

# THE PRUDDEN-WHITEHEAD MONOPLANE

## An American All-Metal Commercial Machine

**W**E give this week some brief non-technical details of a recent all-metal monoplane produced by the Atlanta Aircraft Corporation, of Atlanta, U.S.A.—namely, the Prudden-Whitehead commercial monoplane, the design of which was recently approved by the U.S. Department of Commerce.

The Prudden-Whitehead all-metal monoplane embodies several novel features, and while the unusual features to be noted can in no way be considered radical, it is their efficient application and execution of design that has produced very favourable impressions during its demonstrations in the eastern States of America.

This machine is all-metal throughout, of duralumin and duralumin alclad, and is of the low-wing type. The fuselage is one of the very rare, full monocoque types, the bulkheads being formed from sheet duralumin over which the corrugated alclad "skin" is laid.

The monoplane wing is of full cantilever construction, carrying three main spars of duralumin, with alclad covering. It is to be noted that the corrugated metal wing covering carries a portion of the stresses. Ailerons are inset, and the tail-surfaces conventional with balanced rudder.

Possibly the most notable of the novel features is the installation of the engine mount nacelles in the leading edge of the wing, carrying a modified N.A.C.A. cowling with collector ring in the leading edge.

The landing gear is of conventional split type, with an Aerol shock strut installation on the main wheels and oil-draulic strut at the tail wheel, Bendix brakes, with high-pressure tyres are standard equipment.

In the appointments of the passenger cabin, every consideration has been given the comfort and safety of passengers. Colours are soft browns and green, pleasingly blended. Ventilation is furnished by specially-constructed adjustable ventilators at each seat, the plate glass windows being fixed. The pilot's cockpit windows carry shatterproof glass, two of which are movable. A remarkably broad range of visibility is to be had not only from the pilot's seat, but from the cabin as well. Seats are comfortably upholstered in soft chrome leather. Attention to detail is shown in the equipment of a wash room and toilet.

Everywhere attention to details which may promote safety has been given, in both the design and in construction as well. Power is furnished by three Wright J6-R760 motors, and the installation is so made that no factor can affect more than one motor at one time. Fuel, baggage compartment, and all weighty constructions are placed below the passenger

cabin. Mail contractors have evidenced interest in the considerable load space, available without the use of the passenger compartment for this purpose.

The following is the P.M. monoplane specification of this machine:—

### General Dimensions

Span overall	66 ft. 6 in.
Length overall	44 " 10 "
Height	14 " 7/8 "
Wing area	662.5 sq. ft.
Wheel tread	18 ft.

### Cabin Accommodation

Width	5 ft. 0 in.
Aisle width	1 " 3 "
Seat width	1 " 6 "
Length, passenger cabin	10 " 0 "
Height	6 " 10 "
Height (average)	5 " 5 "
Seats	8 to 10 "

### Performance

High speed	145 m.p.h.
Cruising speed	124 "
Landing speed	55 "
Take-off (with full load)	7 seconds.
Take-off run	384 ft.
Climb, at sea level	1,220 ft. per min.
Absolute ceiling	17,000 ft.
Service ceiling	15,000 "
Altitude maintained with 2 motors	10,000 "
Net weight	5,200 lb.
Useful load	2,535 "
Gross weight	7,735 "
Pay load	1,330 "
Power plant (3 Wright J6-R760, 240 h.p.)	720 h.p.
Wing loading	12.25 lb. per sq.ft.
Power loading, 3 motors	10.75 lb. per h.p.
Power loading, 2 motors	16.1 " "
Gliding ratio	9.5 to 1
Fuel capacity	150 gals.
Fuel consumption per hour	30 "
Oil consumption per hour	1.37 "
Miles per gallon fuel at cruising speed	4.12.
Endurance	5 hours
Range	620 miles



AN AMERICAN ALL-METAL COMMERCIAL MONOPLANE: The Prudden-Whitehead low-wing monoplane, powered with three 240-h.p. Wright J6-R760 engines, and carrying eight passengers.