

PART V

OPERATING DATA

112. Pressure error corrections

The pressure error corrections, undercarriage and flaps up, are as follows:—

A.S.I.	150	200	250	300	knots
P.E.C.	+5	+6	+8	+10	knots

113. Flight planning data

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- (i) The tables in the centre of the book show the climb, cruise and descent data in tabular form. Heights are given at 10,000 ft. intervals, but interpolation is possible for intermediate heights.
 - (ii) The climb and descent data tables give the necessary information for climbing or descending from any one height to another. Climb distances are included where necessary in the cruise data table, but not descent distances, since in some cases the descent may be made from overhead and in others some distance from the destination. Allowance is made for fuel used on the descent.
 - (iii) Each cruise data table consists of separate altitude blocks. Each block shows:—
 - (a) The level flight range to the let-down point in nautical miles, at the particular height for various fuel states.
 - (b) The best range IAS at the particular height together with approximate A.N.M. per gallon and the approximate fuel consumption in gall./hr. The figures in brackets alongside the IAS indicate the speed band, use of any IAS within which the reduction in range should not exceed 5%.

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(c) The range, including the distance covered on the climb, if a climb is made to any other altitude during flight.

(iv) *Use of the tables*

(a) *Pre-flight planning*

Enter the cruise data table in the sea level block at the fuel state applying immediately after take-off. Select the height at which maximum range is available at that fuel state. The distance available includes distance covered on the climb, but not on the descent. (Absolute maximum range is obtained by adding on the descent distance, provided that the let-down is commenced at that distance from the destination.)

For short range flights inspect the sea level block and select the height at which the distance to be covered requires the least amount of fuel. This is the best altitude for the flight.

(b) *In-flight planning*

At any stage of a flight the available range may be ascertained by applying the fuel state to the level flight range in the particular altitude block.

If an increase in range is required, or if a climb has to be made, the new available range may be obtained by entering the existing altitude block at the particular fuel state and moving vertically downwards within the block until the new altitude is reached. Figures in heavy type indicate the best altitude for the maximum increase in range. Above these heights no further range increase is possible. If a descent is necessitated the new range is shown by moving direct from the existing altitude level flight range for the particular fuel state to the new altitude level flight range.

114. Fuel consumptions

(i) The fuel consumptions at best range speed and at maximum continuous power can be obtained from the flight planning charts.

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(ii) The fuel consumption when loitering, at a weight of 18,500 lb. at 2,000 ft., is approximately as follows:—

- (a) Undercarriage and flaps up 235 g.p.h.
- (b) Undercarriage and flaps down 265 g.p.h.

115. Descent data

(i) *QGH descent*

250 knots, throttle closed, airbrakes out

Height (ft.)	Time (mins.)	Fuel (galls.)	Distance (n.m.)
25,000	3.3	7	17
20,000	2.7	6	13
10,000	1.3	3	6

(ii) *VFR descent*

0.70M, full throttle, airbrakes closed

Height (ft.)	Time (mins.)	Fuel (galls.)	Distance (n.m.)
25,000	1.7	8	12
20,000	1.3	7	10
10,000	0.7	4	5

116. Free take-off distances

The following values are to be taken as minimum distances (feet) required at the various A.U.W.'s and wind speeds quoted until further experience has been gained.

Wind Speed — Knots	20	30	40	50	55
17,500	750	590	440	320	260
18,500		680	520	380	320
19,500		790	610	460	390
A.U.W. ib. 20,500			710	540	460
21,500			810	630	540
22,500				720	630

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117. Catapulting

The aircraft may be catapulted up to a weight of 24,500 lb. subject to the following operating limitations.

Limitations for catapulting from B.H.5

Aircraft weight—lb.	19000	20000	21000	22000	23000	24000	24500
Maximum permissible aircraft acceleration—G.	3.5	3.4	3.2	3.2	3.1	3.1	3.1
Corresponding catapult end speed—knots.	79	77	75	75	74	74	74
Minimum wind required down deck—knots.	13	17	21	24	27	29	30

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