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# CHAPTER 81

# *SKY WRITER*

**June 2011 Newsletter**

***Notice!***
***Chapter Meeting at Ryan Field Administration Building Saturday, 18 June 2011, at 10 AM, with a presentation on Evergreen Aviation's operation in Marana***

| | ***Calendar of Events*** (Please send event info to the editor) |
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| Jun-18 | EAA81 Meeting at Ryan Field, 10AM, with a presentation on Evergreen Aviation's operation |
| Jul-09 | EAA81 Meeting at Ryan Field, 10AM *(Note early date in the month)* |
| Jul-25 to Jul-31 | EAA AirVenture 2011 |
| Aug-20 | EAA81 Meeting at Ryan Field, 10AM |
| Sep-17 | EAA81 Special Meeting (TBD) |
| Oct-15 | EAA81 Meeting at Ryan Field, 10AM |
| Nov-19 | EAA81 Meeting at Ryan Field, 10AM |
| Dec-17 | EAA81 Holiday Party (date TBD) |
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### *2011 EAA 81 Dues Payment Status*

Annual dues are $20. As of 03 Jun, 80 of 107 regular members are paid-up. Checks should be made payable to: EAA Chapter 81 and sent to Mick Myal, 2900 E. Weymouth, Tucson, AZ 85716, or brought to a chapter meeting.

### *EAA Chapter 81 Meeting Minutes Saturday May 21, 2011*

Meeting was called to order by President Duane Boyd at 1010 at the Ryan Field Meeting Room.

Treasurer's Report: Mick Myal reports $12,505.35 in the bank.

Secretary's Report: The Minutes of the April 16 meeting were published in Sky Writer and on the website and were not read aloud, to the relief of all present.

Old Business: Hal Helton's hangar was not rented by the chapter, as had been proposed at the previous meeting. The reason given was that doing so would require the presence of two dependable renters for the duration of a year, and such renters have not been discovered. We thank Hal for his generous offer. Although several chapter members are enthusiastic about having a Chapter Hangar, many others are wary and would rather not deal with the expense and potential problems of deciding who gets to use the space.

The Pima Community College Aviation Scholarship

Program presentation has been delayed. As it turns out, the Federal Government matching-fund program only applies to gifts over $5,000 and we are only providing three $500 scholarships, so the June 1 deadline does not apply. The presentation is promised to take place within 2 months.

The La Cholla Airpark lawsuit was dismissed, giving us hope that the residents might once again permit our using this site for a Pancake Breakfast. Bob Miller told a lawyer joke in rather bad taste. It was widely applauded. Bob opined that the problem is, in fact, not with the lawyers, but with those who refuse to take responsibility for their own actions and, instead, try to place blame upon whomever has the deepest pocket.

New Business: Joe Seibold proposed that Chapter 81 consider sponsoring a young aircraft mechanic named Matt Wise for his education at Pima Community College. Matt is a pilot, works as a line-person at Marana Regional Airport, and is seeking financing for his education as an A&P (Airframe and Powerplant) mechanic. He is enthusiastic and, Joe feels, represents the can-do spirit of Chapter 81. The Board of Directors will read his letter and consider whether we want to provide individual support in addition to the scholarships.

Next, we asked those present to introduce themselves and fill us in on their aviation connections:

- Rod Church, a new member of Chapter 81, and his wife Peggy have a new Zenith kit (sorry, I didn't get the model #) and, in one week, have already finished the rudder!
- Bruce Noon has a Thorp T-211 project, including Jabiru 3300 6-cylinder engine and Sensenich prop. Much of it is done, but Bruce is considering selling it. He also has a 6 X 10 foot enclosed trailer for sale.
- Phil Peery has an RV7-A project which, he admits, he is not working on at this time.
- Lynn Wesley has "pieces of an RV6." He attended a Sport Air Workshop on sheet metal work and is tracking down nutplate jigs. He describes his project as "slow progress."
- John Harlow is the Forums Chairman at the Copperstate Fly-In and continues to annoy those who scoff at automotive power by having a ball flying his Corvette V-8 powered Lancair ES. So far, John holds the records for late dues by paying for 2011 today.
- Jackie Thomas, notorious aviatrix and co-owner of a Czech Sport Cruiser, is seeking info on an artificial horizon.
- Joe Seibold built a Zenith 601, has another half-built (and does not feel like tearing it half down again to perform the very-strongly-suggested factory upgrades), and also flies the Czech Sport Cruiser when he can wrestle it away from Jackie. Joe drives the Welcome Wagon every year at Airventure.
- Ron Furry is visiting from Chicago.
- Eric Witherspoon has plans-built and flies a Sonex, but the building itch has him again and he inquires as to whom can provide some lathe-work and welding for his next project: a Sherwood Ranger from the UK. Having mastered aluminum construction, Eric plans to tackle a tube and fabric tandem LSA design.
- Dave Schiffman and Johnnie Thompson have no projects at this time.
- Eric Wolf has "builder dreams." Very recently retired from the USAF, Eric and his wife Brandy are building their horse tack business and the trailer he is building is for the business, not for toting an airplane. Nonetheless, he is seeking help on the sheet metal work and those skills acquired will certainly apply to his project when he gets to it. Keeping the fire going, Eric and Brandy will be attending Airventure Oshkosh this year.
- Dennis Hall continues his meticulous but rapid work on his modified-from-the-plans Hatz biplane. He is ready to skin the leading edges (all four!) and plans to have the aircraft covered by New Year. If we know Dennis, it will not only be done, it will be as close to perfect as is humanly possible.
- Bob Sutherland has 6 months into his Titan T-51 ¾ scale Mustang.
- Mick Myal is working on his fiberglass tip-tank design and has made the molds.
- Bob Miller is varnishing the wood ribs in the vertical stabilizer and rudder of his Kitfox. In order to be compatible with covering chemicals, this is a catalyzed 2-part varnish from Poly-Fiber, which has to be mixed in correct proportions, allowed 30 minutes "induction" time, and then reduced before painting on. This means it must be made in tiny batches, because each coat must dry for 3-5 hours before the next is applied, and 3-hour old varnish cannot be used. Bob and his wife Lori will be attending Airventure, volunteering in the parking of Vintage aircraft.
- Hal Burlingame is in the process of reengineering some ultralights and is in the alternative fuel business.
- Duane Boyd has an Aeronca 7A-C Champ which is currently "collecting dust and spiders." His re-covering project is planned for this fall. He notes that several members were inquiring at meetings about building assistance or items to buy or sell; he suggests putting those inquiries onto the web page where they will reach a wider audience.

The meeting concluded with Joe Seibold's presentation: a Show-and-Tell of aircraft tools. One is a clever tool for pulling wires out of an avionics box without destroying them, and another is for installing horseshoe clips. Another interesting tool was a pair of snap-ring pliers which are for both inside (pulling together) and outside (pushing the ends apart) use, with the flip of a switch! He showed two pairs of cable-cutters: don't try to cut cable with sheet metal shears; they fray and mash the cable, weakening it. These cable-cutters cut cleanly and effortlessly. Joe agrees with Erik Fjerstadt that the conventional C-arm dimpler for sheet metal work requires three arms to use. Erik's solution was to build a sheet-metal cradle for the hammer. This cleverly holds down the spring-loaded shaft until one is ready to strike. Joe went another way, replacing the C-arm with his own invention: a modified pneumatic rivet-puller which requires only 30PSI air pressure. With this lightweight device, one can even dimple inside a wing, and at five times the speed of the C-arm. Anyone want a C-arm cheap? Another adaptation of a rivet-puller displayed was a Riv-Nut dimpler. The Vise-Grip type dimpler is, in Joe's opinion, worthless. Other items shown were a tubing-cutter and a small, 12-volt air compressor which can be kept on your airplane. This can avoid your being stuck on a busy active runway with a flat tire (don't ask Joe how he knows)! They are inexpensive, lightweight, and readily available, although the model he bought could have used a longer power cord. Joe's experience in building has shown him what does and does not work. There are a lot of tools out there not worth buying, and a few clever and inexpensive modifications to others can improve them greatly. We all appreciate his sharing his decades of trial-and-error so we don't have to reinvent the wheel.

Meeting was adjourned at 1105. The next meeting, which is scheduled to be one of the quarterly Special Meetings (projects, field trips, etc.), will be held at the Ryan Field meeting room on Saturday, June 18 at 1000, in deference to Environmental Awareness (it's too stinkin' hot to do anything outside in June). At least it's a dry heat!

Respectfully Submitted by
Secretary Bob Miller

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### *Aviation Interest Articles*

***Flying at Night – keep your options in mind!*** Buck sent me a note about a pilot who experienced engine failure at night, at about 7,000 feet and made it into Altoona, apparently 18 miles away. The N-number FAA search identifies the aircraft as a Columbia LC41-550FG. The wind must have been extreme, because the glide ratio for this aircraft is on the order of 10, and the airport altitude is about 1,500, so a glide ratio of about 18 is hard to believe. In fact, the pilot does indicate along the way that he won't make it. Listen to the very cool and collected conversation with the controller at:

http://media.aopa.org/mp3/n613jm.mp3

Having ready at-hand frequencies for airports, airport lighting controls, etc., and a constant "what would I do now if it quits" philosophy is part of a good plan.

### *MACH 3.18 IN-FLIGHT BREAKUP OF AN SR-71 BLACKBIRD (Part 1)*

By Bill Weaver, Chief Test Pilot, Lockheed

Among professional aviators, there's a well-worn saying: Flying is simply hours of boredom punctuated by moments of stark terror. But I don't recall too many periods of boredom during my 30-year career with Lockheed, most of which was spent as a test pilot. By far, the most memorable flight occurred on Jan. 25, 1966 .

Jim Zwayer, a Lockheed flight-test specialist, and I were evaluating systems on an SR-71 Blackbird test from Edwards. We also were investigating procedures designed to reduce trim drag and improve high-Mach cruise performance The latter involved flying with the center-of-gravity (CG) located further aft than normal, reducing the Blackbird's longitudinal stability.

We took off from Edwards at 11:20 a.m. and completed the mission's first leg without incident. After refueling from a KC-135 tanker, we turned eastbound, accelerated to a Mach 3.2 cruise speed and climbed to 78,000 ft., our initial cruise-climb altitude.

Several minutes into cruise, the right engine inlet's automatic control system malfunctioned, requiring a switch to manual control. The SR-71's inlet configuration was automatically adjusted during supersonic flight to decelerate airflow in the duct, slowing it to subsonic speed before reaching the engine's face. This was accomplished by the inlet's center-body spike translating aft, and by modulating the inlet's forward bypass doors.

Normally, these actions were scheduled automatically as a function of Mach number, positioning the normal shock wave (where air flow becomes subsonic) inside the inlet to ensure optimum engine performance. Without proper scheduling, disturbances inside the inlet could result in the shock wave being expelled forward - a phenomenon known as an "inlet unstart."

That causes an instantaneous loss of engine thrust, explosive banging noises and violent yawing of the aircraft, like being in a train wreck. Unstarts were not uncommon at that time in the SR-71's development, but a properly functioning system would recapture the shock wave and restore normal operation.

On the planned test profile, we entered a programmed 35-deg. bank turn to the right. An immediate unstart occurred on the right engine, forcing the aircraft to roll further right and start to pitch up. I jammed the control stick as far left and forward as it would go. No response. I instantly knew we were in for a wild ride. I attempted to tell Jim what was happening and to stay with the airplane until we reached a lower speed and altitude. I didn't think the chances of surviving an ejection at Mach 3.18 and 78,800 ft. were very good. However, g-forces built up so rapidly that my words came out garbled and unintelligible, as confirmed later by the cockpit voice recorder.

The cumulative effects of system malfunctions, reduced longitudinal stability, increased angle-of-attack in the turn, supersonic speed, high altitude and other factors imposed forces on the airframe that exceeded flight control authority and the stability augmentation system's ability to restore control. Everything seemed to unfold in slow motion. I learned later the time from event onset to catastrophic departure from controlled flight was only 2-3 seconds. Still trying to communicate with Jim, I blacked out, succumbing to extremely high g-forces.

Then the SR-71 literally disintegrated around us. From that point, I was just along for the ride. And my next recollection was a hazy thought that I was having a bad dream. —Maybe I'll wake up and get out of this mess‖, I mused. Gradually regaining consciousness, I realized this was no dream; it had really happened. That also was disturbing, because I COULD NOT HAVE SURVIVED what had just happened.

I must be dead. Since I didn't feel bad,- just a detached sense of euphoria- I decided being dead wasn't so bad after all. As full awareness took hold, I realized I was not dead. But somehow I had separated from the airplane. I had no idea how this could have happened; I hadn't initiated an ejection. The sound of rushing air and what sounded like straps flapping in the wind confirmed I was falling, but I couldn't see anything. My pressure suit's face plate had frozen over and I was staring at a layer of ice.

The pressure suit was inflated, so I knew an emergency oxygen cylinder in the seat kit attached to my parachute harness was functioning. It not only supplied breathing oxygen, but also pressurized the suit, preventing my blood from boiling at extremely high altitudes. I didn't appreciate it at the time, but the suit's pressurization had also provided physical protection from intense buffeting and g-forces. That inflated suit had become my own escape capsule.

***To be continued in next month's newsletter!***

***Please send items of interest, classifieds, etc to Erik Fjerstad – Newsletter Editor***
(mailto:newsletter81@eaa81.org)

*or to Erik's address on front page.*

***Check out the Chapter Website at http://WWW.EAA81.ORG/***

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