



EAA 442's Chapter Newsletter

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The chapter webpage is <http://www.eaa442.com>

Minutes of the January 27, 2007 Chapter meeting.

Mike Hathaway called the meeting to order at 1:08

Minutes of the December meeting were accepted as published

Treasurer report: 24 paid members, \$735 in the treasury

Secretary report: nothing to report

Young Eagles: Bob Barlow reported that 4 Young Eagles were flown this day, national total is 1,298,675, chapter total 499 to date

Technical Counselor Jim Summers looked at 3 aircraft this last month

Old Business: -

New Business: discussion of having club meetings at 2 or 3 PM on Sundays instead of Saturday noon. Motion made & seconded to have meeting at 2:30 the last Sunday of each month. Motion passed. Need to advise EAA Hdqtrs. Next meeting will be Sunday the 25th.

Motion made to buy a new BBQ grill. Motion passed.

Question was asked about a bus trip to Sun N' Fun, probably too late to arrange it.

Mountain City will be having a Fly-In Saturday June 16, will include car show, motorcycle rally & food.

Committee of Jim Summers, Bob Barlow, Jim Pensinger and Larry Murphy was appointed to schedule Fly-Outs for the coming year
Meeting was adjourned at 1:52

Upcoming Events

February Chapter meeting Sunday february 25 at HawkinsCounty Airport , 2:30 PM EAA1136, the Mountain City chapter is planning a Fly-In Saturday June 16. Food, hot rods and motorcycle rally

If you know about any fly-ins or events in the area, or any last-minute changes of event dates, please pass them on to me for posting, rp

For a (hopefully) up to date list of chapter activities, go to <http://www.eaa442.com>

Good Afternoon Richard,

Would you please pass this on?

I have signed up for one of Bob Nuckolls week-end seminars. It will be held on March 24th and 25th in Winterville, N.C. The cost is \$150 payable at registration. If anyone in the chapter wants to take it, I have an additional seat in my car that costs nothing. I'm willing to split the cost of a motel room with 2 beds. Anyone interested can Google AeroElectric and get info.

Vaughn Teegarden
276-466-2193

Chris Berard's Galleries



This pilot is also a great photographer. Here is another of his shots:



His website is here:

<http://www.chrisberard.com/galleries.htm>

Bing 54 Carb Spring Technique Simplified

This is absolutely, positively, the easiest way to reassemble a Bing 54 carb & spring.

<http://kolbfirestar.googlepages.com/bing54tips>

BRS Save

French pilot in a Rans flew through a towplane rope and things got exciting.

Fortunately he had his video camera running at the time. Made for a good show.

http://www.youtube.com/watch?v=v_JAg1ZedGo

Here is the same clip from CNN, along with some footage of a Cirrus under a BRS

<http://www.turbopilot.com/copa/image3/brs.wmv>

Vladimir Putin's aircraft, Russia's equivalent of our Air Force One



It is an IL-96-300



Just because I had never seen it before, and thought maybe you hadn't either...

Mach 3.18 In-Flight Breakup Of An SR-71 Blackbird 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 Zwyer, 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

My next concern was about stability and tumbling. Air density at high altitude is insufficient to resist a body's tumbling motions, and centrifugal forces high enough to cause physical injury could develop quickly. For that reason, the SR-71's parachute system was designed to automatically deploy a small-diameter stabilizing chute shortly after ejection and seat separation. Since I had not intentionally activated the ejection system--and assuming all automatic functions depended on a proper ejection sequence--it occurred to me the stabilizing chute may not have deployed.

However, I quickly determined I was falling vertically and not tumbling. The little chute must have deployed and was doing its job. Next concern: the main parachute, which was designed to open automatically at 15,000 ft. Again I had no assurance the automatic-opening function would work.

I couldn't ascertain my altitude because I still couldn't see through the iced-up faceplate. There was no way to know how long I had been blacked-out or how far I had fallen. I felt for the manual-activation D-ring on my chute harness, but with the suit inflated and my hands numbed by cold, I couldn't locate it. I decided I'd better open the

faceplate, try to estimate my height above the ground, then locate that "D" ring. Just as I reached for the faceplate, I felt the reassuring sudden deceleration of main-chute deployment.

I raised the frozen faceplate and discovered its uplatch was broken. Using one hand to hold that plate up, I saw I was descending through a clear, winter sky with unlimited visibility. I was greatly relieved to see Jim's parachute coming down about a quarter of a mile away. I didn't think either of us could have survived the aircraft's breakup, so seeing Jim had also escaped lifted my spirits incredibly.

I could also see burning wreckage on the ground a few miles from where we would land. The terrain didn't look at all inviting--a desolate, high plateau dotted with patches of snow and no signs of habitation.

I tried to rotate the parachute and look in other directions. But with one hand devoted to keeping the face plate up and both hands numb from high-altitude, subfreezing temperatures, I couldn't manipulate the risers enough to turn. Before the breakup, we'd started a turn in the New Mexico-Colorado-Oklahoma-Texas border region. The SR-71 had a turning radius of about 100 miles at that speed and altitude, so I wasn't even sure what state we were going to land in. But, because it was about 3:00 p.m., I was certain we would be spending the night out here.

At about 300 ft. above the ground, I yanked the seat kit's release handle and made sure it was still tied to me by a long lanyard. Releasing the heavy kit ensured I wouldn't land with it attached to my derriere, which could break a leg or cause other injuries. I then tried to recall what survival items were in that kit, as well as techniques I had been taught in survival training.

Looking down, I was startled to see a fairly large animal- perhaps an antelope- directly under me. Evidently, it was just as startled as I was because it literally took off in a cloud of dust.

My first-ever parachute landing was pretty smooth. I landed on fairly soft ground, managing to avoid rocks, cacti and antelopes. My chute was still billowing in the wind, though. I struggled to collapse it with one hand, holding the still-frozen faceplate up with the other.

"Can I help you? " a voice said. Was I hearing things? I must be hallucinating. Then I looked up and saw a guy walking toward me, wearing a cowboy hat. A helicopter was idling a short distance behind him. If I had been at Edwards and told the search-and-rescue unit that I was going to bail out over the Rogers Dry Lake at a particular time of day, a crew couldn't have gotten to me as fast as that cowboy-pilot had.

The gentleman was Albert Mitchell, Jr., owner of a huge cattle ranch in northeastern New Mexico. I had landed about 1.5 mi. from his ranch house--and from a hangar for his two-place Hughes helicopter. Amazed to see him, I replied I was having a little trouble with my chute. He walked over and collapsed the canopy, anchoring it with several rocks. He had seen Jim and me floating down and had radioed the New Mexico Highway Patrol, the Air Force and the nearest hospital.

Extracting myself from the parachute harness, I discovered the source of those flapping-strap noises heard on the way down. My seat belt and shoulder harness were still draped around me, attached and latched.

The lap belt had been shredded on each side of my hips, where the straps had fed through knurled adjustment rollers. The shoulder harness had shredded in a similar manner across my back. The ejection seat had never left the airplane. I had been ripped out of it by the extreme forces, with the seat belt and shoulder harness still fastened.

I also noted that one of the two lines that supplied oxygen to my pressure suit had come loose, and the other was barely hanging on. If that second line had become detached at high altitude, the deflated pressure suit wouldn't have provided any protection. I knew an oxygen supply was critical for breathing and suit-pressurization, but didn't appreciate how much physical protection an inflated pressure suit could provide.

That the suit could withstand forces sufficient to disintegrate an airplane and shred heavy nylon seat belts, yet leave me with only a few bruises and minor whiplash was impressive. I truly appreciated having my own little escape capsule.

After helping me with the chute, Mitchell said he'd check on Jim. He climbed into his helicopter, flew a short distance away and returned about 10 minutes later with devastating news: Jim was dead. Apparently, he had suffered a broken neck during the aircraft's disintegration and was killed instantly.

Mitchell said his ranch foreman would soon arrive to watch over Jim's body until the authorities arrived. I asked to see Jim and, after verifying there was nothing more that could be done, agreed to let Mitchell fly me to the Tucumcari hospital, about 60 mi. to the south.

I have vivid memories of that helicopter flight, as well. I didn't know much about rotorcraft, but I knew a lot about "red lines," and Mitchell kept the airspeed at or above red line all the way. The little helicopter vibrated and shook a lot more than I thought it should have. I tried to reassure the cowboy-pilot I was feeling OK; there was no need to rush. But since he'd notified the hospital staff that we were inbound, he insisted we get there as soon as possible. I couldn't help but think how ironic it would be to have survived one disaster only to be done in by the helicopter that had come to my rescue.

However, we made it to the hospital safely--and quickly. Soon, I was able to contact Lockheed's flight test office at Edwards. The test team there had been notified initially about the loss of radio and radar contact, then told the aircraft had been lost. They also knew what our flight conditions had been at the time, and assumed no one could have survived. I explained what had happened, describing in fairly accurate detail the flight conditions prior to breakup.

The next day, our flight profile was duplicated on the SR-71 flight simulator at Beale AFB, Calif. The outcome was identical. Steps were immediately taken to prevent a recurrence of our accident. Testing at a CG aft of normal limits was discontinued, and trim-drag issues were subsequently resolved via aerodynamic means. The inlet control system was continuously improved and, with subsequent development of the Digital Automatic Flight and Inlet Control System, inlet unstarts became rare.

Investigation of our accident revealed that the nose section of the aircraft had broken off aft of the rear cockpit and crashed about 10 mi from the main wreckage. Parts were scattered over an area approximately 15 miles long and 10 miles wide. Extremely high air loads and g-forces, both positive and negative, had literally ripped Jim and me from the airplane. Unbelievably good luck is the only explanation for my escaping relatively unscathed from that disintegrating aircraft.

Two weeks after the accident, I was back in an SR-71, flying the first sortie on a brand-new bird at Lockheed's Palmdale, Calif., assembly and test facility. It was my first flight since the accident, so a flight test engineer in the back seat was probably a little apprehensive about my state of mind and confidence. As we roared down the runway and lifted off, I heard an anxious voice over the intercom. "Bill! Bill! Are you there?" "Yeah, George. What's the matter?"

"Thank God! I thought you might have left." The rear cockpit of the SR-71 has no forward visibility--only a small window on each side--and George couldn't see me. A big red light on the master-warning panel in the rear cockpit had illuminated just as we rotated, stating: "Pilot Ejected." Fortunately, the cause was a misadjusted micro switch, not my departure.

Bill Weaver flight-tested all models of the Mach-2 F-104 Starfighter and the entire family of Mach 3+ Blackbirds--the A-12, YF-12 and SR-71. He subsequently was assigned to Lockheed's L-1011 project as an engineering test pilot, and became the company's chief pilot. He later retired as Division Manager of Commercial Flying Operations.

He still flies Orbital Sciences Corp.'s L-1011, which has been modified to carry the Pegasus satellite-launch vehicle. And as an FAA Designated Engineering Representative Flight Test Pilot, he's also involved in various aircraft-modification projects, conducting certification flight tests.

Thanks to Fred Sparks for this interesting post

God is not always your co-pilot. But at least this guy's a pro. To bad he can't read the Jepp chart...or whatever it is the Rooskies use -



This little guy's not a pro, just a student pilot. He has a pretty good rotation, but he is not much in the flare...



**This is for all you guys that had to fly for a living. It could have been worse. As in Aeroflot.
Inflight lunch is a fish and a beer...**



The photographer is a Russian (as you guessed from reading the placards) and a pretty good photographer. His website is here:

<http://www.letchikleha.info/>

It is all in Cyrillic, which make it a bit interesting, but still a good waste of time.

Taxi into Position and Hold (TIPH): Guidance for Pilots

effective February 5, 2007

BACKGROUND

Because of a rise in TIPH events the FAA reexamined existing TIPH procedures. A Safety Risk Management (SRM) panel was convened consisting of representatives from the Air Traffic Service and the Flight Standards Service, and certain specialists, including experts in aviation human factors.

The SRM panel conducted a study comprising analysis of risk and development of mitigations. The panel considered TIPH as it was described in FAA Order 7110.65, *Air Traffic Control*, and in FAA Order 7210.3, *Facility Operation and Administration*.

The results of the panel's study are contained in two new FAA Notices effective Feb. 5, 2007 (N JO 7110.456 and N JO 7210.640), and in this Guidance for Pilots.

DISCUSSION

Imminent departure. TIPH is a procedure intended to position an airplane onto a runway for an imminent departure. Example:

Tower: N234AR runway 24L, position and hold.

This ATC instruction is not a clearance to takeoff.

The SRM panel's analysis of accidents and incidents involving airplanes holding in position revealed that in a number of cases two minutes or more had elapsed between the "position and hold" instruction and an undesirable event, usually a land-over or a go-around. Pilots should be sensitive to the length of time that they have been holding in position whenever they have not been cleared to takeoff and have not been advised of any expected delay. After two minutes in position it would be particularly appropriate to query the controller about the delay holding in position.

When instructed to "position and hold" a pilot should expect an imminent takeoff except when explicitly advised of a delay. Causes for delays in position include wake turbulence and traffic on an intersecting runway, among others.

If a takeoff clearance is not received within a reasonable amount of time after "position and hold" clearance, a pilot should contact ATC. Examples:

Airplane: Cessna 234AR holding in position runway 24L.

or,

Airplane: Cessna 234AR holding in position runway 24L at Bravo.

Similarly, if uncertain about any ATC instruction or clearance a pilot should contact ATC immediately.

Situational Awareness (SA). SA while holding in position can be improved by closely monitoring all radio transmissions, especially clearances issued to other aircraft, and the acknowledgments made by their pilots. Pilots should be particularly alert to another aircraft on the frequency with a similar-sounding call sign. If it is unclear to whom an ATC transmission is addressed, a pilot should question ATC immediately.

Night or reduced visibility conditions. It is crucial at night or in other reduced-visibility conditions that pilots be especially vigilant when cleared to taxi into position and hold. A pilot should scan the full length of the runway and look for airplanes on final approach before taxiing onto on active runway. At any time that there is reason for concern about a potential conflict a pilot should contact ATC immediately.

Multiple runways and intersecting runways. When operations are being conducted on multiple runways it is extremely important to listen closely for your call sign and for any references to your assigned runway. Be alert to similar-sounding call signs and acknowledge instructions to you by including your own call sign in each acknowledgment. When you are holding in position and are in doubt if a takeoff clearance is intended for you, confirm with ATC before beginning the takeoff roll. When an airplane is holding in position on an intersecting runway, or is cleared to do so, ATC will

issue traffic advisories to pilots of both airplanes, (1) your airplane and (2) the airplane holding in position, departing, or arriving on an intersecting runway. Examples:

Tower: Delta One, runway 4, position and hold, traffic landing runway 31.

and,

Tower: United Five, runway 31, cleared to land. Traffic holding in position runway 4.

Conflicts with landing traffic. If landing traffic is a factor ATC will advise an airplane holding in position. Such traffic may have requested a full-stop, a touch-and-go, a stop-and-go, or an unrestricted low approach. Pilots should take care to note the position of such traffic on the final approach course or in the local traffic area. Example:

Tower: Cessna 234AR, runway 24L, position and hold. Traffic a Boeing 737, six miles final.

ATC will also advise landing traffic when an airplane is cleared to hold in position on the same runway. Example:

Tower: Delta 1011, continue, traffic a Cessna210 in position runway 24L.

ATC will normally withhold landing clearances on a runway while another airplane is holding in position on the same runway. **Never land on a runway occupied by another aircraft of any kind, even if you have received a landing clearance.** Pilots on final approach should not hesitate to ask the controller about traffic on the runway of intended landing, and should be prepared to execute a go-around if the runway appears to be occupied.

WORDS TO LIVE BY

Always resolve any ambiguity or confusion concerning an ATC transmission by questioning ATC immediately. Likewise, if you have any doubt about your ability to comply with an ATC instruction, advise ATC.

http://www.faa.gov/airports_airtraffic/air_traffic/publications/

Thoughts from The Editor

A group of alumni, highly established in their careers, got together to visit their old university professor. The conversation soon turned into complaints about stress in work and life. Offering his guests coffee, the professor went to the kitchen and returned with a large pot of coffee and an assortment of cups - porcelain, plastic, glass, crystal; some plain-looking, some expensive, and some exquisite - telling them to help themselves to the coffee.

After all the students had a cup of coffee in hand, the professor said: "If you noticed, all the nice looking expensive cups were taken up, leaving behind the plain and cheap ones. While it is but normal for you to want only the best for yourselves, that is the source of your problems and stress. Be assured that the cup itself adds no quality to the coffee. In most cases, it's just more

expensive. What you really wanted was coffee, not the cup, but you consciously went for the best cups . . . and then began eyeing each other's cups.

Now consider this: Life is the coffee, and the jobs, money and position in society are the cups. They are just tools to hold and contain life, and the type of cup we have does not define nor change the quality of life we live. Sometimes, by concentrating only on the cup, we fail to enjoy the coffee God has provided us. God brews the coffee, not the cups . . . enjoy your coffee.”

You are invited to come worship and learn of Jesus Christ with us at Blountville Community Chapel.

Sunday School starts at 10 AM, Worship at 11, usually done by around 12:15. Located just west of Blountville. For a map of how to get there, click on this link:

<http://www.bcchapel.org/resource/Map/location.html>

The preacher is the same guy that does these newsletters, just so's you'll know...

Copies of the weekly sermon are now being sent out by e-mail every week. If you would like your name added to the list of people receiving it, just notify

richard@bcchapel.org

Next Chapter 442 Meeting Sunday February 25, 2007 at Hawkins County Airport at 2:30 PM.

The End



All initial Propwash mail outs are Blind Carbon Copy to help reduce spam & protect the privacy of our members