

A.T.C. #55  
(7-28)  
STEARMAN - C3B



*Fig. 179. The Stearman C3B was the choice of many sportsman-pilots because of its exceptional performance.*

As the annals of bygone days in aviation are written, the "Stearman" C3B without any doubt will be remembered as a very proud airplane; proud of its versatile ability and also of its heritage. Altogether, it has had a very commendable existence and must surely be considered as one of our all-time greats in early aviation. Well planned, it's a fact that the basic design was so excellent from the out-set that it remained the basis for every "Stearman" airplane that was ever built. Very much like a thoroughbred, it had first a subtle suggestion and then an unmistakable visible evidence of true class and good breeding; blessed with in-born attributes that had held up admirably throughout all of the successive models that were produced.

By nature, the "Stearmans" were extremely rugged in character and their unfailing dependability, especially "when the chips were down", was a by-word long known among the folks that fly. As time went on, its use and proven popularity as a sort of "Pony Express" on many of the early short haul feeder-lines of our growing transcontinental air-mail system, was more than likely one of its greatest claims to fame and fond remembrance; but it was also very popular with the so-called sportsman-pilot of this day who

could afford and loved a good airplane with plenty of dash and spirit. To own a "J5 Stearman" and bask in its reflected glory, was just about the pinnacle of many a pilot's dreams and hopes. Even as a workaday airplane the "C3B's" performance, without reservation, was surely among the very best; they were a complete charm to fly, with spirit and crisp determination, yet well-behaved and extremely sure-footed.

As pictured here in the various views, the Stearman C3B was an airplane of uncomplicated lines, yet with a gentle and classic beauty. In its basic form it was a 3 place open cockpit biplane that was powered with a 9 cylinder Wright "Whirlwind" J5 engine of 220 h.p.; this was a true marriage and happened to be a thoroughly compatible combination whereby one tended to show off the relative merits of the other. The "Stearman" as a type, was first introduced early in 1927 at famous "Clover Field" in Santa Monica, Calif., the factory at that time was located in nearby Venice. Early models built at the Venice plant were powered with the Curtiss OX-5 and the "Hisso" engines; when Stearman moved to Wichita late in 1927, they still built a few airplanes powered with the OX-5 and "Hisso" engines but the "Whirlwind-Stearman"



Fig. 180. This playful "Stearman" is a J4 powered C2B used by Varney Air Lines, and served regularly into 1929.

soon became the standard model in production. Their introduction to the trade was received enthusiastically to say the least and by their very nature they soon managed to acquire an earned reputation for performance and utility that was only equaled, but not hardly ever surpassed. Varney Air Lines was one of the first operators to use Stearman equipment on their scheduled routes, and many more carriers soon followed suit. Besides daily chores on the "mail routes" or obeying the whims whatever of some play-boy pilot, many C3Bs were used by flying-schools to train those going for a transport license and for advanced training in aerobatics.

The design and development of the "Stearman" biplanes was naturally carried out as a labor of love by Lloyd Stearman, with the very able assistance of Mac Short, who was a devoted associate and also a very capable

engineer. Lloyd Stearman will also be remembered as the designer of the early "New Swallow" of 1924, the airplane that practically rung the "death knell" on all of the "Jenny types" of that day and blazed the trail for the early "commercial airplane"! Later, he also designed the first of the famous "Travel Air" biplanes. If for no other reason, either of these accomplishments were proof positive and would surely vouch for Lloyd Stearman's vision and sound ability in the matter of airplane design.

The type certificate number for the model C3B was issued in July of 1928 and it was manufactured by the Stearman Aircraft Co. at Wichita, Kansas. According to record, about 40 airplanes of all types were built by Stearman up to this time. A J5 powered C3B was flown in the 1928 National Air Tour by David Levy, but due to miscellaneous misfortune



Fig. 181. A Stearman C3B fitted for blind-flying trainer by American Airways.

he had to be content with 17th place. For discussion on the improved "C3MB", see chapter for A.T.C. #137.

In the latter "thirties", after the "Stearman's" mail carrying days were just about over, they became extremely popular for "crop dusting"; doing so well in this exacting chore that they became more or less the standard equipment for this job throughout the land! Many of the more recent "Stearmans", of the W.W. 2 "trainer" type, have also become more or less standard equipment for this job at the present; but it shouldn't be surprising to know that a good number of the "old Stearmans" are still dusting and spraying to this day.

Listed below are specifications and performance data for the J5 powered Stearman model C3B; span upper 35', span lower 28', chord upper 66", chord lower 54", wing area 297 sq. ft., airfoil "Stearman", length 24', height 9', empty wt. 1625, useful load 1025, payload 445, gross wt. 2650 lb., max. speed 126, cruise 108, land 41, climb 1000, ceiling 18,000 ft., gas cap. 68 gal., oil 8 gal., range 620 miles. Price at the factory was \$8970.

The fuselage framework was built up of welded chrome-moly steel tubing, faired to shape and fabric covered. The wing panels were built up of solid spruce spars and spruce and plywood built-up ribs, also fabric covered. Ailerons were on the upper wings only and were operated by push-pull tubes that came out of the cockpit and up into the center-section panel where they were connected to torque tubes and bellcranks for positive actuation. The landing gear was of the outrigger type and had a tread of 90", individual wheel brakes were standard equipment. The fabric covered tail-group was also built up of welded chrome-moly steel tubing, the fin was ground adjustable and the horizontal stabilizer was adjustable in flight. Earlier models of the C3B used a "prop spinner" and some had no head-rest for pilot's cockpit; later models had a head-rest but no "spinner" was used, the nose cowling had been rounded off. The C3B was also offered as a seaplane on "Edo" floats, for details of this version see chapter for Grp. 2 approval numbered 2-124. For the rare "Hisso" powered "Stearman", model C3C, see chapter for A.T.C. #62 in this volume.



*Fig. 182. The 1928 Stearman C3B, powered with "Whirlwind" J5 engine. One of the most versatile airplanes of this period.*