Woman Pilot

August/September 1993

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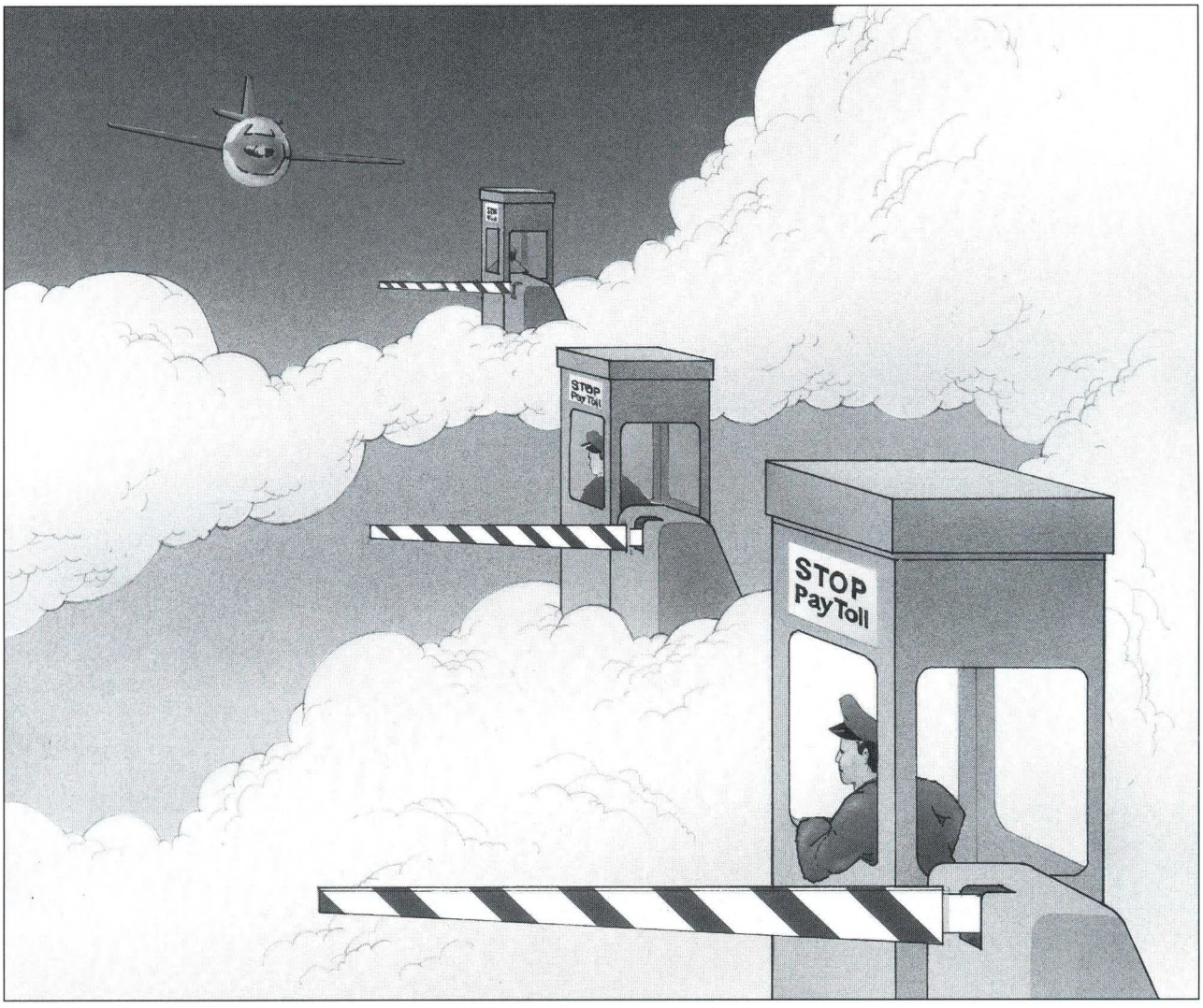

Picture a world in which you can't afford to fly.

It's not all that hard to imagine.

After all, general aviation pilots in Europe are already forced to pay directly for the use of IFR airways, weather information, you name it. And now, faced with a sagging economy, Washington is pressuring U.S. general aviation pilots like you to do the same.

But you can put a stop to this unfair and expensive practice before it starts. By joining the Aircraft Owners And Pilots Association (AOPA).

With your help, AOPA can spread the word on Capitol Hill that we're *already* paying our fair share for GA's portion of the U.S. air transportation system.

Of course, when you join AOPA, you'll do more than save yourself unfair fees and higher taxes in the long run.

You'll also enjoy all the benefits of AOPA membership. Like twelve issues of AOPA Pilot, our exclusive monthly magazine. Our toll-free Pilot Assistance Hotline. A free edition of our pre-flight guide, AOPA's Aviation USA, and more.

So protect your priceless right to fly. Call and join AOPA today.

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On the cover:

Washington artist Jack Gunter began drawing whimsical pigs—and then flying pigs—to cheer up his sick brother. The theme became so popular that pigs can be seen "observing life" in many of Gunter's works, even on our cover. It is a detail from his painting, "Tulip Reconnaissance." Posters of the painting are available by writing History of the World Part III Gallery, Box 1752, Stanwood, WA 98272; (206) 629-4144

Woman Pilot

August/September 1993

Welcome to the world of *Woman Pilot*. As a female pilot, you have already surpassed most women's fondest dreams. It is with you in mind that this magazine, *Woman Pilot,* is being published. We hope to foster the spirit of achievement and adventure in all facets of aviation in a manner that challenges each of us as women to strive for more. We encourage you to continue to live this spirit and to voice your thoughts and dreams through us. What we dream, we can surely achieve. Only the limits we place on our imagination can hold us back.

Bobbi Roe
Publisher

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The Fighter Pilot WITHIN

A day at Air Combat USA pushes pilot to the edge and enhances self-confidence.

by Carol Brackley

I climb out to my assigned altitude. Stealing a glance indicates that 97 seconds have elapsed since the plane began to roll down the runway. Ninety-seven seconds, WOW. This Marchetti is easily the quickest aircraft that I have ever flown.

LOSE SIGHT; LOSE THE FIGHT. My heart drops. I've got a sick feeling in the pit of my stomach. A quick look confirms my worst fear. A Bogey. Lining up on my tail. I throw a couple of high yo-yo's and into a lag roll. But nothing works and the console displays the bad news, *KILL.* I have been shot down—and by my best flying buddy, Dawn.

Two Marchettis engage in a dogfight over the Santa Ana mountains near Fullerton, California.

Yes, Dawn Newcomer, to be precise. We are both living out a dream. The dream of being a fighter pilot for a day. To fulfill the dream, we journeyed to the airport at Fullerton California, the home base of AIR COMBAT USA. We had done everything we could to prepare ourselves for what we expected to be the flight of a lifetime. We read books on fighter tactics and maneuvers. We even located a female aerobatic instructor in Houston who owned a Marchetti, the same airplane used by AIR COMBAT USA. I took one flight in it, and found it to be the quickest, most responsive airplane that I had ever flown. Everything about the plane just felt totally natural. Of course, this just wetted my appetite for more.

So there we were, ready to do it. First we got fitted in our flight suits, helmet, parachute—the works. Boy, did we really look like fighter pilots. Then we had a briefing with the instructor. I tried to listen; I wanted to get everything he was saying. I didn't want to miss anything. The excitement built. *Come on, let's go,* I thought. I *just want to get in the plane and do it!*

We taxied out, took our position on the runway and lifted off. Oh, I loved that airplane! We moved into formation flight. We were about 10 feet from Dawn's plane, and that felt really odd. As a private pilot, I was trained not to get close to another plane, to "see and avoid." And there we were, flying along only 10 feet from the other plane.

Next we practiced getting the feel of the plane and doing some high yo-yo's and a couple lag rolls. That was easy. I could do all that. Then it was time to

Carol Brackley gets some fighter tips from her instructor Mark 'Snort' Pendley.

track with the gun sight, just line up the other plane in the middle of the gun sight. Right! *Hey guys, this is not so easy.* It was like shooting a rifle, except you couldn't just move the rifle, you had to move the whole plane. I was getting the hang of it, but it took a little practice.

Finally, I was ready. Fight number one was on. The planes headed toward each other, passed, pulled up, turned toward the inside. We were at about 90, maybe 100

Flying in this type of a situation allows a pilot to push to the edge.

degrees of bank pulling about 6 Gs. *Keep the bogey in sight.* But I had lost her. Where was she? Then I saw her behind me.

Oh, I couldn't believe it, Dawn shot me down! *Lose sight, lose the fight."* That's what they kept telling us. Well, I wasn't going to let it happen again. Dawn was going to be smoked next time. A little friendly competition between friends keeps it exciting.

Moments later, fight number two was on. We passed, pulled up, turned, down a little, keep turning, pulling 6 Gs again. *Keep her in sight.* The G forces are incredible. My head must have weighed a hundred pounds. I kept turning, kept her in sight. We were getting the advantage. I did a little high yo-yo and put the gun on her. Tracking, tracking...I got her! Smoke came from Dawn's plane. Dawn is dead. *Yeah. Fantastic. That was great!*

After several more fights, each one just as exciting, we headed back to the airport for a debriefing. Besides the excitement and the thrills, this also was a tremendous learning experience. Every time I get in an airplane I learn something. During a flight of great intensity like this one, you can learn more than you might in many hours of basic flight.

This type of flying is about pushing a pilot and an airplane to the edge of their limits, learning those limits and learning to stay within them. Mock-combat flying provides the perfect environment to do just that. You have a qualified pilot with you who already knows those limits and is not going to let you exceed them. You can push yourself to find the limits of your own physical and mental capabilities and feel safe while doing so. I am a better, more confident pilot because of this experience.

This flight also was *fun*. I definitely intend to go back for more.

Carol Brackley is a contributing writer from Houston, Texas. She learned to fly in a two-place Grumman TR-2.

Dawn Newcomer anticipates her impending air fight.

GOOD-BYE HOUSTON

HELLO AKRON

A fond farewell to the Goodyear blimp that graced the Houston skies

by Peggy Campbell

The drive out the north freeway seemed a lot shorter than I had expected. It was Sunday morning around 6 a.m., and the sun was just coming up when I pulled out of the driveway and headed toward the Dallas Freeway.

Usually the freeway is jammed with cars and resembles a parking lot. Today the cars were so few you could actually see the road in front of you. I had not wanted to make this drive, but it would be the last time to see one of the world's wonders.

It was a sad day for all Houstonians. I could feel my heart racing as I approached the blimp base. It was really the last time I would see this. As a child I had been amazed by blimps, the giants of the sky, and the *America* was no exception. Built in 1982, she was 192 feet long and 59 by 50 feet in circumference, a non-rigid type with a rubber-coated polyester fabric envelope to maintain her shape.

For years, her shape in the Houston sky became a regular sight. Now she would be gone forever.

When I arrived I was surprised to see her sticking her nose out of the hanger, shining in the morning sun and almost smiling at the sky. Her crew of 16 men was beginning to bring her outside for the last time. Soon she would leave her home in Houston for her new base in Akron, Ohio, headquarters of the Goodyear Tire and Rubber Company.

If the wind came up, maybe she could stay one more day, I thought; winds more than 20 mph would keep her grounded. My hopes were soon blown away as the forecast was for eight knots of wind that morning. Her flight to Ohio would be between 1,000 and 3,000 feet even though her ceiling limit was 10,000 feet.

I daydreamed as I waited for the pilots to join the crowds of sightseers, imagining the sights the people would have between here and Ohio, especially if they had never seen a blimp. I wished I could drive along underneath and talk and listen to the people along the way. I knew the children would have some memorable things to say.

I remembered taking my kids to see the blimp. For years her shape in the Houston sky became almost a regular occurrence, and many people didn't think of her as unusual anymore; we were used to her. Now she would be gone forever.

America is staffed with five pilots, all very personable men who work together as a team doing any job that needs to be done. Many have had long careers with Goodyear as ambassadors for the company, answering all the visitors' many and varied questions. They traveled with the blimp when she flew six months of the year all over the country, barnstorming the U. S. and Canada. She wintered in Houston.

Goodyear has three of these beautiful blimps. One is based in California, another in Florida, and of course our *America* is in Houston—at least she was. These airships log more than 100,000 air miles. For more than six decades there have been no fatalities.

A private pilot certificate and commercial rating are prerequisites to apply for a position as a Goodyear blimp pilot. Blimp training is done on the job. Goodyear blimps are piloted by men, and although a few women have begun blimp training, they decided to stay with airplanes due to the physical demands. The *America* has two rudder pedals with 17-inch throws for the left and right; without any hydraulic assistance they require a great deal of physical strength. Newer blimp models are currently being built that are less physically demanding and easier to handle.

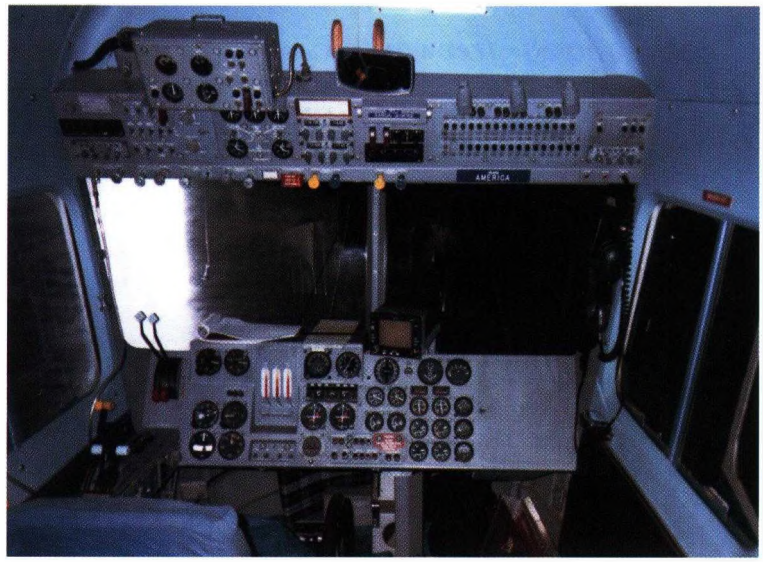
I was awakened from my daydream when the pilot asked, "Who's next? Are you our next passenger, Ma'am?" I didn't think I would get the chance, but howdy-doody, I was gonna get to go—hurrah!

The pilot estimated the weight of his passengers and figured how many 25-pound bags of buckshot would be needed for ballast to launch the airship and then dock her on arrival. The blimp can do several different takeoffs depending on the amount of heat generated by the sun. On a very warm day it can do an almost vertical takeoff. On cooler days, it will slowly go along the ground, the same as an airplane before it ascends. The huge outside envelope has two smaller ballonets for air—one fore, one aft to control nose/tail, up/down.

This is going to be so much fun, I thought. I had never been in the blimp before and could hardly wait to get started. Boarding passengers climbed up a ladder while the ground crew held the blimp on the ground. The "car" was 22.75 feet long and carried a maximum of six passengers. Cushioned chairs for the pilot and six passengers did not have seatbelts.

The ride was a slow, floating sensation, just as I expected, but the surprising part was the drastic pitch used in climb and descent and the quiet floating feeling while hovering in the sky. On the side of the pilot's chair was a huge vertical wheel, similar to a wheel on a wheelchair, that was used to maneuver the elevator

for pitch and attitude.



The blimp's instrumentation is similar to an airplane's, with the addition of a thermostat for the gas inside the blimp; a thermostat on the belly to measure outside temperature; and liquid manometers to measure air and helium pressure.

The blimp's instrumentation is the same as found on most airplanes. Additional instruments needed for the blimp are a thermostat for the gas inside the envelope, a thermostat on the belly for the outside air temperature, and the liquid manometers, used to measure air and helium pressure in the ballonets and envelope.

If the blimp pilot starts reading a slow pressure leak over a few days' time, the blimp is checked for holes by a crew member climbing through a manhole in the bottom of the envelope. Since the interior of the envelope is painted black, a star-shaped hole is easy to spot. The problem is located, patched, and the airship is back in service. If the hole is in the lower quarter section, the pressure loss is slower because helium rises. Even in the top section, a week or two could pass before the pressure loss would be enough to cause concern.

During my flight, I was snapping pictures from inside the car and really enjoying the pilot's interesting conversation. It was so quiet we could talk easily. So many things to know. I remember it was much the same as my first airplane ride.

On the return trip, the pilot drove the airship down using a steep downward pitch and a lot of control to land it. The ground crew stood in a V-shape to show the pilot the wind direction, while the point man held an orange windsock on a long pole.

The docking was gentle, and the blimp floated on the ground while we climbed down the ladder. Three ground crew members were there to hold, steady and catch each passenger departing the blimp. I was like a little kid, so excited.

This had been some experience.

America made a sweeping last pass over Houston as she started her journey to Akron, Ohio. Since then, the name "America" has been retired and the envelope has been deflated and replaced with Goodyear's new paint style. The new envelope is 60 percent silver with yellow trim stripes painted on a blue field, and the airship has been renamed *Stars and Stripes*. Houstonians are going to miss seeing *America* float over their city skyline, but her memory will be with all of us.

She was great.

Piloting blimps has always been a man's job, but that may be changing as new blimp models are being built that demand less strength.

Peggy Campbell is a contributing writer from Houston, Texas and an accident prevention counselor for the FAA. She is a member of the Houston Chapter of the International Organization of Women Pilots, the Ninety-Nines and has flown Cessnas, Pipers, tail draggers, gliders and various antique aircraft.

The Arduous Climb To The Tower

Usually, you know your controller only as a calm, authoritative voice coming through your headset, clearing you for take-offs and landings, keeping an eye on your travel through controlled airspace and coming to your aid in an emergency. That voice, however, doesn't come easily. It is the result of rigorous training and searing competition.

Cindy Morris is a veteran air traffic controller working at Seattle Center.

by Larry M. Bulling

As tough and demanding as an air traffic controller's job is, there is no shortage of people trying to get into the field. Last year some 33,000 individuals passed the test allowing them to get onto the FAA register, a waiting list for openings leading to the next step in the hiring process. When a position opens up, the competion is stiff to be selected as one of the FAA's 17,000 controllers who staff en route centers, towers and flight service stations.

Although women now make up a minority of controllers, the situation is changing, says veteran air traffic controller Cindy Morris, who works at Seattle Center.

"There are great opportunities for women to be controllers," she says. "I came in more than 10 years ago, and there were very few women here. At Seattle Center now, we have probably 16 percent." When Cindy trained at the FAA Academy, she was one of only four women in a class of 250.

Regardless of gender, becoming an air traffic controller requires a strong commitment and a lot of patience. Training begins with a written test given whenever the FAA opens a register for applications (currently, the FAA is not in a hiring posture). A passing score is 70 out of 100, but as one FAA brochure points out, the number and quality of applicants is so high that when selecting those for further consideration, "scores below 90 are not reached." After the written test, an interview is arranged at the nearest air traffic control facility.

Passing the test and interview, however, are not the only qualifications. An applicant must also have three years of general work experience or four or more years of college. You must be no older than age 30 to be considered for duty in a center or tower control option.

The next big hurdle is passing the one-week screen at the FAA Academy in Oklahoma City, Oklahoma. In this recent development in the hiring process, a five-day, make-it-or-break-it ordeal, applicants receive instruction and practice on computerized tests to see if they have "the right stuff." Similar to video games, one of the tests requires candidates to move aircraft through a simulated air space, maneuvering them through gates and finally landing them at an airport.

"It's hard to determine exactly what makes a good controller, but you have to be able to think quickly and be willing to make decisions," says Cindy. "You have to think three dimensionally because the picture you're looking at has only two dimensions; you have to add in that third dimension of altitude. You have to be able to project forward what's going to happen 5 minutes from now, 10 minutes from now, and is it going to be a problem? Do I have to make some kind of change, and what change am I going to make?"

Those passing the one-week screen must then complete a battery of medical tests including hearing, vision, blood chemistry and a psychological profile. A security investigation checks with former employers and schools and conducts a search of FBI, military and police files looking for problems. Since these tests alone can take one to six months to complete, the FAA advises applicants not to "quit your current job or be discouraged."

Assuming you have led a good, clean life and haven't grown too old while waiting to be hired, you can now get on the payroll ($22,717 to start, $73,617 at the top) and begin training in Oklahoma City. The academy takes about three months, says Cindy, depending on which career option you choose— en route centers, towers or flight service stations. After graduation, you go to an air traffic facility for classroom and on-the-job training, a process requiring two-and-a-half to three years.

During this time, Cindy explains, trainees undergo classroom training, learning weather patterns and "aircraft characteristics—how fast they climb, how fast they go, what kinds of things they can do, how fast they're going to turn when you give them a turn." They learn the basic separation rules between aircraft and memorize the station maps, airport locations, airways, approach and departure routes and altitudes.

Airspace is divided into sectors, each with two controllers. The "D" controller handles the non-radar duties, talking to other facilities, flight service stations and the military. The "R" controller talks to the aircraft and maintains separation from other aircraft and ground obstacles. Trainees work first toward certification as an associate controller on the "D" side, says Cindy, and later earn certification on the "R" side, for radar associate.

And what about THE VOICE? There is no testing policy for voice quality, says Cindy, and you don't have to sound like a controller in the movie *Airport*. It simply develops with time.

Seattle Center is one of 22 full en route centers in the United States. They guide aircraft through established Federal airways and brief pilots in the air with important weather and other flight conditions. The centers also provide the necessary safety separation between aircraft.

Overseeing an airspace of 300,000 square miles, the center monitors traffic from Canada to northern California and from Idaho to 100 miles off the Pacific Coast. The center maintains separations between aircraft of 1,000 feet vertically and five miles horizontally. Above 29,000 feet, vertical separation extends to 2,000 feet.

Seattle Center controllers rely on a sophisticated array of radar and computer systems to assist them with traffic management. To the radar controller, aircraft appear as pale green targets on the screen. Beside each target, the computer provides a small "data tag" displaying the aircraft's identification number, altitude and ground speed in abbreviated format.

The computer receives this information from automatic identity and altitude reporting equipment on board the plane. To be sure of the target's identity, the controller can request the pilot to "Ident." The pilot then activates the Ident button on the transponder, signaling the target on the screen to "enlarge and brighten."

One computer system watches the air traffic and anticipates what it will be like in 15 minutes and for the next hour. If serious congestion appears imminent, the system calls an alert, and more controllers are added to the section or aircraft are diverted to a less busy area. Another system, which controllers call the "Snitch," sounds an alarm when airplanes have gotten too close together.

To assist pilots through Seattle Center's mountainous terrain, controller radar scopes have an overlay option showing Minimum Instrument Altitudes, commonly 2,000 feet above the highest point. This allows controllers to warn pilots who may be flying too low.

If pilots should ever be in a distress situation while flying in a mountainous area, Cindy advises them to climb higher if possible for better radio contact with the controller.

The center commonly uses "metering" to control flight arrival times at the Seattle and Portland terminals. A computer calculates fixed points for pilots to cross at prescribed times, rather than putting planes into a holding pattern. Controllers can either slow planes down, give them a turn or turn them into the wind to gain a five or eight minute delay.

"It's easier on the controller, the pilot and the passengers to do it this way," says Cindy. "It's also more precise for the controller to slow the aircraft down than to put them into a holding pattern because the controller doesn't know exactly how long it will take the pilot to turn and come back around."

Larry Bulling is a contributing editor from Corvallis, Oregon.

Air Traffic Control Centers

Albuquerque Center, Albuquerque, New Mexico
Anchorage ARTCC, Anchorage, Alaska
Atlanta ARTCC, Hampton, Georgia
Boston ARTCC, Nashua, New Hampshire
Chicago ARTCC, Aurora, Illinois
Cleveland ARTCC, Oberlin, Ohio
Denver ARTCC, Longmont, Colorado
Fort Worth ARTCC, Euless, Texas
Honolulu CERAP, Honolulu, Hawaii
Houston ARTCC, Houston, Texas
Indianapolis ARTCC, Indianapolis, Indiana
Jacksonville ARTCC, Hilliard, Florida
Kansas City ARTCC, Olathe, Kansas
Los Angeles ARTCC, Palmdale, California
Memphis ARTCC, Memphis, Tennessee
Miami ARTCC, Miami, Florida
Minneapolis ARTCC, Farmington, Minnesota
New York ARTCC, Ronkonkoma, New York
Oakland ARTCC, Fremont, California
Salt Lake City ARTCC, Salt Lake City, Utah
Seattle ARTCC, Auburn, Washington

Janet Erickson gets the ride of her lifetime in this P51. Fred and Jerry (pumping gas) flew into Kearney Airport and casually offered Janet's husband a ride. He declined and suggested they ask his wife.

Memoirs Of A Pilot

by Janet Erickson

For a Nebraskan woman, learning to fly opened doors to a world she thought she could never enter.

For years I wished I could write so I could share with other women the awesome world of flying. It's hard to express in words how you feel when you're up there the first time and the question *What in the world am I doing here?* is racing through your mind! The excitement, as well as the fear, make me truly appreciate the famous words, "God is my co-pilot."

Let me go back to when the seeds were first sown. In 1949, my dad took me to the airport in Holdrege, Nebraska to take me for my first airplane ride. I spent most of the time on the floor, scared to death. I finally did brave a look out and decided it would be okay to go up again, but only in my wildest dreams did I ever think I would fly myself.

I married Stan in 1951, and for the next 25 years we were busy farming and raising a family, one boy and two girls. Our son Ron joined the Holdrege Civil Air Patrol (CAP) Cadet Squadron in 1968. He was one of 19 cadets in Nebraska to receive the state Wing CAP scholarship for the first solo flying school encampment and went on to get his private license.

By 1976, all the kids were gone, and it was time for Mom to go back to school. My husband suggested I take a few flying lessons to see how I liked it. I did, and for the next two years it was hit and miss! Unpredictable weather and my on again-off again decisions to keep on trying made me one long-time student. But being 43 years old and a woman gives you some edge.

That February, I enrolled in ground school classes and didn't miss one, even though I missed all the answers on the tests. My instructor said if we couldn't pass these tests we'd never pass the FAA written exams. I thought I would try anyway, so I set a test date. A couple of weeks later I got my results back. A score of 58—a bit short of the passing grade of 70.

So I ordered the test questions and answer books and studied hard. In February of 1977, I passed my written test with a score of 98. After that, I was determined I would eventually get my license.

When I first started, taking off from a dirt strip out in the country, I was completely lost. I thought, *How will I ever find my way back when I have to do it alone?* And that time comes when you least expect it. You've been doing touch and goes when your instructor says, "All right, let me out. Take it around several times by yourself."

Your heart begins to pound, your hands get sweaty, and taxiing out on the runway seems to take forever. But all too soon you're at the end, and you know it's time. So you wipe your hands and take several deep breaths, all the while praying that God or one of those guardian angels is sitting beside you. You push the throttle all the way in, you move down the runway, picking up speed, 'til suddenly you're off the ground and climbing, and it's the most wonderful yet frightening feeling you've ever had.

Your first turn puts you in a crosswind, then to your downwind entry, when it hits you—now you have to land all by yourself. Remember all those times you wondered if you had really done it yourself, or if your instructor was actually handling the contols? Well, now you're going to find out.

My first solo cross-country was a single leg to York, Nebraska; the second was to McCook, North Platte and back to Holdrege—280 miles around. I had flown this route with my instructor, Arlen Olson, and had never noticed how desolate it was until I was flying it alone.

My longest cross-country flight in Nebraska was from Holdrege, to Norfolk, to Beatrice and back to Holdrege, about 440 miles. I left Holdrege early on the morning of a hot, humid day with isolated thunderstorms in the forecast. I made it to Beatrice and found out the storms had moved into the Norfolk area. So I got my logbook signed fast and headed south to Beatrice and from there headed west, thinking that would be familiar territory.

I was no longer a student pilot, I was a full-fledged private pilot! I think I could have flown back without the plane.

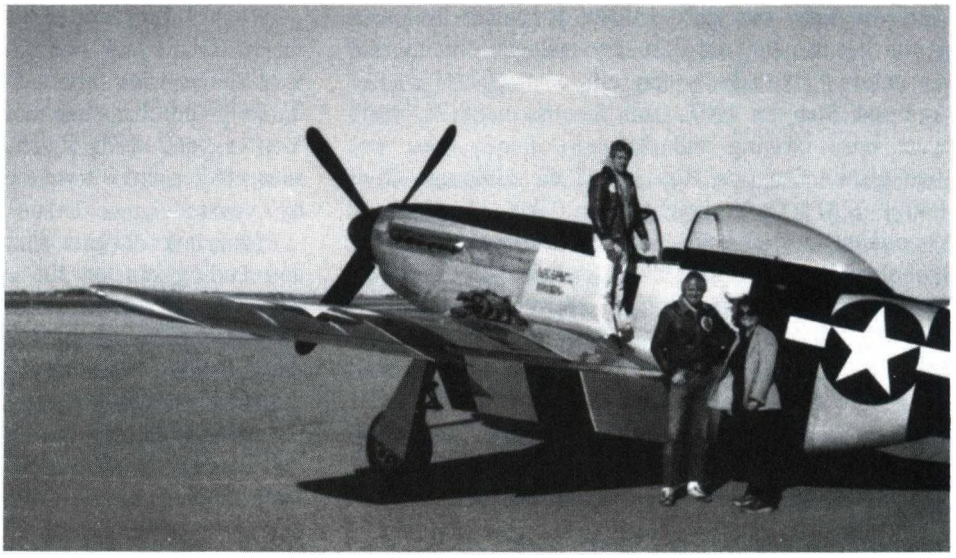
For awhile I was unsure where I was, when an airport came into view. The roof had "Red Cloud" painted on it, and I knew where I was. A couple of hours after I returned to Holdrege, thunderstorms moved into that area, so I guess that guardian angel was riding on my shoulder that day.

Finally the day came when Arlen said I was ready for my check ride. Early that morning I was on my way to the strip to get the plane and head west. When I got to the hanger it was unusually quiet. No Arlen, no plane out, and I was to be in North Platte by 7 a.m. I went in and called him and found out his electricity had gone off during the night. His alarm was electric. Boy did he hurry! Within 20 minutes he had the plane out, signed off my logbook, and I was off. To top it off I had a pretty good headwind, so I was a little late for the appointment with the FAA examiner—and all shook up.

The examiner started my tests—weight and balance, graphs, charts, etc. Then he gave me an oral test, and finally we were in the air for my test ride. Fortunately, it was quite windy. I guess I must have done all right, because when I landed he said I passed my tests. I was no longer a student pilot, I was a full-fledged private pilot! I think I could have flown back without the plane. I couldn't wait to tell Arlen. I think what a student hates most is disappointing his or her instructor. I couldn't wait to tell Stan, because I didn't want to disappoint him either. He was thrilled for me, then said, "Now you can get back on the combine and pick corn." So I had to come back down to earth. I had a lot to think about: the first thrill, the first day I soloed, and now I was a pilot! It was hard to think about corn.

At that point I thought I could start having fun flying, and I did for awhile. One day both my daughters flew to Grand Island with me. Everything went fine until we took off to head back to Kearney. We heard a noise beep-beep-beeping very loud. I checked the radios—everything I could think of—when suddenly I saw blinking lights on a switch to the left of the panel. I learned fast about the marker beacon. I think the girls thought we were done for.

Stan and I started flying to different places when one day he suggested I go for my instrument rating, so back to more studying and tests. I was ready to take my check ride. Everything went pretty well, although I did goof up on my NDB approach at Hastings. After struggling for some moments, I decided to start over.



Janet will never forget her ride in the P-51—including a rolling climbout that impressed the ground crew.

Perhaps it helped, because he passed me! Sometimes it isn't always doing it right that counts, but rather recognizing and correcting your mistakes.

Kearney Airport was the site of one memorable experience. A P-51 landed to refuel, and the two pilots asked Stan if he wanted to go for a ride. He said no, but if they asked that gal over there, she would be glad to go along. That gal being me, I wasted no time saying yes! I'd never ridden in anything so fast! We flew over our farm, then to Arlen's strip. Fred buzzed them about 50 feet over the runway. Arlen wasn't there, but the guys working in the hanger came running out and had a spectacular sight as we did a rolling climbout.

Next I decided to go for my commercial training, thinking it would give me a lot of maneuver practice and aircraft performance abilities. Again I studied for the written exam. This was the hardest for me. I took it twice, but the second time I passed with a grade of 85. The flying was the most fun, and in June, 1984 I got my commercial rating.

That year we were going to California, so I wrote Art Scholl Aviation about the mountain flying classes they gave and set up a flying time. My instructor was Chuck Wentworth. I did time in a Tomahawk, my first low-wing airplane. It was different flying in such constricted airspace. It made me appreciate flying in Nebraska!

Chuck then took me up in a Decathlon, a fully-equipped stunt plane. We did spins, rolls, loops and stalls. I got to do them all myself. Chuck was a stunt pilot for a lot of movies, as was Art Scholl, who was killed several years ago during the filming of the movie *Top Gun*. We also got to see him fly at one of the Reno Air Races, one of his last flights.

I could go on and on with my experiences—my first landing over water at Shangri-La or the time our engine quit. We had taken off, climbed out and leveled off when we felt a bump, like an air pocket. The engine quit. I made an emergency call to the Kearney airport and tried to restart the engine. Nothing. We were about 200 feet off the ground with nothing but muddy fields and power lines everywhere. Suddenly, something I had read came to mind, and I pulled out the primer and turned the switch again. This time she started, and we landed back at the Kearney airport. Everyone was standing outside. The aircraft mechanic was pretty pale! They checked things over and couldn't really find any reason except that the needle valve had gotten stuck. We replaced it and flew back to Holdrege.

Stan and I joined the CAP squadron at McCook, and we have really enjoyed being part of this group. Now it's back to a lot more studying, training and paperwork, but if someday we can help save a life, it will be very rewarding. We are both first lieutenants and are qualified mission pilots. I have close to 1,160 hours. Stan has 980.

If I had to quit tomorrow, I couldn't complain. Learning to fly opened the doors to an unbelievable world I never dreamed I could really enter. I found out that no matter how old you are, male or female, you can be whatever you want if you put your mind to it.

I also was very fortunate to have a husband and children who supported me all the way. Every time I'm in that plane, up in the never-ending sky with the earth passing beneath me in miniature, the awesome wonder of what I've been blessed with is always there.

Janet Erickson is a contributing writer from Holdrege, Nebraska. A native of the area, she is a mission pilot for Civil Air Patrol (CAP), which is an auxiliary of the USAF established during World War II. Today pilots search for lost aircraft and help during natural disasters.

AMERICA  BY AIR

by Danielle Clarneaux

Pilot captures a bird's-eye view of the United States and creates a three-part commercial video

During a four-year odyssey, pilot Douglas Kahan and his crew traversed the country by air, capturing on video the grandeur, the diversity and the drama of the continental United States.

His three-part film series *America By Air™* takes the viewer soaring over some of the most spectacular landscapes imaginable, from flying with the flamingos above the Florida swamps to gliding over the eerie badlands of North Dakota.

"I believe the video illustrates the essence of what we are, that the land is a driving force," says Doug, adding that the entire video crew has a special feeling for the country's geographical beauty and uniqueness. "Our hope is that the videos will provide a starting point, a stimulus for the viewers to learn more about their land."

Doug, a resident of Ballston Spa, New York and owner of a video distribution company, combined both his talent as a pilot and knowledge of the film industry when he embarked on his *America By Air* adventure. He assembled a top-notch crew of 14 pilots, including Harold Katinszky, a Los Angeles charter pilot who served as his chief pilot for two of the videos. "These are the renaissance men of pilots," says Doug. Rated for everything from gliders to jets, they all have extensive experience and prolific hours. Doug also used a variety of aircraft during filming, including power planes, gliders and a 1918 Curtiss Jenny.

The logistics of combining filming and flying presented a challenge to everyone. Tamara Whittle, marketing director for the video company, studied magazines and books, researching interesting locations in the U.S. to film. Adding maps, photos and satellite views, she compiled an extensive portfolio from which she and Doug mapped out a tentative route.

Next, using the Aircraft Owners and Pilots Association (AOPA) guidebook, they contacted personnel at airports near the targeted film sites. With information gleaned from these local sources, they were able to handle details like arranging for transportation and hotels, and even more important, familiarize themselves with flying hazards particular to the area.

"We met the most wonderful people in some of those small towns," says Doug. One motel owner in Arkansas was so worried about the flight crew when they were three hours late that she kept calling the airport to see if they had arrived safely.

Considerable strategy was involved in formulating flight plans, and the budget was always a factor. If the weather was crummy in one spot, they would pack up and try another location. "This was a lot easier in the East, where filming sites are closer together than in the West."

The clock, says Doug, was always ticking, and sometimes it was the little things—like insects—that tripped them up. Thanks to the tiny flying critters, it took the crew five days just to get a few good shots. "It was a really buggy area, and every time an insect hit the camera lens, we had to go back to the airport and clean it off."

The weather provided its share of frustrations, too. "We ran into bad weather just about everywhere." In the Carolinas they encountered some pretty horrendous storms where barges were breaking loose and crashing into everything. And while the Northeast provided beautiful scenery in the fall, the weather was less than brilliant. "We had to work the weather," Doug says. "Fortunately, we didn't have any bad weather at night, when we would travel from one filming site to the next, or any snow or icing."

However, they did have to land at Shiprock, a small strip in New Mexico, because of thunderstorms. There was a no-facility airport there, and Doug had to hitchhike into town to call Tamara and let her know they were still alive on the job.

They were forewarned about the unpredictable weather in Wyoming, which they experienced first hand. "Wyoming has this separate weather. It may look like it's part of the U.S. weather system, but it's not!"

Around Jackson Hole, the weather was awful; they couldn't climb over the mountain range in front of them but rather had to travel 40 miles around at a lower altitude because they couldn't climb 9,000 feet. "It was bound to happen, because we weren't there just to go over. We wanted to hang around to get the good shots," Doug says. "Start poking around the peaks, and you'll get all sorts of surprises. It's unpredictable stuff."

©Tamara Whittle

Doug Kahan, right, producer of the video series "America By Air," talks with Stan Brown, owner and pilot of the "Ramp Rooster," a 1942 PT-17 Stearman that was used in filming the series.

You end up taking a few extra risks, he adds, and you're not near roads for emergency landings. "For instance, when you're over the Mississippi at 50 feet filming, there aren't any landing spots. There's a lot of skill keeping the aircraft low, slow and coordinated," he says.

Flying low to get the best shot had its dangers. Mountain peaks, weather and even flocks of birds continually tested the skills of the pilots and crew.

"I generally won't fly like that. I'm super-conservative, but to get the shots you have to go beyond that."

But while there were challenges with the weather, there were also magical moments like flying with the ancient aviators—the birds. There were snow geese in Maryland, thousands of them, which adapted their flight to the rhythm of the power plane that always stayed a little on top of them. And the pelicans standing on the sandbars were so nonchalant that they weren't bothered at all by the airplanes.

Then there were the flamingos, the fastest and quickest of birds. "They don't look like they'd be great flyers, but before you know it they're off and flying. We were trying to follow them, looking around for them, and it was like a sequence out of *Top Gun*," says Doug. "Of course, we can't climb as fast as they can, and we can't descend as fast as they can, and their turns are instant."

Birds, he says, have characteristics similar to airplanes. "Some are hot rods and some are slowpokes and some go without engines." But all deserve respect, and the crew always tried to fly with them rather than disturb them. "You want them to adapt to you and hang in there with you."

Now that the filming is over and the video series is in the stores—including the Smithsonian gift shop—Doug feels wonderful about his venture. "It is the best thing that I have done in my life, the most educational," he says. "It has brought a lot of people pleasure, both the people who watch it and the people who participated in making it. It was a gratifying project to go through and then come out with a quality product."

His next video endeavor will be *Sky Traveler*. Rather than being organized by geography, this video will focus on aviation and conditions such as clouds, water and lighting, plus interviews with some old-time aviators along with some new-timers.

For more information about the video, call Windows of the World Motion Pictures at 1-800-488-6359.

Woman Pilot Editor Danielle Clarneaux lives in the Seattle, Washington area.

Calendar

1993

July 29-August 4
Experimental Aircraft Association (EAA) Oshkosh '93. 41st Annual Fly-In and Convention., ***Whittman Regional Airport, Oshkosh, WI.*** Women's Activities: Forum tent, craft tent, friendship tent. Contact: (414) 426-4800.

August 6-7
Palms to Pines Air Race for Women, ***Santa Monica, CA to Bend, OR.*** 752 SM. Sixty teams expected. Contact: Claire Walters (310) 397-2731.

July 30-August 8
National Balloon Classic, ***Indianola, Iowa.*** 100 balloons. Contact: Chris Goodale, (515) 961-8415.

July 30-August 8
U.S. National Hot Air Balloon Championship, ***Middletown, Ohio.*** 200 balloons. Contact: (513) 425-1992.

August 9-13
International Aerobatic Club (IAC), ***Fond du Lac, WI***, Annual Competition. Contact: (414) 922-6106.

August 11-15
International Ninety-Nines Annual Convention ***Portland, OR***. Contact: Joann Marx (503) 644-7337.

August 21-22
Annual "Wings of Eagles" Airshow ***Geneseo, NY***, National Warplane Museum (aircraft will arrive on August 20.) Contact: (716) 243-0690.

September 16-19
Reno Air Races, Reno-Stead Airport, ***Reno, NV.*** Contact: (702) 972-6663.

September 20-24
U.S. National Competition (IAC), ***Dennison, TX.*** Contact: Fred Peters (901) 753-6835.

October 2-3
Parks College 66th Annual Airshow and Fly-In, Parks College of St. Louise University, ***Cahokia, IL*** (near downtown St. Louis, MO). Contact: (618) 337-7575 Ext. 206.

October 2-10
22nd Annual Kodak Albuquerque International Balloon Fiesta—650 balloons. ***Albuquerque, NM.*** Contact: (505) 821-1000.

October 16-17
Wings Over Houston Air Show, Ellington Field, ***Houston, TX***. Contact: (713) 531-9461.

November 3-6
AOPA Expo '93, ***Orlando, FL.*** Contact: (800) 942-4269.

November 19-21
Annual Northwest Oregon Air Fair, Convention Center, ***Portland, OR.*** Sponsored by Northwest Aviation Association. Contact: (800) 547-6922

1994

February 24-26
SSA Convention, Women Soaring Pilot Association Breakfast, ***Lincolnshire, IL*** (near Chicago). Contact: (505) 392-1177.

March 10-12
International Women In Aviation Conference, ***Contemporary Hotel at Disney in Orlando, FL***. Contact: Hilda, (618) 337-7500 Ext. 203.

June 11
Fourth Annual AOPA Fly-In. ***AOPA Headquarters, Frederick, MD***. Contact: 800-942-4269.

June 22-25
Air Race Classic, ***St. Louis, MO to Columbus, OH.*** 2,500 miles. Contact: Pauline Glasson (512) 289-1101.

October 19-22
AOPA EXPO, ***Palm Springs, CA.*** Contact: 800-942-4269.

The calendar section is compiled from a variety of sources, and some dates or information may change. Please verify dates with contact before attending event. *Woman Pilot* will include event information free of charge as space allows. Send information with contact and phone number to: *Woman Pilot*, P.O. Box 1377, Mercer Island, WA 98040-1377. Phone (206) 232-1940. Please submit two months prior to issue release for inclusion.

Coming in the October/November issue of Woman Pilot

- Two women pilots test Boeing aircraft
- Triumph at the Air Race Classic
- Lifeline — volunteer pilots ready for any emergency
- Seattle woman turns helicopters into corporate business

Linda Wallis
SOARS
ON AEROBATICS

by Larry M. Bulling

Do you think you'd like whooshing through a tailslide at 115 miles an hour with four G's pulling the skin off your face? "It's a lot of fun," says Linda Wallis, one of a handful of women in the United States who have competed in the U.S. National Sailplane Aerobatic Championships. "You just can't imagine how neat it is to fly upside down in a plane with no engine."

You needn't perform Wallis' gut-wrenching aerobatics to enjoy the quiet beauty of riding thermals, but if you want the excitement of a hammerhead climb and dive, she advises it's best to get started in a powered aircraft.

An airplane can carry a student and instructor and perform all the tricky maneuvers in the repertoire without depending on thermals to stay aloft. Two-seater aerobatic gliders, on the other hand, are not strong enough for the full range of maneuvers. Students practicing in a glider have to learn the more demanding maneuvers solo.

To help the novice, there are 39 power aerobatics schools throughout the country where students can find an instructor to safely teach them aerobatic maneuvers—known as 'figures' to the pros.

Deanna LaVoy Lewis

Linda Wallis prepares for a take-off in her 500-pound Pilatus B-40.

Local soaring clubs are also a good way to enjoy the sport, learn more, and share such expenses as towing, hanger storage and insurance. Wallis flies with the Soaring Club of Houston and hangers her sailplane at a local airport with other club members.

She flies a 500-pound European made Pilatus B-4 with a 50-foot wingspan. There are also aerobatic gliders on the market that have a shorter wingspan. No aerobatic gliders, however, are as yet made in the United States. Prices for the aircraft start at $12,000 and climb upwards from there.

A practicing psychotherapist for the past 26 years, Wallis never had an interest in flying until a former client offered her a ride in a Cessna 152. That

was enough to get her hooked. She earned her pilot's license in 1980 and started soaring four years later. She fulfilled the requirements for an add-on glider rating in one busy weekend, flying 10 solo flights and a check ride with the instructor.

> ***"You can't imagine how neat it is to fly upside down in a plane with no engine"***

From there, Wallis quickly soared to the elite of the sailplane aerobatics world, competing in the U.S. Nationals from 1988 to 1991. She also accompanied the U.S. team to West Germany as a support person at the 1989 World Sailplane Aerobatic Championships, where 35 pilots from 13 countries competed.

Wallis invited the Polish team to Houston for the U.S. National Competition that same year. The Soaring Club of Houston provided housing and financial arrangements during their visit. In June 1990, the Poles invited Wallis to train with them for three weeks in Poland, where she became perhaps the first American woman to be awarded a Polish pilot certificate.

Although Wallis speaks no Polish, there was no misunderstanding the Polish team's aerobatic skills — "They are the best in the world."

Sailplane aerobatics is a relatively new sport in the U.S. but it has been popular in Europe for many years. Domestic competitions were first held in Poland in the 1960s, followed by Germany in the 1970s and other European countries in the 1980s. A small U.S. team flew in the first World Glider Aerobatic Championships in 1985.

Glider aerobatic figures (manuevers) were first taken from the Aresti catalog for powered aircraft. They were then modified in 1977 by Heinz Clasen of Germany into the ALFA catalog; and finally incorporated into the official Catalog of Glider Aerobatic Figures (GAF) by the Federation Aeronautique Internationale's Aerobatics Commission (CIVA) in 1990.

The Federation Aeronautique Internationale in Paris is the world governing body for all sport aviation and record attempts. A number of national organizations fall under the FAI, including the U.S.-based International Aerobatic Club, Inc. (IAC), with some 7,000 members.

The IAC is itself a division of the Experimental Aircraft Association, Inc. (EAA) headquartered in Oshkosh, Wisconsin, PO Box 3086, Oshkosh, WI 54903-3086; (414) 426-4800.

Barbara Miller

Linda gets ready to take an instructional aerobatic flight in an ASK21 with a member of the West German Sailplane World Aerobatic Team.

Touch And Go

***Woman Pilot** offers FREE, non-classified space for our readers to promote and share flying experiences. Under the banner "Touch And Go," notices will appear in the next issue after receipt (space permitting) unless specifically requested for a certain issue. Allow one-month lag time. Please furnish return address and daytime telephone number. **Woman Pilot** reserves the option to shorten/edit notices. Mail notices to **Woman Pilot**, PO Box 1377, Mercer Island, WA 98040-1377.*

WASPs Need Your Help

We have a great opportunity to celebrate women pioneer achievements in aviation.

A commemorative stamp is under consideration honoring Jacqueline (Jackie) Cochran's many contributions to the field of aviation. Jackie founded the Women Airforce Service Pilots (WASPs) during World War II and held the distinction of holding more aviation records than any living aviator at the time of her death on August 9, 1980.

We urge you to write the Postmaster at the following address to help secure this honor for women.

Postmaster General
Marvin Runyon
475 L'Enfant Plaza West, SW
Washington, D.C. 20260-0010

Thanks,
Dawn Seymour
WASP

Networking in the Northwest

Northwest pilot would like to meet with other women pilots flying out of Boeing Field. Susan is contacting local businesses for a convenient location where women can drop-in and get to know other women in the area who like to fly.

Drop a postcard with your name, phone number and convenient meeting day to:

Susan Giblin
PO Box 84645
Seattle, WA 98124-5945

Was George Hight Your WASP Instructor?

My dad, George Hight, was a flight instructor at Sweetwater, Texas during the WASP Program. I would enjoy hearing from any WASPs who he taught. I was even named for a WASP.

Margaret Yenni
RT 1, Box 1062A
Kendrick, ID 83537
(208) 476-4161

Call for Tutor Pilots

Are you available to tutor a student pilot getting ready for the FAA exam?

Brush up on your skills at the same time and help a student make it to "PIC." Send us your name and contact information for publication in Touch and Go.

Students who would like to work with a tutor are also urged to send their requests to *Woman Pilot.*

Ballooning for Business & Pleasure

Two pilots turn their hobby into ballooning careers

by Jodi Naas

For balloon pilots, the only way to go is up, because once you get seriously involved in ballooning, it often proves to be tremendously addictive.

Like Marsha Neal, a member of the Balloon Federation of America (BFA) Board of Directors, you may even find yourself buying a hot air balloon. But unlike yogurt makers, bicycles and snowshoes, a hot air balloon can not be tucked away in the garage or attic.

Marsha and fellow pilot Beth Wheeler are the only women on the board of the Balloon Federation of America. Both estimate the number of women pilots to be small, between 1/4 and 1/3 of the total number of balloon pilots, which hovers around 5,000 nationwide.

Ballooning is a small sport to which its enthusiasts are avidly dedicated, investing time, money and travel to pursue their passion. Both Marsha and Beth also own and/or run balloon-related businesses. Marsha is a balloon pilot and a balloon advertising consultant based in North Carolina who has had corporate contracts with Oldsmobile and has a current contract with Cadillac. Beth is director of operations for a New Mexico-based business, World Balloon Corporation, which deals in most aspects of ballooning: rides, lessons, repairs, sales and corporate promotion.

Marsha and Beth have some useful advice for prospective balloon pilots. You can do what Marsha did—buy a balloon with a partner, get your pilot's license and pitch promotional proposals using hot air balloons in order to transform your hobby into a business.

Marsha Neal operates the burner that forces heat into the balloon.

If this is the route for you, here's what you'll need. Hot air balloons are made of 1,000 to 2,000 yards of fabric and can cost from $12,000 to $30,000, depending on size and fabric. Like rain gear at the sporting goods store, hot air balloons can be made of nylon—or the newest and most technologically advanced synthetic fabrics, woven to remain airtight and coated with a "sunscreen" to block the sun's damaging rays.

An inflator fan powered by a lightweight engine and fuel system forces cold air into the balloon. The air is then heated by a propane-powered burner. Balloons can be filled with hot air, helium or hydrogen gas, or some mixture of hot air and hydrogen or helium gas.

Most American balloons are air-filled; hydrogen gas balloons are more popular in Europe than in the States, where, according to Beth, using hydrogen has been illegal since the Hindenburg exploded. She says there are about a dozen gas balloons in regular use in the United States. Helium can be prohibitively expensive: filling a balloon can cost around $2,500.

Of course, every would-be balloon pilot needs her cockpit. Marsha says the best are still hand-woven of wicker, which is strong, lightweight, and it "gives" when it hits the ground. Lastly, instrumentation to measure altitude, air temperature, etc. is crucial, because safe ballooning depends so much on weather conditions. She adds that liability insurance is also essential.

Ballooning is big business for Marsha Neal.

However, if you're still trying to make your car payments, you can choose to enter the sport on a smaller scale. The Balloon Federation of America (BFA) is located in Indianola, Iowa; they can give you information about clubs in your area or refer you to pilots or instructors from whom you can receive proper training.

All balloon pilots go through training similar to that of airplane pilots, although licenses for airplanes, balloons and helicopters are not interchangeable. They must go to ground school, take a written exam, do solo flight training and take a test given by a Federal Aviation Association examiner. They are also required to have knowledge of meteorology, as changes in weather affect balloon flight dramatically.

If you're new to ballooning, Beth says that one way to get a feel for the sport is to "crew." Albuquerque, New Mexico, one of the most popular ballooning cities in the U.S., actually has a crew exchange program that helps pilots and crew members find each other.

You can get plugged into the grapevine more easily if you attend ballooning events or get BFA publications. And if you do crew, you can look forward to packing and unpacking the balloon and doing groundwork. Although most crew members aren't pilots, they do enjoy going on rides.

Almost every state has a balloon club. Balloonists from across the nation connect through publications they get as members of the BFA or by subscribing to *Ballooning Journal* or receiving one of the many private club publications and newsletters aimed at regional enthusiasts. Although clubs are spread out all over the country, there are a few balloon meccas where balloonists congregate to live or just to watch races or exhibitions. The Southwest and Northern California are two such places. Marsha names the Southwest as her favorite ballooning area, but she lives in North Carolina. She claims that you can fly anywhere; it's just that the season is much shorter in the Southeast than in the Southwest.

Beth reports that as a rule the weather is usually good and very predictable in Albuquerque, which makes it an eminently flyable city most days of the year. Locations that get a lot of rain or wind aren't generally good for ballooning.

But if you love being in the air—no matter where you live—you might consider joining the select number of women who pilot hot air balloons for business and pleasure.

Editor's Note: Anyone interested in ballooning can contact the Balloon Federation of America at PO Box 400, Indianola, IA 50125.

Jodi Naas is a contributing writer from Seattle, Washington. She is also Opera Editor for Northwest on Stage.

WW II Pilots Honored At Oshkosh '93

Members of the Women Air Force Service Pilots (WASPs) will be honored during this year's EAA Fly-In Convention scheduled for July 29-August 4 at Wittman Regional Airport in Oshkosh, Wisconsin. The WASPs fought to use their aviation abilities during World War II and eventually ferried hundreds of airplanes to combat units.

As part of EAA's tribute to significant individuals, groups, activities and engagements during the 50th anniversary of World War II (1990-1995), the WASPs will be recognized throughout the convention.

"The WASP program was the first mobilization of America's women pilots," Convention Chairman Tom Poberezny explained. "They provided invaluable support for the war effort and became an important part of the Allied military supply system. We are proud to recognize their significant contributions at this year's Fly-In."

The WASPs were established in 1942. Their operations were based on Great Britain's Air Transport Auxiliary (ATA), a program that included both men and women who ferried airplanes to bases throughout England.

The primary mission of the WASPs was to perform flying duties in order to free male pilots for combat missions. The WASPs became the first American women to fly military aircraft—testing and ferrying airplanes, towing flying targets and engaging in other non-combat flying activities.

Much of the credit for the establishment of the WASPs goes to several dedicated women, including Jacqueline Cochran, who in 1953 became the first woman pilot to break the sound barrier.

When the WASPs were established in 1942, more than 25,000 women volunteered to serve, Poberezny said. "Fewer than 1,850 were eventually accepted into the Army Air Force's rigorous training program, and about 1,000 received their wings. Many of those pilots had actually been through the federal Civilian Pilot Training (CPT) program, which gave potential pilots government-funded flight training before World War II."

The WASPs were trained at the only all-female cadet air base in history—Avenger Field in Sweetwater, Texas. After graduation, they flew every aircraft type in the U.S. inventory.

Many of the harrowing missions the WASPs flew were deemed by men as "too dangerous to fly." More than 70 members of WASP crews were killed or injured while flying for their country.

Aviatrix Marketplace

A classified section for our readers

Art

Airmail Keepsake Card. Only 15 in issue. These unique cards are handmade and feature an all-white pop-out "aircraft in thunderstorm" design. Sculptures are numbered and signed by artist Alice Marks.

One card will be awarded to each of the first 15 people to donate $100 to the Airmail Trail Memorial Fund.

"The Lighted Airway," the original transcontinental airmail route, officially opened on July 1, 1924 with light beacons every 25 miles between New York and San Francisco. Our ambition is to replace the lights at these original emergency airstrips and eventually have them lighted simultaneously every evening for one-half hour. Contact: Alice Marks, 8900 Route 251 South, Rouchelle, IL 61068; (815) 562-7749.

Glass fantasies—stained glass—three-dimensional art.

Kaleidoscope airplane. Choose from biplane or highwing aircraft in your choice of colors. $55, S/H $6. *Nightlight in stained glass*. Choice of balloon or airplane in your choice of colors. $15, S/H $3.

Allow 6-8 weeks for custom colors. Contact: Margaret Yenni, Rt. 1, Box 1062A, Kendrick, ID 83537; (208), 476-4161.

Jewelry

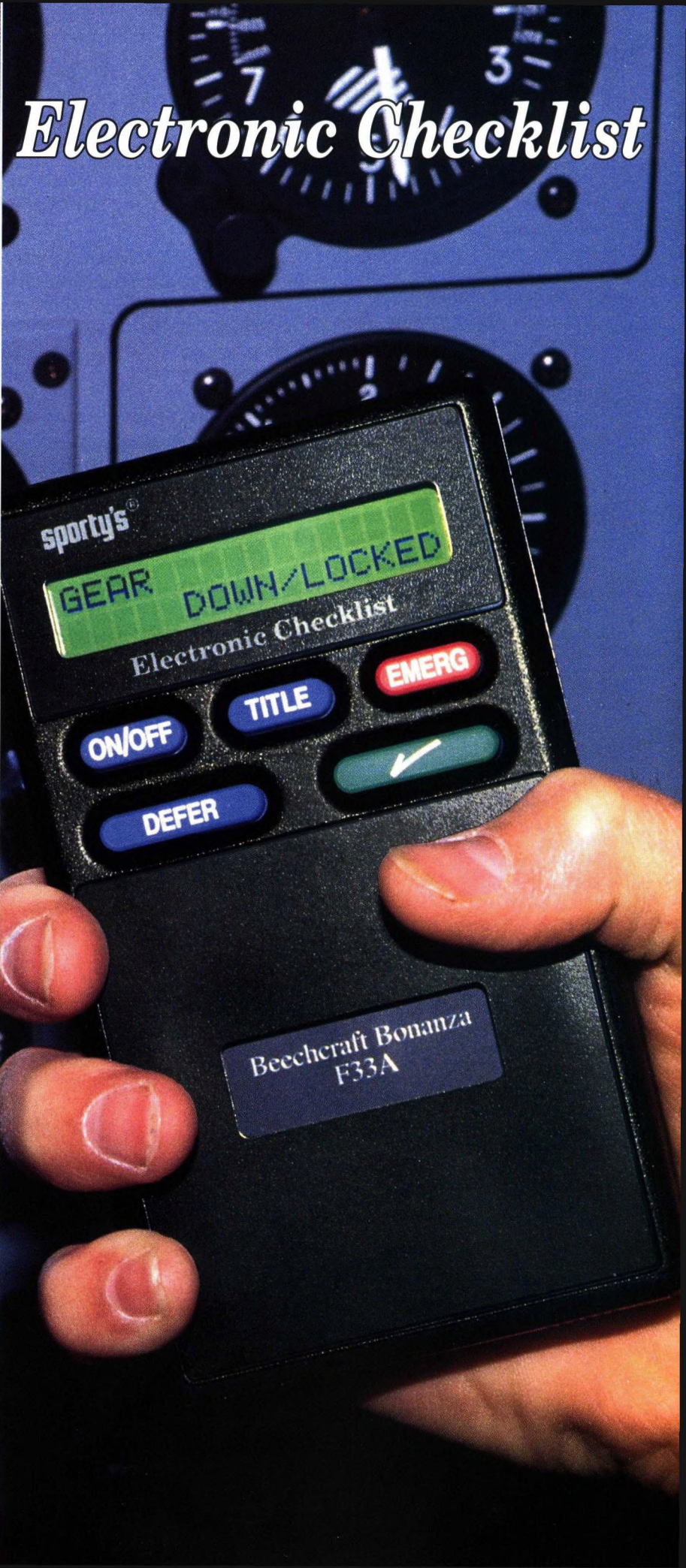
Earrings with an aviation theme are made from balloon "stamps" (dangle from wire) or from airplane "stamps" (dangle from wire).

Each are $10 per pair. Add $2 for shipping and handling. Contact: Juel, 2570 155th SE, Bellevue, WA 98007, (206) 747-6218

Closing date for ads is August 15th for the October issue. Ad Rate: 40 cents per word. Each bold, all caps or large words, add 10 cents. Minimum 20 words per ad. ***Woman Pilot*** *reserves the right to reject any advertising. Send name, address and phone number including check payable to* ***Woman Pilot****, PO Box 1377, Mercer Island, WA 98040-1377. (206) 232-1940.*

©Ken Smith

A fly-in is a good place to meet old friends or just watch the planes pass by.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