

A Honey of a Champion!

**The Baker family's
award-winning Aeronca**

by Sparky Barnes Sargent



**“The more you work
on a project like this,
the more you realize
how little you know! It’s
a humbling experience.”**

—Bob Baker



Right: Look closely and you can see that this prop plate is actually etched and not simply painted.

BONNIE KRATZ

Mesmerized, the boy sat on the hill overlooking the Shoemaker field in Grandville, Michigan.

Squinting against the bright sunlight, he longingly watched a pretty little Aeronca Champ accelerate down the runway and lift gracefully into the sky. Robert Baker was only 10 years old, and he was already captivated by the idea of flying—*what would that feel like, to be able to fly like that?*

Fortunately, the Champ pilot eventually acknowledged young Baker's familiar presence on the hill and invited him to go up for a ride. The flight was even better than he'd imagined, but little would he have dreamed that the best was yet to come—the day that NC84020 would be his own.

Champion

As touted in company advertising of the era, the Champ was "America's Number 1 Low-Cost Plane," and its pilot was the "envy of the airport." The tandem Aeronca Champion trainer was designed by Raymond F. Hermes and manufactured by the Aeronca Aircraft Corp., in Middletown, Ohio.

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More than 8,000 were built, and just like its predecessors all the way back through the 1930 Aeronca C-2, it incorporated aeronautical engineer Jean Roché's unique triangular fuselage structure.

In February 1946, as production was about to begin, the Champ was marketed as "the newest in aerodynamic design! . . . It's the easiest plane you've ever flown . . . with far greater maneuverability and greatly

broadened range of visibility. . . . Improved brake system and tie-down rings that are built in. Parts for Champion and Chief will be 80 percent interchangeable—an important economy feature. Aeronca brings you 35 thrilling 'standout' features!" Those features also included 300-degree visibility from the cockpit, a 38-mph landing speed, and standard oleo landing gear. With its 35-foot wingspan and

AERONCA'S "BIG 3" FOR HAPPIER LANDINGS!

LANDINGS AND TAKEOFFS MADE EASY—THANKS TO

- 1) 300° VISIBILITY!
- 2) 38 MPH LANDING SPEED!
- 3) OLEO LANDING GEAR!

OUTSTANDING FEATURES OF THE AERONCA CHAMPION

Why Buy: 38 ft. low wing, 38 mph landing speed, 300° visibility, 38 mph landing speed, 38 mph landing speed, 38 mph landing speed.

AERONCA America's No. 1 Low Cost Plane

Envy of the Airport... HE FLIES AERONCA!

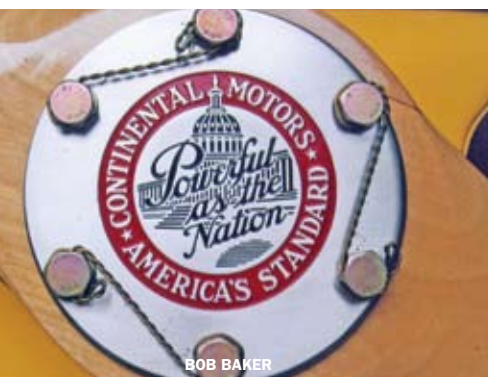
It's a money-thing! This New Aeronca Champion... Offering More Luxury—More Flying Fun—More for Your Money Than Any Other Low Cost Plane!

Why Buy: 38 ft. low wing, 38 mph landing speed, 300° visibility, 38 mph landing speed, 38 mph landing speed, 38 mph landing speed.

AERONCA America's No. 1 Low Cost Plane

21-foot, 6-inch length, the Champ exhibited excellent handling characteristics from taxi through landing. And it offered a respectable performance for the student or recreational pilot. Its Continental A-65 powered a top speed of 100 mph and a 90-mph cruise while sipping from a 13-gallon fuel tank for a range of 270 miles.

NC84020, a model 7AC, flew from the factory to its new home at the



BOB BAKER

Kent County Airport in Grand Rapids soon after its sale date of May 29, 1946. And though it had numerous caretakers throughout the years, it always remained in Michigan. Even so, Robert Baker lost track of the Champ as he grew into a young man, fell in love, and married his high school sweetheart, Brenda, at age 21. The following year he learned how to fly and some time later noticed an old Champ at a local grass strip. After a bit of research, he discovered that it was the one in which he'd had his first flight. The young couple decided to adopt it as a member of their family and bought it on April 20, 1979. Fortunately, they were living on a tract of land that Brenda had purchased while she was in high school and had plenty of room to make a 2,000-foot grass runway and build an adjacent hangar.

Baker enjoyed flying the Champ around the local area and to the Aeronca fly-ins at Middletown, Ohio, and he was delighted to share the aviating with his growing family. As the years passed, they welcomed first their son Mark and then their daughter Sara into their air-minded family. Their circle of friends also continued to expand as they embraced friendly



COURTESY BOB AND BRENDA BAKER

Three-year-old Mark Baker with the Champ on skis, prior to restoration.

and talented aviators—including Bill and Sandra Pancake of Keyser, West Virginia—whom they met along the way. In fact, it was at one of the fly-ins that the Bakers first learned about the Champ's factory paint scheme, and years later they had the opportunity to meet Hap Grainer, who designed the well-known and highly visible yellow-and-orange scheme.

Restoration Odyssey

After seeing a few nicely restored Aeronca Champions, the Bakers were inspired to restore their own back to "factory fresh." They dismantled it in 1991 and began their quest for authenticity in all things Aeronca. The entire process evolved into a 14-year odyssey for the family of four as they researched details and learned how to tackle various aspects of the restoration.

"We found local expertise on wood and metal, for example," explains Brenda, "and we asked lots of questions." They also attended workshops, according to Bob, who says, "EAA helped us tremendously with the classes they put on; we went to fabric and rib-stitching classes for a week at Oshkosh. We also went to the sheet metal and welding workshops, just to educate ourselves, even though we



COURTESY BOB AND BRENDA BAKER

Mark Baker discovered a lot of rust as he helped remove the fabric from the aft longerons.

didn't actually do all of that work on the project. That way, I had a general idea of what was needed and what to look for."

Then they enlisted the talents of Bill Pancake, an FAA Charles Taylor Master Mechanic who has restored numerous award-winning aircraft. "He's been around Aeroncas his whole life," says Brenda with a smile, "and he has a whole 'Aeronca factory' at his house. So as Bill worked on one part, we worked on another, and we made a lot of trips from Michigan to his shop in West Virginia, and we shipped a lot of items back and forth."

A Family Affair

The Baker children literally grew



PHOTOS COURTESY BOB AND BRENDA BAKER

Brenda Baker works on the headliner as her mother-in-law shines a light on the subject.



Sara and Mark Baker study the Aeronca drawings and tally up the hardware their parents will order for the restoration.



A work of art. The fuselage is ready for cover.

up as they worked on the project with their parents. "The whole family was involved in the hands-on process, and we had a lot of fun," says Brenda, adding with a laugh, "the kids were excited about it, and every chance they would get they would sit on the seat to see if their feet would reach the rudder pedals. Sara had the greatest little quote: 'Such a simple little airplane, but when restoring it, there is nothing simple about it.' One day, I did bribe Mark and Sara with a bag of chocolate chips, and they went through the Aeronca service manual and counted every nut and bolt that we needed, and wrote down the sizes and types. We used their list to order new hardware."

Brenda says the family also sharpened their detective skills while hunting for parts at fly-marts: "Sara hunted for the correct prop plate, 'Powerful as the Nation,' and found a painted one, but the original ones were etched, so we ended up having one made instead. Eleven-year-old Mark became an expert at looking for original tail wheel parts, while Bob and I looked for other items that we needed, like instruments."

Back at home, after their schoolwork was finished, Mark worked on the wheels and tires while Sara claimed the arduous task of stripping paint from the door. "She would disappear and you'd find her working on the door; she wouldn't let anybody else work on it!" Brenda recalls.

Bob busied himself with making new plywood floorboards, taking meticulous care to ensure a perfect fit. "But they fit too precisely, and Bill told me that I hadn't made them per the Aeronca drawings," says Bob. "So we made another set the correct way," he recalls, explaining, "The factory started with one board and used the book match method for the second half. So when you flip one board over, the edges mate really well. If you cut out two separate boards you'll have a gap between them. Then we painted them with black enamel."

A similar thing happened with the new metal cowling, says Brenda:

“We made three sets to get the one we wanted, and even after that, Bill made another one! And since we couldn’t always find the right parts, we kept making our own, like wing ribs and inspection covers.” [Note: Parts fabricated by an owner to an FAA-approved design (per the type certificate) for their model aircraft may be installed on that owner’s aircraft without the requirement to have PMA (as detailed in FAR 21.303 (b) (2)).]

Friendly Help

Even friends of the Bakers found themselves involved in the project. Jack Elenbaas welded the seat frames and replaced the webbing, and Don Lipscomb used his CAD skills and CNC machine to create a die to be used for stamping aluminum sheets into ribs. Baker took one of the first ribs they made to an AirVenture workshop and received a few pointers about fine-tuning them. “The ribs were quite banana shaped after they came out of the press,” Bob elaborates, “and they showed us how to use fluting pliers to shrink the edges and straighten the rib, and also how to hammer the metal edges over by using a wooden former. It was hard work, and it took us two years, but it was worth it because they’re correct. So we made nearly all of the ribs, with the exception of the tip, butt, and the last rib in the aileron bay. Those are made from thicker aluminum, and we bought them from Safe Air.”

Their safety-minded friend Ed Johnson insisted on buying a set of shoulder harnesses for the Champ, and Pancake installed them (per the STC) before the airplane was finished. And when Bob couldn’t find an original carb heat knob, Lipscomb stepped up to the challenge and fabricated one, using his CNC machine to replicate the precise size and shape of one from an Aeronca Chief.

PHOTOS COURTESY BOB AND BRENDA BAKER



Sara Baker strips paint from the door panel.



Mark Baker worked on the tires and wheels.



This is how the panel appeared prior to restoration. (See page 11 for an “after” view of the panel.)



BONNIE KRATZ

Obstacles

It's that type of devotion to detail that makes the final product a winner, but that doesn't mean that the restoration was without tribulations. "The more you work on a project like this, the more you realize how little you know!" reflects Bob, adding with a knowing smile, "it's a humbling experience."

For Brenda, installing the headliner turned into quite a challenge when she discovered that the pre-sewn fabric needed to be altered. "You have to cut it and fold it over so it fits all the tubes correctly," she says, vividly recalling her experience, "and with one wrong cut, there goes the headliner! So I kept working on it, but when I got to the left-hand side, rear tube—where two tubes come together and so does the seam of the headliner—I had a hard time. I had to cut the seam and make

it go around those two tubes and yet make it look tight and neat and wrap it around underneath. Well, I just didn't have enough hands, so I got Bob's mom to help me!"

And even for someone with experience, surprises can still arise. Pancake carefully test-fit the airframe and rigged the wings at his shop before installing the Ceconite 102 fabric and applying the Randolph Products' nitrate and butyrate dope coatings. Even so, he made a disappointing discovery when he began to install the newly purchased trim tab on the elevator. "Evidently the elevator had been damaged and improperly repaired many years ago," says Bob, "and we just assumed the new trim tab would fit, but it didn't. So Bill removed the new fabric, repaired the elevator, and then re-covered and repainted it, just to make it right."

More Than Two

Most folks would say that a Champ carries only two people, but the Bakers' Champ carries more than two—at least symbolically. That's because each person who contributed to the project is represented by specific parts of the airplane. Take, for instance, the shoulder harnesses. "We use them on every flight, and you know who we think of when we snap those belts on? Ed Johnson," says Bob. "Every time I pull the carb heat on, guess who I think of? That's right, Don Lipscomb. When I look overhead, I see Brenda's headliner, and I see Jack Elenbaas' welding in the seat frame. Every time I open the door, I think of my daughter Sara, just as I think of my son Mark when I look at the wheels and tires. And Bill Pancake really deserves an award for all the work he's done. The list goes on and on. I do my best to let



The Champ's windshield shows the proper amount of "bubble" to it, unlike some aftermarket windshields that have more of a flat-wrap appearance.



The crispness of the stencil-painted markings on the tail surfaces nearly fooled a judge into thinking they were vinyl stickers, until Brenda Baker proved otherwise to him.

folks know I had a lot of people help because all those memories and all those people are with us every time we fly the Champ."

Champion Debut

"And sitting up there in the front behind that high and wide windshield, you feel happy to be alive and aloft," wrote Leighton Collins in his article "Aeronca Champion," published in the December 1945 issue of *Air Facts*. That's a feeling that the Baker family can fully appreciate, especially since finishing NC84020's restoration.

"Bill made the first flight in it, and everything checked out fine," recalls Bob, "so on May 31, 2005, he accom-



The door panels and cabin interior received a coating of flicking, just as it did in 1947. The restored instrument panel contrasts with the old panel shown on page 9.



As delivered from the factory, the Champ's top half of the cowl was one piece, without hinges. The box style baffles, complete with factory-style leather seals installed with staples, highlight the outstanding dedication by the Bakers and Bill Pancake to restoring the Champ to original condition.



These two shots show the Desser Aero Classic tires and Aeronca embossed wheel covers. On this Champ, Van Sickle brakes were used. Due to supplier shortages during the years following WW-II, Champs and Chiefs were delivered with either Goodyear disc or Van Sickle drum brakes.

PHOTOS DEKEVIN THORNTON

panied me for a few circuits around Miller Field in West Virginia. Then I flew it home to Michigan. It was a great flight! Later that summer, Brenda and I flew in to AirVenture together in the Champ,

and that's when the judges awarded it Classic Grand Champion. We were absolutely thrilled, and especially happy to share that moment with Bill and Sandra Pancake, too."

Winning Details

The AirVenture judges scrutinized every detail of the Bakers' Champ, looking for possible imperfections in much the same way that a mother inspects her newborn. Brenda was close at hand during the process, ready and willing to answer their questions.

"Bill overhauled the engine and I opened the cowling so the judges could see it. We even had the correct Champion C26 spark plugs, which took me years to find!" she says with a smile and motherly pride, "and then they noticed the leather on the engine baffling. Bill handmade every staple and stapled the leather to the baffling with a stapling machine that came from the Aeronca factory. He also used a flocking gun to flock the cabin interior, just like it was when it came from the factory."

Other details in question were the registration numbers and Aeronca logo. At first glance, the judges assumed they were decals. But Brenda assured them (with a photograph as proof), that they had painted them on the fabric, using stencils made from the original drawings.

And there's at least one detail that, though few people will ever see it, is nonetheless correct, according to Bob: "Bill knew that Aeronca used a brown lamp cord for internal wiring, just in case someone wanted to install a battery and have position lights, so he included that inside the wings and fuselage, just to have it as original as possible."

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Sweet Nostalgia

The Bakers' airplane is truly a honey of a Champion, yet the rewards are far sweeter than just being named Classic Grand Champion.

"One of the neatest things that I enjoy when we bring it to fly-ins," reflects Bob, "is that when folks walk up to it on the flightline, they're transported back in time. One guy was actually crying because he'd had a Champ just like it years ago. So it becomes a time machine, and we get to hear about all the memories it brings back for other people. When we landed at AirVenture in 2005, we taxied in past the warbirds and behind the P-38 *Glacier Girl*, and there was an older man standing there watching the airplanes coming in. He lit up when he saw the Champ, and

smiled and gave us a thumbs-up!"

"That made us feel so good," agrees Brenda. "All those years working on it were worth it when we see their faces and feel their joy. We've also talked with a lot of the previous owners of NC84020 and had them over to our house and given them rides. It has been so much fun!"

It's a safe bet that the Baker children themselves will happily continue the tradition of sharing nostalgic Aeronca stories with other pilots along the flightline. Today, at 25, Mark has logged around 1,200 hours flying pipeline patrol and occasionally flies right seat in a Pilatus turboprop. And 23-year-old Sara is taking to the skies as well. She's working toward her sport pilot certificate in the Champ she helped restore.


Champ Door Lock

A clever solution

BY H.G. FRAUTSCHY

With a tip of our cap to Roy Doty's long-running cartoon, "Wordless Workshop," take a look at these photos and we'll bet you can reproduce the Baker's clever door lock. Decker and Company made all

the postwar door handles for the Aeronca Champ and Chief doors and the Sedan. The Sedan door has an integral lock, but the two-place airplanes are not similarly equipped. Here is Bill Pancake's elegant so-

lution to the problem for the Baker's Champ. Built up from steel flat stock with a bit of welding, it neatly puts a door lock in place without punching a single hole in the door or door frame. 



PHOTOS H.G. FRAUTSCHY