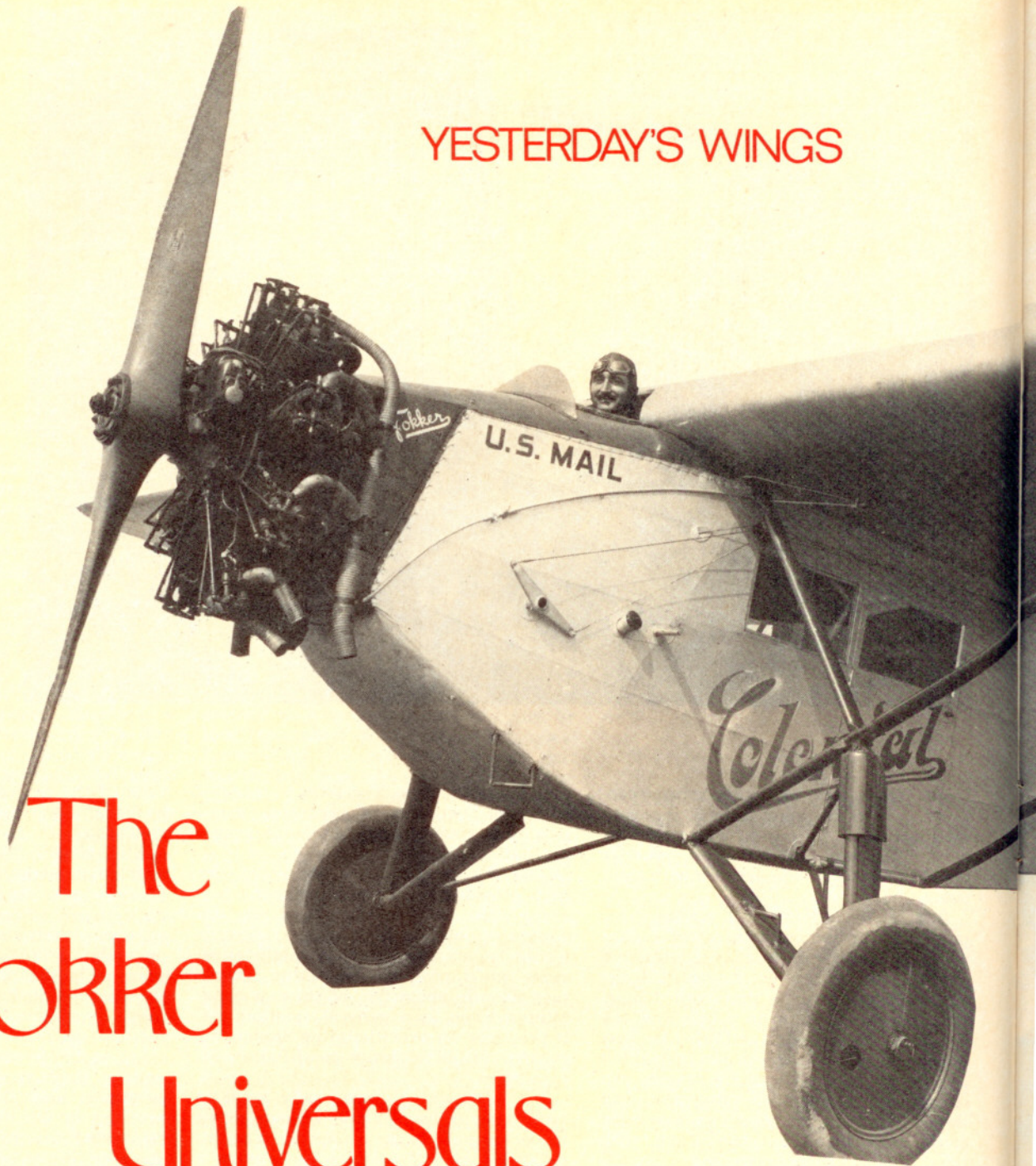


YESTERDAY'S WINGS

# The Fokker Universals



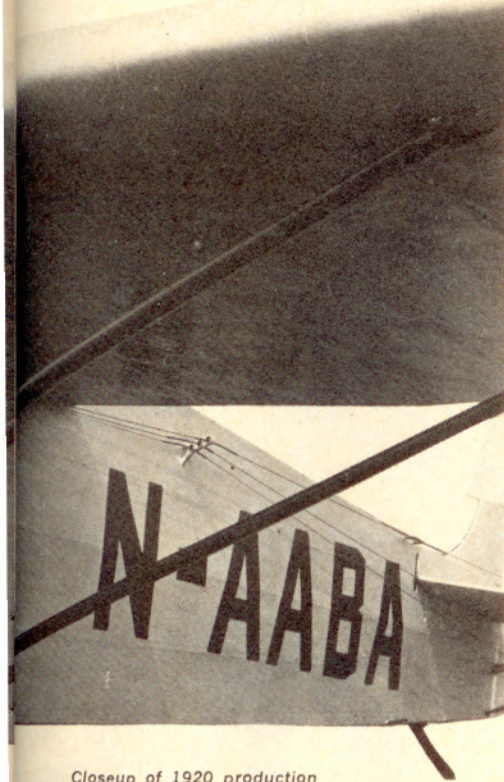
One of the last Universals, photographed at the factory in May 1931. Note the enclosed pilot's cabin, increased passenger window area, and improved streamlining.

by PETER BOWERS / AOPA 54408

■ ■ The Fokker Universal was one of the first modern monoplane designs to appear on the American scene and achieve significant production after the World War I surplus types (which had choked the market) had begun to wear out. The American introduction of its Dutch builder, A. H. G. (Tony) Fokker, on the other hand, was a slow and complicated process.

Fokker was one of the world's leading airplane manufacturers from 1914 until his death, at age 49, in 1939. What he lacked in technical knowledge and design skill, he more than made up for in organizational ability and an intuitive pilot's touch that could pinpoint





Closeup of 1920 production Universal with Wright J-4 engine shows an open cockpit, integration of landing gear and wing struts, and external tail control cables. (The "N-AABA" is an unofficial U.S. registration set up by an insurance company.)

set up a sales branch of his Dutch firm, but the results were practically nil. With the entire industry depressed by the glut of cheap war-surplus aircraft, there was little hope of profit in importing established European designs or in setting up a plant to build new planes.

In the early 1920s, much of the industry was kept solvent by Army contracts for rebuilding and modernizing hundreds of wartime de Havilland DH-4 observation planes. Since this was the only market in sight, Fokker chose it as the way to open up an American plant.

Wartime feeling was still running high in 1923, so Fokker's name did not appear in the new firm. Backed and managed primarily by American businessmen and financiers, the American Fokker works was established as the Atlantic Aircraft Corp. and moved into the abandoned plant of the Wittman-Lewis Aircraft Corp. at Teterboro, N.J. The first piece of business was a contract to rebuild 135 DH-4s, which had their original wooden fuselages replaced by the famous Fokker welded-steel construction.

By 1925 Fokker could see a civil market opening up and quickly developed a smaller version of his latest single-engine European transport, specifically made for American and Canadian conditions. This was a five-place, cabin monoplane with the single pilot in an open cockpit ahead of the wing. Conventional by European standards, the new Universal was an innovation in the U.S., as it was the first civil design to use the 200-hp Wright J-4 Whirlwind engine, which had been a monopoly of the military for several years. Construction was typical Fokker, with welded steel tube fuselage and tail and a plywood-skinned wood-frame wing.

The major departure from previous Fokker practice was the use of only a semicantilevered wing instead of the fully cantilevered type made famous on the European models. This called for strut bracing, which proved to be precedent-setting in itself, since the integration of the landing-gear shock absorbers and the forward lift strut was soon adopted in such later American designs

as the Travel Air, the Ryan, and the Stinson.

Constructed mainly by imported Dutch workers, the new Universal was so influenced by previous Dutch practice that even the color scheme and the trim were applied in the established Dutch factory pattern. By late 1925, prejudice had simmered down, and "Fokker" was no longer a dirty word, so the new model was widely publicized as a Fokker, rather than as an Atlantic, design. Credit for the design goes to Robert B. C. Noorduyn, who came to the United States with Fokker, later established his own company, and built the famous Noorduyn Norseman bushplane in Canada.

Several airlines and business firms soon became customers, and the Universal began a six-year production run. The plane kept up with the usual advances in the state-of-the-art by going to higher power and increased accommodation. With the 220-hp Wright J-5 Whirlwind, it won approved type certificate No. 9 in June 1927. Later, the pilot's cockpit was enclosed, the pilot was moved to the left, and a fold-down seat allowed another person in the cockpit.

With the 330-hp Wright J-6-9 engine of 1929, the Universal received ATC No. 164 and could either carry two additional passengers on a bench across the rear of the cabin or accommodate a large baggage compartment and a lavatory. All together, 45 Universals were built and sold.

Still further advances were taken care of with a new model, the seven-place Super Universal. This reverted to the fully cantilevered wing and started out with the 420-hp Pratt & Whitney Wasp engine in one of its first civil applications. Under ATC No. 52, issued in February 1928, the "Super U" won wide acceptance, particularly in the export field, and licensed manufacture was even undertaken by Vickers in Canada and Nakajima in Japan. The U.S. plant built 80, Vickers built 14, and Nakajima built 9 civil models and an undetermined number of bomber/trainer/utility versions for the Japanese Navy. □

the shortcomings of whatever experimental model he was flying.

Fokker made the big time at the tender age of 24, when he became a principal builder of fighter planes for Germany in World War I. After the Armistice, he moved his plant and some key personnel to Holland and promptly became a major supplier of transport planes for the proliferating European airlines, as well as a builder of versatile military models for small-budget nations.

The United States, where civil aviation was virtually nonexistent in the early postwar years, was a temptation to Fokker, but his name and recent war record were a terrific handicap. He did

## Fokker Universals

### Specifications and Performance

	1927 Universal	1929 Universal	1928 Super Universal
Wingspan	47 ft 0 in	47 ft 9 in	50 ft 7 in
Length	33 ft 0 in	33 ft 0 in	36 ft 7 in
Wing area	300 sq ft	300 sq ft	370 sq ft
Powerplant	Wright J-5, 220 hp	Wright J-6-9, 330 hp	P&W Wasp, 420 hp
Empty weight	2,192 lb	2,300 lb	3,000 lb
Gross weight	3,692 lb	4,000 lb	5,270 lb
High speed	118 mph	130 mph	138 mph
Cruising speed	100 mph	105 mph	118 mph
Rate of climb	700 fpm	830 fpm	1,000 fpm
Service ceiling	11,000 ft	14,200 ft	18,000 ft
Range	700 mi	525 mi	420 mi
Price	\$14,200	\$15,000	\$21,800