





A Wonderful Prewar Waco

Jack Hill's longtime aerial conveyance

by Sparky Barnes Sargent

Poised on the past-award-winners' row at Sun 'n Fun at Lakeland, Florida, this past spring, NC32071 was simply gleaming, despite the sprinkles from scattered rain clouds. Jack and Glinda Hill were close by their Waco, and Glinda wiped away the raindrops after each shower, carefully caressing the biplane's graceful, sweeping lines.

John "Jack" Hill developed a soft spot in his heart for biplanes when he was a child, and he's been virtually inseparable from his 1941 Waco UPF-7 since he first became its caretaker nearly 30 years ago. He's had other airplanes through the years—J-3 Cubs, a Piper Colt, Cessna 190, and a cabin Waco UEC—but the UPF-7 has turned into a keeper.

"I bought it from Dr. John Bussard in New Jersey," Jack shares in his gentle tone. "John had it restored in 1978, and I bought it in 1981. It had 3,969 hours, 45 minutes total time then, and was a very nice airplane. I flew it 1,400 hours before having it restored." >>



Jack has owned this graceful 1941 Waco UPF-7 since 1981.

CHRIS MILLER

Now a retired United Airlines pilot, Jack had a rather unusual introduction to the world of aviation. He grew up in a small town—Ahoskie, North Carolina—and often traveled with his family to visit his grandmother in nearby Rocky Mount. Jack was always intrigued by the airport they passed along the way, and sometimes his father would stop and let him watch the airplanes. The aviation bug really bit 5-year-old Jack on a Sunday morning in 1937, when a hometown naval aviator flew an N3N over their house at about 200 feet. “It is still a vivid memory, to this day,” he fondly recalls.

Three years later, he found his way aloft. “My first flight was in the Goodyear blimp,” says Jack and laughs, reminiscing in his relaxed yet enthusiastic tone. “Oh, it was fun! It’s an indelible memory for me, because I got to ride in the front seat. I remember the pilot controlling the elevator with what looked like the wheel of a wheelchair—he’d roll it back and forth. That was in 1940, when I was 8 years old. Later that year, I had my first airplane ride, which was in a Waco UEC.”

He took flying lessons as a teenager and soloed a J-3 Cub a couple of days after his 16th birthday. He earned his private certificate at 17 and enlisted in the Navy after high school. Jack couldn’t get into the pilot program, so he went into submarines instead. But he continued

flying during his time off, earning commercial and flight-instructor certificates. After he left the Navy, he enrolled in Embry-Riddle’s business pilot and aviation administration program through the University of Miami. “[The late] Paul Sanderson (of Jeppesen-Sanderson fame) was my ground school instructor, and as soon as I got my instrument and multiengine ratings, I applied for a job at Capital Airlines in Washington, D.C. I started with them in March 1956 in Chicago, flying DC-3s,” recounts Jack. “The next year I went to New Orleans, and then I was transferred to New York, and I spent most of my career there. I flew a little over 36 years for the airlines, finishing my career in 747-400s. I really enjoyed going to work every day, and I’m sorry they had that age limit for retirement!”

Throughout those years, Jack always kept flying light airplanes—some lighter than others. Interestingly, he discovered that his passion for aviation transcended powered flight into the realm of soaring. He’s owned several sailplanes through the years and has earned the prestigious FAI Diamond Badge (distance, goal, and height). “I had a [Schempp-Hirth] Standard Cirrus and flew in the U.S. National Soaring Championships one year,” he says with a chuckle. “I didn’t do very good, but I had fun!” Yet his passion for radial-engined biplanes eventually took first place in his recreational flying.

NC32071 History

At least 600 Waco UPF-7s were originally manufactured under Approved Type Certificate 642 (issued June 5, 1937); of those, 213 are listed on the FAA Registry today. The UPF-7 was designed as a trainer for primary through advanced flight instruction in Civilian Pilot Training Programs. The biplane measured 23 feet 6 inches from prop to tail, stood 8 feet 5 inches tall, had an upper wingspan of 30 feet, and a lower wingspan of 26 feet 10 inches. It sold for \$9,500 at the factory in Troy, Ohio. For those who may wonder what “UPF-7” means, Waco’s designation is interpreted this way: “U” represents the engine, in this case a Continental W670; “P” is the Waco plan designator (wings and fuselage), and “-7” denotes the seventh of the F series (open-cockpit biplane).

One interesting bit of history that Jack has for his biplane is “Sales Order No. 593C, Airplane Equipment and History Record [for] Serial No. 5703, License No. NC32071, UPF-7.” According to this airplane record, the biplane was originally equipped with the following: Continental W670-6A, Stromberg NA-R6 carburetor, Scintilla mags, Eclipse 13 starter, Hartzell wood prop, and Eclipse 9 generator. It also had Hayes 750-by-10 wheels and brakes with Goodyear 850-by-10 tires and Waco shock struts, and a Hayes 10-inch smooth contour tail wheel. It was outfitted with a Pioneer tach, altimeter, compass, airspeed indicator, and clock. Its fuselage and fin were painted Army-Navy blue; its wings, stabilizer, and elevators Army-Navy yellow; and all struts were Army-Navy blue. The license number was painted in intense black. Its extra equipment was an Eclipse control box Model 1. The biplane’s total weight was 1,880 pounds.

According to other aircraft records, NC32071’s first flight was by Waco test pilot Walter Pate on September 17, 1941, at Waco Field in Troy, Ohio. The next day, the biplane was delivered to Beacon Flying Service at Cheektowaga Airport (later known as Buffalo International Airport), New York. In March 1943, it was purchased for the Defense Plant Corporation by its maintenance supervisor, Travis Lee, and was ferried to Southern Airways of Danville Inc. (in Virginia). A year later, it went to Blacksburg, Virginia.

In November 1945, Albert Simmons of Newark, New York, became its first individual owner. Five years after its first flight, the Waco was re-covered with Grade A cotton. Though the biplane would change hands numerous times, it remained in New York through 1966. Then in June 1967, James Lloyd Hoff of Burlington, New Jersey, bought it and ferried it home; in 1972, he (and the Waco) relocated to Albion, New York. Louis Grama of Trenton, New



Rounded tail feathers complement the lines of the Waco.

SPARKY BARNES SARGENT PHOTOS



The polished Curtiss-Reed fixed-pitch prop shines in the sunlight.



Working on the bare-bones fuselage in October 2001.



The beautiful interior of the fuselage in January 2006.



New wood stringers and formers on the fuselage in March 2003.

PHOTOS COURTESY JACK AND GLINDA HILL

Jersey, purchased the biplane in June 1975, and the following May, he sold it to John Bussard of Ringoes, New Jersey. NC32071's total time was 3,750 hours, 50 minutes when it was ferried to Sky Manor Airport. John replaced its engine in July 1977, and in March 1978, the biplane was disassembled for repairs and re-covering and returned to service in November.

Jack, the Waco's current owner, inadvertently discovered a fun way to celebrate the Wright brothers' first flight day (December 17) in 1981. A resident of Closter, New Jersey, at the time, Jack purchased the Waco that day and flew it to its new home base—Wurtsboro Airport in New York. Nearly five years later, after enjoying the Waco for 203 hours, 35 minutes, the engine's rear bearing failed. About three months later, the zero-time engine (overhauled by Aero Engines of Los Angeles) was installed, and Jack was once again logging time in the Waco. It would be nearly 15 years until the biplane required more than routine maintenance.

Restoration

In 2001, Jack contacted Aircraft by Shue (a father-and-son team specializing in Wacos) and flew NC32071 to their location in York, Pennsylvania, on September 26 for restoration. The 220-hp Continental W670 was removed after 1,013 hours of service and was overhauled by Radial Engines Limited, of Guthrie, Oklahoma. In the meantime, recounts Jack, "Scott Shue completely restored the airplane; he replaced all the wood and inspected



“I’ve had the airplane back from restoration not quite two years now and have already flown it 196 hours—I’d rather wear it out than to let it sit there.”—Jack Hill

all the metal parts. They found only one tube in the whole fuselage which needed repair—and that was where somebody had welded a battery box into the fuselage. All of the sheet metal is new; they have a shop nearby where they outsourced all the compound curves. Dick Herman built all the wing ribs—the wings are completely new. They also removed all the instruments, inspected and repaired them as needed, and had the dials repainted. Scott covered the airframe with Ceconite, finishing it with butyrate dope in a paint scheme of his own design.”

According to Jack, the only change to the Waco was the installation of fiberglass wheelpants. The restoration took nearly six years, and Jack is exceptionally pleased with the Shues’ work. “We knew it would take a while, because Joe Kaminkas, Al Shimer, and I spoke to him at the same time about a restoration,” says Jack amiably, “so he worked on all three airplanes simultaneously. We had a little friendly rivalry, but Al and I knew each other from our Capital Airlines days. Mine was the first one to

be finished, and John Shue made the first flight in it. When I went to pick it up, they had it in a fixed-base operator’s hangar. When I got there, they opened the door to the hangar, and the airplane was sitting there and they had a red carpet on the floor leading up to the wing walk!”

On April 18, 2008, Jack flew his pristine Waco to its new home base at Warren Field (an old World War II training field in eastern North Carolina) in Washington, North Carolina. He and Glinda flew it to AirVenture that summer, where it received the Antique Customized Aircraft Champion (Bronze Lindy). That same year it was also Grand Champion in Burlington, North Carolina, at the VAA Chapter 3 fly-in and First Place Antique at the Virginia Regional Festival of Flight at Suffolk. It was awarded Grand Champion at Sun ’n Fun in 2009. Additionally, NC32071 always receives a warm welcome on stopovers at the Virginia Tech Airport, in Blacksburg, where it was used in the Navy’s training program in the early 1940s.



SPARKY BARNES SARGENT PHOTOS

Flying the Waco

Joseph Juptner, aircraft historian and author, wrote: "The UPF-7 was maneuverable, predictable, and very capable; its flight characteristics were excellent with good control, it was nimble enough for most aerobatics, and like all 'Waco' biplanes it was a pleasure to fly." (*U.S. Civil Aircraft*, Volume 7.)

That's a sentiment shared by many UPF-7 pilots, including Jack. And as he likes to say, "The Waco carries twice as many passengers as the Stearman. Of course, they have to be two like me; two of the average Americans today wouldn't fit that well," he says and chuckles. Jack admits that he was partial to Stearmans before he bought the Waco. Then he remembered how much he enjoyed his first airplane ride in the Waco, and a friend told him about NC32071 being for sale. "So I bought the airplane from Bussard, who also had a cabin Waco. Later that year, he and I flew together to my first Waco fly-in, and I've been having a good time ever since I got the airplane. I'm a member of the American Waco Club, National Waco Club, and also the Waco Historical Society."

Overall, Jack summarizes the Waco's flying characteristics by commenting: "It's a nice-handling airplane. It has four ailerons that are operated by

Profile view of the Waco's nose.



Glinda and Jack Hill enjoy flying to points near and far in their 1941 Waco UPF-7.



CHRIS MILLER

pushrods and bell cranks, and it makes the airplane nice and responsive. It's a light airplane to fly; in other words, when you come in for a landing and you chop the power, it pretty well sits right down. If you're a little bit fast on the speed, it takes a little more runway, but you get used to it. The initial climb is at 70 mph, and then once you're clear of the trees, about 80 mph. I try to keep the speed up in the pattern, so I'm not holding people up, and I'll fly the final approach at 70 mph. It stalls around 60 mph and cruises at 110 mph. It holds 50 gallons in two wing tanks and burns around 12 gph—so I could fly four hours, but I plan for three and a half, maximum. Two to two-and-a-half hours is what we normally fly between stops on cross-countries."

Into the Future

Flying cross-country is something Jack really enjoys. "When I put a new engine on the Waco in 1986, I wanted to break it in, so my friend and I flew to Myrtle Beach, South Carolina, and on up to First Flight Airport at Kitty Hawk, North Carolina. We had a four-day odyssey, and that was a lot of fun. I've had so many nice flights, to Oshkosh, Creve Coeur, Lakeland, and many other places."

Jack fully intends to keep the biplane as far into the future as possible, and in addition to its recent restoration, he has made other arrangements to that end, as well. "Three years ago, we moved to Washington, and I got a 20-year lease and built my hangar at Warren Field. I asked them to add three months to my lease, just so I'd be 90 years old when it expires," he says with an irresistible smile. "Locally,

we fly to Ocracoke Island, which is just 80 miles away—it's either a 45-minute flight or a two-and-a-half-hour ferry ride! We'll fly out there for fun, and also to nearby Plymouth, North Carolina, where they have a free fish fry every Wednesday—with fish, coleslaw, and hush puppies—for anybody who flies in. I've had the airplane back from restoration not quite two years now and have already flown it 196 hours—I'd rather wear it out than to let it sit there," Jack continues, "We're having a good time with it. Glinda knows more about GPS than I do; when we flew the cabin Waco she would always sit up there and work the GPS, and now she programs it for me, since we're flying open cockpit."

Glinda, taking a moment's pause from wiping down the Waco, smiles as she shares her perspective: "When I first dated him, he took me for rides; years later when we got back together, we'd go to fly-ins—flying was just part of him. I can always find something to do; I like computers and programming the GPS, and I usually have a camera and take lots of pictures. In the beginning, I took the flight controls, but in this one, you have to push the button to talk to each other, and I usually have my luggage under my arm, too."

It's obvious that this UPF-7 is in good hands, and the biplane seems to know it. If you happen upon NC32071 in a field of flying machines, particularly on a breezy day, try quietly sidling up to its Continental engine—and listen carefully. Even though its deep, rumbling voice will be silent at that moment...there's a good chance that you'll hear it whistling a merry little tune, as the wind slips by those stainless exhaust pipes. It's one happy flying machine, even on the ground. 