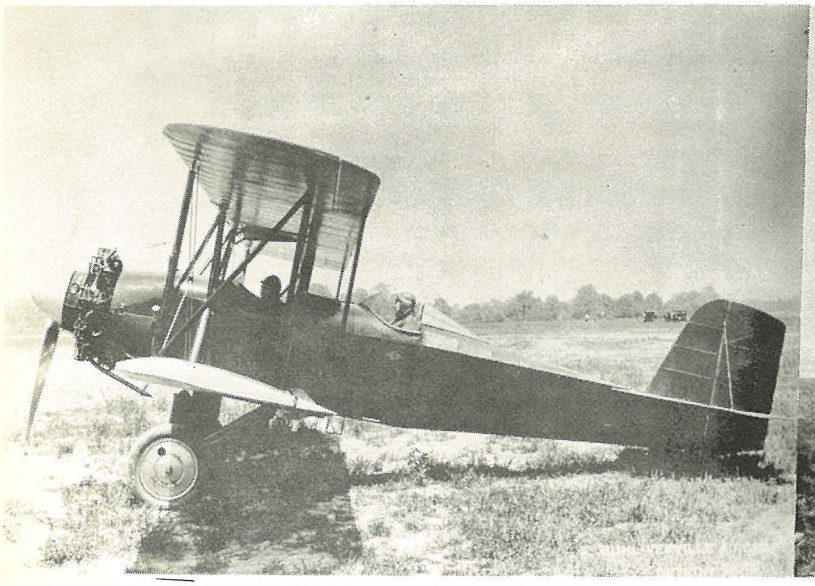
FAMILY TREE of the A.T.C.

by JOSEPH P. JUPTNER

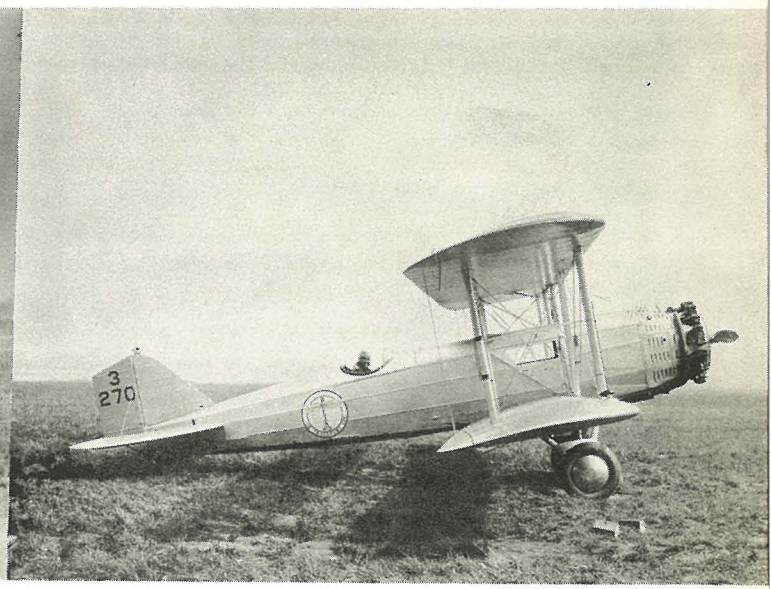
The "Approved Type Certificate" was first issued to aircraft manufacturers in 1927 by the newly instituted Aeronautics Branch of the Dept. of Commerce. These Certificates of Airworthiness were calculated to regulate aircraft manufacture and help to establish the caliber of numerous aircraft that were then being built or planned for the civilian market. As time went on, these certificates became commonly known as the "A.T.C." and were coveted by those engaged in airplane manufacture. For a number of years up to this time, airplanes for civilian uses were being built according to the accumulated know-how amassed by those active in the industry, more or less on the honor-system without any direct Federal supervision. But this system of things was found wanting in many instances and deemed impractical in view of the terrific expansion already foreseen in the future for air travel and airplane manufacture.

Therefore, under the Air Commerce Act of 1926, which was fathered by the Hon. Wm. P. McCracken, the "approved type certificate" became a regulatory measure and was made compulsory. An airplane "type" that had passed all the stringent tests and requirements successfully proved beyond reasonable doubt that it was completely airworthy and safe. The approved craft then received its badge of honor, the "A.T.C.". The "Number One Certificate" was awarded to the Buhl-Verville "Airster" with great honor and some fan-fare on the 29th of March, 1927. It is true that many of the early aircraft builders were skeptical of the "Approved Type Certificate". but later all came to respect it. By the end of 1928, some 3500 airplanes were produced in practically a hundred types. In 1929 this was to nearly double. 1929 was a veritable riot of activity; it was the most frantic year of all time. 187 "approved type certificates" were issued to 72 manufacturers in that year alone, while at least 18 manufacturers were experimenting. This was the most diversified selection of airplanes ever to come before the flying and buying public, a phenomenon that has never happened again since. Tracing this family tree of the "Approved Type Certificate" from its origin led to the compilation of this series called "Family Tree of the A.T.C." We hope it proves of interest to all.



A.T.C. #1 - BUHL-VERVILLE "AIRSTER"

The Buhl-Verville "Airster" had at least one major distinction; we might say it actually ushered in a brand-new era to the annals of our aviation history as the first airplane to be "certificated" by the government for manufacture; the proud recipient of Approved Type Certificate #1 on the 29th of March, 1927. Alfred V. Verville was the designer of the "Airster" that was first built in Detroit, and later in Marysville, Mich. Verville was once an engineer for Glenn Curtiss, built his first airplane in 1915, and is probably best known for his display of inventive genius in designing the "Verville-Packard" and "Verville-Sperry", racing airplanes that were winners of the fabulous "Pulitzer Race". The "Airster" first came out with an OX-5 (Model CW-3) in December of 1925; 1926 version had Wright J4 (Model CA-3) and was flown to 2nd place in 1926 Ford Air Tour; 1927 version had a Wright J5 (Model CA-3A) and was flown to 3rd place by Nick B. Mamer in Air Derby from New York to Spokane, Washington.



A.T.C. #2 - BOEING "MODEL 40-A"

The "Wasp" powered Boeing "Model 40-A" was a development from the "Liberty" powered Boeing Mailplane (Model 40) of 1925, and was designed for use on the new Boeing Air Transport line (C.A.M. #18) from San Francisco to Chicago. Cabin section of the 40-A carried two passengers and pilot sat in open cockpit; ample room was also provided for over 1000 lb. of airmail and cargo, operating range was 650 miles at 105 m.p.h. The 40-A, built under A.T.C. #2 issued July of 1927, was especially designed for the 410 h.p. "Wasp" engine and was the first "commercial" airplane to use it. The development of the rugged and dependable 40-A type can be largely credited to Phil Johnson, a forceful visionary who later became the head man at "Boeing", and remained at the helm for a good many years. After a year's service, the 40-A was modified by installation of a 500 h.p. "Hornet" engine; a combination calculated to offer better performance and better service in answer to ever increasing demands.

A.T.C. #3 - JOHNSON "TWIN-60"

The Johnson "Twin 60", looking very much like a giant "bomber" in miniature, was born of an idea calculated to offer a little more reliability to light plane performance than was usually the case. Introduced locally with very little fan-fare in the latter part of 1926, it was a two-place open cockpit biplane with two Bristol "Cherub" engines (30-36 H.P. each) that were mounted between the wing panels in "pusher" fashion. This odd configuration was engineered well and the plane offered a good performance, but public interest was never stirred. It remained a rare type. E.A. "Eddie" Johnson, long interested in aircraft manufacture, had built the Driggs-Johnson light monoplane of 1924-26. The "Twin 60" was the Johnson firm's last endeavor in airplane manufacture; it fared better as a supply house later.

A.T.C. #4 - DOUGLAS "MODEL O-2"

The "Liberty" powered Douglas "Model O-2" designed in 1925 as an "observation-plane" for the Air Service, was developed from the basic "World Cruiser" design and was destined to replace the time-worn "DeHavilland 4" which had served so long and so well. As a basic design, the "Model O-2" went into numerous and extensive modifications, and altogether a total of some 507 airplanes of this eries were built in a production period of about 10 years. The O-2 and its various versions had good habits and predictable flight characteristics; it was always a favorite with pilots of the "corps". It was never used as a commercial type, although the Douglas Company obtained an A.T.C. for this model, as well as their C-1C transport of 1927, also not used commercially. The M-1 was developed from the O-2.

A.T.C. #5 - DOUGLAS "MODEL M-2"

The "Liberty" powered "Model M-2" was a hard-working Douglas type that was primarily designed as a mail-carrier, and helped "Western Air Express" in establishing a near-perfect record for its first year of service. The M-2 was a development from the earlier model M-1, which was the winner of a design competition sponsored in 1925 by the "Air Mail Division" of the Post Office to procure a suitable design that would replace the DH-4. Some 10 designs were submitted and by virtue of its selection, the Douglas Mailplane was awarded a large order. The "Model M-2" was normally used as a single-seater, but the two forward hatches could be quickly converted to carrying a passenger or two. True, it didn't offer any great comfort, passengers often having to sit with mail-bags at their feet, but air-travelers were hardy individuals in these early times. A good number of the early airlines used the M-2.

A.T.C. #6 - DOUGLAS "MODEL M-4"

The "Liberty" powered "Model M-4" was the last production version in the versatile Douglas M-series and was offered with a selection of two wing areas to meet operating needs. Many of these were equipped with night-flying gear, radio equipment and some were later converted to blind-flying trainers. One M-4 version was powered with a 525 h.p. "Hornet" engine as a final version, but this design had run its course by 1929 and had to give way to the increased performance and greater utility of newer designs. The well-known James H. Kindleberger was chief engineer for Douglas at this time, having joined the firm in 1925 and stayed on until 1934 when he left to join North American Aviation, Inc. when it started its present manufacturing phase. M-2's, M-3's and M-4's were used in varying quantities by Wes-

(Continued on Page 151)

FAMILY TREE

(Continued from Page 122)

tern Air Express, Robertson Air Lines, National Air Transport and the Post Office Department until replaced by the Boeing "95", Curtiss "Carrier Pidgeon II" and "Falcon Mailplane".

ABOUT THE AUTHOR

Juptner saw his first airplane, an OX-5 Standard, in 1925 at the age of twelve, soon picked up the trick of listening intently to pilots' wild stories and washing down oil-soaked airplanes in exchange for rides. He graduated to "throttle watcher", A & E mechanic, amateur airplane designer and builder, pilot, crew-chief in Air Force Fighter Group. He later became a partner in a flying school operation, hobby-shop operator, wind tunnel model builder, and experimental machinist. Always interested in aviation history, he acquired a valuable collection that was scattered and destroyed during absence overseas. Married the girl from across the street in 1948, has two boys who both love airplanes and wonder why they ever quit making "two wingers". Present aviation hobby consists of compiling collection of historical data, books, and photos on "commercial aircraft"; and bumming airplane rides. His study of airplane history pointed to the fact that a factual record was needed of the numerical order of "certificated types". Years of research were spent in compiling data, photos, and interesting bits of information for this project; the first volume is now completed and it is presumed will be printed later this year.

PHOTO CREDITS

Page 121. Verville "Airster" - from Alfred Verville
Boeing 40A - Boeing Airplane Company

Page 122. Johnson "Twin Sixty" - National Air Museum, Neg. No. 46899J
Douglas O-2D - Douglas Aircraft Company, submitted through Stephen Hudek
Douglas M-2 - Douglas Aircraft Company, No. A469
Douglas M-4 - Douglas Aircraft Company, No. 614, 7-27-26.