



**HANDLEY PAGE
HAMPDEN**
(Two Bristol Pegasus
XVIII Engines*)

Dimensions.

Length of fuselage	53ft. 4in. (16.25 m.)
Max. width of fuselage	3ft. (0.92 m.)
Max. height of fuselage	8ft. 8in. (2.65 m.)
Mean wing chord (aerodynamic)	11ft. 4in. (3.46 m.)
Root chord	16ft. 3in. (4.96 m.)
Tip chord	3ft. 10in. (1.17 m.)
Aspect ratio	6.58
Tailplane span	21ft. 2in. (6.45 m.)
Total wing area	668 sq. ft. (62.1 m. ²)

Weights.

Tare weight	11,780 lb. (5,354 kg.)
Useful load	6,976 lb. (3,171 kg.)
Gross weight (normal)	18,756 lb. (8,525 kg.)
Distribution of load:—	
Fuel	3,173 lb. (1,442 kg.)
Oil	216 lb. (98 kg.)
Crew (4, with 5 parachutes)	
Service load (including crew)	3,587 lb. (1,631 kg.)
Max. fuel	654 gals. (2,975 litres)
Max. oil	36 gals. (164 litres)

Performance

(with Pegasus XVIII)

Max. speed at 18,750 lb. gross weight:	
265 m.p.h. (427 km/h.) at 15,500ft. (4,730 m.)	
Cruising speed at normal r.p.m.:	
217 m.p.h. (350 km/h.) at 15,000ft. (4,580 m.)	
Economical cruising speed:	
167 m.p.h. (269 km/h.) at 15,000ft. (4,580 m.)	
Service ceiling	22,700ft. (6,920 m.)
Time to 15,000ft. (4,580 m.)	18.9 minutes
Sea level rate of climb	980 ft./min. (4.98 m/sec.)
Take-off run to clear 50ft. barrier	550 yds. (503 m.)
Landing run, clearing 50ft. barrier	550 yds. (503 m.)
Landing speed	73 m.p.h. (117 km/h.)

ordinary type, this portion of the wing terminates in a curved strip to form the fixed portion of the slot between flap and wing. The extreme leading edge is a trough of U-section, attached to the lower edge of the false front spar by "piano" hinges. It is built in short units. Not only does this form of construction facilitate access to the leads, engine controls, etc., carried on the front wall of the spar box, but in case of damage to a leading edge the chances are that only a short unit will need replacement.

Outer wing portions are of generally similar construction to the centre-section, with the exception that the main spar has a solid web, and flanges of extruded L-section. On their leading edges they carry the automatic slots, and on the trailing edges the Frise ailerons. Each outer wing portion is attached to the centre-section by four bolts; two large ones on the ends of top and bottom flanges of the main spar, one near the upper edge of the front spar wall, and one a short distance ahead of the junction of flaps and ailerons to the trailing edge. The two latter are quite light fittings, and almost the entire load is taken by the two very large bolted joints on the main spar flanges.

In order to "close" the spar box and to give access for inspection of the internal structure during the subsequent life of the machine, the under-surface of the wing has two straight (non-tapering) panels, about 8in. wide, running the entire span. These panels are located adjacent to the lower spar flange, and piano hinges are provided along one edge of each. Finally, the three main wing portions pass to the main assembly jig, in which they are bolted together and the interchangeability assured.

The production "flow" system may be described as a lateral inflow of small pieces from the different shops into two parallel longitudinal lines, one the fuselage components and the other the wing components. Owing to the "split" type of production one does not see anywhere in the works the familiar rows of finished or nearly finished fuselages and wings. When the three fuselage portions meet

the centre-section at the far end of the shop, they are bolted together temporarily for transport by road to the works at Radlett aerodrome. There the fuselage is removed from the road chassis and finally assembled on the wing, resting on the proper undercarriage, which has been attached in the meantime.

At the Cricklewood works elaborate jigs are used for the assembly of the engine mountings. Each jig carries

Service Load and Range.

Load		Range		Economic Cruising Speed	
		Normal Cruising Speed			
lb.	kg.	miles	km.	miles	km.
2,587	1,176	1,475	2,380	1,790	2,880
3,587	1,631	1,095	1,760	1,335	2,150
5,587	2,540	300	580	440	710

Performance at Max. Permissible Wt. of 21,000 lb. (9,550 kg.)

(At 15,000ft. (4,580 m.))

Cruising speed	212 m.p.h. (341 km/h.)
Economical speed	172 m.p.h. (277 km/h.)
Service ceiling	19,500ft. (5,950 m.)
Time to 15,000ft.	27.2 minutes
Sea level rate of climb	760 ft./min. (3.87 m./sec.)
Take-off run to clear 50ft. barrier	810 yds. (741 m.)

Service Load and Range.

Load		Normal Cruising Speed		Economical Speed	
		miles	km.	miles	km.
3,587	1,631	1,725	2,780	1,990	3,210
5,587	2,540	1,165	1,875	1,340	2,160
6,587	2,994	788	1,270	870	1,400

* Alternative Power Plants are the Napier Dagger VIII and the Rolls-Royce Merlin X.