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The 15AC Sedan Aeronca's Family Airplane —

by H.G. Frautschy

I'm sure it's always been a fantasy of many of us who love old airplanes to find a very original, low time example of our favorite airplane. Paul and Pam Workman lived that dream a few years ago.

As the proprietor of a busy aircraft and auto upholstery shop, Paul Workman has always been an avid classic airplane man, and Aeroncas in particular. He has had both a 7AC Champ (he dated Pam with that airplane), a 7GC and finally a 1950 Aeronca Sedan, N6665K, which came to the Workmans when they started adding children to their family.

Before buying 6665K, Paul had been searching for a Sedan, and ran across a little used example in Washington Court House, OH. In 1986, when they first contacted Bob Rolfe about the Sedan, Bob just wasn't interested in selling the airplane. It had been in his family for a number of years, having belonged to a close relative of his, Richard Rolfe of Sabina, OH. Richard was the first owner after Aeronca dealer Porter Kauffman took delivery of the Sedan after its manufacture in 1948. He was a minister, and he used the Sedan for preaching in an unusual way. It seems that Richard thought that the work of the Lord should come from on high, literally, so in early July of 1949, he had the Sedan fitted with an ATR 100 watt, 12v to 120 v inverter, a pair of 12 volt batteries, a pair of Quadraflex trumpet speakers and two 100 watt amplifiers. All of this was hooked up to a Webster Model 180 wire line recorder (the predecessor to the modern day reel to reel tape recorder). Cincinnati Aircraft Service and Airborne Communications, Inc. at Lunken Airport did the work.

A year later, Richard had the inverter replaced with a single cylinder gasoline engine driving a generator. (The 337's are a little unclear on this - if the amplifiers needed AC voltage, the generator's output would still need an inverter to bring it up to the required 110vAC, but no mention is made of the inverter in the second form 337.) He also had an additional speaker installed. The system must have worked reasonably well - Paul Workman talked to several locals who

***Found unused in Ohio,
Paul and Pam Workman
spent two years restoring
a very original four-place
Aeronca.***

recalled they heard "The Word" from the Sedan cruising above.

It must have not been too effective, (but I'll bet it was disconcerting!) for the Sedan really didn't get much use. By the time Bob Rolfe took possession of the Sedan, it was still a low time airplane. It sat until the 1970's, when Bob got '48H flying in 1976. Amazingly, by the time the decade of the '90s began, the Sedan had just slightly more than 200 hours total time on the airframe, and the engine had even less, since it had been zero-timed by the Continental factory after the camshaft failed with only 22 hours, 30 minutes on the engine. The C-145 engine had a rash of these replacements early on in the production of the engine, when some of the camshafts were im-

properly heat treated and they failed.

Paul Workman had not really thought much about 1048H since he was turned down by Bob Rolfe in 1986. Besides, he had found 6665K, a later model (1950) Sedan, and he and his family had been flying it for a few years. But in the winter of 1989, Bob Rolfe called Paul and asked if he was still interested in buying '48H. Pam and Paul had to do some quick work with the calculator. Knowing the Sedan needed a complete restoration, it would need cash to put it in flying shape.

But oh what a project! It truly was an original airplane. The speaker installation of the past did not disrupt the structure in any way, and the rear seat was still intact. All of the little things that can be so hard to find were still there - the small map light on the bottom of the instrument panel, a larger red flood light above the pilot mounted below the top of the windshield, all the instruments, and the "Aeronca Sedan" trim piece set in the center of the panel. Topping it all off was the Harvey-Wells model ATR-3 radio, still intact and installed in the panel, just as it was when it was put in on July 31, 1948. Even the antenna and loading coil were still on the airplane! Happily, the airframe had never been substantially damaged, with only a mention of a rudder spar inspection done once to check for suspected damage after the wind slammed the rudder over one day. It was a real gem to find, and Paul just couldn't turn it down.

The new garage would have to wait, and on December 16, 1989, Paul and his dad Ben went to pick up the flying project. It was a bit chilly that day - 7°F - so the Continental needed a bit of persua-



sion to get started, but once it was running, Ben and Paul flew formation back home with their new prize.

With just a little more than two years to go, the Workmans decided that the Aeronca Convention scheduled for 1992 was their goal. All the fabric was removed, and the project took over the Workman basement.

Only a couple of small areas needed attention with the welding torch, and then all of the tubing for the fuselage and tail surfaces was sandblasted. A coat of epoxy primer was then applied, with a topcoat of zinc chromate primer on top of that, strictly for appearance. With such an original airplane, there was no doubt the direction Paul intended to go with the restoration.

All of the wood in the fuselage needed replacement. The Sedan is no different than other late model Aeroncas. It too used the familiar triangular rear fuselage configuration, with the outside shape defined by a set of wooden formers and stringers. Paul used fir and pine plywood, and replaced all of the stringers. All of the wood was painted with spar varnish.

Since recovering would have to be done in the basement near the gas furnace and hot water heater, the cover-

ing process chosen was the STC'd Blue River system using Ceconite 7600 fabric. Even with the water based Blue River system, a strong smelling solvent is used to activate the cement for tapes and seams, so good ventilation is still necessary. Paul liked the process, particularly since it was more pleasant to work with than dope, and not nearly so mind altering!

The final finish is Randolph Ranthane, chosen by Paul to prevent uneven fading between the metal and fabric surfaces. The original color scheme was maintained, with the fuselage painted Santa Fe Red and the trim color Tucson Cream, a very close match to the original Packard Straw. Ben Workman, Paul's dad and the family IA, was the paint foreman on the job, and he spent a lot of his time helping the Sedan project along.

Originally Sedans were delivered with unpainted wings, but it didn't take too long for a service letter to be issued by the factory in Middletown detailing the



(Above) Pam and Paul Workman, Zanesville, OH, the restorers of Aeronca 15AC Sedan 1048H.

(Left) UAL Captain (retired) E.E. Buck Hilbert, now the proud owner and pilot of four eight Hotel. "Aeroncavorting" in the Sedan is high on his list of fun things to do!



(Above) The interior owes a lot to its Champ and Chief predecessors. The early Sedans used the same control wheels from the Chief, and so were the glove box doors and ashtrays (now used for holding pencils). The Harvey Wells ATR-3 radio no longer functions, but it has been a part of the instrument panel since 1948, shortly after the Sedan was built in Middletown, OH. Paul Workman was able to find a fabric for the seat cushions and side panels that closely resembled the original fabric.

(Left) Now a resident of Buck Hilbert's Funny Farm, the Sedan flies nicely out of the northern Illinois grass strip.





Jim Koenig

procedure for painting the wings. Not too many people wanted to continue polishing the top and bottom of 200 square feet (wait - that would be 400 sq. ft.!) of wing.

The corroded control cables were replaced, and so was the side window plastic. A new windshield was purchased from LP Aero Plastics, and the interior was refinished as closely as could be determined. Paul found out that the interiors of the Sedans were not finished consistently. Even a visit to the Smithsonian Air and Space Museum's library didn't turn up anything consistent. By talking with some owners of other early production Sedans, and using some of the paint left in the corners, the original green/gray color was applied. Only a couple of extra switch holes had to be plugged in the panel, leftovers from the days when the speaker system was installed.

Those of you familiar with Sedans may wonder why there is no neat panel overlay, such as on the '48 and '50 Sedans. The early airplanes had a basic VFR panel, and not until the later mod-

els was a panel overlay made. The glove box was retained on the right side of the panel, and the old Harvey-Wells radio was re-installed. Paul wanted to put the old "V" antenna on again, but the airplane wouldn't fit in his T-hangar with the wire running from wingtip to the vertical fin.

As a professional interior man, you can imagine how frustrating it was for him when he couldn't find an exact match for the interior fabric. Fortunately, one of his fabric salesmen came to the rescue with a medium width corduroy that looked just like the fabric seen in the photographs Paul had been using for research.

The wings needed a bit of work, including the replacement of one leading edge skin, and a general clean up of the fittings. Paul also converted the wingtips to being secured by screws instead of rivets, allowing more complete inspection of the wing panels.

One more change made to the wings was the replacement of the rubber fuel

cells with welded aluminum fuel tanks, engineered by Paul and his dad Ben, an IA. A one time STC was applied for and eventually granted, although Paul says it was not an experience he would care to do again. Making the tanks was easy, but the approval process was a bear.

The engine, a Continental C-145-2, is one of the early production six cylinder powerplants from the factory in Muskegon, MI. As mentioned before, it had suffered a camshaft failure early in its life, and since it had sat inactive for extended periods, there was some concern about the condition it was in. But when Paul removed the cylinders, oil pan and accessories to inspect its innards, he was pleased to find it looked brand new, with no corrosion evident. After the accessories were gone through, the engine was reassembled and repainted in the original Continental blue/gray with black cylinders.

With the Aeronca Convention fast approaching in 1992, the Memorial Day holiday wasn't spent watching the Indi-

anapolis 500 - it was time for the big push to get the airplane completed. With Paul at the airport putting the finishing touches on the fuselage and engine installation, Pam spent the weekend polishing the wings at home in the backyard, and bugging her neighbors when it came time to flip them over or move them around. To maintain its original appearance, the Workmans decided to keep the wings natural aluminum, but after one year of trying to keep the metal looking good, a great looking silver paint was applied.

By the end of the next week, it looked like an airplane was about to fly, and with a week to spare, '48H was ready for its first engine run. Sunday saw the first flight after the restoration, and later in the week, both 1048H and N6665K were loaded up and headed to Middletown. On the way from Zanesville to Middletown, their youngest daughter started feeling a bit queasy, and not wishing to christen the new interior in that way, a landing was made at Washington Court House. Before they had stopped the prop from turning, they knew they had an engine problem though - one magnet coil had died. Ben Workman, flying '65K, continued on ahead to Hook field in Middletown. A quick call to friends who were also on their way to the Convention brought a replacement coil. By the time the repairs could be made, it was late evening, so Paul and Pam spent the evening with their kids in a motel. After staying the night in central Ohio, 1048H was flown to the Aeronca factory, just in time for the convention.

The Sedan was immediately descended upon by the crowds, who all oohed and ahed over a very original airplane. That fly-in saw the Workmans win the first of a series of awards for their efforts in restoring the Sedan. It also won a major award at the Mid East Regional Fly-In, and was also selected as the Best Class II (81-150 hp) Classic award winner at EAA OSHKOSH '94. The Workman family enjoyed flying '48H all over the midwest during the summers of 1992 and '93, but in the fall of 1993, it became obvious that their other Sedan, 6665K, needed a major engine overhaul, and the equity in '48H was going to have to pay for it.

E.E. "Buck" Hilbert, our resident Aeronca nut, had heard me mention this particular Sedan in glowing terms, and when he asked, he found it was available. Paul and Pam took Buck's beloved Champ in trade for the Sedan. In October 1993, the Sedan came to live at the Funny Farm in Union, IL where it quickly became a favorite. It's just right for a economical flight to a midwestern location (7.5 gph at 2450 rpm) and is roomy and quite comfortable to fly. While not particularly fast (105 mph cruise), it handles like a larger, heavier Chief, and it has plenty of baggage room and space for the kids in back. It really is a shame more of these airplanes were not made.

While Paul Workman was flying the airplane, the engine began to make a little metal that was showing up on the oil screen. After changing a piston that was self-destructing, it appeared to be OK,

but metal continued to show up on the screen. It continued to do so after Buck bought the airplane, so in conjunction with the annual in the fall of 1995, we changed the engine with another C-145, and he also added an Aviation Development Corporation (ADC) oil filter system with oil bypass warning light. The details of the installation were spelled out in Buck's column in the November issue of VINTAGE AIRPLANE.

Nearly 40 hours later, the filter system works beautifully, with the 3 micron screen catching anything that happens to make it into the oil. Since the restoration, the airplane has proven to be quite reliable and generally maintenance free, and I'd be remiss if I didn't thank Buck publicly for the times he has lent my family and me the Sedan - it's our favorite airplane, and our goal to shoot at when setting our priorities.

The love the Workmans have for this particular airplane is still evident, and they're like most parents, hoping their "children" lead a good life after they leave home. Home on the Funny Farm is as pleasant as it can be for four eight Hotel, as it keeps company with its other Aeronca brothers, the C-3 and the Champ, plus the Nicaraguan Fleet, who seems a bit confused by it all. It's learning to adjust. Champ? Yep, after a while, Buck really missed the 7AC, so when Paul mentioned to him that he was thinking of selling the Champ Buck had traded on the Sedan, Buck bought it back. The stable is now full of Middletown wonders. What more could an Aeronca man want?

