyCharts also keeps all AF/D info up to date for each airport as well. While flying along, a single touch (click) changes the map from VFR to IFR to TAC, so that is a breeze. Here is



a quick look at the difference between VFR and IFR for the same airplane position and flight plan.

The other nice thing about SkyCharts is it does not hold onto all the charts at once, which means it takes up less storage space on your device. It breaks the US down into 9 regions, and you only download what you need. It really doesn't get much easier than this application. It is the closest I could find to just changing out paper for an electronic solution.

Your decisions may differ from mine based on the kind of flying you do or plan to do and what capabilities you already have in your airplane. No matter which way you decide, there are almost countless aviation apps out there to choose from, and more get added every day. Do your research, think through what you really need and want, then play with the options until you feel comfortable making a decision. Buy the app then go fly... Welcome to the EFB world!

**AN - MS - NAS Hardware**

**Action  
Aerospace  
Hardware, Inc.**

**Tammy Roberts  
Warehouse Manager**

7204 Parwelk Office: 214-637-3598  
Dallas, Texas 75235 Fax: 214-688-0549

## Other Upcoming Events

By Michael Stephan

**Sat. July 7th** - EAA Chapter 1246 - First Saturday Coffee and Donuts **Collin County Regional Airport, McKinney.** We're having Free coffee and donuts for everyone Chuck Roberts Hangar (#2520) in the McKinney Hangars Association area. Let's gather at 9:00 am. You don't have to be a member to attend. See you there!

**Sat. July 28th** - Fly-In / Drive-In Pancake Breakfast and WINGS Seminar **Granbury Municipal Airport, Granbury, TX** 4th Saturday Fly-In / Drive-In Pancake Breakfast (0800-1000) and a WINGS Seminar (0900-1100). The City of Granbury invites you and friends to spend a beautiful morning at the airport and to enjoy the camaraderie of others who share your passion for all things aviation. Enjoy pancakes, sausage, juice and coffee. Stay for the WINGS seminar and get credit towards your next Flight Review.

**For Sale:** Varieze

Cont O-200; 100 hours on overhaul. 1350 total time  
\$14.5k. Leon Rausch 214-349-6024

**For Sale:** Slick Mags removed from O-360 Lycoming, #4371 Impulse (366 hrs), #4370 Non-Impulse (zero hrs), includes spacer and harness, will need drive gear for 4370. 4371 \$300 - 4370 \$750 OBF Marvin Brott [pmbrott@sbcglobal.net](mailto:pmbrott@sbcglobal.net) 214-726-9117



**Addison Airport**  
16151 Addison Road  
Addison, TX 75001  
(972) 407-0295  
(972) 407-9850 Fax

**Mitch McCormack**  
Director  
(800) 433-0808  
E-mail: [mitch\\_m@af.tv](mailto:mitch_m@af.tv)



AVIATION TRAINING & RESOURCE CENTER  
**Ray Heyde**

2550 East Trinity Mills Road  
Suite 126  
Carrollton, TX 75006  
ph: 940-453-2852  
[info@ATRCsim.com](mailto:info@ATRCsim.com)

**For Sale:** Sensenich fixed pitch aluminum prop setup for a O 360 (76" dia 65" pitch, spacer and 12" dia. spinner). Less than 60hrs since installed new. **LOWERED PRICE** \$1850 - Bill Bracken 817-925-4699

**For Sale:** Fiber Glass Cloth For Sale Bi directional 8H satin Weave Aeronautics/Aerospace grade, 13.3 mils thick, 50" wide, warp strength 562 lbf/in, fill strength 518 lbf/in, 14.43oz/sqyd, compatible with all resins, in original packaging 125 yard rolls. Comparable price at Aircraft Spruce, over \$9/yard. \$400 per roll, that's only \$3.20 per yard to EAA members. Cut lengths \$7/linear yard 50" wide with a \$50 minimum. Call Jim Carney 214-763-6784.

Web site Address: [www.eaa168.org](http://www.eaa168.org)

**To place an ad:** Submit requests for aviation related For Sale or Want ads to the newsletter Editors. Ads are free to Chapter 168 members. Ads from nonmembers will be run on a space available basis. Ads will be run at the newsletter Editors discretion.

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**Experimental Aircraft Association**

Dallas Chapter 168  
PO Box 168  
Addison, TX 75001-168

**DALLAS CHAPTER 168 MEMBERSHIP APPLICATION/RENEWAL FORM**

New Member   
Renewal   
Info Change

Membership dues for EAA Dallas Chapter 168 are \$20/year.

Make checks payable to EAA Chapter 168

Mail application to:  
EAA Dallas Chapter 168  
PO Box 168  
Addison, TX 75001-0168

National EAA offices:  
Experimental Aircraft Association  
EAA Aviation Center  
PO Box 3086  
Oshkosh, WI 54903-3086

National EAA Membership:  
(800) JOIN EAA (564-6322)  
Phone (920) 426-4800  
Fax: (920) 426-6761

Name \_\_\_\_\_

Copilot (spouse, friend, other) \_\_\_\_\_

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\_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone Home: \_\_\_\_\_ Work \_\_\_\_\_

email address \_\_\_\_\_

EAA # \_\_\_\_\_ Exp date: \_\_\_\_\_  
(Chapter 168 membership requires National EAA membership)

Pilot/A&P Ratings \_\_\_\_\_

I am interested in helping with:

- Fly-Ins
- Programs
- Newsletter
- Young Eagles
- Officer

Plane, Projects (%complete) and Interests: