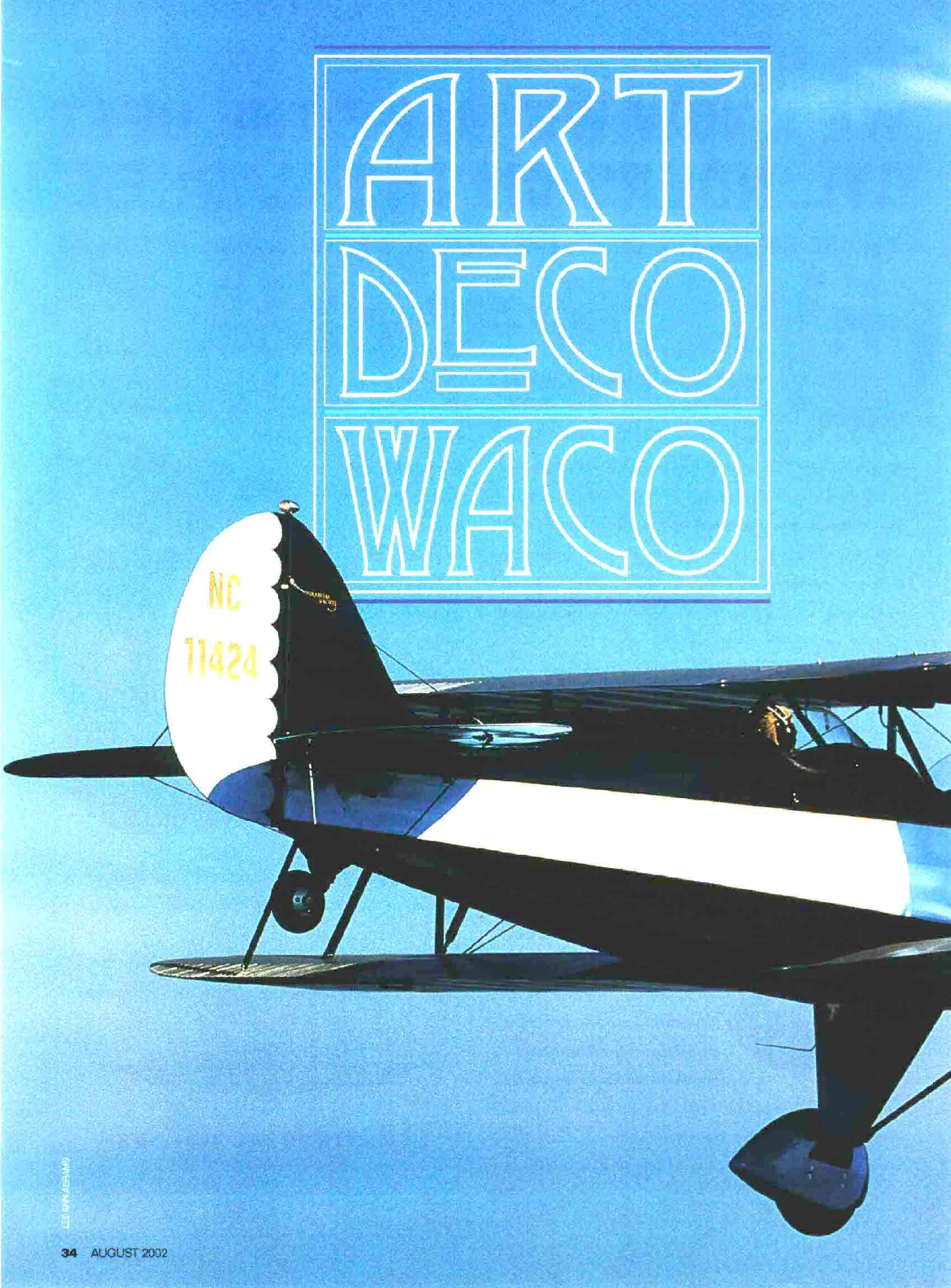
ART DECO WACO



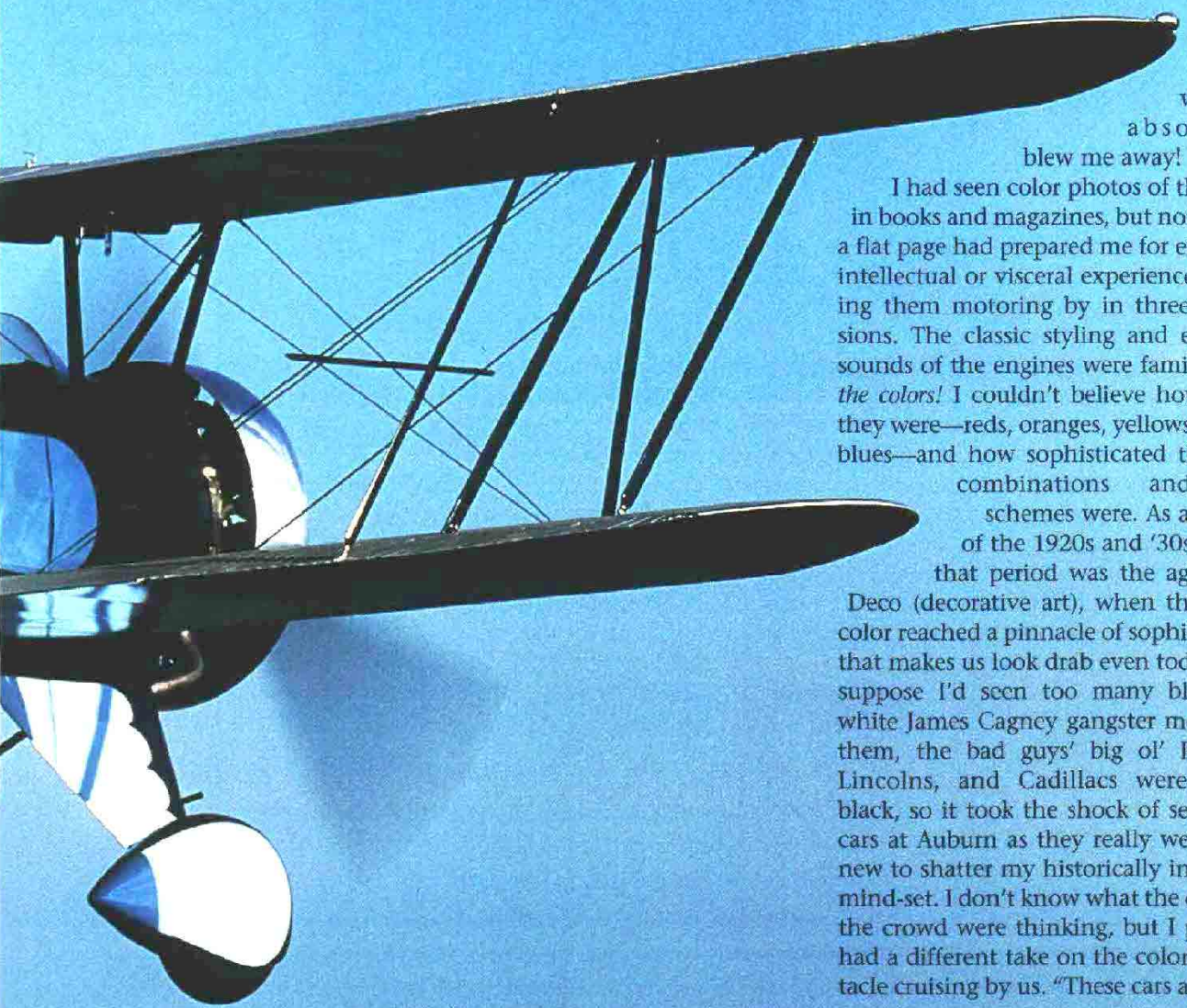
It's all about the color

JACK COX

Many years ago I attended an antique automobile show and gained an unexpected insight into aircraft of the 1920s and 1930s.

It was all about color.

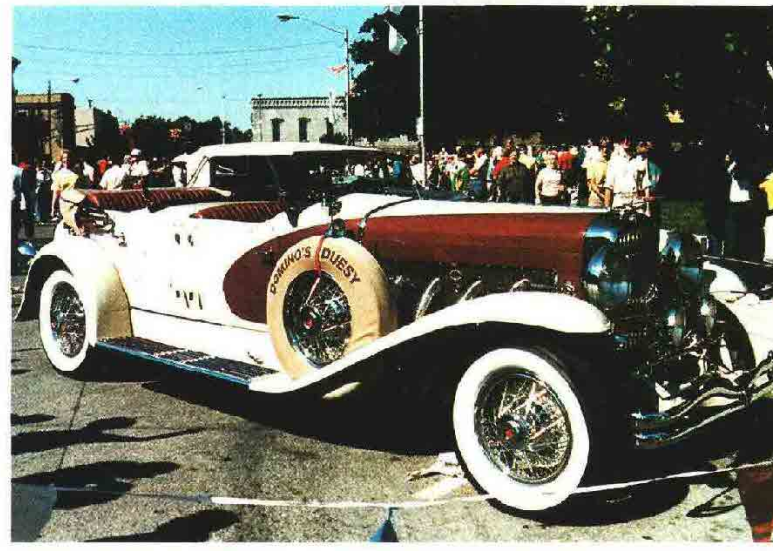
My wife, Golda, and I were in Auburn, Indiana, for one of the famous Auburn-Cord-Duesenberg extravaganzas and were standing shoulder to shoulder with thousands of others awaiting the start of the annual parade of show cars. The golden oldies had been lined up in chronological order, so among the first to pass our vantage point were the magnificent L-29 Cords, Duesenberg Model Js, and 120 Auburn Speedsters—the colors of which absolutely blew me away!



I had seen color photos of these cars in books and magazines, but nothing on a flat page had prepared me for either the intellectual or visceral experience of having them motoring by in three dimensions. The classic styling and even the sounds of the engines were familiar—*but the colors!* I couldn't believe how bright they were—reds, oranges, yellows, greens, blues—and how sophisticated the color combinations and trim schemes were. As a student of the 1920s and '30s, I knew that period was the age of Art Deco (decorative art), when the use of color reached a pinnacle of sophistication that makes us look drab even today. But I suppose I'd seen too many black and white James Cagney gangster movies. In them, the bad guys' big ol' Packards, Lincolns, and Cadillacs were always black, so it took the shock of seeing the cars at Auburn as they really were when new to shatter my historically inaccurate mind-set. I don't know what the others in the crowd were thinking, but I probably had a different take on the colorful spectacle cruising by us. "These cars are paint-

ed like airplanes!" I exclaimed. Indeed they had the same bright colors, they had the same sort of flowing trim striping, and even some of their rear fenders were shaped a lot like wheelpants on the early Stinsons and Wacos.

Then it hit me, and I had to laugh at my momentary bout of aviation egocentrism. The cars weren't painted like airplanes; rather, the airplanes of the late 1920s and early 1930s were painted like the cars of that era. It was the already huge auto industry that had the resources to develop new paints and hire the most imaginative artists to conceive of new color combinations and trim schemes—not the other way around.



JACK COX PHOTOS

Beyond basic black: automobiles at an Auburn-Cord-Duesenberg rally in Indiana show off their attention-getting paint schemes—and their fantastic color combinations.

Actually, both industries borrowed heavily from each other in those decades. Speed was a new concept in the early 20th century and was most dramatically epitomized by the airplane. The auto companies went to great lengths in their advertising and, to some extent, in their styling to associate their cars with the sleekness, speed, and excitement of airplanes. Hudson, for example, went as far as naming one of its cars the Terraplane. Similarly, the much smaller lightplane industry, hoping to benefit from the mass appeal of the automobile, tried to make the interiors of cabin airplanes as carlike as possible, using the same door handles, upholstery materials, and even bud vases as those used in automobiles. Colors, they realized, go in and out of fashion, so the aircraft manufacturers paid very close attention to the colors and color combinations that were popular with car buyers and used them on their aircraft. Today, when we see a combination like the orange and yellow that was standard on the Curtiss Robin of the late 1920s, we may consider it somewhat unusual, but Curtiss chose that juxtaposition of hues because it was popular on cars in the Roaring '20s.

Today, most restorers of early vintage aircraft stick to solid reds, yellows, and blacks that were offered as stock paint schemes by the manufacturers, ignoring the greens, some shades of blue, and especially the browns, tans, and grays that were quite popular in the Art Deco age. Not all of them, however. There are a few daring souls who are willing to duplicate even the custom paint schemes that well-heeled customers paid extra for 70 years ago.

Even if that combination is purple and baby blue!

Roy Redman is one who dares. For the past few years, his Faribault and Owatonna, Minnesota-based Rare Aircraft has restored a series of early Wacos, several of which have sported spectacular color combinations that date back to the late 1920s and early 1930s—color combinations you can also find on that era's cars pictured in *Automobile Quarterly* and other publications. One of the most dramatic examples of Rare Aircraft's work is the dark purple and light blue (with a gold pinstripe) F-2 Waco pictured here.

Now, admit it: If someone told you he was preparing to paint his rare and quite valuable 1931 Waco QCF-2 purple and light blue, you'd wonder what the miscreant had been smoking, wouldn't you? Yet, when Roy Redman landed at Sun 'n Fun 2001, the airplane was an instant sensation. Everyone I talked with thought it was beautiful and expressed surprise at how compatible the two colors were—which, of course, was a tribute to those Art

LEE ANN ABRAMS

Deco artists who personified an old Cole Porter song when it came to color selection: *Anything Goes*.

Deep purple and light blue were the original colors of NC11442, Serial Number 3493, when it rolled out of the Waco factory door at Troy, Ohio, on June 13, 1931. It was initially registered to ace Waco salesman Tex LaGrone, who promptly sold it to Ridelle L. Gregory of Kansas City. If you have access to Ray Brandly's book, *Waco, the Famous "F" Series*, you'll find a picture of the airplane on the bottom of page 33, just after its factory rollout. You'll also note that the F-2 was subsequently crashed into, presumably, the Missouri River, and rendered a "total washout."

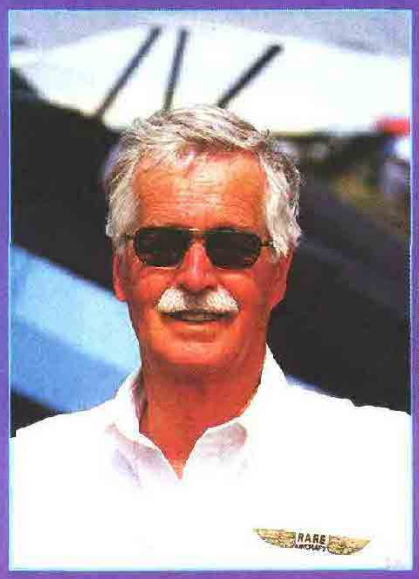
Actually, a few parts were salvaged and remained in storage for decades before being purchased, along with the title to the airplane, by M.H. "Curly" Havelaar, who owns the prototype QCF-2, NX11241. Curly, in turn, eventually sold the remains to Roy Redman who intended to resurrect the F-2 after retiring as a 747 captain for Northwest Airlines in January 1992.

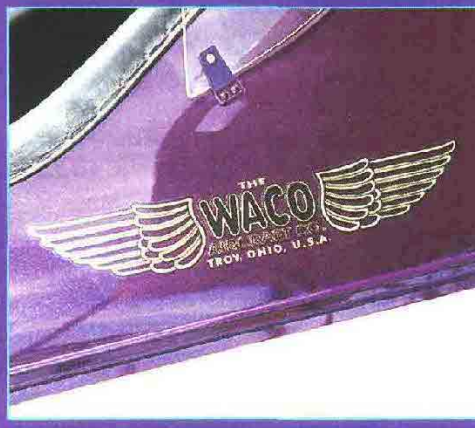
Roy was already well known in the sport aviation world as the restorer of a 1936 Stinson SR-8C, which was Grand Champion Antique at Sun 'n Fun and Oshkosh in 1982, and it was that renown that ultimately led to the founding of Rare Aircraft. About the time Roy started work on his QCF-2, he received a commission to restore a similar UBF-2 for Jerry Wenger. Both F-2s were worked on in parallel up through the completion of the basic airframes, but then Roy's was put aside while Jerry's was being covered and made ready for flight. Then out of the blue came a commission for a Waco YMF-5 restoration, the rebuild of a Waco RNF—and almost before he could grasp it all, Roy was embarked on a new career, with a new company, Rare Aircraft, and eight highly skilled employees, including his three sons, Mike, Jeremy, and Ben.

After the completion of a series of prize-winning Waco Taperwing and F model projects, Roy was about to restart work on his F-2 when he was approached during Sun 'n Fun 2000 by the owners of Mirabella Yachts of Fort Pierce, Florida, who wanted a showpiece for their aviation department. The result was a commission to complete Roy's F-2 for that company. Mirabella Yachts charters large, luxurious sailing sloops and services them wherever they are with a Grumman Albatross. They also crew and service Jimmy Buffett's Albatross.

Work began in October 2000, and with two and often four persons assigned to the project, it was completed in March 2001—just in time to be thoroughly checked out and flown to Sun 'n Fun the following month.

Rare Aircraft turns out top-notch aircraft but does not strive for 100 percent authenticity. Safety consid-





MIKE STENEKE PHOTOS

When Roy Redman's Waco rolled out of the factory on June 13, 1931, its original colors were deep purple and light blue.

erations come first, and today's intensely electronic flight environment requires some avionics that were undreamed of in 1931. With so little remaining of the original aircraft, most of NC11442 had to be built from scratch using the 1931 factory drawings, including new wings, which was Mike Redman's specialty.

QCF-2s built in 1931 were powered by 165-hp Continental A70 radial engines, but the following year's model, the UBF-2, was upgraded to a 210-hp Continental R-670. That engine would evolve into the 220-hp W670 used on Stearmans and other aircraft during World War II. Curly Havelaar's QCF-2 was refitted with a W670, and that approval was used to equip NC11442 with a newly rebuilt W670-6N, turning a 102-inch Hamilton Standard 5131/5B1 propeller. A Bendix 397-13-B electric starter replaced the Heywood pneumatic starter used on the A70s in 1931, and a Jasco alternator was installed to power today's required avionics. A Stearman exhaust system was used, with minor modification to make it fit on the F-2. The engine was enclosed in a polished ring cowl that was spun by...who else...Jim Younkin a few years earlier. Amazingly, the QCF-2s were built with aluminum firewalls, but Rare Aircraft replaced that risky anachronism with one of stainless steel.

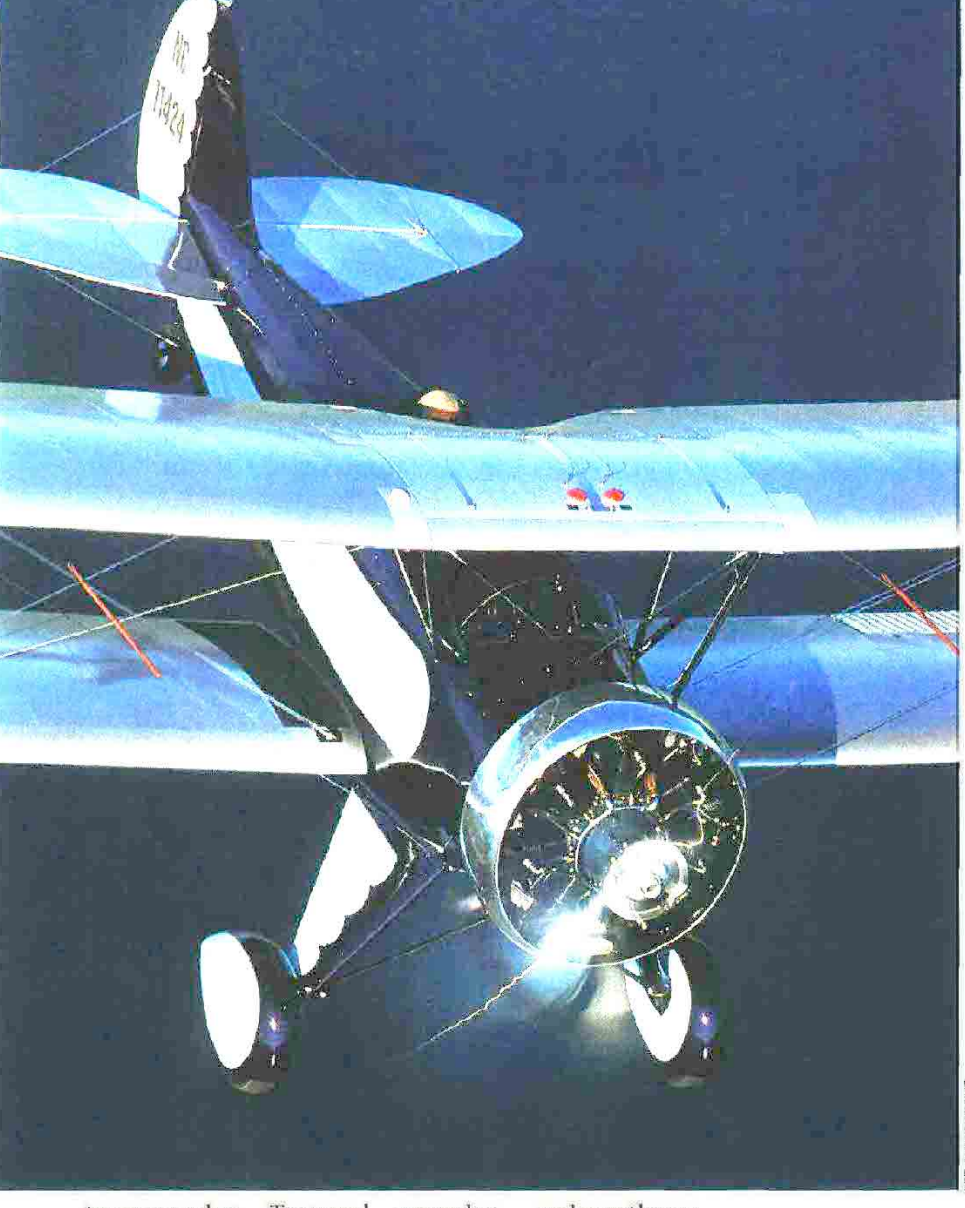
Rare Aircraft has the tooling and expertise to mold windshields and fabricate almost all the Waco sheet metal in-house, which in this project included new fuel and oil tanks, all the fuselage panels (including louvers), and fairings.

The original QCF-2 Aircraft Products wheels and cable-actuated brakes were replaced by new 7:50-by-10 Cleveland wheels, with the inside halves machined to permit 6-inch Cleveland disc brakes to fit inside. The QCF-2s were built in 1931 with a really unusual braking mechanism. The hand throttle moved fore and aft in a conventional manner to increase and decrease power, but it also pivoted in toward the center of the cockpit for braking! If the rudder pedals were centered, both wheels would be braked simultaneously, but when a pedal was depressed, braking would occur on that side's wheel only. This action was similar to that of the Johnson bar system commonly used in the 1930s, but it must have been challenging to operate off the throttle. Rare Aircraft switched to heel brake pedals on N11442, and a tailwheel locking mechanism was installed.

The F-2 Waco has always been admired for its pugnacious, bulldog-like stance on the ground—with its pug-nosed, brawny front end and small aft end. Accentuating this look are the wide gear legs and the model's unique "polliwog" shaped wheelpants, as Roy Redman likes to call them. Original pants are long gone, but, fortunately, F-2 owner Barry Branin has had molds made so fiberglass copies can be laid up in them. Roy obtained a set for NC11442.

The F-2s were three-place airplanes, with the pilot in the rear cockpit and two passengers side-by-side in the front cockpit—two small, skinny passengers. There were no instruments in the front cockpit, just a small door in the panel that opened to a compartment placarded for 15 pounds of personal items. To retain an original appearance and still be able to check out pilots in the airplane, Rare Aircraft concealed an airspeed indicator and altimeter in the compartment, where they are accessible by simply opening the door. Five-point safety harnesses were installed in both cockpits, but no practical way was found to have two shoulder harnesses for the front seat.

The seats were built per Waco factory prints, but they were fitted with fine leather cushions. Jeremy Redman is Rare Aircraft's upholstery expert and was responsible for the seats, cockpit coaming, headrest, and side panels. The original kidney-shaped instrument cluster was used in the rear cockpit, with refurbished early 1930s instruments, plus a voltmeter and cylinder head temperature gauge. The modern world came into play in the form of a Garmin GNC 250XL GPS/comm, GTX 327



LEE ANN ABRAMS

transponder, Transcal encoder, ACK ELT, PM 1000II intercom, and a JPI fuel monitor. The original throttle/brake lever units were replaced by World War II-type throttle/mixture quadrants, with mixture in the rear cockpit only.

As originally built for Ridelle L. Gregory in 1931, NC11442 had silver wings and horizontal tail surfaces, and the fuselage, vertical tail, and landing gear legs were purple and blue. Rare Aircraft covered the entire airframe with Ceconite 102, but it went in two different directions with the finish. To retain an original appearance, the silver wings and horizontal tail surfaces were finished in nitrate and butyrate dope, but the fuselage, vertical tail, gear legs, and wheelpants were painted with PPG Ditzler polyurethane.

Roy says his wife, Judie, and son, Jeremy, are the artists in the family and were responsible for selecting the correct shades of purple and blue. In 1931 the airplane was finished in Berry Brothers pigmented dope, and, interestingly enough, the company cautioned against the use of purple and light blue stating in its catalog that they "...do not hide well, and often change color under sunlight." That, of course, is not a problem with modern polyurethane paints. It may come as a surprise to many to learn that the purple originally used on NC11442 was Berrychrome, which was a metallic or "metalflake" dope, created by the inclusion of powdered bronze. Rare Aircraft used a metallic polyurethane to duplicate the original look.

And then there was the matter of the N-number, which some of you have probably been wondering about. Throughout this article, the F-2 has been referred to as NC11442, but the number on the airplane today is NC11424. NC11442 was the original number, but after the airplane crashed in the early 1930s, that number was canceled and years later was acquired by Cessna for a new 150. Roy Redman tried for nearly 10 years to get the number for the F-2, even offering to buy the 150, but to no avail. Ultimately, he had to settle for the closest number available from the FAA: 11424. The airplane does retain its original serial number, 3493, however.

NC11424 ended up with an empty weight of 1,638 pounds. The certificated gross weight is 2,300 pounds. Roy says the airplane will indicate about 115 mph, but it climbs at a "dramatically steep" angle at 60 to 65 mph with its long propeller. Handling, he says, is pretty well coordinated, with a good crisp response from the four ailerons—"not as crisp as a Taperwing, but better than an RNF." With 2 degrees of dihedral in the top and bottom wings, the F-2 is very stable in cruise, he says, and was quite pleasant to fly the 12 hours it took him to deliver the airplane to Florida last year. Ground handling? "It's a taildragger." Enough said.

Most of us, of course, will never have the opportunity to fly an airplane as rare as a QCF-2 Waco. Only 37 were built, and, amazingly enough, 30 of these 70-year-old aircraft remain on the FAA's books today. There are a number of them, however, that are projects awaiting restoration. When they are restored, I hope we will see more examples of the marvelous Art Deco paint schemes that were in vogue in the early 1930s. If we can't fly them, at least we can admire them as works of art. EAA