



Mountainland Flyer

EAA Chapter 17, Knoxville Tennessee

Next Meeting:

February 4th 18:00 EST: EAA Chapter 17 banquet. Ramsey's See page 6

Minutes from January 3rd Meeting

Attendance: Darrell Sexton Presiding, Don Miller, Mark Scheuer, Fred Eckstein, Randy Headrick, Tim Hensley, Ron Workman, David Brown, Ed Dumas, Lee Erickson, Ralph Wallin, Bill Lofgren, Ken Carpenter

Minutes Approved - Minutes of the previous meeting were approved as written and distributed via e-mail.

Treasurer's Report - Ed Dumas submitted the Treasurer's report, Spent \$59.50 Calendars EAA has \$585.35 in checking(.10 dividend) and \$718.36 in savings. The report was approved.

Don Miller urged all to write representatives about objections to airspace restrictions.

David Brown will work on attempting to bring the B-17 tour to McGee-Tyson.

Skyranch will have safety seminar 2nd Tuesday in Feb. 7pm and every other month following. Everyone welcome. January 31st Clayton's

Several safety seminars coming up .Listed on EAA Chapter 17 website.

Remote Area Medical is looking for a mechanic. Contact www.ramusa.org

Paul Lewis will be the speaker at the banquet.Feb.4th at Ramsey's at 6.00pm

There will be door prizes.

Motion to raise dues to 20.00 seconded and passed

This is the 50th anniversary of Chapter 17. If you have any old pictures or articles, please contact Don Miller as soon as possible.

Hopefully 50th anniversary caps will be available at the banquet.

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B-17 Tour Chairman

David Brown

Topic suggestions for *MountainLand Flyer* Articles:

The last suggestion that we made for articles netted some really interesting stuff. Therefore, we have compiled a list of ideas that you may want to pen an article:

First solo— what was it like, what went through your mind as you watched your instructor walk away?

Most memorable views aloft – What have you seen that made you realize “this is what flying is all about”?

Most valuable flight lesson that you didn't understand until now— We have all had it happen, we learn to fly, pass the tests, build the hours, and get on with life. Then one day, years or even decades later, we find a situation that makes us understand why they teach this stuff. What was YOURS?

Send your contributions to: gpickou@chartertn.net , and be eligible for a \$20 gift certificate from Sporty's, and a big thank you from the editor.

Win Buck\$ for writing what you know!

—Mark Scheuer

During one of the nominating committee meetings, a suggestion was made on how to make our monthly newsletter easier to publish for our new editor, as well as making it more interesting to our members.

The idea of having our members submit stories was floated and all at the table agreed that that would be an excellent idea.

But HOW to motivate our members to submit these stories? [Money.](#)

It was suggested that at each meeting, a drawing would be made from names of the individuals who had submitted and had published, an article that had something to do with aviation. A trip, a lesson learned, hints on making that perfect landing, even an old war story. The only requirement is that it would be aviation related.

Through a small grant from PS Engineering, Inc, along with the chapter's help, funds have been made available to offer the winner at each month's meeting, a \$20 gift certificate good at Sporty's Pilot Shop. You don't have to be present to win.

Then, at the January 2007 annual banquet, the names of the monthly winners will be placed back into the hat and a drawing made for a PS Engineering, Inc. hi-fi stereo headset, valued at \$280!

The articles should be submitted by way of email to Gary Picou (gpicou@charternet.net) not later than the 15th of each month, for consideration in the next newsletter.

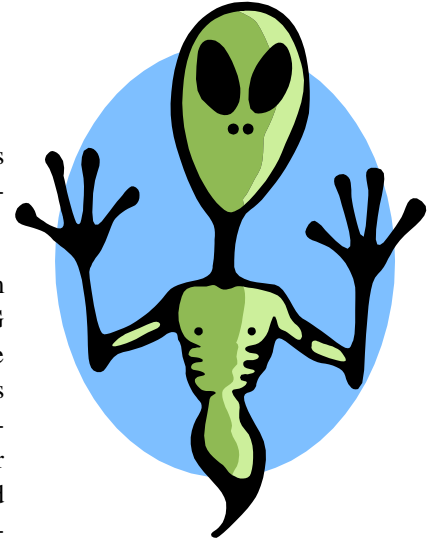
My Life at Area 51

By Dick Merian

In the summer of 1953, I was a pilot with the 27th Fighter Squadron at Griffiss AFB in upstate New York. I had been accepted by the Air Force Institute of Technology and was to attend Boston University. My advisor wished to interview me so I promoted a flight with my F-86 to Air Guard's hangar at Boston's Logan airport, hopped the subway and met with him. After discussing my background, we laid out a course of study for the next two years. He was a very fine gentleman who was an immense support to a guy who had been away from academics for several years. Thus for the next two calendar years, three school years, I pursued a lot of graduate credit resulting in a masters degree in Physics. Upon graduation, the Air Force sent me to the Air Force Special Weapons Laboratory, Kirtland AFB, Albuquerque, NM. For three years, I did research on nuclear weapons effects. My boss was an Air Force colonel with two PhDs. As a consequence, I spent a lot of time at the Nevada Test Site, Inowetok, and Bikini. Most of my efforts were in Beta, Gamma and alpha spectroscopy wherein I had to design and build my own equipment including detectors. This was an all blue suit laboratory, with a great bunch of guys. Two fellows I knew as Captains became Air Force Chief of Staff. We also had very close relationship

with our counterparts at Los Alamos Laboratory.

I was recruited from the service by EG&G Las Vegas. They were responsible to Los Alamos and Livermore Laboratories for the timing, firing, and diagnostic measurements on all nuclear tests. The Administration had declared that all future tests would be fired underground following a moratorium. My new job was to design the new detector systems working with my counterpart, John Malik at Los Alamos. These measurements are necessary to the weapons designer in telling him how effective the device assembled upon detonation. The measurement was to a time resolution of ten nanoseconds, which was nicknamed a "shake". EG&G was at that time on the very forefront of very fast timed measurements. In about six months we had designed and tested all the underground detectors that would be required. EG&G Las Vegas at that time had about 150 employees so everybody knew everyone else. Sometime, I do not recall when in 1960, Herb Grier, one of the Gs in EG&G, called me in with a very peculiar proposition. He stated that he had a very important assignment for me but he couldn't tell me what it was. Would I accept it? Yes!



Thus began a very exciting three years for me at Area 51. It turned out that my predecessor had been fired, so I had no benefit of his knowledge. Further, the expertise required was all about radar, of which I knew nothing. The antagonist was Kelly Johnson of Lockheed Skunk works fame. Let me explain.

What you know as the SR71 was not the first mach 3.2 aircraft. The SR71 came two years after the original CIA version (called the Y12) was flying. This was a single seat aircraft, the first to be radar transparent. The CIA operated by seeking out experts in the free world, employing them as consultants and running the program with only two people, the project manager, at that time Richard Bissell who became the fall guy in the Bay of Pigs business, and an accountant. There were only a few contracts, and we were all at equal level. The reason EG&G was brought in was not because of our expertise, but because of our proximity.

Our job was to simulate Soviet radar and measure the radar cross section of the Y12. Also we hosted the experts who worked on reducing the cross section, and a small company of about six hand-picked guys set up by the CIA to be the architects of how testing would proceed. What I walked into was a situation where Kelly Johnson stated we were not capable of measuring anything, the theoreticians could not work, the radar experts had half built junk laying all over, and I had no expertise in radar. There then ensued a harrowing six months to dig our way out of the hole and my spending wee hours of the morning educating myself into radar. First let me explain the problem.

Gary Powers' U-2 was shot down by a SAM2. After 40 years, this weapon is still in use. This was the primary threat for the Y12. The SAM uses a C band, track-while-scan radar. If the Y12 can stay radar transparent until overhead when the SAM fires, it becomes a stern chase which at mach 3.2 the SAM cannot catch it.

If you provide resistive absorption with no discontinuities, the radar wave will not be reflected back to the transmitter. This is why the Y12 has chines; it is full of radar absorption materials. All the work predated current supercomputers, hence was done by the expert eyeballing the radar return then profoundly stating, "I think the reflection is coming from here, try this",

and so it went cut and try. Frank White was our guru; this guy was so smart that when he was working at the chalkboard, he would do in two steps what would take me a whole board. He would do it in his head and patiently explain to others and me. Other notables were such as Dr. Land of Polaroid fame that designed the camera and first suggested the absorption of the radar signal.

We hired a couple very good microwave engineers and a digital designer. We were a crew of about ten, commuting back and forth from Las Vegas in a Beech D-18; then as we grew, a Convair twin. We got our equipment running correctly, offered calibrations, which were based on fundamental Physics. Kelly Johnson ceased to be the enemy and became my friend. EG&G had a Beechcraft Travelair which I used for back and forth between my in town office and Area 51. I would fly up the west side of the Tonapah highway to stay out of the Air Force Gunnery Range, cross the Nevada Test Site and land at Groom Lake (Area 51).

The radar reflection work was done on models, one full size and one 1/5th size by mounting the models on rotating rams where its aspect could be changed. The range and height of the model are selected so that the ground reflected wave is in phase with the direct wave. The 1/5th scale is also scaled in frequency. As the models pro-

duced results, they were incorporated into the prototype under construction.

We were all co contractors, the agency wanted to make sure the radar measurements were independent from Lockheed. A meeting was held once a month either at "the ranch" (51) or in Washington. We all arrived in Washington together, mostly flown in a Lockheed Constellation. We carried all our secrets, with nothing marked top secret, etc.

We would all stay in one hotel and order dinner in the rooms. Kelly Johnson did not drink or smoke, he would sit around and tell us spellbinding stories about the designing the P-38 or F-80. Did you know that the nose of an F-80 is the P-38 nose upside down? There was a meeting one time in a New York hotel, which was right out of the movies. The guys at the entrance to the suite had bull necks and wires down their collars. Before the meeting, I was seated at a conference table shooting the breeze with a fellow named Henry. We were both Boston Red Sox fans and waxing eloquent on the vir-

tues of our team and Fenway Park. At the meeting, I spoke briefly about a problem we were having. At my conclusion, the agency guy asked Henry if he had any ideas. Henry puffed on his pipe for about thirty seconds then proceeded to lay out a solution. As the meeting concluded, I guess I looked sort of hang-dog. The agency guy said, "What's wrong Dick?" I told him I felt stupid after listening to Henry. He then told me that Henry was Henry Purcell, Nobel Prize winner in Physics for NMR and a Harvard Professor. That is the kind of resources the agency had. I have never seen any government group move as fast as these guys did. One time we needed a Western Electric Nike/Ajax radar. They were called on Friday night and we received the unit Sunday afternoon.

As the prototype Y12 was approaching its first flight, we constructed a sixty-foot dish that could rotate and elevate and an instrument package aboard the Y12 so we could make quantitative measurements of the bird in the air. I was privileged to see the first



Area 51 continued

unofficial and the first official flight. At Groom Lake we had a 26,000 foot runway, including overruns. For security purposes, all our measurement flights were done at night. Also, models were also cleared off anytime a Soviets satellite was expected.

All of that area is, of course, restricted. It was very surprising one day when a P-51 landed. This guy was a doctor on his way home from LA and was just curious. The agency locked him up for about three days to check him out, and then upon release, he was made to pay for having his plane disassembled and shipped back to his home.

Fun Fact:

The SR71 is misnamed. It should have been named the RS71 but when President Johnson made the public announcement, he misspoke and called it the SR71.

After the Y12 had been flying for a while, the Air Force wanted five of their pilots checked out in future anticipation of the SR71. They requested a plane to fly themselves back and forth from Las Vegas. The agency gave me a Cessna 180 just back from the Cuban Fiasco. It still had rocket rails mounted on the struts. We quickly removed them and I started to check the fellows out in a tail dragger. None of them had

ever flown one and it was more fun watching them crow hopping down the runway. After a few weeks, the guys petitioned and secured a tri gear Cessna 205. One of these pilots was an old squadron mate from Korea, Lon Walter. Lon retired as a BG.

In our monthly meetings, Kelly Johnson was a master at verbally destroying his opposition. After the Y12 had about 20 hours it was discovered that it required an engine change about every five hours. The engine design as you may know was truly innovative and has never been duplicated. At any rate Kelly was tearing a strip out of the VP of Pratt Whitney who was a little Texan. The VP said nothing while Kelly tiraded for about 45 minutes. He then

stood passed out a series of photos showing debris left by Lockheed inside the ducting chines of the engine compartment. All he said was, "That is your engine problem!" How eloquent!!

The Y12 and SR71 are "g" limited to $1\frac{3}{4}$ g. One does not maneuver as much as point the bird. At mach 3.2 (0.6 miles/second) steering west across San Francisco, he starts a 180-degree left turn. He will roll-

out between LA and San Diego.

A special fuel is used which leaks on the ground and only seals up after the bird

have warmed up at speed and altitude.

The Lockheed test pilots were a special breed of cat. Most of them were engineers but also a little crazy. I once witnessed a U2 pilot land, taxi to the hangar, swing into the hangar, turn around and then drop the wing. As you know the U2 is like a sailplane, one center wheel, tail wheel and no outriggers on the wing. Another time I had business at Lockheed Burbank and a couple of the test pilots asked if they could get a lift with me. As I approached Burbank in the Travelair the visibility was really bad so I started an instrument approach. The guys asked me what I was doing; when I told them they both shook their heads. No, I was told, we will get you a special

A local fellow owned a turquoise mine on Groom Mountain on the other side of the dry lake. Every year, he would notify the Feds that he planned to mine this year. Each year, they paid him \$50,000 not to mine that year.

VFR approach. One of them got on the radio identified himself, "Joe, this is Pete!" Pete tells me to head for the smoke stack sticking out of the soup, then gives me a heading till we are directly over a pond, then a heading which lines us up for the runway. We found the runway but I would not like to do it again.

I recently learned that there had been 118 SAM2 fired at the SR71, resulting in no hits or damage. I guess we did our job correctly.

It was a special time in my life. We worked eighty-hour weeks with never any time off. My friends in the agency were dedicated people, not bureaucrats as were all my friends from Lockheed.



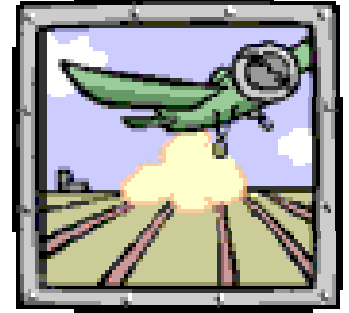
My Earliest Airplane Memory

– Lee Erickson

I was first taken to an airport by my mother. I grew up on the rural edge of St. Paul Minnesota. Lake Elmo Minnesota was our mailing address but we lived quite far from the small town that was and is Lake Elmo. Minnesota is the land of 10,000 Lakes. So in the land of 10,000 lakes what do you do all summer? You go swimming! Mother would take my sister and me off to Lilly Lake on the far side of Lake Elmo from where we lived. I do not know how it started, but on the way home she would often stop at the Lake Elmo Airport. There was a small parking lot with a view of the runway next to some hangars. We would get out of the car and I would stand next to the chain link fence and look through it at the airplanes taxiing to and from the hangars. They would taxi a long way off to get to the end of the runway. We would wait with excitement for

the sound of the engine to rev up signaling a take off. You could hear the engine rev up but it always seemed to take a moment for the plane to appear to start moving. Part of it was from the perspective, since we were looking down the runway from a long way off we could not easily see the motion. Eventually I understood that. Finally when the plane was moving quickly down the runway the nose would go up and mother might sing a line of song "Off we go, into the wild blue yonder...".

The planes would fly around the airport and we would watch some who had just taken off come around and land. It was during landing that I could see the silhouette of the planes from a nose on perspective and I noticed something. Most planes had a vertical tail, but some were different. Some had two tails at an angle. I always thought they were the coolest. I think I also



noticed they were louder than the other planes. I decided as a four year old that, one day, I was going to fly. I left Minnesota over 20 years ago. I learned to fly here at McGee Tyson. I have since gone back to visit Minnesota and stopped in to visit the airport whose identifier is 21D. There was not much activity there and I never could find a plane and instructor available in the time I had free. There is an EAA chapter with their own club house at Lake Elmo www.eaa54.org/ They apparently do a Saturday morning pancake breakfast once a month and Young Eagles too. I was never in town on the appropriate Saturday. Perhaps I will make it back to Minnesota and finally get a plane in the air at 21 and finally look down at the airport from which I first looked up.





EAA Chapter 17

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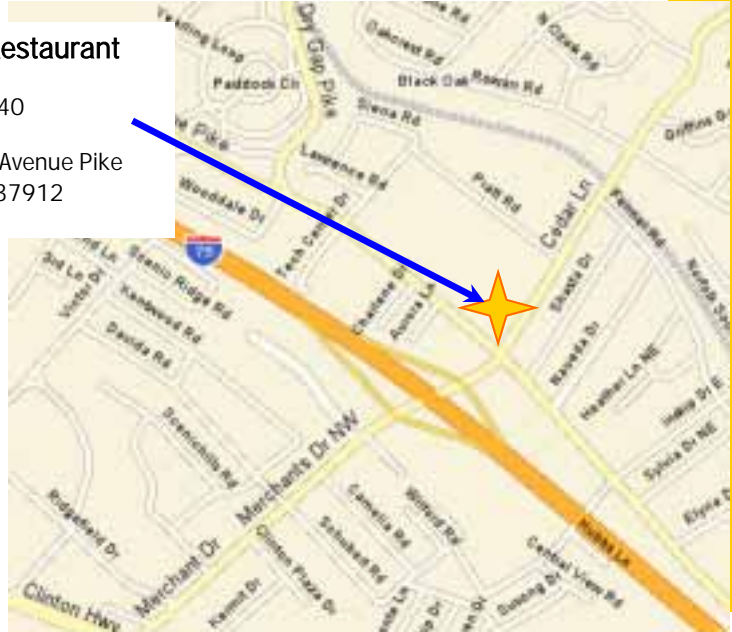
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EAA Chapter 17's mission is the promotion of education in aeronautics, flying safety, navigation, amateur or home-built aircraft, antique aircraft restoration and construction, and related aero-sciences. To foster aviation, education, and progress in light aircraft development and other closely related phases of aviation. And to maintain a non-profit cooperative association to obtain instruction and education in aviation.

Ramsey's Restaurant

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On the web at www.eaa17.org

Chapter 17 Banquet Speaker will be out of this world

Banquet Speaker, Ambassador to the Solar System

Paul Lewis, Director of Space Science Outreach and Teachers Resource Distribution Center NASA/JPL Solar System Ambassador 2005/2006, University of Tennessee Department of Physics and Astronomy W2HST

In the last months, we have seen the future of experimental aviation achieve a milestone; the success of exo-atmospheric flight by private citizens—commonly known as private spacecraft.

In this golden year of Chapter 17, we are pleased to have a guest speaker that is out of this world.

Paul Lewis came to UT in 1987 to conduct astronomy observations for the undergrads in astronomy. He began public observing sessions that same year and that led to calls from local schools for astronomy and space science programs.

Space Science Outreach has become one of UT's biggest outreach efforts. Paul conducts public programs and star parties in state and national parks, schools, churches and civic organizations all over East Tennessee. He is self taught in astronomy and do not hold any degrees.

His hobby is going to air museums and air shows whenever he can. He loves aircraft. Paul has been a member of the wing staff of the Tennessee Civil Air Patrol as the External Aerospace Education Officer for 5 years and a senior aerospace education member for 11 years. January's program will be titled "Space Science Exploration Today and Tomorrow"

Mr. Lewis will talk about current solar system unmanned robotic exploration. Specifically, Mars missions, Cassini at Saturn and

Stardust. Paul will also mention a couple of new and upcoming missions such as New Horizons to Pluto and the Kuiper belt and Messenger which is currently in route to Mercury.

Paul will be bringing a moon rock from the Apollo 16 mission for a little show and tell, or rock and roll?

