

Newsletter



569

Lincoln, NE

February, 2007

Meeting Announcement

Date: Tuesday, February 6
Time: 1930 hrs
Place: Duncan Aviation Engine Shop
Shop Classroom
Program: Alaska Trip by John Zimmer

John Zimmer will share with us his recent trip to Alaska. It should be a very interesting program.

President's Message

Dennis Crispin



We had a great meeting program in January. The tour of Duncan Aviation was interesting, informative and just plane fun!

I remember when Duncan moved their base of operations from Omaha to the "new" Lincoln Airport. (It was a GA facility added on to the side of what was then a large Air Force base.) Duncan then had one big hanger that contained a single Learjet and a few assorted Beachcraft aircraft. They had just become one of the nation's first dealers for Learjet.

In the forty-some years since then, they have grown to become one of the world's premier businesses specializing in the maintenance and modification of high end executive jets. The magnitude of the current business was seen in the nearly three dozen aircraft simultaneously

undergoing work in the several shops. Only a couple garden variety Lears and Citations were evident. The great majority of the planes were high dollar Gulfstreams, Falcons and the like. My favorite part of the tour was the cabinet and upholstery shops where the finest of materials and craftsmanship are combined to create fabulous aircraft interiors.

Duncan Aviation has certainly become a credit to the American aviation industry and to the Lincoln business community.

Our upcoming programs promise to be equally fine. Those among us that don't attend our meetings are missing out on a lot of fine information as well as an evening of good camaraderie. (I have written that many times before, but it bears repeating.)

Breakfast this month was well attended despite the weather keeping our usual fly-ins at home.

After breakfast several of us looked in on Roger Aspegren's RV-9A. It has been inspected and is awaiting only good weather and attention to a few last minute details. The first flight should occur shortly.

While on the subject of first flights, our club still needs an EAA Flight Advisor. We have three fine Technical Counselors, but, as far as I know we have never had a Flight Advisor. There must be someone in our group that has the qualifications and interest to do this important function. The aviation insurance industry is impressed with the EAA programs because they allow a significant reduction in premium on a homebuilt aircraft that is built under the guidance

of an EAA Technical Counselor and that makes its test flights under the guidance of an EAA Flight Advisor.

We ran short of time at the last meeting and didn't get to discuss the plans for the coming year's club activities. Bring your thoughts, ideas and suggestions to our February meeting.

Dennis Crispin
President EAA Chapter 569

Would you like to build an RV-8?

Van's Aircraft sent a large box of "goodies" for our Christmas party door prizes. Included among the T-shirts and caps was a trial plans set for a RV-8.

This is the starter plans which allow you to build the tail surfaces for the RV-8 homebuilt aircraft. By starting with the smaller parts you can determine if you have the skills and desire to tackle the complete aircraft.

As this item is of significant value, we thought that it should go to someone who has an interest in building an RV aircraft.

So if you would like the trial plans see Roger Aspegren. If more than one person wants it we will have you arm wrestle or something to determine the winner.



Van's RV8 provides tandem seating with great cockpit visibility.



Al Spaulding inspects an aircraft in the Duncan Aviation paint shop.

(Special thanks to Tom Henry, Erick Corbridge and Andy Bajc for serving as our tour guides. It was a real interesting tour. Duncan Aviation employs 1,300 people and services planes from all over the world. One plane that happened to be on hand during our tour belonged to the King of Egypt. – Ed.)

Things to Do

- Feb 3** – Chapter 1055 Breakfast –
8:00-10:00 - York, NE
- Feb 6** - EAA Chapter 569 Meeting –
Duncan Aviation Engine Shop, 7:30pm
- Feb 17** – Chapter 569 Breakfast –
7:30-10:30 - Crete, NE
- May 27** – Young Eagles –
Hosted by EAA Chapter 569
Evelyn Sharp Field – Ord, NE

For Sale

OXYGEN SYSTEM FOR SALE: Sky Ox 24 cu ft aluminum cylinder with 2-place regulator, mask, 2 cannulas, and case. Filled with oxygen but never actually used. Sporties 7498A, list \$530 (without oxygen). Asking \$350. Wayne Martin 488-6849 cwmart@windstream.net.

Jim Fix Raffle Winner



Jim Fix was the winner EAA jacket raffle. John Glenn's signature is on the front of the jacket.



Nice looking jacket. Wish I would've won!

Charlie Brown's story ...

Charlie Brown was a B-17 Flying Fortress pilot with the 379th Bomber Group at Kimbolton, England. His B-17 was called 'Ye Old Pub' and was in a terrible state, having been hit by flak and fighters. The compass was damaged and they were flying deeper over enemy territory instead of heading home to Kimbolton.

After flying over an enemy airfield, a pilot named Franz Steigler was ordered to take off and shoot down the B-17. When he got near the B-17, he could not believe his eyes. In his words, he 'had never seen a plane in such a bad state'. The tail and rear section was severely damaged, and the tail gunner wounded. The top gunner was all over the top of the fuselage. The nose was smashed and there were holes everywhere.

Despite having ammunition, Franz flew to the side of the B-17 and looked at Charlie Brown, the pilot. Brown was scared and struggling to control his damaged and blood-stained plane.

Aware that they had no idea where they were going, Franz waved at Charlie to turn 180 degrees. Franz escorted and guided the stricken plane to and slightly over the North Sea towards England. He then saluted Charlie Brown and turned away, back to Europe.

When Franz landed he told the c/o that the plane had been shot down over the sea, and never told the truth to anybody. Charlie Brown and the remains of his crew told all at their briefing, but were ordered never to talk about it.

More than 40 years later, Charlie Brown wanted to find the Luftwaffe pilot who saved the crew. After years of research, Franz was found. He had never talked about the incident, not even at post-war reunions.

They met in the USA at a 379th Bomber Group

reunion, together with 25 people who are alive now - all because Franz never fired his guns that day.

Research shows that Charlie Brown lived in Seattle and Franz Steigler had moved to Vancouver, BC after the war. When they finally met, they discovered they had lived less than 200 miles apart for the past 50 years!!

Speaking With The General

It was a dark, stormy, night. The Marine was on his first assignment, and it was guard duty. A General stepped out taking his dog for a walk. The nervous young Private snapped to attention, made a perfect salute, and snapped out "Sir, Good Evening, Sir!"

The General, out for some relaxation, returned the salute and said "Good evening soldier, nice night, isn't it?"

Well it wasn't a nice night, but the Private wasn't going to disagree with the General, so he saluted again and replied "Sir, Yes Sir!"

The General continued, "You know there's something about a stormy night that I find soothing, it's really relaxing. Don't you agree?"

The Private didn't agree, but then the private was just a private, and responded "Sir, Yes Sir!"

The General, pointing at the dog, "This is a Golden Retriever, the best type of dog to train."

The Private glanced at the dog, saluted yet again and said "Sir, Yes Sir!"

The General continued "I got this dog for my wife."

The Private simply said "Good trade Sir!"

Minutes of the Club Meeting January 2, 2007

1. Introduction of guests.
2. The annual report to EAA headquarters. We have 42 members beginning 2007.
3. We have selected the most basic insurance for the club with \$1,000,000.00 coverage.
4. Money received from the Saturday breakfasts.
5. A recommendation was made to give Pat from Crete Aviation a gift certificate for letting us use his hangar for the breakfasts.
6. A recommendation was made to give a donation to the Starbase program. A motion was made to give \$100 to Starbase. It was seconded and passed.
7. Donation for 99s Aviation Art. A motion was made to give \$50, it was seconded and passed.
8. We have a new Newsletter editor.
9. We need to do a Budget for 2007.
10. Five Young Eagle flights have been scheduled.

Rich Boelts, Secretary

Minutes of the Executive Meeting January 20, 2007

1. We discussed some possible programs for 2007.
2. A donation has been made to Starbase Nebraska.
3. A donation will be made to aviation art fund.
4. A gift certificate to a restaurant has been given to Crete Aviation.
5. The Young Eagles program is under way.
6. Thanks to Doug Volkmer for doing the Newsletter. The first edition for the year has been completed.
7. We will try to get the Ford TriMotor to come to Lincoln again this year.
8. The recommendation was made that we should have an airplane or some portion of an airplane at each meeting.
9. We need to organize some events for the club to work on. This should include flying and nonflying events.

Rich Boelts, Secretary

Accident Report

Accident occurred Friday, January 13, 2006 in Childersburg, AL

Aircraft: Cirrus SR22, registration: N87HK

Injuries: 3 Uninjured.

The pilot obtained a full Direct User Access Terminal (DUATS) the night before the accident. The briefing was not valid for the time of the accident. The National Weather Service (NWS) issued AIRMET Zulu update 3 for icing and freezing level data valid from 1445 CST until 2100 CST. The advisory warned of occasional moderate to mixed icing-in-clouds and in precipitation between 3,000 to 8,000 feet. The departure airport and the accident site were within the boundaries of the advisory. The pilot requested an abbreviated DUATS weather briefing at 1244 EST for his route of flight between Birmingham, Alabama, and Orlando, Florida. The in-flight advisories were to expire at 1500 CST. The briefing provided several adverse weather phenomena impacting the route of flight from icing, turbulence, and thunderstorms. The pilot stated he was not aware of AIRMET ZULU UPT 3, that was issued by the NWS before he departed Birmingham. The airplane was equipped with an XM Satellite radio. The AIRMET was transmitted by the NWS and over the XM radio installed in the airplane. The airplane is not certified for flights into icing conditions. The pilot stated the flight departed from runway 24 and he contacted the air traffic controller on the radio. The airplane was identified by radar and the pilot was instructed to climb to 7,000 feet direct to Hande intersection. The airplane entered the clouds at 5,000 feet on autopilot climbing at 120 knots. Upon reaching 7,000 feet the airplane encountered icing conditions. The pilot informed the controller that he would like to climb to 9,000 feet which was approved. As the airplane reached the cloud tops in visual flight conditions at 8,000 feet the airplane began to buffet. The pilot looked at his airspeed indicator and it indicated 80 knots. The airplane stalled, entered a spin back into instrument flight conditions. The pilot deployed the ballistic parachute system and informed the air traffic controller of his actions. The airplane

descended under the parachute canopy into the trees.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows:

The pilot's inadequate preflight planning, failure to obtain a current weather briefing, and his decision to operate the airplane into a known area of icing outside the airplanes certification standards resulting in the aircraft accumulating ice, a loss of airspeed, an inadvertent stall/spin and subsequent collision with trees.

Questions from the Private Pilot Test Exam

1. When two or more aircraft are approaching an airport for the purpose of landing, the right-of-way belongs to the aircraft
 - A. that has the other to its right.
 - B. that is the least maneuverable.
 - C. at the lower altitude, but it shall not take advantage of this rule to cut in front of or to overtake another.
2. Except when necessary for takeoff or landing, what is the minimum safe altitude required for a pilot to operate an aircraft over congested areas?
 - A. An altitude of 1,000 feet above any person, vessel, vehicle, or structure.
 - B. An altitude of 500 feet above the highest obstacle within a horizontal radius of 1,000 feet of the aircraft.
 - C. An altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
3. Which aileron positions should a pilot generally use when taxiing in strong quartering headwinds?
 - A. Aileron up on the side from which the wind is blowing.
 - B. Aileron down on the side from which the wind is blowing.
 - C. Ailerons neutral.

Answers: 1. (C) 2.(C) 3.(A)

EAA 569 Contact Information

President

Dennis Crispin
402-862-2892
ldovel@neb.rr.com
531 10th St.
Humboldt, NE 68376-9709

Vice President

Steve Davey
402-223-2997
SADSXLRG5@Yahoo.com
1916 Country Meadows Pl.
Beatrice, NE 68310

Secretary

Rich Boelts
402-476-4030
rboelts@juno.com
1901 Preamble Lane
Lincoln, NE 68521

Treasurer & Tech Counselor

Tom Henry
H: 402-791-2116
W: 402-479-1540
tom.henry@duncanaviation.com
TomHenry3@aol.com
1360 S 96th Rd.
Firth, NE 68358

Tech Counselor

Erick Corbridge
402-499-1039
Corbe99@Yahoo.com
5641 Harding Dr.
Lincoln, NE 68521

Tech Counselor

Doug Hill
H: 402-730-8126
W: 402-474-5074
captdrh@yahoo.com
920 Lakeshore Dr.
Lincoln, NE 68528

Newsletter Editor

Doug Volkmer
H: 402-483-1108
doug_rv7@yahoo.com
3720 Stockwell Circle
Lincoln, NE 68506

Fast and High Ejection

(By Bill Weaver – Bill 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.)

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.

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.



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John Cox
2279 County Road 2425
Dewitt, Nebraska 68541-2518