

PART II

LIMITATIONS

Page 37 NOTE.—The limitations quoted in Part II are mandatory and are not to be exceeded. The contents of Parts III, IV and V are mainly advisory but instructions containing the word "must" are to be regarded as mandatory. (A.M.F.O. 101 refers).

44. Engine limitations—Ghost Mk. 103

Power rating	Time limit	R.p.m.	Max. J.p.t. °C.
Take-off and operational necessity	30 mins. (combined)	10,250*	725
Max. continuous	Unrestricted	9,750	625
Approach idling	Unrestricted	5,000 min.	—
Ground idling	Unrestricted	3,000 ± 200	450

* Maximum permissible r.p.m. are to be reduced to 10,100 above 25,000 ft. when climbing and above 35,000 ft. in level flight.

Oil temperatures

Maximum	135° C.
Minimum for starting and opening up using oil OM-71 or OEP-71	-10° C.
Minimum for starting and opening up using oil OX-38	-40° C.

45. Flying limitations

- (a) Intentional spinning is prohibited. The carriage of pylon tanks is permitted, subject to a limiting speed of 500 knots and a maximum accelerometer reading of +6G but flight at high speeds and high engine thrusts must be avoided below 15,000 feet, as fuel transfer may be unsatisfactory in these conditions.
- (b) *Maximum speeds in knots*
- | | | |
|----------------------------------|---------|-------------------|
| Clean aircraft | | 535 |
| With tip tanks (full or empty) | | 510 |
| With pylon tanks (full or empty) | | 500 |
| With bombs and R.P.s | | see sub-para. (d) |

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(c) Maximum speeds (knots) for the operation of:

Undercarriage	220
Flaps 0° to 30°	190
Flaps beyond 30°	165

The maximum speed for the operation of a service also applies to flight with the service in the extended position.

(d) Carriage and release of bombs and R.P.s

Armament store	Max. speed for carriage	Max. speed for release	Max. dive angle	Min. release height
Bombs 1,000 lb. MC Mk. 6 (Tails 100 or 107) 1,000 lb. MC Mk. 7 (Conversion set No. 9 Mk. 1, Tails 100 or 107)	480 kts. and 0.83M	440 kts.	60°	If above 350 kts. release above 5,500 ft.
Bombs 1,000 lb. MC Mk. 7 (No. 37 Tails VT fused)	420 kts. and 0.80M	420 kts.	60°	
Bombs, practice	500 kts. and 0.80M	500 kts.	60°	If above 400 kts. release above 4,000 ft.
R.P.s	500 kts.	500 kts.	45°	—

(e) Mach number limitations (with or without drop tanks)

(i) Ailerons in power

At all heights The mach number at which the nose-up trim change occurs (see para. 67).

(ii) Ailerons in manual

At all heights 0.82M.

(f) Maximum all-up weights

Take-off and all permitted forms of flying. .	15,610 lb.
Landing (tip tanks empty except in an emergency)	12,240 lb.

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Approximate typical service loadings are listed below.

(i) Clean aircraft, full internal fuel and ammo.	11,900 lb.
With 2 × 1,000 lb. bombs	14,000 lb.
With 8 × 60 lb. R.P.s	12,700 lb.
(ii) With full tip tanks, full internal fuel and ammo.	13,300 lb.
With 2 × 1,000 lb. bombs	15,500 lb.
With 8 × 60 lb. R.P.s	14,200 lb.

(g) C.G. limitations

The C.G. limitations are as follows:—

Forward limit	8.81 ins. aft of datum
Aft limit	
(i) Drop tanks not fitted	13.85 ins. aft of datum
(ii) Drop tanks fitted but empty	14.19 ins. aft of datum
(iii) Drop tanks fitted and full	16.19 ins. aft of datum

(h) Maximum accelerometer readings

Clean aircraft	+6½G
With tip tanks <i>or</i> external stores (except 1,000 lb. bombs)	+6½G
With tip tanks <i>and</i> external stores (except 1,000 lb. bombs)	+6G
With 1,000 lb. bombs (carriage and release) ..	+6G

(j) Special limitations

- (i) To minimise the risk of injury when using the ejection seat, the pilot's thigh length must not exceed 25 inches.
- (ii) Intentional manual reversion must be carried out at speeds below 0.82M. If automatic reversion occurs above that speed, speed must be reduced immediately to below 0.82M.

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