



NOVEMBER / DECEMBER 2025

# Vintage

## AIRPLANE



# WELL TRAVELED WACO

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AIRVENTURE PHOTOS

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CRUISING THE LINE

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VINTAGE AWARDS









# A Very Patient Airplane

Peter Dugdale's  
1941 Waco UPF-7

BY HAL BRYAN



**PETER DUGDALE OF CLINTON TOWNSHIP, MICHIGAN,** grew up on a 1,400-acre mixed farm in the United Kingdom where his father served as manager.

“He was an ex-pilot from World War II,” Peter said. “He did his [primary training] in Miami, Oklahoma. And then came up to Ottawa in Canada and did his advanced flight training. And then went back to the United Kingdom and flew in the war a little bit.”

As a kid, Peter built model airplanes, and when RC proved to be too expensive, he focused on control line.

“I had some interest in aviation very early on,” Peter said. “[But my father] never had enough money really to pursue flying again. He had a growing family of four kids.” Still, life on the farm gave Peter a great education that would come in handy throughout his life.

“Being a farmer’s son, you’re brought up with very few boundaries,” he said. “I was very mechanically inclined from farm activities and the like.” One seminal moment came in about 1971 when he was 14 and a family friend gave him a ride in a 172, a flight that he said “secured the flying bug.”

Peter said, “I had ambitions in the late teenage years to be a pilot, but it was in the recession then and nobody was hiring. So I continued on with my engineering studies, gaining a mechanical engineering honors degree in the U.K.”

Peter’s work on the farm made him a natural engineer. While Peter was at school, his younger brother got into racing, running souped-up Mini Coopers on road courses. His brother did the driving, and Peter took care of the cars.

“I did all the mechanical stuff on the car and had my own dynamometer for engine development, air-flow riggers I made myself,” he said. When he graduated, his time in the racing world led him to a job across the pond at ISKY Racing Cams in Gardena, California. (ISKY was founded by legendary hot-rodder Edward “Isky” Iskenderian, who was a pilot in the United States Army Air Forces’ Air Transport Command during WWII.) After two years at ISKY, Peter moved to Detroit and started a 30-year career with General Motors, where he met his wife, Martha, on a blind date in 1988. Not long after they married, a friend at work said he was interested in flying, just as Peter had long been.

“So, we said ... we’ll do it together,” Peter said. “Unfortunately ... pancreatic cancer got him, and he passed away within a few months. So we never did fly together.”

Peter joined EAA and started hanging out at EAA Chapter 13 near Detroit in 1990, and got his private

certificate early the following year. He rented for a while, first from FBOs and then from a family friend with a Piper Archer. When the Archer was sold, Peter and Martha decided they needed their own airplane so they set out to build an RV-6, working side by side. Two years later, in July 1997, it was finished and flying. It has about 1,700 hours on it now and is still going strong, taking them from Michigan to the Bahamas and the West Coast. In 2012, Peter bought into a partnership in a J-3, and, when his partner in the Cub died in 2019, Peter bought out the remaining share.

“And then along comes the Waco project,” Peter said. That was in 2021, but before we get into that, we need to go back to a point about 15 years before Peter was born.

## Louis, Floyd, Joel, William, Richard, Glenn, and Three Jims

NC32000, a Waco UPF-7 assigned serial No. 5631, was structurally completed on April 25, 1941. The engine, a Continental W670-6A, serial No. 12019, was installed on May 1, and the propeller, an 8-by-5-foot-11-inch Curtiss Reed, was installed four days later. The first flight was on May 7 and lasted two hours.

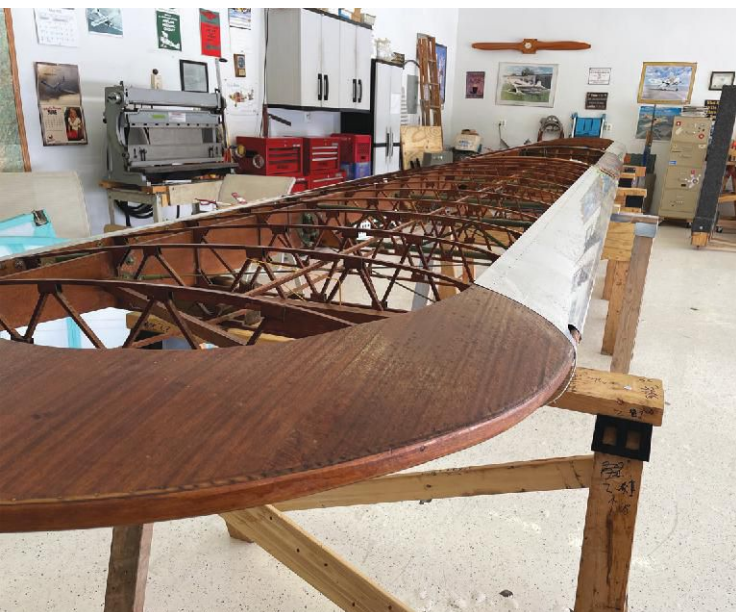
Louis Hilbert, the manager of the Tri-City Airport (now the Tri-Cities Airport, KTRD) in northeast Tennessee, bought the airplane new for \$7,000, which is roughly \$150,000 in 2025. Hilbert was a well-known local figure, an entrepreneur who owned the Appalachian Flying Service (AFS) at the airport and was a group commander in the Tennessee Civil Air Patrol. While Hilbert owned it, the Waco was flying as much as nine hours per day, used by the AFS in support of the Civilian Pilot Training Program (CPTP), alongside a J-3 and other UPF-7s. Around the time he bought the Waco, Hilbert was amusingly quoted in an aviation-related column called *Heard Above the Prop* and written by Gene Slack in the May 31, 1941, issue of the *Daily Star* — *Elizabethton* newspaper.

“Louis Hilbert was seen wearing a necktie while giving instruction to a student the other day,” Slack wrote in the piece. “When asked for an explanation of this ‘dude’ attire, he went into a colorful description of how the necktie was the only means he had of knowing when he was upside down in flight. ‘When the tie flies up and hits me on the nose, I know I’m standing

*Peter and one of his young helpers, Isabella, who went on to earn a Ray Aviation scholarship and is pursuing her certificates and ratings.*







Perhaps one of the most psychologically difficult parts of restoring a classic biplane is covering the beautiful woodwork with fabric. But, that's what transforms it from sculpture to airplane.







**“Everything else in the cockpit is original — its olive-drab frame, the original-style map boxes from the 1940s, and stuff like this.”**  
— Peter Dugdale

on my head,’ he said. “We suggest he get ties loud enough to speak right out. It would save wear and tear on his nose.”

We can’t prove with certainty that Hilbert wore his signature tie while instructing in this particular Waco, but it certainly seems more likely than not, so let’s just allow this dash of extra color to flavor the airplane’s early history.

Hilbert joined the Army Air Corps after the onset of WWII, was commissioned as a captain, and flew with Air Transport Command. (If you’d like to think that Hilbert may have crossed paths with Peter’s future employer “Isky” Iskenderian, then please do.) His wife, Jane, also a pilot and instructor, kept AFS going during his deployment.

In March 1943, the Waco was transferred to the Defense Department, which leased it to the University of Georgia, where it flew another 800 hours as part of the CPTP. The airplane’s upper wings, prop, and horizontal stabilizer were damaged on April 30, 1944, and so the plane found its way to a

flight school/repair facility in Detroit, Michigan, called Floyd Foren Flyers. The airplane was repaired and signed off in November 1944 and flew another 21 hours before changing hands and ending up with Joel Prescott, manager of the Ypsilanti, Michigan, airport, who put about the same number of hours on it. Next up was William Verran, of Milan, Michigan, an avid aerobatic pilot who served as an aviation machinist’s mate after enlisting in the Navy while still in high school during the war. Verran put 32 hours on the airplane after September 1945, and then sold it to Richard Cassell of Adrian, Michigan, three years later in September 1948.

The airplane’s annual had expired in February 1947, and there is some evidence to suggest the airplane had suffered damage in a ground loop. Regardless, Cassell obtained a ferry permit for the airplane, and the flight he made in the Waco on September 14, 1948, was, according to the logs, its last for a sadly remarkable 75 years.

Starting in 1954, the airplane, whatever shape it was in, bounced between Michigan and Ohio for 22 years, owned first by Glenn Berk and then by three guys named Jim — Rice, Exline, and then Mynning, a well-known air show pilot.

## Bob

After the Jims, a man named Bob Grider bought NC32000 as a project in January 1976 and got his pilot certificate later that same year.

“[Bob] was a project engineer for a manufacturing company,” Peter said. “He bought this project from Jim Mynning, a local in Michigan who bought and sold Wacos. So I knew of the project from about 1990 onwards when I joined the chapter. ... [Bob] had some family health issues, didn’t really start to work on it until 1990. ... He had it mostly at his house to start with.”

Anyone who’s built or restored an airplane at home knows what it’s like when the parts and pieces begin to take over.

“[Bob’s] wife [said] that the house was so full that they had a horizontal stabilizer under the bed,” Peter said. “It stuck out about a foot, so they had





“I break things down into manageable time frames. ... Then keep those milestones in mind.”  
— Peter Dugdale



*The quality of the restoration shines through in every detail.*



*No glass panels in this Waco's front office.*

to watch it walking around the bed at night ... otherwise they were going to trip on this thing.”

Bob retired in 2000 or so, started working more regularly on the Waco, and moved it to Ray Community Airport (57D), home of EAA Chapter 13.

“I got to see the project,” Peter said. “I’d visit it a little bit now and again. And he would talk a little about it at the EAA meetings, but not much.”

Peter described Bob as an avid tinkerer, doing good work on his project but never in any particular hurry.

“He was working and helping a lot of other [people on] restoration projects of Wacos, making parts and the like,” he said. “So I would go in and see it in his hangar on a semiregular basis ... chat with the guy and give him some encouragement.”

Peter was interested in open-cockpit biplanes and was at one time considering a partnership with his Cub co-owner before he died.

“At the time we looked at Stearmans, because there were more of them, but for different reasons, that didn’t happen,” he said. “It was 2008, going into a recession. We thought we’d never afford a Waco.”

Over the years, the relentless march of time and the health issues it brings with it caught up to Bob, first slowing his progress and then sadly halting it altogether. Peter estimated that Bob last did any work on the Waco in 2017, and he died five years later. Before he died, Bob and his family decided it was time for the airplane project to move on.

## Peter

"When it came on the market, the family knew I had some interest in it," Peter said. "If I'm going to have one of these open-cockpit biplanes, Stearman or Waco, then do you restore one or finish the restoration of one and know exactly everything about it, or do you buy something that's a bit of a crapshoot as to what's under the fabric, unless there's some good documentation?"

Obviously, Peter chose the former and bought the project.

"So I ended up committing, figuring I'd take a couple of years to do it," he said. "I had never worked on a fabric airplane before, but that didn't deter me. There were several people on the airport in the chapter that had worked on fabric before, so I figured they would be able to help me without too much trouble."

"The previous owner ... did the heavy lifting on it, bought it as a collection of parts, [but there] were a lot of pieces missing," Peter said. "I ended up not understanding, not having ever had one apart, how it all goes together. So, when I picked it up; I decided it was time to put everything together, one subsystem at a time, put the empennage on and see how that all fits, and the bearings and everything else, and then the wings and this, that, and the other ... it was a collection of parts that I had to sort out."

The airplane left the factory back in 1941 without cowling or wheel-pants, as was standard at the time, but Peter wanted to streamline the look. Bob had sourced fiberglass wheelpants but hadn't fitted them.

"I ended up finding a cowling, did a lot of work on that, and had to fit that," Peter said. "A lot of metalwork involved in all of that."

As for the engine, it turned out the big 220-hp, seven-cylinder radial needed some additional attention. Even though he was in the engine design business, from concept to high-volume production, at General Motors for 30 years, he knew the big, rumbling Continental was a whole different animal.

"The engine ... had been restored in 1993 by an A&P — he'd got some experience on radials — and run for three hours and pickled," Peter said. "But I was uncomfortable in using it as-is. ... I decided to take it down to Pete Jones at Air Repair and have him go through it and put roller bearings in it. That's the weak link. There wasn't a lot documented in the logbooks. ... That proved a very worthwhile effort because they found one of the links to the master rod bushing was already [showing] metal transfer from the bushing ... Pete's comment was, within five hours you'd have had a major problem, like a rod knock or a hole in the crankcase. So he took care of that."

With the roller bearings installed and other issues sorted, Peter expects the engine to last a thousand hours. As he continued on the project, his engineering background gave him the confidence — and the patience — to do the restoration right.

"I ended up going through the whole airframe, putting the subsystems on, the engine, the cowling, all the rest of it," he said. "I made sure I understood how everything fitted ... [it] took a lot of time."

When it came to the panel, there was one rule — originality.

"The previous owner, the good news was he wanted it looking original," Peter said. "Which was what I wanted as well. Who wants a 1941 Waco with a glass cockpit? ... It just doesn't gel. So in this one, he'd built a nice little box to cover up the Becker radio, the miniature transponder, and radio and intercom. And everything else in the cockpit is original — its olive-drab frame, the original-style map boxes from the 1940s, and stuff like this."

Eventually, it was time to take all of the painstaking structural work and cover it up.

"And then I got into the fabric, went to a class, used the Stewart fabric and paint system ... and went to a workshop there," he said. "There had been two other airplanes on the airport that had used that system, so I had some access to and knowledge there as well."

Peter, perhaps a bit modestly, said the fabric went on "fairly well."

"I practiced on a couple of pieces and then did the real thing," he said. "I did all this in my hangar ... and then set up a paint booth, moved my planes ... to another hangar while the Waco got bigger and bigger." For the paint scheme, Peter considered a wartime U.S. Army Air Corps PT-14 scheme, a blue fuselage with yellow wings, but like any good Waco owner, he didn't want his airplane to be confused with a Stearman. So he chose what he calls a semi-traditional civil color scheme, and nobody would dispute the beauty of the final product.

Peter also recruited some volunteers to help with the project.

"During this whole process of restoration, I engaged several Young Eagles who showed interest in hands-on," he said. "That was encouraging. I don't think they saved me any time, but they certainly got some hands-on experience. The Young Eagles were, I think Isabella was 14 when she started and 16 when we flew it, and Chad was a similar age — I think he was 15 [or] 16. So they learned a lot, and it was fun having them engaged in it. And there were a couple of adults as well that helped and so on. So they learned a lot through the fabric process and the metalwork and doing different things, riveting and metal forming, English wheel, bending, fixtures, and all the rest of it, whatever it takes for these projects."

Isabella, as it turned out, not only got really good at rib - stitching, she loved it.

"I gave her about 1,200 or 1,500 stitches in the airframe," he said. "That was a positive, to have some help that enjoyed doing things." Maybe those Young Eagles saved Peter some time after all?

In addition to young people like Isabella and Chad, Peter credits everyone at EAA Chapter 13 for their support and expertise, as well as the overall community of Waco owners and restorers, but there were three key people he wanted to call out specifically.

"One was ... Scott Shue; he and his father have been in the restoration business for Wacos for about 40 years," he said. "Steve Zoerlein, he had restored a UPF-7 himself and bought the project from the Shues ... back in 2013. And he took it to Oshkosh in





'18 and got a Lindy Award with it. He was very helpful with information and gave me transitional training in his UPF, five hours and about 28 landings to get comfortable with the plane. And then Jerry Brown, he's restored three UPF-7s ... he was big in the Vintage group [at Oshkosh]. ... Those are the three that were very supportive and knowledgeable on the restoration."

When asked about the biggest challenges, Peter listed two — the scope of the project, and the fact that he'd never worked with wood before.

"[To deal with] the scope of the project, I break things down into manageable time frames," he said. "You break it down and you go, what can you get done in the next month type of thing. Then keep those milestones in mind ... so you've got that logical process going up front."

As for the other challenge, Peter had enlisted the help of an A&P/IA mechanic who had built several wood airplanes before.

"He was very experienced and comfortable looking at it and dealing with was it structurally sound or not," he said. "And in the big picture, the whole

project was structurally sound. There was no wood I had to replace or anything else. The previous owner had done an excellent job in doing that. But that was the first thing: getting comfortable with the idea of wood."

Eventually, after two years and 2,000 hours of work, the list of things to do shrank to nearly nothing, and it was time for the project to turn back into an airplane. Given its status as a classic low-and-slow flyer, coupled with the fact that the Waco had been a project for 75 years, Peter was pleasantly surprised by one aspect that went faster than expected — paperwork.

Peter submitted the application for his airworthiness certificate (since the original had expired back in '47), including some STCs and a field approval, on September 28, 2023. He got an email response within one day, the inspector visited less than two weeks later, and he had the certificate on October 20, three weeks and one day after submitting the application.

With his transition training with Steve under his belt, Peter geared up for the first flight. After a couple of delays that turned out to be fouled plugs, NC32000 returned to the sky on October 29.

"I flew for about 20 minutes around the airport and just doing squares and came in to land," he said. "I do a couple of low approaches to get used to things. And sure enough, I could have landed on the first landing. I was in good position and speed, but I thought, well, let's go around, see how this performs when I gun it, essentially. And then the second one, I was high and hot, and then the third one was a greaser."



## A Rewarding Trip to Oshkosh

That following July, Peter set off for Oshkosh, planning his route around grass runways wherever possible. It was gratifying for him to show the airplane to people who truly appreciated it.

"There's two Waco clubs; there's a National Waco Club and the American Waco Club," he said. "They [both] came by and encouraged me and thanked me for coming to the Oshkosh and finishing the plane up."

But there was one visit that Peter could never have predicted. On Saturday, while he was prepping the airplane, a man walked up and asked Peter if he was the owner.

"I said, 'Yeah.' He said, 'I was helping a family down in Florida sort out some Waco parts, and I've got the original data plate for your airplane.'"

That person turned out to be Rob Lock, whose own recent Waco adventure was profiled in the April issue of *EAA Sport Aviation*. Rob sent Peter the data plate about two weeks later.

"So yeah, I got that 'only-at-Oshkosh' experience," Peter said.

The other only-at-Oshkosh moment happened after Peter got home — that's when he found out the airplane he's nicknamed *Waco Bob* in honor of the prior owner had garnered a Bronze Lindy.


"I was just overwhelmed," he said.

## He's Glad He Came

Peter feels unabashedly lucky to live in the United States.

"Most people don't know what 'freedom' is until they have a chance to travel the world," he said. "A part of that for us pilots is avoiding user fees. In the United Kingdom, landing at an airport like Ray costs about 25 per touchdown; just imagine touch-and-goes! Avgas is about \$10 per gallon, and a C-172 rents for around \$225 per hour ... and we complain when avgas goes up 50 cents a gallon!"

Peter has never forgotten that first airplane ride and, as a result, loves giving Young Eagles rides, having flown more than 650 to date in a variety of aircraft, as well as the priceless hands-on experience he provided during the Waco's restoration.

Bob — not to mention Louis, Floyd, Joel, William, Richard, Glenn, and the Jims — would almost certainly be proud of what Peter has done to their airplane, and how he's using it alongside his RV and Cub to inspire future generations. 

### SPECIFICATIONS

**AIRCRAFT MAKE & MODEL:** Waco UPF-7

**LENGTH:** 23 feet, 1 inch

**WINGSPAN:** 30 feet

**HEIGHT:** 8 feet, 5 inches

**MAXIMUM GROSS WEIGHT:** 2,650 pounds

**EMPTY WEIGHT:** 2,044 pounds

**FUEL CAPACITY:** 50 gallons

**SEATS:** 2

**POWERPLANT MAKE & MODEL:** Continental W670-6A

**HORSEPOWER:** 220

**PROPELLER:** Sensenich W98AA-66

**CRUISE SPEED/FUEL CONSUMPTION:** 105 mph/13 gph

**POWER LOADING:** 12 pounds/hp

**WING LOADING:** 10.3 pounds/hp

**V<sub>NE</sub>:** 210 mph

**V<sub>SO</sub>:** 48 mph

