

New OAC Chairman Sets SATS Development as Main Goal for 2002

OKLAHOMA CITY-The new Chairman of the Oklahoma Aeronautics Commission, Dave Amis III, is adopting SATS development as the main goal for his year.

The Oklahoma City native and manager of Downtown Airport, explained that SATS is the Small Aircraft Transportation System, a NASA program intended to relieve conjestion and gridlock at the nation's airports and on high-



Dave Amis III, new Chairman of the Oklahoma Aeronautics Commission.

ways. "It's really going to benefit higher-density population areas, but rural parts of the State will enjoy accessability never before known," Amis said. "Another benefit is safety in the skies. These emerging technologies are fascinating and user friendly. The ultimate goal of the system is to make flying safe and inexpensive for the average citizen, with pointto-point delivery. The nation's transportation system is expected to reach gridlock in 2008, which will affect the economy quite negatively. I think SATS is the answer.'

As reported in the July issue of The Oklahoma Aviator, Oklahoma has been included in the testing phase of SATS, through the Research Triangle Institute in Raleigh, NC. The State's involvement came, according to Amis, "from Commissioner Mike Kiester's involvement with NASA." A key element for SATS implementation is broadband wireless Internet connectivity. Oklahoma's progress in implementing broadband wireless on a statewide basis is one of the reasons the state is in a good position to be a key participant in SATS development. Broadband wireless will benefit not only the SATS program, but is also instrumental in the state being competitive on a national and global scale in the future.

The SATS system development will encourage industry to come to Oklahoma, where concept testing is scheduled to begin in 2005. The third annual SATS Expo will be held in Weatherford May 3rd and 4th next year, showing off developments and aircraft.

As part of Oklahoma's involvement in the SATS program, a new airport at Langston University in Langston, OK, is being planned, to be built from the ground up for SATS research and industry. U.S. Congressmen Earnest Istook and Frank Lucas are currently seeking planning funds for the \$21 million project. Lucas was instrumental in securing \$69 million funding for SATS development earlier this year.

Following the August meeting of the Oklahoma Aeronautics Commission, Chairman Amis said, "Yes, I would like to see furtherance of the SATS Program, and there are certain legislative issues we want to push forward, including a few changes in the sales-tax law that was passed last year." The Law benefits giant aircraft manufactures and airlines but leaves out smaller companies that help serve Oklahoma's largest (\$11.6 billion) industry, namely, aeronautics." Amis said, "We will be working with staff to determine what suggestions we should make to the Legislature for the next session."

Amis traced his new chairmanship to a letter he sent to Governor Keating seven years ago, offering to do volunteer work in State Government to benefit aviation. That letter resulted in his appointment to the Oklahoma Aeronautics Commission.

The SATS Program builds on the success of NASA's Advanced General Aviation Technology Experiments (AGATE) program and General Aviation Propulsion (GAP) program.

Whereas AGATE and

GAP concentrated on implementing new technology on board the aircraft, SATS concentrates on coupling that technology with the necessary infrastructure to create a new national transportation system.

The new system would facilitate and encourage the use of small general aviation aircraft, including individuallyowned aircraft and small "airtaxi" aircraft, to operate outside the existing hub-andspoke system, travelling "from point to point." SATS also envisions a move away from centralized air traffic control, where the system would provide the capability for suitablyequipped aircraft to operate autonomously.

Over the past year, Congress recognized the growing congestion problem in the existing hub-and-spoke air travel system and appropriated substantial initial funding for the SATS program. The problem goes far beyond a shortage of existing runway capacity at major airports. Even if new runways could be added quickly, which they cannot-a major new runway project requires 15 to 25 years to complete-- the resulting increase in capacity would only cause bottlenecks to appear in terminal-area air traffic control, airport parking, and highway congestion around airports.

In response, a new National Transportation Policy document has been drafted, significantly by Dr. Bruce Holmes, author of the SATS program.

Since the September 11 terrorist attacks, SATS has gotten more emphasis, and the planned implementation schedule is expected to be shortened, with initial implementation perhaps completed in 2004 instead of 2005 as planned.

More on SATS is available at http://sats.nasa.gov, and at www.satsexpo.com.

The planned Oklahoma Centennial Airport to be built at Langston University. The new airport will be built from the ground up as a SATS development airport.



From Mike...



Quickie's "Big Bird"

"On a cold December morning in 1986, the fuel laden Voyager struggled to become airborne to begin her journey around the world.

"On one tank of gas and without refueling, the carbon composite honeycomb sandwich airplane, designed by Burt Rutan, would fly around the globe. Taking off from Edwards Air Force Base in California on December 14, 1986 and landing 9 days, 3 minutes and 44 seconds later on December 23, 1986, the Voyager set absolute distance records and many other world records that remain unchallenged today."

The foregoing is quoted from Dick Rutan's website. Is there anyone in the entire aviation world who is not intimately familiar with this heroic achievement? The story of the Voyager's design, construction, and world-record-setting flight were followed by millions of people all over the world. The Voyager flight has now become legendary, taking its place alongside Charles Lindberg's transatlantic flight of 1927.

Of course, the Rutan's were not the only ones who had dreamed of a non-stop flight around the world in a small airplane. The first such dreamer that I am aware of was none other than the legendary/infamous Jim Bede. In the mid-60s, Jim Bede's name first came to national prominence when he designed the BD-1, a lowwing, all-metal, two-place airplane that was to sell for \$2500 brand new. By comparison, new Citabria's were then selling for around \$8000. Alas, the airplane only became a commercial success after Bede was out of the picture, when it became the American Yankee. Then later, in the 1970s, Bede designed and marketed several airplanes, the most notable of which was the infamous BD-5.

In between, he designed the BD-2, an airplane to fly around the world non-stop. It was a modified commercially-available sailplane, onto which Bede had installed an engine and large fuel tanks. If memory serves, he did succeed in setting some sort of record flight in the airplane, but never attempted the round-the-world flight. Typical Bede.

However, I want to tell you about another round-the-world airplane I was personally involved with. In the late 1970s, a small company called Quickie Aircraft sprung up at the Mojave Airport, a few hangars east of the Rutan Aircraft Factory. In fact, the original single-place Quickie was a joint design effort between Burt Rutan, Tom Jewett, and Gene Sheehan, which was then "spun off" into a separate company. Then, in late 1980, the company designed the Q2, a twoplace, VW-powered version of the Quickie.

At that time, I was operating an aircraft restoration business at Gundy's Airport in Tulsa. I was very interested in the Q2 and was determined to become a dealer for the kits; I began discussions with Tom and Gene in 1981.

Learning of my experience in building airplanes, Tom offered a deal I couldn't refuse: he said since the 1970s he had been examining the feasibility of flying around the world without stopping or refueling and that he had designed an airplane to do so. He asked me to move to Mojave for a time to help build it. He had nicknamed the airplane "Big Bird."

Unlike the later route taken by the Voyager, Tom's plan was to take off from Houston, TX and fly east at 20,000 to 30,000 feet, taking advantage of favorable winds. At a cruising airspeed of around 125 mph and with a little help from tailwinds, he figured on completing the



Starting a New FBO

It was July 10, 1946. The ink was hardly dry on my Army discharge and I was home safe and sound. World War Two was behind me and nothing but future was ahead. No more war! For the first time in six years, I visited my old home airport, the scene of my early interest in airplanes, and found many changes in the works.

The old FBO had moved to another location, and a brand new group of mostly ex-GIs had taken over the old hangar. They were in the process of setting up a new GI flight training school. The good thing about that visit was that I came away with a job-mechanic's helper at \$125 a month. It mattered not that the only reason I got the job was because I was willing to work so cheap.

Another condition of my employment was that I also sign up to be one of their first GI Bill students, in the private pilot course. That gave the new company a chance to underwrite my salary and recruit a new student at the same time. What a break-- a job at the airport and the prospect of learning to fly for free! It didn't get any better than

22,952-mile trip in five to seven days. Since he was the only occupant, he planned to equip the airplane with stateof-the-art navigation equipment coupled with a three-axis autopilot. With automatic alarming features for course and altitude deviations, he expected to be able to sleep for a few hours at a time.

In return for my help, Quickie agreed to provide me their standard dealer inventory package, which consisted of several Q2 and Quickie kits and other inventory-- a \$40,000 value. We finalized the deal that in 1946.

The old hangar had been remodeled, with a new workshop added in the back, a fresh coat of paint on everything, refurbished office and classroom areas, and bright new cabinettype gas pumps. Most impressive of all was that three new Aeronca 7AC Champs and a new 125-hp Globe Swift sat on the tiedown row.

Inside the hangar, a new 150-hp Bellanca 14-13 sat in the honored place. Two more new Champs were stored on their noses, tails almost touching the hangar trusses-- a common way to conserve hangar space in those days. It was really a sight for my poor old war-weary eyes.

My new place of employment had a new name, new stockholders, new partners, and new management. There were no old hands in the day-to-day management and only one old hand could be found in the company. It would be a learning process, this new venture, but a challenge eagerly accepted, a new world to conquer. After all, we had just won WWII, hadn't we? Nothing was too tough for us!

A diverse group had been assembled on that plain surrounded by mountains to north and east, which included part of the Continental Divide. The airport, situated at 5500 feet above sea level, presented built-in problems of winds and altitude, with only mountain passes to provide egress from the basin runways.

It was a marvelous place called Butte, Montana, and I was there.

at Oshkosh '81 and in September I moved to Mojave.

On arrival, I found the Big Bird construction process to be well along. True to its nickname, it was a big airplane. The 51' 6" span all-metal Laister Nugget sailplane wings, modified to handle the 4,250lb gross weight and to carry fuel, were complete. The basic fuselage was also complete, an all-composite, single-place, T-tail design with a long nose. The en-

continued on p. 9.



Tom Jewett, with the Q2, the "Big Bird" round-the world airplane, and the Quickie at the Mojave Airport.



The "Big Bird" team-- l. to r.: Mike Huffman, Gene Sheehan, Tom Jewett, and Dave Elliot, the Quickie mechanic.

Up With Downs

Earl Downs

The Fashions of Flying

A couple of issues ago I wrote about the first manned balloon flight in France. It was a spectacular event that took place in 1783. These early flights not only established a "language of the aviators," they also started aviation on its road of affecting fashion and style. Remember the big finned cars of the late 1950s and early 1960s? I admit it; I'm old enough to have owned a 1961 Caddy with fins so large it was dangerous in a crosswind! Those designs were a direct result of our passion for the new high-speed jets of the day. Well, aviation affected style and fashion long before the jet age.

The Montgolfier Brothers, inventors and builders of the first man-carrying balloons were treated as heroes of France and respected as scientists. As often happens in times of discovery, other experimenters were quick to jump on the bandwagon. Jacques Charles had also been experimenting with "lighter than air" flight. He actually was experimenting with hydrogen and was unaware that the Montgolfiers had suffered "leakage" problems with hydrogen and had therefore abandoned hydrogen in favor of smoke for their balloons.

Only ten days after the Montgolfier flight, Charles demonstrated his unmanned hydrogen balloon but he added a new twist to the newly born world of aviation. He had the audacity to charge a fee for people to watch. On August 27, 1783, a paying crowd assembled to watch this spectacular experiment. One of those paid observers was our own American representative to France, Benjamin Franklin. When asked by another scientist watching the flight with great skepticism, "What good is it?" Franklin replied, "What good is a newborn babe?'

The flight was a success and manned hydrogen balloon flights followed. Within a year both men and women paid large sums of money to be "lifted aloft." Not only was flying in fashion, fashion took to flying and aviation had its first great impact on retail and fashion. Shops bulged with balloon-shaped hats, fans, clocks and even birdcages. Waistcoats and sword handles, tobacco cases and candy boxes were decorated with balloon designs. Ladies wore huge hats that represented balloons. Franklin wrote, "We think of nothing here at present but of flying. The balloons engross all attention.

Almost 125 years later, in 1907, Paris was once again struck with flying fever. Orville Wright showed up to market the flying machine that he and his brother created, the "Wright Flyer." They set up outside Paris at a horse-race track near the city of LeMans (the same place now famous for auto racing). At this time, only one European had made even a short hop in a powered airplane. European aviators had not yet mastered a control system that could safely turn an airplane. Orville demonstrated that their machine could remain aloft for up to thirty minutes at a time and it could turn, climb, and descend at will. The Wright flights astounded the European observers. It is interesting to note that along with Orville, his sister Katharine and his

mother Susan were actively involved with the business and financial operation of the European flight adventure. Sister Katherine took her first airplane flight while at Le Mans and was an inspiration to the ladies of France. The ladies lined up to fly!

As with ballooning, women also wanted to experience the adventure of flight in the Wright Flyer. The twoseat aeroplane placed both occupants on the leading edge of the lower wing sitting in an upright position. This was hardly a modest position for a proper lady in the days when a "glimpse of stocking was much too shocking". So again, aviation changed fashion. Tying a rope around the skirts at the ankles solved the problem. Modesty was preserved and a new fashion was created. Parisian designers called it the "hobble skirt". All fashionable ladies wore these rather inconvenient skirts to show that they were truly "modern women."

When I first started flying "knees in the breeze" ultralights in the early 1980s, I put rubber bands around my pant legs at the ankles to keep the bugs from blowing up my trousers-- I don't understand why that idea never seemed to catch on.

All this talk about fashion reminds me that I have to pick up my leisure suit at the cleaners. For aviation fashion tips, contact me at earldowns@hotmail.com.

Facing the Fear of Being Lost

the original heading and watch for recognizable landmarks while rechecking the calculated position." However, in recent years, examiners have noticed that some private pilot applicants want to immediately circle when they become lost. Circling presents new problems to a pilot whose anxiety level is already high, not the least of which is the increased workload involved in attempting to tune in and identify VORs. For any pilot, trying to retain simple north-south orientation while circling, head bobbing up and down while trying to plot radials on a lap-borne sectional chart, is a mighty challenge. Something has to give, and usually it is altitude, then orientation! Remember, the Practical Test Standards (PTS) still admonish us to maintain the original or an appropriate heading, even if the Airplane Flying Handbook fails to.

Another recent trend among pilot applicants who are lost is to tune in a VOR, center the OBS needle, and track inbound to the (perhaps unknown) station. Besides the fact that this procedure does not follow the PTS requirement, we should consider the current security climate. A pilot who elects to track a random radial of some VOR exposes himself/herself to what will become an increasing problem: inadvertent transgression of prohibited or restricted airspace. With the September 11 events fresh in our minds, we must be aware that restricted and prohibited areas can spring to life like a monster in a science-fiction movie, not appearing on any chart. Not only must pilots become second-nature reviewers of NOTAMS, but we must quickly learn that to tell the authorities, "I was lost," becomes an ever-weaker excuse for airspace transgressions, with less chance for forgiveness by not only the FAA, but also the military, the FBI, and possibly the Homeland Security folks!

We need to remember that, if we performed our flight planning activity properly, our planned course would avoid any special use airspace, whether noted on an aeronautical chart or defined in NOTAMs. Being lost does not necessarily mean that we are off course! It merely means we cannot at the moment positively identify our position.

Facing the fear of being lost is like facing a mugger in a parking lot-- we need to have already established our response philosophy: do we tough it out or submit to the fear? We have worked too hard in planning the flight to surrender all of our knowledge and planning to chance simply because of a moment's uncertainty. Generally, the best procedure, especially in these nervous times, is to follow the FAA's advice: continue to follow your planned heading and look for recognizable landmarks. It is amazing how many times that fear, which looms so large in a pilot's mind, dissipates quickly only a few more miles down the road as recognizable landmarks appear.

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By Dave Wilkerson

Recently we discussed new FAA pilot training manuals, and how they sometimes seem incomplete. The Airplane Flying Handbook, for example, excludes the old Flight Training Handbook's discussion of crosscountry operations. We particularly miss the "losing track of position" section on page 172 of the old "21 Manual." This omission may become more important as our government responds to the September 11 atrocities.

When a pilot is lost, the FAA's long-standing recommendation is that "the pilot should continue to fly

The Lycoming XR-7755: World's Largest Reciprocating Engine

[Editor's Note: This article was taken from a 1946 Lycoming document loaned by Larry Brown, Brown Aviation.] Introduction

To those in the aircraft industry, the terms "power" and "Lycoming" have long been synonymous; and with the completion of the two projects, the new Lycoming Experimental Laboratory and the XR-7755 engine, a wholly new conception of the word "power" has been introduced.

In the following pages an attempt has been made to tell you about this new meaning of power and of Lycoming. **Description**

The Lycoming model XR-7755 aircraft engine is the most powerful reciprocating aircraft powerplant in the world today. It develops 5000 H.P. at 2600 R.P.M. for takeoff and 4000 H.P. at 2300 R.P.M. for continuous operation. In construction, the engine is a 36 cylinder, single crankshaft, liquid cooled, radial type with cylinders arranged in four rows of nine each and having a total piston displacement of 7755 cubic inches. A few of the accessories are mounted conventionally at the rear of the engine, but others, including starters (two required), tachometers, and propeller governors, as well as the low tension magnetos and distributors, are located ahead of the front row of cylinders.

As you view the World's Largest Aircraft Engine, it is probably very difficult to imagine the tremendous powers and capabilities that lie momentarily dormant within its relatively small body. Let us compare some of its component parts, as well as the complete unity, with more familiar items. This engine, slightly over 10 feet long and five feet in diameter, weighing in at 6050 pounds, produces more power than the average railway locomotive. A modern steam locomotive of equivalent power is a huge juggernaut 90 feet long, 15 feet high, weighing 670,000 pounds.

Being liquid cooled, it is necessary that this engine have a pump to circulate the coolant through the labyrinth of passages to carry away the vast amount of heat dissipated through the cylinder heads and walls. While operating at take-off speed and power, this heat dissipation amounts to approximately 95,600 BTU's per minute (2250 H.P.), requiring that the pump be capable of circulating the coolant at a rate of 750 gallons per minute. This is the equivalent to the output of the average fire engine, or would fill an 8000 gallon tank car in approximately 10 ¹/₂ minutes.

In order that oil may be supplied to the many parts needing lubrication, and in sufficient quantities, the oil pressure pump has a capacity of 500 pounds per minute, which is equal to 71 gallons per minute at an outlet pressure of over 100 pounds per square inch.

Heat generated by friction and part of the heat rejected from the combustion process is absorbed by this oil and carried away from the engine to the oil cooler. At the maximum power of the engine, this heat rejection is at the rate of 25,500 BTU's per minute (600 H.P.) or enough to heat a large hotel or apartment building.

Another pump located in the reduction gear unit increases the pressure from 100 pounds per square inch to 300 pounds per square inch for the operation of the hydraulic shifting mechanism.

When operating at maximum speed and power, this engine will consume gasoline at a rate of approximately 580 gallons per hour. If this rate of consumption were maintained for an hour, the same amount of gasoline would operate the average automobile for a period of one year, or over

continued on p. 5.

The 5000-hp Lycoming XR-7755 in 1946, the world's largest reciprocating aircraft engine.

Executive Director OAOA, P. O. Box 581838, Tulsa, OK 74158

Telephone 918.838.5018 Fax 918.838.5405

Lycoming XR-7755, cont'd

continued from p. 4.

10,000 miles.

Since economy of operation was one of the primary objectives, the design of this engine incorporates sevral unique features. The propeller drive is through a two speed dual rotation reduction gear, either ratio of which can be used at the pilot's discretion to obtain maximum propeller efficiency. The shifting is accomplished hydraulically and provide a direct drive to each of the two propeller shafts without the use of a friction clutch. Another feature is the use of camshafts, with two separate sets of cams which can be shifted to change the valve timing for maximum power or cruising economy. In conjunction with this feature, the ignition timing is also adjustable and is operated by the same mechanism that shifts the camshafts. These innovations make it possible to secure a fuel consumption at cruising conditions considerably lower than that of contemporary engines at equivalent power.

A Brief History

The development of an engine such as the XR-7755 is not accomplished in a few days or even a few months. This engine actually had its beginning in the fall of 1932. It was at that time that Lycoming began plans to study high powered liquid cooled engines. A new laboratory was proposed and work begun with the primary purpose of developing high output aircraft engine cylinders and the studies of allied research for cylinder development purposes. By February of 1934 a room had been added to the small building which then housed the automotive and aircraft experimental departments. A single cylinder test dynamometer with all necessary equipment had been installed and the first single cylinder liquid cooled engine was operating.

Single cylinder development continued and in May of 1936 a single cylinder engine completed a 50 hour endurance test. The progress of the multi-cylinder engine necessitated the building of another larger addition to the then existing experimental laboratory. This addition consisted of a teardown room, dynamometer room, analytical room and office space. The multi-cylinder engine was a 12-cylinder, horizontally opposed, liquid cooled engine of 1233.6 cubic inches displacement, rated at 1200 H.P. for take-off with a 1000 H.P. normal rating. This engine was ready for endurance testing in December of 1937.

After continued laboratory and flight tests, it was realized that more and more power was required from a single engine. With this thought in mind, the design of a much larger engine was started in the summer of 1939. As a result of the engineering data and experience gained through the past six years, much more rapid progress was made in the construction of the multi-cylinder engine. This engine was first operated in July of 1940. Known as the XH-2470, it was a 24 cylinder liquid cooled engine with the cylinders arranged in the form of an H. The two crankshafts were geared through a common reduction gear to the single rotation propeller shaft. This engine was rate at 2400 H.P.

for take-off, with a normal rating of 2000 H.P. The first engine completed its Navy acceptance test in April of 1941. An engine was installed in the Vultee XP-54 and was operated for many hours, both at Downey Field, California and Wright Field, Dayton, Ohio.

Because the XH-2470 engine was at least twice as large as its predecessor, additional test facilities were required. A large test stand was built at this time so

The 2400-hp Lycoming XH-2470.

that endurance testing of the complete engine could be carried on, without interrupting the more technical dynamometer work. This stand was so constructed that it was capable of accommodating engines in excess of 5000 H.P. Still another building was constructed for the development of superchargers.

During the summer of 1943 Lycoming engineers and Wright Field Power Plant personnel began discussions of the possibility of developing a still larger engine. Design studies were made and a satisfactory engine type was agreed upon by December of 1943. The new engine was to have a large displacement to horsepower ration in order to utilize the economic effect of high compression ration and also require low boost for ground operation. As this work was somewhat different from that previously done, considerable single cylinder development was required. The multi-cylinder engine was completed and ready for testing in July of 1946.

The growth of the engine, which had again doubled its size, called for still more improvements in the experimental laboratory. As the existing laboratory had, to a certain extent, just grown up, the need for a new and more modern building was apparent. The plans for the new laboratory were drawn up and construction started in August of 1943. The new laboratory incorporates the latest and most modern scientific equipment now available for the testing of internal combustion reciprocating engines and their components. Facilities are now available for the testing of engines from 65 H.P. up to engines in excess of 7000 H.P.

As the Aviation Industry grows, so grows Lycoming.

Note our new email address: OklahomaAviator@home.com

Gundy's Airport- The Beginni

by Marion Gundermann

Harold Gundermann had never owned a plane or even flown one, but had dreamed of doing both. Part of his dream was a desire to have a place to keep the airplane where it would be accessible to work on and still remain close to his family. So, on March 3, 1953, we began pursuing that dream together, purchasing 30 acres of land in Owasso, OK. Over the next 25 years, we created Gundys Airport, built our home there, and raised our family. Along the way, we had many remarkable experiences and adventures.

Our dream ended prematurely when Harold was involved in a plane crash on an ambulance flight March 24, 1978, resulting in his death April 24, 1978. However, looking at how the airport has developed, his dream has come true for the present airport homeowners. It is a good thing to have your dream help others realize theirs.

Harold was born in Brooklyn, New York, spending part of his growing-up years there and later in Hollis, Long Island. I was born in Chicago, raised in Greenwich Village, Manhattan, and later moved to Long Island. I met Harold's sister Ruth at a business school in Manhattan and she invited me to church. Harold picked me up and we started going out together. We were married March 13, 1943. An interesting sidenote is that, when my cousin George from England visited a few years later, he and Ruth started dating. They were married ten years after us on Valentine's Day. Thus, Ruth became "Mrs. Lee" and I became "Mrs. Gundermann," reversing our maiden names

When we bought the airport land in 1953, we owned a house in Tulsa. The realtor-owner who sold us the land let us live in an old house he owned nearby and

Jeanne and Alice, with the first building erected at the airport.

Harold and Marion Gundermann, shortly after their marriage.

watch his cattle in lieu of rent. We also listed our house in town with him, but it did not sell fast enough for us. Perhaps we were impatient, but we felt it would sell better with a multi-list realtor, so we asked if we could change realtors. He said it was all right, but after we switched, he asked us to move out of his house. After deliberating and thinking, Harold came up with the idea of building a 12 ft x 40 ft rectangular building for us to live in temporarily. He figured he could handle that with mine and the boys help. So, we proceeded.

The first step was to mow a path to the building site. For the safety of our children and our cat Punkin, we chose a spot 800 ft. north of 76th Street, well away from the road. Pushing our little 18-inch rotary mower through the high weeds and brush, Harold led the way and the rest of us trailed along behind-- me and our children Paul, Doug, Jeanne, and Alice.

We made some decisions that were good, some that were bad, and some less than brilliant. We first started building the house and the hangar immediately adjacent to one another. Later, we thought about building our living area into the corner of the hangar, but that idea did not last long. We finally decided to move the house to another location away from the hangar. Harold hooked onto the building with the tractor, to drag it to the new location, but the tractor would not move it. So, he cut the building in half and was able to move the smaller pieces. Since he would then have to join the two halves anyway, we decided to change it from a simple rectangular to a T-shaped building. He set the two existing halves and in place and we began connecting them together. This was the beginning of a house we never finished, but which sheltered us for many years.

One of the first things we did was to

drill a well. However, it was a disappointment because it gave us only 25 gallons of water a day-- insufficient for modern plumbing. Many years afterward, we received rural water and later natural gas-that was great!

Harold, in between working at American Airlines and at the budding airport, learned to fly at Stebbins Airport and bought his first plane, a Luscombe 8A. We built the runway and worked on the hangar. We laid lots of concrete, using a small cement mixer powered by an electric motor, often getting the family up at 5:00AM to begin. Harold and the boys laid the concrete while the girls and I shoveled sand, gravel, and cement. Digging foundations was very difficult, since we were in a drought and the clay soil was super hard.

Later on, we built other hangars, put in fuel tanks, and began selling aviation fuel. Our customers were honest people. Over 25 years and hundreds of fuel sales and hangar rentals, we had only two that didn't pay. The honor system at the gas pump worked fine.

Many animals were dropped off near our property and there were problems as a result. We could not keep all of the animals. There was one big, fat, black tomcat that visited us regularly and we were very fond of him. One day, we were coming home from church and saw "him" lying dead on the road in front of the airport. We sadly buried him, only to have him walk up to us a few days later while we were sitting outside! We never knew whose cat it was we buried.

Our dog Penny deserves mention. Penny was half boxer and half some other breed, but a very good dog. She arrived as a small puppy. Shirley Gorton, a pilot's wife, knew I liked boxer dogs and knew of a female puppy whose mother was a boxer. She brought her over and Penny quickly became a valuable working member and family pet.

We were not good pet trainers-- we had a tendency to spoil our pets. At the time we bought the airport, the adjoining land, owned by absentee owners, had poor fences. Their cattle often wandered onto the airport. At first, we got Penny to chase the cows off when they came over. That worked for a while. Then Penny began enjoying it-- she started bringing the cows over so she could take them back. We somehow communicated to her that that was not the right thing to do. Then, she started running the cows around in circles after she herded them back. That was also definitely a no-no and we managed to communicate that to her. At last she realized what her job was-- rounding them up and getting them off our property, while staying on her own side of the fence and watching them depart. If she saw them coming, she would herd them off herself. If we saw them first, we would simply say, "Cows," and she would look for them and herd them off. She was a great dog.

As time went by, our planes grew in

The main hangar door beam in place, w background. Note the 1948 Buick and 1939

size-- first the Luscombe 8A, then a Luscombe Sedan, then a V-tail Bonanza, a six-place Bonanza, and finally a Beech Baron. The Luscombe Sedan was a good roomy airplane and we made a lot of trips in it. One trip was to New York to see our family; it was the first time I had been in a small plane going into LaGuardia Airport. As we approached the airport, I loved hearing the hometown Brooklyn, Bronx, and New York accents over the radio. The controllers told us to continue east over the

Harold Gunderman airplane, a Luscomb

airport till further instructions. I was wondering if they might forget us, but they did

Gundy's hangar, just completed, with apron

ngs of a Dream That Lives On

ith Gundermans' 12' x 40' house in the Chevrolet in the background.

n, with his first be 8A.

our two girls along. Over Arkansas, the engine swallowed a valve and made a lot of noise. We landed in a rice field in Stuttgart, AR. A truck with a couple of farmers came out to the airplane. They were having a rather

not, directing us to Islip Air-

port. On the way back

home, our radios went out

and visibility was low, so it

was tedious navigating back.

I had the job of helping to

keep track of the check-

points on the map and we

eventful trip in the

Luscombe Sedan. We were

returning from Florida from

my Mother's funeral, with

I remember another

were happy to get home.

merry time with the unusual experience of having a plane land in their field. They

s hand-mixed by the Gundermann family.

told us that if it had been a month before, the field would have been under water and full of snakes. Fortunately that was not the case! We collected as much gear as we could carry and they took us to the bus stop so we could go home.

At the bus stop, they would not accept our Oklahoma check. We spent a lot of time walking around trying to get a check cashed at the stores we passed. Finally, it was getting dark and we decided I should take the girls and try to get a check cashed, while Harold minded our stuff at a gas station. I finally found a sympathetic manager who cashed our check. We returned just as the police were arresting Harold for loitering at the gas station, which by then had closed. We authenticated Harold's story, so the police gave us a ride to the bus station instead of the police station. Harold later went back to Stuttgart with a cylinder to replace the damaged one and a ferry permit so we were able to get the plane home. It smelled for a long time of oranges-- my father's neighbors had given us a basket of oranges to take home and we had to leave it in the airplane.

In some ways this is a sad story, as Harold died only a few weeks before his planned retirement date. We were looking forward to his retirement very much. At first, I felt sad, bitter, and lonely, that Harold and I would not finally have time to spend more leisurely. One day I was feeling this way on a trip to Oklahoma City to see my daughter. I turned on the radio to help raise my spirits and this song came immediately on the air:

"I'm in the land of love

"I'm in the land of Jesus

"I'm happy as a bird in a golden sky who has just learned how to fly."

I'm not sure who wrote it, but it helped me realize that Harold was happier and in a place far more beautiful and fulfilling than earth. So, that part of the sorrow and bitterness left me. I still missed him, but I knew that God was always with me and somehow tomorrow would be a better day. God uses whatever way he can to reach us-- even the radio, when necessary!

Family, friends, and our two churches did their best for us, too, and I am very grateful. Our children are grown with their own children and grandchildren now. There are 14 grandchildren and 7 great grandchildren so far. Paul lives in Atlanta and flies for pleasure; Doug has an airfreight business in Dallas. Each of them has two children. Jeanne lives in Oklahoma City and has six children. Alice lives in St. Louis and has four children and seven grandchildren.

I came back to Tulsa. It is kind of in the middle of all of them, and Tulsa and the surrounding areas still feels like home to me. Other states have mountains, oceans, and other beautiful scenery, but Oklahoma has beautiful skies and peaceful prairies. A short drive and you are out of the city, with cows and horses and sky and prairie all around.

The house had to be cut in half to be moved, because the tractor would not pull the whole thing. The half-finished hangar is in the background.

I am glad the airport is still here and that it is still called "Gundys." I'm happy to see homes convenient to the airport, so families can spend more time together. Thank you all for wanting to hear about the start of Gundys Airport. I hope this has not been too wordy-- in 25 years, one accumulates a lot of memories.

[Editors Note: this article is an edited version of a talk presented by Mrs. Gundermann at a recent EAA Chapter 10 meeting, held at the chapter hangar at Gundys Airport. The story is of particular interest to me, since in 1979, right after Harold's death, Mrs Gundermann sold the airport to Mallie Norton and Phil Hart. Shortly thereafter, I began renting half of Gundy's house (the half that was finished), operating my aircraft restoration business from Gundy's hangar, and selling aviation fuel using the same honor system the Gundermanns did-- with the same honesty they experienced.

For five years, I happily enjoyed the fruits of the Gundermanns' labor. Once, a few years later I struck up a conversation with a man sitting beside me on an airliner. I mentioned something about a "little airport in Tulsa." He asked which one and, when I answered "Gundy's," he introduced himself as Paul Gundermann, one of Mr. and Mrs. Gundermann's children. Before I thought about it, I said, "You grew up in a house that didn't have sheet rock on the walls!" Fortunately, he took it the way I intended, and we had a good time comparing experiences.

Last year, when I returned to Gundys Airport after an absence of about ten years, I was surprised and pleased by its transformation from a sleepy little airport to one of the most popular residential airparks in the state. Roger and Meri Wieden, the new airport owners, have plans to make it even better!

Harold and Marion Gundermann and their children made a fine life at Gundy's Airport and created something that continues to be a source of home, happiness, and peace for many people. Thank you, Marion Gundermann, for sharing your fascinating and heartwarming story!]

The house in it new location, before the two pieces were connected.

Santa's Sleigh Held a B-17

by Hannah Jo Bass

Christmas came in September the year the B-17 "Aluminum Overcast" came to our annual Fly-In in Bartlesville, OK. Not only was it to be a crowd pleaser, but if you could spring for the asking price, you could pilot it yourself for ten minutes! Think of it -- a real B-17! "Well," I thought, "It's only money and I'll never be any younger."

So, I spent the rent money, threw the seed crop out the window, and waited for THE DAY! Memories of WWII and hearing B-17s fly over returned to me. At that time, the war was new and so was the plane. It was so BIG! People would run outside just to see one and listen to the sound of those four engines, deep and throaty.

When THE DAY came, it was cold, with a low ceiling. The plane was scheduled for five flights that day, taking only five people at a time. My scheduled time was 1:50PM. Åt 1:30PM, the Aluminum Overcast landed and waited with engines idling, ready to take the next group.

Four men and I were to get a briefing outside the plane just before boarding. But I had to go to the ladies room. Did I dare wait?-- no! So, I ran for the rest room, but there was a line! The plane was about to go, not waiting for the scheduled time!

Thank goodness, the ladies in line let me go first, and I ran back to join the briefing just as the loadmaster said, "You taller, heavier men sit to-ward the rear of the plane." Immediately, they pushed and shoved as they headed for the front. The rest of us sat on the narrow, hard seats along the sides of the plane. I sat at the navigator's desk behind the pilot. With everybody in place, we taxied out, lined up, and felt the accelera-

tions as the pilot pushed the four throttles forward. BUT THE NOISE! It completely obliterated the possibility of thinking of anything else!

Soon, someone came and led me past the pilot and copilot to a tunnel going forward. The tunnel was so small I had to crawl through on my backside. At the end of the tunnel was a spacious area, with lots of light and room to move around. This was the nose gunner's position, where the Norden bombsight sat at the center of the plexiglass nose bowl. What a view of the countryside!

As I returned facedown through the tunnel, the pilot leaned over, reached a hand to me, and helped me into the pilot's seat. A headset was put on me and, at last, I could hear a little better over the noise. The copilot asked, "How do you read?" I replied, "Loud and clear!" He chuckled and then I heard, "It's all yours!"

Those wings were incredibly long! I could barely reach the rudder pedals, but the yoke felt natural. Sooo... I was wondering if I could remember how to make a coordinated turn. I gave it a try-- one to the right and one to the left. Those four lovely engines kept throbbing a reassuring beat, so I relaxed. I saw a bright spot on the horizon and wondered how far away it was. Next, I pushed the nose down and the copilot adjusted the throttles. That felt good, so I pulled the nose up this time, and he adjusted the throttles again. But, just as I began heading for the bright spot on the horizon, a voice said, "Time's up." Big sigh...

Aside from the noise, the most amazing thing to me was how easy on the controls the plane was-- no strain at all-- just like driving. What an amazing plane and what a thrill it was to fly the B-17. Merry Christmas to me!

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Quickie's "Big Bird," cont'd

continued from p. 2.

gine, a turbocharged135-hp Franklin/ Pezetel optimized for fuel economy, was mounted in the standard tractor configuration at the front. The initial fuel capacity was 365 gallons, which included tanks in each wing and tanks forward and aft of the cockpit. If testing showed it to be necessary, the fuel capacity could be increased to over 550 gallons.

However, none of the systems had been installed-- in fact, they had only been sketchily conceived in Tom's mind. My job, with the assistance of two Quickie mechanics, would be to fill in the blanks. A unique feature of Big Bird was its landing gear: a T-shaped carbon-fiber tricycle dolly that was intended to be jettisoned after takeoff on the record flight. On completion of the flight, Tom planned to land the airplane on grass, using a built-in Kevlar-laminated wooden skid on the belly of the airplane to absorb the landing forces.

All that had been completed for the main gear was the basic T-shaped carbon fiber dolly structure. The gear legs themselves--main gear from a Mooney 21 and nose gear from a Grumman Tiger-- were in a box and no design had yet been done on the mechanism to hold the gear in place and allow it to be jettisoned. Since the nosewheel was not steerable, differential brakes were essential for ground operation. Thus, a simple "quick-disconnect" feature had to be incorporated into the brake hydraulic lines, which would work automatically when the dolly was jettisoned.

I happily set to work on the dolly, modifying and mounting the gear legs, designing/building the latching/jettisoning mechanism, and mounting the dolly onto the fuselage. By the end of October, we had successfully performed several tests of the jettisoning mechanism in the hangar. In addition, we had designed and installed most of the primary flight controls, instrument panel installation, electrical system, and fuel system. With the holidays approaching, I headed back to Tulsa, carrying my Quickie/Q2 dealer inventory.

By that time, an intense rivalry had sprung up between Quckie Aircraft and the Rutan folks. It seemed to be a race to see which company would finish their round-the-world aircraft first. Lunchtime at Reno's diner in "downtown Mojave" was a sometimes-tense affair as the two camps suspiciously eyed one another and exchanged verbal barbs. Once, Gene Sheehan and Dick Rutan almost came to

blows over it.

Right after New Years 1982, I headed back to Mojave for about three months to complete the airplane. Another interesting feature was the pilot seat. To make it easier for Tom to sleep, the seat back needed to be able to recline almost horizontal. It was a neat design challenge that we handily solved.

By early March, we had gotten the airplane licensed by the FAA (as Quickie Model QAC-1 N82X) and my work was done. A few weeks later, Tom made a successful first flight, thus beating the Rutan folks. Between then and the end of June, he was well into the testing phase, having taken the airplane to 19,000 feet. The airplane had also been given a fresh yellow paint job and was officially renamed "Free Enterprise." Tom planned to display the aircraft at Oshkosh 1982 and then make the record flight in the fall.

However, on July 2, 1982 at about 8:00AM, Tom took off on a test flight, accompanied by a chase plane. Immediately after takeoff he radioed the chase plane that he had what appeared to be an engine problem and would stay in the pattern for a landing. As Tom was completing the turn to final approach, at an altitude of 200-300 feet, he radioed, "Something broke-- I'm going in!" The airplane nosed down slightly and hit the ground short of runway. Tom was killed instantly.

A few days earlier, the airplane had experienced a hard landing, but a subsequent inspection of the landing gear dolly installation showed no apparent damage. A post-crash investigation concluded that the fuselage had probably broken just aft of the cockpit rails, causing the highmounted horizontal stabilizer to increase its angle of attack. The resulting upward force on the tail was probably too much for the elevator to overcome.

And thus, the race to see who would be the first to fly around the world ended. Despite the rivalry, Burt and Dick Rutan, along with many others from the Rutan Aircraft Factory were present at Tom's funeral. It would be more than four years later that the Voyager would make its historic flight.

If he had not crashed, would Tom Jewett have made it around the world? Who knows? All such endeavors require not only good engineering and good planning, but also a measure of good luck. Were it not for Tom's bad luck that July day, aviation history might have been different.

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For a free listing of your event, email us at OklahomaAviator@home.com or call 918-496-9424. To allow time for printing and publication, try to notify us at least two months prior to the event.

		MIEDE		
WHEN	WHAI	WHERE	CONTACT	DETAILS
1st Thursday	Dinner Meeting- Oklahoma Pilots Assoc dinner and meeting	Wiley Post Airport, Oklahoma City, OK	Helen Holbird- 405-942-6308	
1st Saturday 7:30AM-10:00AM	Fly-In Breakfast- Ponca City Aviation Boosters Club	Ponca City Airport, Ponca City, OK	Don Nuzum- nuzum@poncacity.net Bruce Eberle- 580-762-5735	Held rain or shine
2nd Tuesday 6:30PM	Meeting- Women In Aviation	Spartan School of Aeronautics Jones/Riverside Airport	Laura Yost- 918-831-5354	
2nd Tuesday	Meeting- EAA Chapter 24	Aviation Tech Center OKC Airport	Martin Weaver- 405-376-5488 pcaer59f@juno.com	Start 7:00PM
2nd Wednesday 7:30PM	Meeting- Tulsa Cloud Dancers Balloon Club	Martin Library Tulsa, OK	Frank Capps	
2nd Thursday 7:00PM	Meeting- Oklahoma Windriders Balloon Club	Metro Tech Aviation Career Center, Oklahoma City, OK	Ron McKinney- 405-685-8180	For all balloon enthusiasts
3rd Saturday	Meeting- Green Country Ultralight Flyers Organization (GCUFO)	Call 918-632-6UFO for location and details	Bill Chilcoat- 918-827-6566	
3rd Sunday	Tulsa Cloud Dancers Balloon Flight	Contact Frank Capps for time/location	Franks Capps- 918-299-2979	
3rd Monday	Meeting- IAC Chapter 10	Contact Joe Masek for time/place	Joe Masek- 918-596-8860 RHR jem@yahoo.com	
3rd Monday 7:30PM	Meeting- EAA Chapter 10	Gundy's Airport, Owasso, OK	Bhrent Waddell- 918-371-5022 bwaddell@tulsa.oklahoma.net	
Saturday following 3rd Monday	Pancake Breakfast- EAA Chapter 10	Gundy's Airport, Owasso, OK	Bhrent Waddell- 918-371-5022 bwaddell@tulsa.oklahoma.net	
4th Tuesday 7:00PM	Tulsa Chapter 99s Meeting	Robertson Aviation, Jones/Riverside Airport, Tulsa*	Charlene- 918-838-7044 or Frances- flygrl7102@aol.com	*Unless otherrwise planned. All women pilots including students are welcome to attend.
4th Thursday 7:30PM	Meeting- Vintage Airplane Association Chapter 10	South Regional Library, 71st & Memorial, Tulsa, OK	Charles Harris- 918-622-8400	
Nov 8-10	AOPA Expo	Ft. Lauderdale/Broward County Conv Ctr, Ft. Lauderdale, FL	Warren Morningstar- 301-695-2162 warren.morningstar@aopa.org	
Nov 10	50th Annual World's Oldest Free Fly-In & Airshow	Fairview Airport Fairview, OK	580-227-3788	Free breakfast to fly-ins 6-10AM, airshow 1:30PM
Nov 27 6:30PM	EAA Chapter 24 Workshop- Woodworking	Canadian Valley Tech Center El Reno, OK	Martin Weaver- 405-376-5488 pcaer59f@juno.com	
Dec 1 11:30AM	OX-5 Aviation Pioneers Luncheon Meeting	Oklahoma Air and Space Museum Kirkpatrick Center, OKC	Don Miller- 405-279-2227	
Dec 18 6:30PM	EAA Chapter 24 Workshop- Woodworking	Canadian Valley Tech Center El Reno, OK	Martin Weaver- 405-376-5488 pcaer59f@juno.com	
Dec 20	Open House Tulsa Air and Space Museum (TASM)		918-834-9900	

Experimental Aircraft Association News

EAA Halls of Fame Induct Eight **New Members**

Eight people who contributed greatly to the world of flight have been honored by EAA, The Leader in Recreational Aviation, as the newest members of the EAA-affiliated Halls of Fame. The group was inducted on Friday, Nov. 2, during a program at the EAA Aviation Center at Oshkosh, Wis.

John Monnett was inducted into the EAA Homebuilders' Hall of Fame; Michael Heuer became the newest member of the International Aerobatic Club (IAC) Hall of Fame, while Ed Maloney and Lincoln Dexter joined those in the EAA Warbirds of America Hall of Fame. The late Amelia Reid was honored as the inductee into the NAFI Flight Instructor Hall of Fame, with Dr. Roy Wicker and Ted Koston joining the Vintage Aircraft Association Hall of Fame. In addition, the EAA Ultralight Hall of Fame welcomed W. Michael Sacrey to its roster of members.

All of these people have contributed much to the world of flight," said EAA President Tom Poberezny. "Each has carved a unique niche in aviation history. They represent the best that recreational aviation has to offer and serve as an example for everyone involved in flying. We are honored to welcome them as our newest inductees to the EAA Halls of Fame.'

The inductees were nominated by members of EAA, EAA Divisions or the National Association of Flight Instructors (NAFI). The final selection was made by the Board of Directors of each group. Nominees were considered for their contributions to the history, development and growth of a particular facet of sport aviation.

Updated Temporary Flight Re-

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striction Area Maps Available to All Pilots on EAA Web Site.

Pilots and other aviation enthusiasts can obtain updated, easy-to-understand graphics of current Temporary Flight Restriction (TFR) areas through a free service offered by EAA, The Leader in Recreational Aviation.

The graphics, which are based on familiar FAA sectional charts, are available through the EAA web site (www.eaa.org). The graphics are part of the public area of EAA Flight Planner service. The complete EAA Flight Planservice was created ner hv AeroPlanner.com, and is also available to EA members through the web site.

"Since the TFRs have been in a constant state of change since September 11, it's critical that pilots have the latest versions of FAA's Notices to Airmen (NOTAMs) and related graphics, so they can safely plan their flights," said Steve

Lark, EAA Director of Web Development. "EAA wanted to create chartbased graphics that are accurate, easily accessible and easy to download. These graphics show exactly where TFR area borders are located, so pilots have a clear understanding where flying is and is not allowed.'

To access the graphics, pilots can go to the "TFR Airspace Maps" link on the top of the EAA web site. The large map of the continental United States then allows the user to pinpoint exactly the area needed. After clicking on the requested state or region, the applicable NOTAMs will appear along with a link to a sectional chart-based graphic of the TFR area. These graphics are printable for reference during a pilot's flight planning.

The EAA web site also provides regular updates regarding airspace restrictions and EAA's efforts on issues directly affecting general aviation pilots.

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