A.T.C. #265
(11-2-29)
PARAMOUNT "CABINAIRE", 165

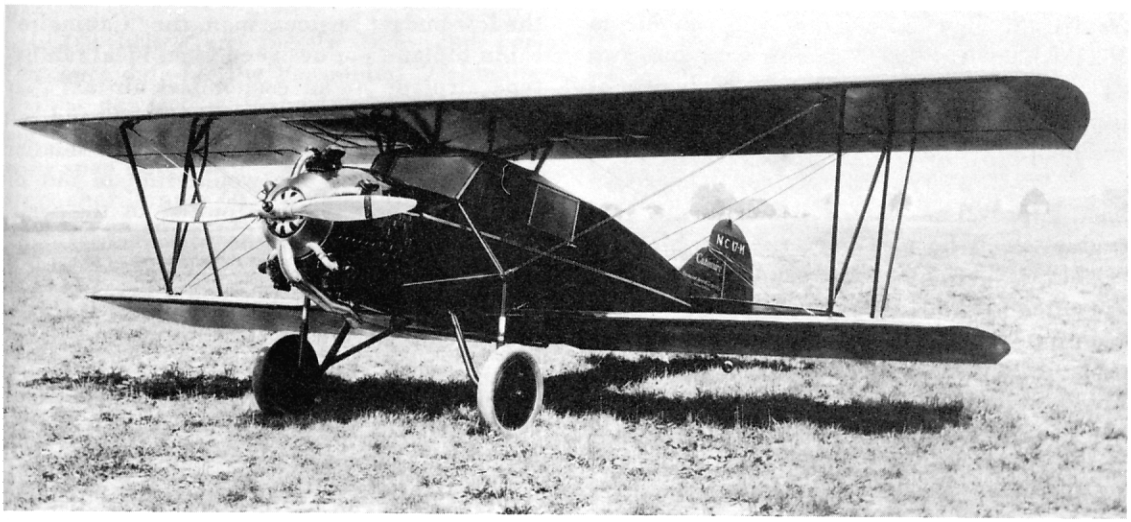

Fig. 207. Paramount "Cabinaire" model 165 with 5 cyl. Wright J6 engine.

The Paramount "Cabinaire" was an interesting example in a small family-type airplane; trim and very compact, it didn't have that big expensive look and seems to be a craft one would thoroughly enjoy owning and flying around the home port. Rather unusual too is the fact that the "Cabinaire" was an enclosed biplane and introduced at a time when the big switch was being made to monoplanes for a craft of this type. It doesn't take much imagination to see the underlying purpose for this particular selection of configuration and realize that it was perhaps guided by a desire for an abundance of wing area around a fuselage that was hardly much bigger than the average 3 place biplane of the open cockpit type. Consequently, the result of this selection is a petite 4 place airplane that is about 500 lbs. lighter than the average monoplane of this capacity with a performance on 165 h.p. that would otherwise not have been possible. Quite proud of the "Cabinaire" and rightfully so, Walter Carr demonstrated its ability on every opportunity; as a contestant in the hard-fought National Air Tour for 1930, he flew the "Cabinaire" model 165 to 15th place amongst a very determined field.

Always a firm believer in the merits of the biplane, Walter Carr was perhaps as avid an advocate for the two-winger as Clyde Cessna and others were for the monoplane. It is true that the monoplane had characteristics that would win in the end but the biplane still had many advantages in its favor during this particular period of time. Considered as one of the smaller operations in the aircraft industry, Paramount Aircraft had not the large amounts of capital that some enjoyed so they had to operate with modest expenditures and with a modest working crew; had Paramount been blessed with more sales of their "Cabinaire" there is no telling what might have been. In development for over a year, the "Cabinaire" had the misfortune of being introduced on the threshold of the "depression" and this was a bitter-pill that many found hard to swallow. Reaching its peak of popularity along about this time, the cabin biplane soon began fading from the scene and except for the popular "Waco" cabin biplanes and the fabulous Beech "Stagger-Wing" was almost unheard of again.

Walter J. Carr, the designer of the "Cabinaire" biplane series, was a pioneer pilot that was well known in Michigan flying circles with exhibition flights that date back to at least 1915. Typical of many old-timers who saw plenty of room for improvement in the old crates they were then flying, Carr took a fling at building airplanes and designed the "Maiden Saginaw" in 1924. Also interested in

promoting the use of air transportation, Carr became chief of operations and chief pilot for Northern Airways which maintained a route from Detroit to Saginaw and Bay City. Versatile and qualified through experience in many phases of aviation, Walter Carr undertook to test-fly the first Warner "Scarab" engine in 1927 which had been mounted in his own "Travel Air" biplane. With 156 hours of flying time recorded on this first Warner engine (Serial # 1), tests were pronounced satisfactory, the engine received its government approval and Carr fell heir to this first engine which he also later used in his first "Cabinaire" type. Stories vary to some extent as stories will, but from close examination of the prototype airplane in this series it is easy to believe that Walter Carr's own "Travel Air" was the back-bone for his first "Cabinaire", right down to the "elephant ear" ailerons and all. We could say that the "Travel Air" was added to here and there and modified into a "Cabinaire". With flight tests performed and many lessons learned, the next "Cabinaire" though still very similar was redesigned in a personality all its own and in a craft that harbored many innovations. Organized late in 1928, Paramount Aircraft had their "Cabinaire" series in development for nearly a year before receiving government approval for manufacture.

The Paramount "Cabinaire" model 165 was a cabin biplane of rather petite proportion that seated 4 in fair comfort but in chummy proximity. Powered with the 5 cyl. Wright J6 engine of 165 h.p. performance compared favorably to the very best and economy per seat-mile was one of its cardinal features. Planned especially for the private owner or the low-budget business man, the "Cabinaire" cabin biplane was designed as an ideal family-type airplane or an economical air-taxi that could operate cheaply and easily in and out of smaller airports adjacent to the smaller towns, towns that one would find in out of way places and not be limited to the well-developed airfields in the bigger cities. The first batch of "Cabinaires" were powered with the 110 h.p. Warner engine and it is surprising the performance that was available from this 4-seated craft; well arranged aerodynamically its behavior was positive and enjoyable. To compensate for some losses in speed due to bracing struts and rigging, Carr made use of the N.A.C.A. type low-drag engine cowling to cancel out the losses; the "Cabinaire" was one of the first few to take advantage of this type of engine fairing. The "Cabinaire 165" with its bigger Wright engine was not particularly adaptable to the N.A.C.A. cowling because of its larger diameter but the added horsepower compensated for drag losses that were more critical with lower power. The type certificate number for the "Cabinaire" model 165 as powered with the 165 h.p. Wright J6 (R-540) engine was issued 11-2-29 and only one example of this model was manufactured by the Paramount Aircraft

Fig. 208. Cabinaire offered practical utility and high performance on nominal horsepower.

Corp. at Saginaw, Mich. J. E. Behse (or Behre) was president, treasurer, and sales manager; and Walter J. Carr was V.P., plant manager, chief design-engineer, and chief pilot in charge of test and development.

Listed below are specifications and performance data for the Paramount "Cabinaire 165" as powered with the 165 h.p. Wright J6 engine; length overall 24′7″; hite overall 9′0″; wing span upper 33′0″; wing span lower 29′0″; wing chord upper 66″; wing chord lower 56″; wing area upper 173 sq.ft.; wing area lower 136 sq.ft.; total wing area 309 sq.ft.; airfoil "Carr"; wt. empty 1620 lbs.; useful load 1010; payload with 50 gal. fuel was 510 lbs.; gross wt. 2630 lbs.; max. speed 120; cruising speed 102; landing speed 45; climb 780 ft. first min. at sea level; ceiling 12,000 ft.; gas cap. 50 gal.; oil cap. 4 gal.; cruising range at 9.5 gal. per hour was 500 miles; price at the factory was $7500., lowered to $6750., and cut to $5750. in June of 1931.

The fuselage framework was built up of welded chrome-moly steel tubing, faired to shape with metal formers and wooden fairing strips then fabric covered. The chummy cabin of 83 cu. ft. volume capacity seated 4 with two individual seats in front and a bench type seat in back; a door on right side front provided entry to the front seats and a door on left side rear provided entry to the seat in back. Entry to the cabin was an easy step from the wing-walk. Upholstery was plain and practical with large windows for ample visibility. The wing framework was built up of laminated spruce spar beams with spruce and plywood truss-type wing ribs; the completed framework was covered with fabric. Fuel tanks were mounted in the root end of each upper wing panel, outboard from the center-section which was supported atop the fuselage by two small N-type struts. The wide tread landing gear was of the rugged out-rigger type with "Aerol" (air-oil) shock absorbing struts; wheels were 30x5 and Bendix brakes were standard equipment. The "Cabinaire" was planned to operate on "Edo" floats but was not approved. The wheel brakes were operated by depressing a patented attachment

Fig. 209. Early "Cabinaire" carried four on 110 H.P.; neat installation of N.A.C.A. cowling contributed heavily to performance.

on the control wheel with slight pressure of the thumbs; the spring-leaf tail skid had a patended revolving "dural ball" for use on hard-surface runways. The fabric covered tail-group was built up of welded steel tubing; the fin was ground adjustable and the horizontal stabilizer was adjustable in flight. Balanced-hinge ailerons (Friese type) and a balanced rudder were provided to lighten control loads. A metal propeller, wheel brakes, and wiring for navigation lights were standard equipment. Navigation lights and inertia-type engine starter were optional. The next development in the "Cabinaire" series was the model A-70 as powered with the 165 h.p. Continental engine; a Group 2 approval numbered 2-233 was issued 7-9-30. Struggling through part of the economic depression, Paramount found it difficult to continue and finally closed its doors; in June of 1932 manufacturing rights for the "Cabinaire" were offered for sale.

Listed below is the only known entry for the "Cabinaire 165":
NC-17M; Cabinaire 165 (# 7) Wright R-540.

Serial # 1 thru # 5 were on Group 2 approval 2-165 as 3 place with Warner 110; serial # 6 was on Group 2 approval 2-164 as 4 place with Warner 110; identity of serial # 8 unknown; serial # 9 was "Cabinaire A-70" with 165 h.p. Continental engine on Group 2 approval 2-233; X-4254 was prototype for "Cabinaire" series.