

YESTERDAY'S WINGS

The Boeing 203

Never advertised on the open market, unsung two-cockpit biplane worked hard as a trainer for Boeing, later saw cropdusting service, then pulled a vanishing act

by PETER M. BOWERS/AOPA 54408

■ ■ One of the “quietest” airplanes of American civil aviation was the Boeing Model 203. While it worked hard as a trainer for over 10 years, hardly anyone outside of the Boeing School of Aeronautics ever heard of it. It was never advertised on the open market, and was not even listed in books like “Jane’s All The World’s Aircraft” or the directory issues of the contemporary American aviation magazines. It was operated by an affiliate of the company that built it, and did not wander far from its home base. Even when a few became dusters during and after World War II, they managed to escape significant recognition and publicity.

Design of the Boeing 203 was started in March 1929, and all were used as trainers at the Boeing School of Aeronautics in Oakland, Calif. The Boeing Airplane Company did not operate the school, as the name would imply; that part of the story is a little complex and needs explanation.

Back in 1927, the Boeing Airplane Company of Seattle, Wash., got into the airline business and formed a subsidiary Boeing Air Transport (BAT). This expanded by acquisition of other airlines and soon became a sizable network. In 1929, when Boeing and BAT became part of United Aircraft and Transport Corporation (along with Pratt & Whitney, Hamilton Standard, Vought, and others), BAT and some other airlines became United Air Lines. This consisted of four divisions, each operating under its original airline name. The Boeing division operated the Boeing School of Aeronautics, which was located at the BAT base on Oakland Airport.

In 1934, Government trust-busting

that grew out of the air mail contract cancellations separated the manufacturing and operating sides of United Aircraft. The airline reorganized as a single new United Air Lines; P&W, Hamilton Standard, and Vought stayed together as a new United Aircraft; while Boeing, with Stearman as a subsidiary, became an independent. The Boeing School of Aeronautics, the exclusive operator of the 203s, stayed with the airline but retained its old name.

The first of the 203s, built in Seattle, made its first flight on July 4, 1929. It was a conventional two-cockpit biplane. Two passengers could sit side-by-side in the front cockpit, which could also be fitted with a second set of controls for

single occupancy in training operations. Since it had been designed by the same team that had developed the Boeing P-12 and F4B fighters for the Army and Navy, and the Model 95 mailplane, the 203 bore a very strong family resemblance to each, particularly in wingtip and tail shapes and in general proportions and layout.

Structure was generally similar, too. The 203 used two-spar wooden wings with band-sawed plywood ribs reinforced with cap strip. Where the fighters and the 95 used corrugated sheet-metal control surfaces, the 203 used wood-frame ailerons and steel-tube tail surfaces, all fabric-covered. The fighter and the mailplane used bolted square aluminum tubing for the fuselage frame, but the 203 used welded steel tubing and was the last Seattle-built Boeing to do so. Later versions of the fighter, and all subsequent Seattle Boeings, went to sheet-metal monocoque fuselages.

The engine in the first 203 was the 145 h.p., seven-cylinder Axelson Model A, formerly known as the Floco. The other three airplanes completed as Model 203 used the improved 165 h.p. Axelson Model B. These were licensed under Memorandum Approval 2-139 and did not qualify for a full Approved Type Certificate (ATC) at the time.

The second airplane in the batch of five was completed with a different engine, the five-cylinder, 165 h.p. Wright J-6-5 Whirlwind. This was one of a “family” of J-6 engines that Wright Aeronautical introduced in 1929 to use common parts: the J-6-5; the 245 h.p., seven-cylinder J-6-7; and the 300 h.p., nine-cylinder J-6-9. Boeing had to forgo its preference for Pratt & Whitney engines for the new trainer because P&W’s smallest engine at the time was the 420 h.p. Wasp. The J-6 powered model, designated 203A, flew in August

The first Boeing 203 at the factory in Boeing School colors: Boeing green fuselage; French gray tail with green outline; French gray on struts and on underside of upper wing and top side of bottom wing; International orange on top of upper wing and bottom of lower.

The Boeing Company photo



1929 and was awarded ATC-211 the same month.

All five of the trainers were delivered to the school between September and November 1929, where they enjoyed a rather unique maintenance situation. Servicing and daily and periodic inspections were performed as assigned night work by engineering students at the school, who thereby got some firsthand airplane experience along with their classwork. Similarly, the engineering students had to get out to the field early, on a rotation basis, to get the planes out of the hangars, started, taxied to the line, and thoroughly warmed up for the flight students.

The Axelson engines proved to be a constant source of trouble, and the Axelson factory representative was almost in permanent residence trying to keep them going. The good service given by the J-6 in the 203A resulted in all of the 203s being converted to 203A by engine change. This work was done at the school. Other improvements were made to the planes at various times, including the installation of larger vertical tail surfaces of a different shape, substituting airwheels for the original high-pressure type, and replacing the tailskids with steerable tailwheels. (Only the prototype had been fitted with a tailwheel originally.)

In 1932, when it became desirable to do more than primary training with the 203, the factory-built 203A was converted to 203B by the installation of a 220 h.p. Lycoming R-680 engine. Two others were converted later, and all were relicensed under Memo 2-412. All engineering involved in the conversion was done at the school; the 203B model isn't even listed in Boeing factory records. Fitted with hoods over the rear cockpits, the 203Bs served as instrument trainers.

More 203s were desired for school use, but the factory was building the P-26 fighters at the time and developing new models; it was not interested in a small order for an out-of-production model. The school then decided to build some in its own shops. The drawings were obtained from the factory, and the work was done by the shop-course students. Two 203As were turned out, one in 1935 and one in 1936. In order to qualify for license under the ATC issued to the factory, these were given Boeing factory serial numbers—one was sandwiched in between the last P-26s and the P-29s, and the second

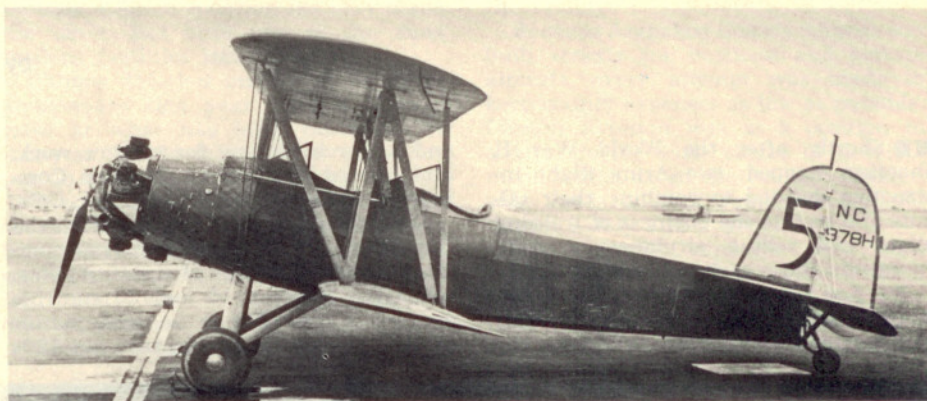
came at the end of the first batch of service-test B-17s.

Of the seven 203s, only one was lost in training operations—no fatalities; the solo student left the plane by parachute. The rest operated at Oakland until 1941, at which time the school moved some of its flight operations east of the hills to Tracy. This operation ended after Pearl Harbor, and the long training career of the 203s came to an end.

After transfer to the United Air Lines base at Cheyenne, Wyo., the 203s were sold. At least two of the 203Bs became dusters. FAA records show that there was a fourth 203B, but whether this was

converted before the school sold the airplane is not known.

Two 203Bs were known to be operating as dusters in or near Bakersfield, Calif., as late as 1950. Rumor has it that one crashed. No trace of the other has been found, despite extensive search by Boeing School alumni and members of the Pacific Northwest Aviation Historical Foundation, who would like to restore a 203 in its original school colors for display in the foundation's museum. Anyone knowing of the whereabouts or final disposition of this or other Boeing 203s is requested to contact the author through The AOPA PILOT. □



The third 203 after conversion to 203A at Boeing School. Other in-service modifications include redesigned and enlarged vertical tail surfaces, radio, low-pressure airwheels in place of high-pressure type, and replacement of the tailskid with a steerable tailwheel.

Photo by Peter M. Bowers



Installation of a nine-cylinder, 220 h.p. Lycoming engine converted 203A models to 203B. This is the second school-built 203. In 1941, the Boeing School abandoned its traditional green-gray-orange color scheme and adopted overall Cadmium red with white trim.

Photo by Peter M. Bowers



Duster conversion of 203B, operating on a restricted license (NR) near Bakersfield, Calif., approximately 1949. This one still carries the Boeing School colors and the school trainer number on the vertical fin.

Photo by Lee Enich

SPECIFICATIONS AND PERFORMANCE— BOEING 203

Span	34 ft.
Length	24 ft. 4 in.
Powerplant	Axelson A, 145 h.p. @ 1,800 r.p.m.
Empty weight	1,896 lbs.
Gross weight	2,625 lbs.
High speed	108 m.p.h.
Cruising speed	92 m.p.h.
Range	400 mi.