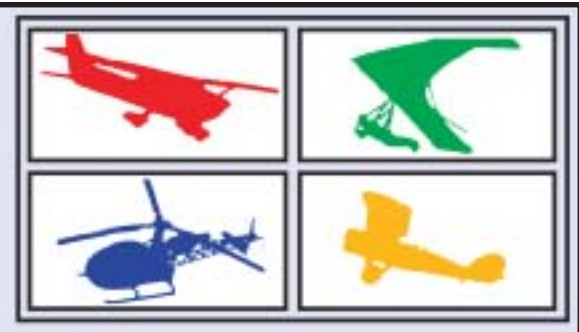


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Oklahoma Aviator



Vol 20, No 7

Your window to Oklahoma Aviation...Past, Present, Future

July 2002

Biplane Bash in Bartlesville Huge Success!

by Charles W. Harris

The 16th Annual National Biplane Expo of May 31-June 1 was a roaring success! A near-record 405 total aircraft, of which approximately 115 were biplanes, attended the colorful aviation event in Bartlesville, Oklahoma. Last year's cancellation due to airport construction was completely overcome with blue skies and cool weather prevailing all weekend.

The airplanes and crews came from all over the USA-- from as far away as Florida, New Jersey, California, Wisconsin, and Washington. Auto license plates from more than 35 states were observed in the 1000-car parking lot, which was near full throughout the two-day event.

The variety of biplanes was seemingly endless. Featured at the Expo were Robert Ragozzino of Norman, OK, and his 450-hp Stearman, which he flew solo around the world in 2000, and Jim Moss of Graham, WA, with his fabulous re-creation of Matty Laird's 1931 *Super Solution* racer, in which Jimmy Doolittle



Blue skies, green grass, and cool weather surround this beautiful Culp Special, a modified Steen Skybolt design with a Russian 300-hp M-14P "round motor."

won the 1931 Cleveland Air Races and went on to set a new transcontinental speed record.

The several thousand visitors to Frank Phillips Field in Bartlesville were additionally treated to a breathtaking full-scale re-creation of the Wright Brothers glider of 1902, the final evolution of many ex-

perimental airplanes just prior to adding an engine and propeller for their 1903 first-powered-flight machine.

Other biplanes included a brand-new grand-champion 1928 Travel Air 4000 shown by Les Grotpetter of Creve Coeur, MO and a ferry-time-only champion-level 1930 Waco ASO

flown from Elbert, CO by Dave and Jeanne Allen. Father/son team Al and Jeff Womack of Jackson, LA, exhibited their 1941 Waco SRE Cabin Biplane, the finest in existence. On the homebuilt side, Mike Foote of Olathe, KS brought his 2001 Hatz Classic, a beautiful airplane.

The Biplane Expo had

something for everyone. While biplanes were the primary focus, it was amazing to see a full-size flying replica of Clyde Cessna's 60-mph 1911 first airplane parked near a highly-polished 440-mph P-51D Mustang!

On Thursday evening, May 30, the Biplane Association hosted "An Evening with Robert Ragozzino" during which Mr. Ragozzino narrated a presentation of his 23,000-mile around the world flight in 2000. The next evening, the Expo recognized Robert in an Honors Tribute with major awards and acknowledgements of his accomplishments.

Opening ceremonies were conducted on Friday, May 31st at 9:30 a.m. The national anthem and the raising of the U.S. flag were accompanied by a formation overflight of biplanes. The names of six additional aviation personalities were added to the National Biplane Association Memorial Plaza monolith, including Frannie Rourke, George Goodhead, Bud Wielt,

continued on p. 2.



No biplane gathering would be complete without a diminutive Baby Lakes or two in attendance.



Arguably the sexiest biplane ever built, the Beech Staggerwing combines class, comfort, and speed.



Biplanes and kids have always mixed well, a fact in evidence at Bartlesville.

The 1902 Wright Glider Replica at the National Biplane Expo

By Mike Huffman

Wilbur and Orville Wright began their aeronautical experimentation before the turn of the 20th Century. Almost every aviator alive is aware of their 1903 airplane-- the first heavier-than-air machine to fly under its own power. However, perhaps fewer of us are aware of the experimentation and the flying machines that preceded that historic event.

Now, the Wright Brothers Aeroplane Company and Pioneer Museum of Aviation, a volunteer organization headquartered appropriately in Dayton, OH, is doing a great job of keeping the Wright brothers' history alive. They have a very extensive website (www.first-to-fly.com), offer a "portable museum" that travels to schools around the country, and for the last three years have organized a "Return to Kitty Hawk" expedition in which builders of primitive gliders are encouraged to attend and fly down the sand dunes as the Wrights did a century ago.

However, one of the most interesting things they do is to build authentic, faithful replicas of the Wrights' flying machines. This year, the National Biplane Exposition in Bartlesville was privileged to have on display their 1902 Wright Glider replica.

The Wrights' interest in "aeroplanes" began in about 1896 with newspaper reports of early glider tests. They noticed the lack of controls for pitch, roll, and yaw and began to think about how such controls might be incorporated. These thoughts first came to fruition in 1899 with the construction of the Wright Kite, which was actually a smaller version of later gliders. Having a wingspan of about 6 feet, the Kite had two wings separated with struts and wires and a small tail on the back. However, the unique fea-

ture of the Kite was that it incorporated the Wrights' revolutionary idea of "wing-warping" to control roll attitude. After the Kite was launched, Wilbur would hold two sticks in his hands; to each end of each stick was attached a line going to the Kite. When Wilbur angled the sticks in different directions, the wings would be warped so as to control the Kite's roll attitude. By angling the sticks in the same direction, the wings would be warped to control its pitch attitude.

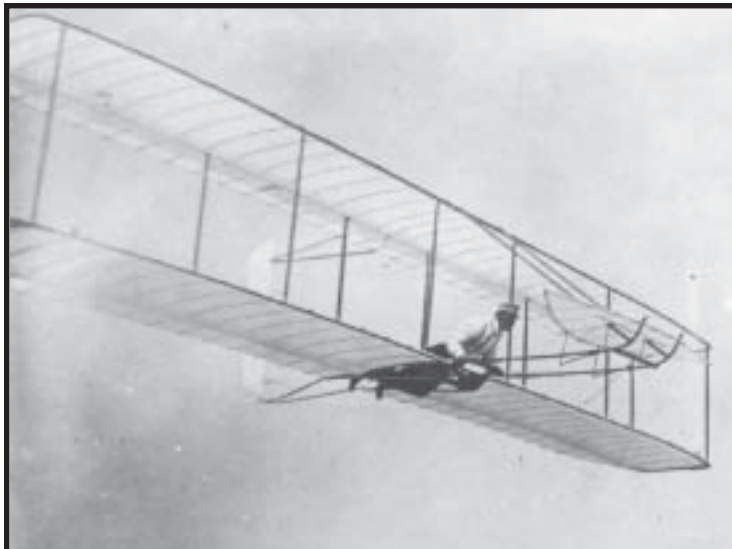
Over the next few months, the Wrights built and flew several "scientific" kites, perfecting their control system, which by then included separate controls for roll, pitch and yaw. In 1900 at Kitty Hawk, NC, they used that system on a man-carrying glider for the first time. That design would only carry a 72-pound payload, so once more they went back to the drawing board. Using information given them by an airfoil "expert," they built their 1901 Glider, but its flight tests were disappointing. At that point, Wilbur is reported to have said, "It may be a thousand years before anybody learns to fly."

But, true to their practical, inventive nature, they did not give up. Instead, they built the world's first wind tunnel and obtained first-hand hard, scientific data on the behavior of airfoils. Using that data, they once again redesigned the airplane, which became the 32-foot-wingspan 1902 Glider.

In October of 1902, they returned to Kitty Hawk to test the new design and the results were very encouraging. Almost a thousand flights were conducted down the slopes of Kill Devil Hill. It turned out that getting the glider back up the hill was a simple matter-- just put a person on each wing tip, keep it aimed into the wind and it would "fly" itself back up the slope, pulling the wing walkers with it! When



The Wright Glider replica on the sand dunes at Kitty Hawk, as it might have appeared in 1902.



The original Wright Glider on one of its almost 1000 flights down Kill Devil Hill in 1902.

Biplane Bash, cont'd

continued from p. 1.

George "Sky King" Vaughn, Hale Wallace, and Douglas MacBeth, all of whom made important contributions to the advancement and preservation of biplane heritage. Approximately 40 names have been inscribed on the Memorial since 1997.

As in years past, the attending public was once again afforded the opportunity of an open cockpit biplane ride in the company of Retired Air Force Colonel Joe Kittinger and his 1929 New Standard biplane. Col. Kittinger, who holds the world's record for high altitude parachute jumps, and who flew over 500 F-105 fighter combat missions in Vietnam, is a member of the National Aviation Hall of Fame.

The pilot of the world's largest "biplane," Mr. Tom McMurtry of Edwards Air Force Base, was in attendance. Mr. McMurtry piloted the NASA 747 piggy-back aircraft used to move the Space Shuttle back to Florida after its landings in California.

More than 300 aviation and community-oriented volunteers beautifully hosted the biplane and sport aviation gathering in one of the finest Biplane Expos in history.

Next year's "World's Largest Gathering of Biplanes" is again scheduled for Bartlesville's Frank Phillips Field on June 6-7, 2003.

that series of tests were complete, Wilbur was singing a different tune. "We now own all the records!" he said, knowing that all the machine needed was a suitable engine and propeller to make it fly on its own. Thus, the success of the 1902 Glider led directly to the 1903 airplane and all the subsequent aviation history that followed.

Nick Engler, Mary Jane Favorite, and other members of the Museum worked three years to build the 1902 Glider replica. Luckily, photographs and prints were available from which to build the machine to the original specifications. One

MAJOR AWARD WINNERS
Grand Champion Open Cockpit Biplane- 1928 TravelAir 4000, N6116, Les Grotpeter, Creve Coeur, MO
Reserve Grand Champion Open Cockpit Biplane- 1930 Waco ASO, N662Y, Dave & Jeanne Allen, Elbert, CO
Grand Champion Cabin Biplane- 1941 Waco SRE, N58785, Al & Jeff Womack, Jackson, LA
Reserve Grand Champion Cabin Biplane- 1943 Beech Staggerwing, N333E, Jerry & Jack Miller, Ft. Collins, CO
Grand Champion Experimental Biplane- 2001 Hatz, N22HZ, Mike Foote, Olathe, KS
Reserve Grand Champion Experimental Biplane- 2000 Laird Super Solution, N22ML, Jim Moss, Graham, WA
Chairman's Award- 1940 Waco UPF-7, N29927, Jerry Brown & Tom Flock, Greenwood and Rockville, IN
Longest Distance in an Open Cockpit Biplane- 1943 Stearman PT-13, N1177, Clark & Mary Dechant, Lakeland, FL
The Robert P. Moore Memorial Award for Aircraftmanship - 2001 Hatz, N22 HZ, Mike Foote, Olathe, KS

of the very few changes was to make the interplane struts from spruce instead of the original birch. However, one of the struts has a piece of wood from the original strut inset into it.

Control of the glider is strange to modern pilots, but perhaps not to

continued on p. 9.

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Up With Downs



Earl Downs

Sport Pilot Update

Since I wrote about the sport pilot proposal in the March 2002 issue, I have received many questions regarding this new series of regulations. I am going to respond to these questions, but because I have to write my column about a month prior to publication, things may have changed a bit by the time you read this.

The Notice Of Proposed Rule Making (NPRM) has closed and the FAA received thousands of comments. The FAA must now review and respond to these comments. I expect that some changes will take place and we will all just

have to wait and see what the final rules look like. I also expect the FAA is well aware that several revisions will be needed later to "fine tune" the sport pilot rules. The proposed sport pilot regulations represent major rule changes and Advisory Circulars will be issued to cure "hiccups" along the way.

Most of the questions I received relate to the definition of the sport plane itself. The reason it gets confusing is because there is no such thing as a certified sport plane flying as of today; yet, we hear the term being applied to existing airplanes. Even if the proposal was passed the day you read this, it may be between one to two years before a certified sport plane built under the new rules is produced. If the rule were passed tomorrow, the sport pilot would suddenly exist but the certified sport plane would not. This leads to the question, "what the heck does the sport pilot fly?"

The sport pilot rule will define the airplane a sport pilot may fly. Here it is in a nutshell: maximum of two occupants, maximum cruise speed of 115 knots, maximum stall speed in landing configuration of 39 knots and a maximum gross weight of 1232 pounds. There are a few other nuances but this is about what a sport pilot will be able to fly under the new regulation. Remember, it may be revised

a bit in the final form of the rule. It is the limits placed on the pilot that define the plane. Now, let's take a look at the planes themselves.

Airplanes Certified under Existing Standard Certification Rules. There are a few existing manufactured airplanes that are already certified which meet the proposed limits placed on sport pilots. These are not "sport planes" but a sport pilot will be allowed to fly them. A couple of examples are early models of the Aeronca Champion and some early models of the Piper Cub. These planes must be operated in accordance with existing rules regarding maintenance and inspections. These currently certified planes that meet the sport pilot limitations may be commercially rented and used for sport pilot flight training.

Existing Amateur-Built Experimental Airplanes. These planes are what we commonly refer to as "homebuilt" or "experimental" airplanes. They may be designed and built by an individual or built from a manufacturer-supplied kit. The builder must build no less than 51% of the airplane for it to be certified under this category. There are many of these planes (hundreds) that meet the sport pilot limitations. These planes, in general, may not be used for commercial rental and flight training (some can be commercially used for transition flight training under a special exemption). But, you can pay an instructor for training in one of these planes if you own it or borrow one at no cost. This would include an airplane you bought already built from a previous owner.

Here is what causes some of the confusion. Many kit-plane manufacturers are already marketing "sport plane" kits. In actuality, these airplanes fall under the amateur built experimental category and simply meet the proposed weight and performance restriction anticipated in the sport pilot rule. They are not "sport planes" as proposed under the new certification rules and this could work in your favor. If the airplane complies with the 51% rule, the builder is allowed to obtain a repairman approval, which allows the builder to perform all maintenance and inspection requirements. This could lead to significant long-term maintenance cost savings.

Ultralight Trainers. Ultralight instructors who meet and comply with certain industry standards are currently allowed to provide training in two-place, uncertified, ultralight trainers under an FAA exemption to FAR 103. The proposed sport pilot rule will allow these instructors to convert to become sport pilot instructors and

many of the ultralight trainer planes will be allowed to convert to a special category of sport plane. Once converted, this special category of sport plane will be legal for commercial rental and flight instruction. They will probably be the first airplanes certified under the new sport pilot rules and could be in operation within a few months of the rule implementation. The only hitch here is that under the current proposal, the airplane conversion will only last for three years. I am betting that the final rule will extend this time limit.

Ready-to-Fly Sport Planes. When the rule becomes effective, the manufacturing industry will be required to develop a set of sport plane certification standards (this process has already started). After completing and obtaining approval of these standards (this is what will take the time), they will be allowed to produce two types of sport planes. They are: the fully manufactured plane and the kit version of the certified plane.

A fully manufactured, ready-to-fly, sport plane will be much like existing certified planes except that it must comply with the limits placed on the sport pilot. Remember, it is the pilot rules that define the limits of a certified sport plane. These planes may be used for commercial renting and training. Maintenance requirements for these planes will be similar to existing regulations that require an A&P mechanic to do the work, with one major exception. Under the proposed rule, an owner will be allowed to attend a comprehensive, approved, maintenance-training course and then be authorized to perform maintenance and inspections usually performed by an A&P mechanic. This approval will be for a specific model of sport plane only.

Experimental Sport Planes. The "experimental kit sport plane" will not have to meet the builder 51% rule. This means that the building time could be much lower than for the experimental, amateur built plane. But, the builder will not be able to apply for a repairman certificate unless he/she completes an approved maintenance-training course for the model of sport plane. The trade-off for the reduced building time, under the proposed rule, will be the requirement for maintenance training if you want to perform your own maintenance. An A&P mechanic can also perform maintenance. This plane may not be used for commercial rental and training.

I hope this helps if you are considering obtaining a sport pilot license or if you desire to revert your existing license to sport pilot limitations. Like all of you, I am anxious to see how this all turns out.

Comments or questions? earldowns@hotmail.com



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Famed Aviatrix Gene Nora Jessen to Headline Will Rogers Fly-In

OOLOGAH, OK -Aviatrix Gene Nora Jessen, author of The Powder Puff Derby of 1929, will sign her book and headline the August 15 fly-in at Will Rogers birthplace ranch, honoring the 67th anniversary of the fatal crash near Point Barrow, AK that claimed the lives of Will Rogers and Wiley Post.

Like humorist-philosopher Will Rogers and record-setting pilot Wiley Post, Jessen of Boise, ID owns a strong Oklahoma connection.

Among 13 women tagged in 1961 for the female astronaut research program, Jessen taught flying while attending the University of Oklahoma. She is a past president of the Ninety-Nines, a women's flying organization, and runs a flying school and fixed-base operation at the Boise airport.

Her 2002 book is a factual account of the dramatic air race by 20 female pilots that stretched from Santa Monica, CA, to Cleveland, OH-- a grueling nine-day, 2,700-mile competition. The winner was Louise Thaden-- Amelia Earhart finished



Gene Nora Jessen posed with the very Travel Air flown by Louise Thaden in the 1929 Powder Puff Derby.

third.

Wiley Post, famous for two around-the-world flights, helped pace the take-offs of the racing ladies, whom Jessen admits "were all dare-devils."

Marvel Crosson, one of the competitors, was killed when her racing craft crashed on Day Three of the race in a "mesquite jungle in the Gila River Valley" of Arizona. Will Rogers watched the race, dubbing it the "Powder Puff Derby" in his syndicated newspaper columns and reporting on Crosson's death. Ironically, six years later, Crosson's Alaskan bush pilot brother Joe would fly the bodies of Wiley Post and Will Rogers back from Alaska for burial.

"It is fitting that Gene Nora Jessen will celebrate her new book by attending the commemorative fly-in at the 2,000-foot grass strip on Will Rogers' historic birthplace ranch," Michelle Lefebvre-Carter, director of the Will Rogers Memorial Commission, said. "Her book dramatizes a heyday of greatness that featured a strong cast of fliers and Oklahoma legends."

Forty years ago, Gene Nora (pronounced "Janora") was one of "Three Musketeers" who introduced a new Beech aircraft by flying across 48 states in 90 days. Eventually, she flew the entire line of Beech aircraft from their Wichita, KS factory before settling in Idaho to operate the FBO and flying school.

Each August 15, about 40 small and vintage aircraft from across the region land at the Will Rogers ranch for the annual fly-in, as modern aviation buffs reflect on the roles of Rogers and Post in the advancement of aviation.

"Interest seems to heighten each year," said retired corporate pilot Dale Frakes, chairman of the fly-in said. "Modern aviation recognizes the importance of Wiley Post and the unique role of Will Rogers. The annual salute is fitting."

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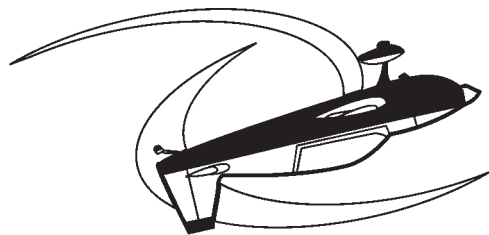
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Hearing Aids and Headsets

An airman asked me an interesting question the other day. He is in his 60s and has hearing loss due to age and to industrial noises from 40 years work in a factory. As a result, he wears hearing aids. His FAA medical certificate has a limitation requiring him to wear his hearing aids while flying. He asked me what he could do to get the limitation removed-- he doesn't

like for people to see the hearing aids in his ears. He said that, using aircraft headsets in place of the hearing aids, he has no trouble hearing all radio communications.

I advised him that he would need to have a medical flight test done with an FAA Aeromedical Branch representative. The flight test would involve conversing with ATC using headsets in place of the hearing aids, under observation by the FAA representative. If the airman can hear all ATC transmissions and respond appropriately, the FAA will issue a Statement of Demonstrated Ability (SODA) waiver, which will allow the use of headsets instead of hearing aids while flying.

If you have any questions regarding this or any other subject, do not hesitate to contact my office.

OKC Balloon Fest 2002 Sets August 9-10 Dates

OKLAHOMA CITY - The skies above north Oklahoma City will once again be full of hot air on August 9th and 10th as Balloon Fest 2002 gets off the ground! The festival, in its seventh year, will feature more than 55 hot air balloons of every shape, size, and color, as well as a multitude of other family activities and entertainment.

Activities include: the Derby Duck Dash, skydiving demonstrations, a children's activity tent, Safari Joe's exotic animals, the Family FunZone with inflatable rides and games, a bicycle stunt team, the Young Eagles program offering free introductory plane rides to children ages 8 to 17, kite-flying demonstrations, crafts, great food, karaoke, live music, tethered balloon rides, balloon races, balloon glows, and much more!

Balloon Fest 2002 will be held at Wiley Post Airport, NW 50th and Council. Event hours are Friday 4:00PM-11:00PM and Saturday

6:00AM-11:00PM. Admission is \$8.00 at the gate. Half-price weekend passes and free tickets for kids age 12 and under will be available at Mathis Brothers Furniture, Tinker Federal Credit Union, Toys R Us, and participating AT&T Wireless Stores. Children 12 and under will also be admitted free with a Sonic Wacky Pack sack or an empty 7UP can. Parking is free and can be accessed from NW 50th and Council.

Balloon races are scheduled for Friday at 6:30PM and Saturday at 7:00AM and 6:30PM. Balloon glows are scheduled for 8:45PM on Friday and Saturday nights. Tethered balloon rides will be offered on both nights at 8:30PM.

Proceeds from the event benefit the Regional Food Bank of Oklahoma. For information about volunteering at the event, call the Food Bank at 405-604-7110. For additional information about Balloon Fest 2002, please call 405-475-7006 or visit their web site at www.balloonfest.com.



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Tom Terning's 1911 Cessna Silver Wing Replica

By Mike Huffman

Even though the National Biplane Exposition is devoted to the two-winged variety of airplanes, other less amply-winged interesting airplanes showed up. One of the most interesting was Tom Terning's replica of Clyde Cessna's first airplane, the 1911 *Silver Wing*.

Tom, who lives in Sedan, KS, just over the state line north of Bartlesville, started building the airplane at Thanksgiving 1989 and finished it in the summer of 1990, nine months later.

"I had three pretty good photos of the airplane that were taken in August 1911-- that's what I used to build it from," says Terning.

Clyde Cessna built the original airplane during the time he lived in Enid, OK, where he owned an automobile dealership. He flew the airplane on the salt flats north of Enid. The *Silver Wing* bore a less-than-accidental resemblance to the French Bleriot Monoplane.

"The airplane is as close to Clyde Cessna's August 1911 configuration as I could make it and still be safe. The fuselage is the same and the wings have the same span and chord as the original-- though the wing spars are

deeper for strength. Other details are different. Over its lifetime, the original airplane had different landing gear and different empennage. I chose the Bleriot-type 'bed stead' gear because it is tough and not prone to nose-over, as was one of the *Silver Wing's* later gear configurations," Terning described.

Terning's replica is set up as a two-place, with a front cockpit forward of the normal piloting location. "Nobody seems to know whether the original was really two-place or not, although Clyde Cessna is known to have said it was capable of handling two people," says Terning.

Power is provided by a Toyota 4-cylinder inline automobile engine driving the propeller through a 1.88:1 reduction belt. Terning chose the odd ratio as a means of discouraging resonances between the engine and the propeller system. It must have worked--the airplane now has over 1000 hours and has been on trips as far away as Iowa.

Terning opted for conventional ailerons instead of wing-warping as used on the original. "The Bleriot airplanes killed a lot of people because their wings would unexpect-

edly fold," explains Terning. "To try and find the cause, they mounted an airplane on a rail car and moved it down a track, but couldn't make the wing fail. The British finally figured it out in the 30's when they were building the Spitfire, coining the term 'compressional divergency failure.' Turns out that, because of the landing and flying wires, the light wooden wing spars are always in compression; wing warping put further compressive stresses on the spars and soon a small 'fold' in the grain of the spar would appear. As soon as that happened, failure was imminent."

How does it fly? "Well," Terning hesitates, "how can I say this? It is not God's answer to a pilot. Like most all pre-WWI airplanes, it is always needing some type of control input. You wouldn't want to put a 40-hour C150 pilot in it!"

In the *Silver Wing*, the trip from Sedan, KS to Bartlesville qualifies as a long cross-country, if measured in time rather than distance. At partial throttle, the airplane cruises at 60-65 mph. "No sense in running it any harder-- just makes more noise and burns more gas!" says Terning.

At first, Cessna Aircraft and the Cessna family distanced themselves from Terning's creation, warning him not to use the Cessna name. After a

few years of successful flying, however, they changed their minds. In 1991, Eldon Cessna, Clyde's only son, visited Terning and had many recollections of his father flying the *Silver Wing* on the salt flats north of Enid.

Just prior to the Biplane Exposition, Terning flew the replica to Wichita where Cessna Aircraft featured it at its Citation Convention. The weekend after the Biplane Convention, Terning was scheduled to fly it back to Wichita for Cessna's 75th anniversary celebration.

"I guess they just wanted to make sure I was not some fool that was going to get himself killed," says Terning.



Tom Terning, *Silver Wing* replica builder.



The Bleriot Monoplane heritage is evident in the 1912 Cessna Silver Wing.

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Jim Moss' Laird Super Solution Replica

By Mike Huffman

One of the featured airplanes at the National Biplane Expo 2002 was Jim Moss' spectacular re-creation of the Laird Super Solution racer. We talked with Jim about the history of the original aircraft and his replica.

The original Super Solution was designed by the legendary Emil Matthew "Matty" Laird for the 1931 Cleveland Air Races, and was flown to victory by the legendary pilot, Jimmy Doolittle. The race was from Burbank, CA to Cleveland, OH. Doolittle departed Burbank at 2:00AM, made fuel stops at Albuquerque and Kansas City, and arrived in Cleveland in time to win the race. How-

ever, he was not content to stop there-- after refueling, he continued on to Newark, NJ, arriving 11hrs and 23 minutes after he had left Burbank, for an average speed of 227 mph including stops. He had set a new transcontinental speed record.

At no point in the trip was the engine stopped-- refueling was done with the engine running. Since the gas caps were located just aft of the engine on the fuselage, the refueling team had a scary job in avoiding the big spinning propeller.

Jim Moss related that, once Doolittle arrived in Newark he finally shut down the engine. However, still not finished flying, he refueled again and flew to St.

Louis for a party that evening. Says Moss, "He was a pretty busy guy that day-- it shows what kind of man Jimmy Doolittle was!"

Since the transcontinental flight had been done with the throttle jammed to the firewall, Doolittle's team decided to change the engine just prior to the Thompson Air Race. The original engine was a 450-hp Pratt & Whitney R-985, from which the team was able to pull 500 horsepower. The new engine was installed and Doolittle took the airplane up to try it out. Rounding the first pylon in a left turn, he found he could not roll out of his 90 degree bank, so he continued rolling another 270 degrees to the left to get back to wings-level.

Experimenting a little, Doolittle found that by "batting" the stick one way or another, he could markedly affect the lateral trim of the airplane. After landing, the team discovered the problem: due to the design of the flying wire installation, in which one wire from each wing actually attached to the landing gear, each landing put stress on the wing. By the time the transcontinental race was complete, the wing was very loose. So, the team jammed a piece of steel into a wing fitting to take up the slack, remounted the original engine, and Doolittle began the Thompson Air Race. For the first few laps, he led the pack, but soon the engine began running rough and belch-

ing black smoke, so he dropped out.

After that, the Super Solution never raced again. After making a couple more long-distance record-setting runs, the team began preparations for the 1932 racing season by installing a retractable landing gear. On the first test flight, the gear could not be extended and Doolittle bellied the airplane in, all but destroying

continued on p. 8.



The immaculate, one-of-kind 1931 Laird Super Solution racer replica.



Jim Moss-- aviator and craftsman.

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Jim Moss' Laird Super Solution Replica, cont'd

continued from p. 7.

it. Doolittle went on to win the 1932 Thompson Air Race in the Gee Bee racer, but that was his last race.

The pieces of the original *Super Solution* wound up in different places. The fuselage truss structure and one of the fuel tanks are at the Smithsonian Air and Space Museum. The upper left wing is at the New England Museum of Flight, on the restoration of the Laird *Solution*, a previous model, which was flown to victory in the 1930 Thompson Air Race by Charles Holman.

Over the years, there have been attempts to create replicas of the *Super Solution*. An EAA group in Florida worked with Matty Laird to create a wooden, non-flying static mockup of the airplane. However, nobody had undertaken the job of building a flying replica.

Enter Jim Moss. Jim's aviation career began as Naval Air Cadet during the Korean War. After the War was over, he joined the Marine Corp, flying dive-bombers and attack bombers before transferring to Pensacola as a flight instructor in SNJ's and T-34's. After the service, he managed a charter service in Bloomington, IN and then went to work for Northwest Airlines, where he retired as a Boeing 747 captain 10 years ago. Jim now makes his home in Graham, WA.

As the *Super Solution* project began, Jim was no stranger to aircraft building and restoration. In fact, the *Super Solution* was his eighth project. As might be expected, no plans existed for the airplane; however, Jim took the initiative to locate other valuable design references.

Says Jim, "From the Smithsonian, I got the planform of the wing; all it gave me was rib spacing and shape and dimensions of the ailerons. Paul Matt had done



The *Super Solution* cockpit. The 3'-high "canopy" slides back and the sides are raised in position. Stop and consider the view of the world outside from the pilots position!!

a series of three-view drawings for scale model builders which were very extensively researched and accurate-- the drawings are in two volumes and include almost every exciting airplane you every thought of! From that I got all my dimensional information including all the fuselage bays. I actually went to Kinko's and blew up his drawing to build the jig for the empennage.

"Freddy Quinn did all the woodwork on EAA's *Super Solution* static display-- Matty Laird was alive at that time and helped him. Freddy sent me all his drawings, sketches, and photographs. Freddy just passed away at 82 right after Sun 'n

Fun this year-- he never got to see the airplane fly in person, but I did send him videotapes of the initial flight.

"I was able to pick up a book called *The Golden Age of Air Racing*, which also contained lots of valuable information. Also, I had several photographs of the original airplane and was luckily able to replicate the logo on the tail."

Over 11,000 man-hours later, the *Super Solution* replica was completed and flying. A polished brass plaque in the immaculate cockpit is engraved with the names of all the people who contributed to the project in one way or another.

As of now, Jim has 30 hours and 50 landings in the airplane (he trailered it to the National Biplane Expo). He describes the flight characteristics this way, "It is really a very honest airplane-- has no nasty tendencies of any kind-- it stalls straight away, tracks true down the runway on landing. I'm a Navy flight instructor and I make a carrier-type approach for visibility, making three-point landings."

Matty Laird, pioneer pilot, prolific aircraft designer, and creator of the *Super Solution*, was born in 1886. In 1910, he saw his first airplane, a Wright design, near Chicago. Working as a clerk in the First National Bank, his thoughts and all spare moments were on airplanes. In 1912, he built his first airplane, a monoplane powered by a 12-hp motorcycle engine. Without any instruction, he attempted to fly the airplane and crashed. After repairs were made, he tried once more and crashed again-- that time the airplane was beyond repair.

Undaunted, by 1913 he and Henry Keller had built their first successful airplane, the *Baby Biplane*, powered by a

12-hp Hofer engine. Laird successfully soloed in the airplane and later used it for flight training and exhibition.

In 1915, he created his first commercial airplane, the *Excelsior*. From then through the mid-30's Laird designed and built more than 15 other aircraft models. As WWII approached, Laird reorganized his company to produce aircraft subassemblies. He retired from the business in 1945.

Jim Moss' immaculate replica of the *Super Solution* pays a wonderful tribute to Matty Laird, Jimmy Doolittle, and other aviation pioneers of the era. It is also a testament to the skill, enthusiasm, and resourcefulness of Jim Moss and his team. Thanks, Jim, for a wonderful opportunity to see aviation history reincarnated!

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The Wright 1902 Glider Replica, cont'd

continued from p. 2.

hang glider enthusiasts. The pilot lays prone on top of the bottom wing with his hips in a cradle-- by moving his hips from side to side he controls the airplane in roll via wing-warping and also controlled the rudder. Pitch attitude was controlled by twisting a bar below the front-mounted elevator, which changed its angle of attack.

The 1902 Glider replica has flown many "unofficial" flights at Kitty Hawk - the "official" first flight is scheduled for October 8 of this year, the 100th anniversary of the Wrights' flights.

How does it fly? In the words of Nick Engler, "It depends on your historical perspective. We took it with us to Kitty Hawk on October 22, 2000, the centennial of the Wright's first gliding flights. We flew our replica of the 1900 Wright Glider on the centennial with champion hang glider pilot Dudley Mead at the controls. The next day, October 23, we set up the 1902 glider and both Dudley and I made flights. It was wonderfully exhilarating and incredibly frightening. This is a very primitive aircraft, and it behaves like it. It is not stable;

the Wrights disdained stability, I've come to believe. The pilot must fly the craft at all times. The pitch control is very responsive - overly responsive, in fact - while the roll is sluggish. There is no such thing as a landing. You simply pancake into the sand. I was amazed throughout the whole experience that no matter how hard we tried to smack the glider against a sand dune, it absorbed the punishment with little complaint. And, quite frankly, it was awe-inspiring beyond words just to see it in the air."

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Calendar of Events

For a free listing of your event, email us at OklahomaAviator@cox.net or call 918-527-0429. To allow time for printing and publication, try to notify us at least two months prior to the event.

WHEN	WHAT	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
1st Saturday	Aerobatics	Claremore Municipal Airport Claremore, OK	Dave or Sheri McKenzie 918-343-0931	Go to Ponca City for breakfast, then come to Claremore for hamburgers and aerobatics!
2nd Tuesday 6:30PM	Meeting- Women In Aviation	Spartan School of Aeronautics Jones/Riverside Airport, Tulsa	Laura Yost- 918-831-5354	
2nd Tuesday	Meeting- Spirit of Tulsa Squadron- Commemorative Air Force (formerly the Confederate Air Force)	Tulsa Technology Center Jones/Riverside Airport, Tulsa	Jim Dagg 918-224-6293	Restoring 1942 PT-19. Hangar space and workers needed
2nd Tuesday	Meeting- EAA Chapter 24	Aviation Tech Center OKC Airport	Martin Weaver- 405-376-5488 pacer59f@juno.com	Start 7:00PM
2nd Wednesday 7:30PM	Meeting- Tulsa Cloud Dancers Balloon Club	Contact Frank Capps	Frank or Cheri Capps- 918-299-2979 aerosportballoon@hotmail.com	
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	Frank or Cheri Capps- 918-299-2979 aerosportballoon@hotmail.com	
3rd Monday	Meeting- IAC Chapter 10	Contact Joe Masek for time/place	Joe Masek- 918-596-8860 jmasek@tulsacounty.org	
3rd Monday 7:30PM	Meeting- EAA Chapter 10	Gundy's Airport, Owasso, OK	Bhrent Waddell- 918-371-5022 bwaddell@tulsa.oklahoma.net	
3rd Thursday 7:00PM	Meeting- EAA Chapter 323	Sherman Municipal Airport Sherman, TX	Billy Dollarhide- 903-868-7609 dollarhide@ti.com	For more information, visit our website: www.eaa323.org
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 otherwise 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	
Mar 8-Aug	IMAX Film- "To Be an Astronaut"	Omnidome Theater Kirkpatrick Center Oklahoma City	405-602-3689	Go inside the gates of NASA to experience the rigors of astronaut training. Includes "Maximum Velocity: The French Precision Flying Team"
Jul 8-12	Tulsa Community College Aviation Careers Academy	Tulsa Community College 6111 E. Skelly Drive, Tulsa, OK	youth@tulsa.cc.ok.us	For 9th - 12th grades. Exposure to aviation careers. Includes 3 hours flight time.
Jul 19-20	Fly-In and Camp Out	Tenkiller Airpark (44M) Cookson, OK	John Sevieri- 918-457-4183	Music and food both days and nights
Jul 22-Aug 2	Registration for Fall 2002 Term	Embry-Riddle Aeronautical University-- Oklahoma City	Russ Tresner - 405-739-0397 or oklahoma_city_center@cts.db.erau.edu	Call or email for more info or to get your name on our mailing list.
Aug 9-10	Balloon Fest 2002	Wiley Post Airport Bethany, OK	Frank or Cheri Capps- 918-299-2979 aerosportballoon@hotmail.com	
Aug 15	Annal Will Rogers Fly-In	Iron Dog Ranch Airport Oologah, OK	918-341-0719	Featuring famed aviatrix Gene Nora Jessen signing her book, <i>The Powder Puff Derby of 1929</i>
Aug 16-17	24th Annual Okie Derby Competition	Wiley Post Airport, Oklahoma City	Phyllis Miller, 1924 Red Prairie Drive, Edmond, OK 73003 (405) 844-4011; Fax: (405) 844-4012	Entry fee \$35 before Aug 10, \$40 afterward. Aircraft impounded Aug 16. Greek Olympic theme costumes encouraged!
Aug 17-19	BalloonFest	Tahlequah Municipal Airport Tahlequah, OK	Frank or Cheri Capps- 918-299-2979 aerosportballoon@hotmail.com	
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Sep 20-21	45th Annual Tulsa Regional Fly-In	Frank Phillips Field Bartlesville, OK	Charlie Harris- 918-622-8400	Type club forums, static displays, exhibits. For sport, antique, experimentals, warbirds, classic, and modern aircraft.
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Sep 21-22	Claremore Air Show	Claremore Regional Airport Claremore	Tim Fleetwood- 918-341-4876 lovedv@aol.com	

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