

DATELINE DAYTON ... 1924

An "Early Twenties" Album Page

By JIM DUNAVENT

In the years immediately following World War One, most of the civil aircraft which attended the numerous air shows were, for obvious reasons, surplus service types. However, by 1924, a small but rapidly growing number of new-production aircraft designed specifically for the civilian market could be seen proudly rubbing wingtips with the venerable Avros, Standards, Jennies, and the occasional Bristol or Breguet which invariably showed up at such gatherings. With but few exceptions these new airplanes were light three-place biplanes powered with the cheap and readily available war-surplus Curtiss OX-5 and OX-6 engines.

Whenever they appeared, the new aircraft were of keen interest to the working pilots whose incomes stemmed from periodic charters and flight instruction, plus occasional newsreel and aerial photography, and the inevitable Sunday and county-fair passenger-hopping trade. Smaller and faster than the sluggish and cumbersome Jennies, they could carry an additional passenger...thus providing doubled earnings over the short "high-profit" season when passenger carrying brought home the loot that enabled operations to continue during the lean and hungry bad-weather months. Also, they were far more economical for charter and cross-country work than the high-horsepowered ex-military types whose massive engines gulped fuel with gay abandon and proved depressingly expensive to maintain.

Four of these pioneer civilian aircraft, which helped to shape the development of American commercial aviation throughout the early 'twenties, are shown on the opposite page. The occasion was the 1924 Air Races at Dayton, Ohio...the first meet of this type to bear the name of the "National Air Races". Four others, each representative of a type which saw wartime service, are also pictured bearing the rudimentary civil markings of that period.

1. Hartzell-Johnson FC-2 - This is the second of two unique and interesting "one-of" designs produced during 1922-1924 by the joint efforts of the Johnson Airplane Company of Dayton, Ohio, and the Hartzell Walnut Propeller Company of nearby Piqua and were designed by Frederic Charavay.

A unique feature of the FC-2 was the use of dynamically balanced ailerons. Small airfoil sections were mounted on pylons above the aileron, whose trailing edges were curiously indented in a graceful curve...a design oddity reminiscent of German A.E.G. wartime aircraft. The first of the two Charavay-designed planes, the FC-1, was notably successful in a number of the regional meets, winning first place in its class at the 1923 St. Louis air races. Flown by the well-known Walter E. Lees, it clocked an average 89.3 mph around the pylons.

2. 1922 Laird "Swallow" - The first production model built by the E. M. Laird Airplane Company of Wichita, Kansas, the Swallow was the forerunner of a long and distinguished line of airplanes which bore either the Laird or "Swallow" trademark. The E. M. Laird Company, later reorganized in 1925 as the Swallow Aircraft Corporation, brought together three of the most colorful figures in the aircraft industry during the 'twenties. E. M. "Matty" Laird, Walter Beech, and Lloyd Stearman. The association was to be short-lived...by 1925 Walter Beech had departed to found the equally famous Travel Air company; later, both Matty Laird and Lloyd Stearman withdrew to form their own manufacturing concerns.

The airplane in the photo was operated (along with Jennies, a Waco "Six" and a home-built flying boat) by the Mayer Aircraft and Flying Service of Bridgeville, Pa. The first civil aircraft registry issued in the United States was N-ABCB, for a 1922 Swallow which was the "company ship" of the LMC Drilling and Production

Company, Wichita, Kansas. A second Swallow, operated by the Nimmo Black Airport Corporation of Chicago, drew the third civil registry marking...N-ABCD.

3. Advance Waco "Six" - The "Six" was the first production model Waco, built in 1923 by the Advance Aircraft Corporation of Troy, Ohio. It was designed by Clayton J. Brukner and Elwood Junkin, who had earlier been associated with Buck Weaver in the abortive Weaver Airplane Company. After Weaver withdrew his interests in 1922, Brukner and Junkin moved the budding two-man organization to Troy and started business under the new name; however, the initials of the Weaver company were retained as a trademark, Waco.

The airplane pictured was probably one of the Waco company demonstrators. The author remembers seeing this same aircraft, or a sister plane, carrying passengers from a field adjacent to the Madison County Fair at London, Ohio, in either 1924 or 1925.

4. "Americanized" SE-5 Skywriter - During 1923 and 1924 the newly-formed Skywriting Company of America imported SE-5a's which had been modified for smoke writing. Five of them were "Americanized" in 1924 by the addition of underslung chin radiators and large burnished aluminum nose spinners, and they retained the original exhaust pipes in lieu of the extended "T" pipes which had been fitted to British skywriters.

When this picture was taken the aircraft still bore the British registration marking G-EBGL on the lower vertical fin. It was built by the Austin Motor Company of Northfield, Birmingham, c/n 1662. The original British C of A was issued 19 June 1923 to the Savage Skywriting Company, Ltd. G-EBGL and the other surviving American skywriters (three had been dismantled or written off in crashes) passed into U.S. ownership by April, 1927, and most of them made their final public appearance in Howard Hughes' film "Hell's Angels" along with the last of the Eberhardt-built Air Corps SE-5E's.

5. Fokker C-2 - Built during the immediate post-war years by the Nederlandsche Vliegtuigenfabriek Fokker at Schiphol, Holland, the C-2 was essentially a stretched out D.VII. Some C-2's were produced, it is claimed, from the trainload of C- and D-type spares smuggled out of Germany during the period of chaos following the signing of the Armistice.

At least two of these two-seater Fokkers were operated by the Fairchild Flying Corporation of New York City. This is one, and as it was used primarily for aerial photography, a unique streamlined enclosure with glazed sliding windows, was built around the rear cockpit.

6. Ansaldo SVA-1 - Several of these high-performance Italian scouts were brought to the United States during 1920 and 1921 by the Aero Import Company of New York City. Some were modified to two-seater configuration and entered in all manner of endurance contests, economy of operation flights, and air races. Two Ansalos were entered in the 1921 Pulitzer Trophy Race at Omaha, Nebraska; one of which, piloted by Lloyd Bertaud, took fourth place at an average 149.78 mph.

This one was owned by Basil Rowe, at that time operating a flying service at Sidney, near Binghamton, N.Y.

7. Thomas-Morse S4C - This photograph demonstrates a singular example of post-World-War-One reverse lend-lease! Although numbers of British Avros and quite a few Bristols were imported by brokers working with the Aircraft Disposals Company of England, practically no American WWI aircraft, with the exception of Canadian-built Canuck Jennies, were exported to British Commonwealth nations. This Tommy bears the early Canadian civil markings used prior to the adoption of the familiar CF prefix.

8. Swallow "Commercial" - The Swallow "Commercial" was

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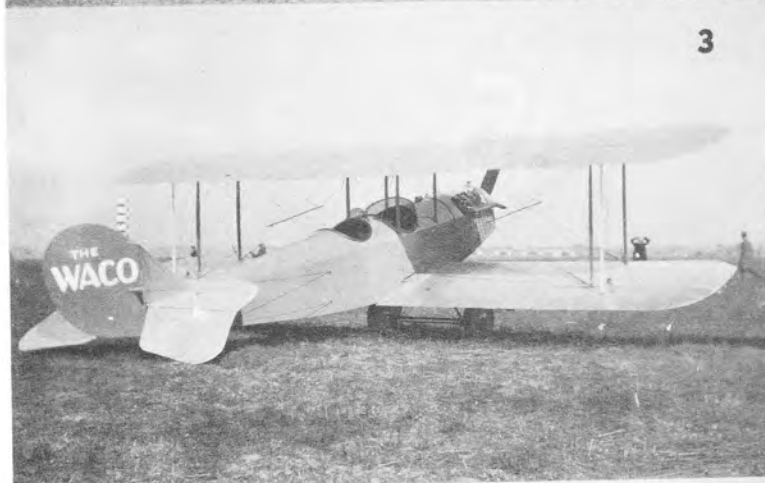
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Monthly \$3.00 per year 8½ x 11 (36)
 "The Aviation News Magazine of Africa". Text in English.
 News of African aviation.

SPAIN

AVION

Apartado de Correos 14.209, Madrin 14
 Monthly 250 Ptas. per year 9 x 12 (64)
 Official organ of the Royal Aero Club of Spain. Text in Spanish. Circulation: 5000.

SWEDEN

TEKNIKENS VARLD

P.O. Box 3263, Stockholm 3
 Biweekly \$4.50 per year 8 x 11
 In Swedish. Formerly "Flyg". Official magazine for the Royal Swedish Air Force. Also covers cars and boats.

TEKNIK FOR ALLA

Tunnelgatan 3, P.O. Box 3137, Stockholm 3
 Biweekly \$4.25 per year 8 x 11
 Do-it-yourself type of magazine with occasional aviation subjects.

SWITZERLAND

AERO REVUE

Hirschengraben 22, Zurich 1
 Monthly \$5.25 per year 8½ x 11-3/4
 Official publication of the Aero Club of Switzerland. In French, German and English. General aviation news including model aircraft.

INTERAVIA

Interavia S.A., 6 Corraterie, Geneva
 Monthly \$9.00 per year 9-5/8 x 12-7/8 (130)
 Published in four editions (English, French, German and Spanish). World review of aviation and aeronautics, air transport industry news, etc. An excellent publication.

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first produced in 1923, and offered considerably improved performance over the first Laird "Swallow". It was produced through 1928, when the company was placed in the hands of receivers and passed from the control of Jacob Mollendieck, its president, to a group of Wichita businessmen. Known as the "Super-Swallow", it received ATC #21 when Federal licensing and certification came into being in 1926. Two "Super-Swallows" were flown to the 1924 Dayton Races, one by Billy Parker, later of Phillips Oil fame.

Note: These photographs were made available through the courtesy of Mr. John C. Columbus, pioneer Kentucky pilot and owner of a Jenny and a Thomas Morse S4C during the early twenties. The author gratefully acknowledges loan of the original negatives for the purpose of making this layout.

FLYING RACING SEAPLANES

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*S.1595 9.125 18.98 2.04 2,450 -
 (S.6B)

About the same as above (slightly worse.)

*S.1595 9.125 18.72 2.025 2,550 -
 (S.6B)

Better than the above. Quite good considering fuel load, i.e., 90 galls starboard, 45 galls port.

*S.1595 9.5 18.27 1.925 2,350 -
 (S.6B)

Slight tendency to swing. Possible to maintain straight course from start to take-off.

*S.1596 9.5 18.77 1.977 2,325 -
 (S.6B)

With full right rudder swung at low speed first right and then left. By keeping right rudder on swing into wind at about hump speed.

*S.1596 8.833 18.33 2.075 2,600 -
 (S.6B)

Weather cocks at slow tick over, and swings left at high revs. Opening up just to right of wind, swung more than 90 deg. as speed increased to hump speed. Second attempt opening up further to right of wind same occurred.
 Final attempt started 90 deg. right of wind, swung 110 deg. then checked, course maintained and take-off made with full right rudder and right aileron.

S.1595 9.5 18.27 1.922 2,375 -
 (S.6B)

Slight swing to left, but straight course can be maintained by right rudder.

*1931 engines.

Except where otherwise mentioned, the trials were made with 1931 type floats and 90 galls. fuel (60 galls. starboard and 30 galls. port.)

One other extract that is of interest is from Section 1 of the same book, the author of the Section being H. M. Garner, M.A.: -

One series of tests dealt with the cooling problems. The method of cooling the water-cooled engines on high speed aircraft by means of surface radiators was first introduced into the Schneider Trophy Contests in 1925. Although a surface radiator system is much heavier than the older systems, the effect of reduction in resistance on the level speed of the aircraft is much greater than that of the increase in weight. The use of surface radiators has led to such a cleaning up of high speed aircraft that it is difficult to see how any large further reduction in resistance can be obtained. On the S.6. most of the exposed surface of the seaplane was used for cooling either the water or the oil, and one problem on the S.6B was to find means for the additional cooling necessitated by the increase in engine power since 1929. The additional cooling was mainly obtained by fitting more coolers on the tops and sides of the floats. A small amount of further cooling was ultimately required and this was obtained by fitting louvres into the wings near the tips* to direct air over the inner surfaces of the radiators. The problem was to obtain a large flow with as little increase in resistance as possible. The best results were obtained with the entrance chamber streamlined.

"The stage appears almost to have been reached on high speed aircraft with water-cooled engines in which a lower limit to the wing area is set by the amount of cooling required for the engine. It may prove more economical to increase wing area in order to obtain additional surface cooling, rather than to use auxiliary cooling devices."

*The louvres which are mentioned above were fitted so that the entering air did so from under the wing-tip, a region of high pressure, while the outlet louvres were placed on the upper surface of the wing near the wing root, a region of low pressure. In this way the pressure difference about the wing was used to induce the cooling airflow.

All this is interesting in view of the types of radiator developed during W.W.2 years when, on aircraft such as the Spitfire and Mustang the radiator actually produced no drag or perhaps even a slight thrust due to having an accelerating effect on the heated air. END.