

Chapter 3A – AIRCRAFT WEIGHING

(Completely revised)

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Introduction

1. The weight and centre of gravity of the aircraft as equipped to a given standard, known as the 'Basic condition', must be determined before any correct loading data can be calculated. The condition of the aircraft must be checked prior to weighing and every possible effort made to bring it to a true 'Basic condition'.

2. For general information and the principles of aircraft weighing refer to A.P.119W-0001-1.

Preparation

3. (1) Defuel the aircraft (Sect.2, Chap.2) and record usable fuel remaining in aircraft, (3.5 lb, + 79 lb.in.) as surplus (MOD F756D).

(2) Check and replenish (Sect.2, Chap.2):—

- (a) Hydraulic reservoir.
- (b) Emergency and anti-G air bottles.
- (c) Oxygen cylinders.
- (d) Engine oil sump.
- (e) Accessories gear box.
- (f) Fuel filter de-icing tank.

(3) Check aircraft condition against Sect.2, Chap.3, Table 1, *Removable equipment included in basic weight*. Record all items not fitted as deficient (MOD F756D).

(4) Check aircraft condition against Sect.2 Chap.3, Table 2, *Operational load items* and Table 3, *Expendable load items*. Record all items fitted as surplus (MOD F756D).

(5) Position aircraft on a level site in a closed hanger.

Equipment required

4. Description	Ref.No.	Qty
Jack lifting, 5-ton	4Q/2617	3
Trestle, Mk.3	—	2
Trestle, Mk.1	—	1
Pad jacking, nose	26FX/95854	1
Pad jacking, wing	26FX/95606	2
Adapter, jack to H.W.U.	4GB/4398894	3
Bar levelling	26FX/95142	1
Bar levelling	26FX/95220	1
Spigot levelling	26FX/95143	2
Clinometer	1A/1203563	1

Weighing procedure

5. (1) Fit nose and wing jacking pads.

(2) Position 5-ton jacks complete with trestles Mk.3 under wing jacking points.

(3) Check and record zero error and serial number of one of the hydrostatic weighing units (H.W.U.) (MOD F756C).

(4) Fit adaptor and H.W.U. to port jack.

(5) Raise port jack until wing jacking pad almost enters H.W.U.

(6) Carefully align H.W.U. with jacking pad and continue raising jack until 50 divisions are recorded on H.W.U. gauge.

(7) Repeat operations (3) to (6) at starboard jacking point.

(8) Check both adaptors and weighing units for alignment, if any tipping has occurred the jack must be lowered and operations (5) and (6) repeated.

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- (9) Raise both jacks together until aircraft is longitudinally level.
- (10) Position 5-ton jack complete with trestle Mk.1 under nose jacking point.
- (11) Check and record zero error and serial number of remaining H.W.U. (MOD F756C).
- (12) Fit adaptor and H.W.U. to nose jack.
- (13) Raise nose jack until nose jacking pad almost enters H.W.U.
- (14) Carefully align H.W.U. with jacking pad and continue raising jack until 50 divisions are recorded on H.W.U. gauge.
- (15) Check all adapters and weighing units for alignment.

- (16) Raise all three jacks together, keeping aircraft level, until all wheels are clear of the floor.
- (17) Check rigging position and adjust if necessary.
- (18) Remove rigging equipment and close cockpit canopy.
- (19) Lightly tap each H.W.U. gauge casing with a pencil and record reading (MOD F756C).
- (20) Lower all three jacks together, keeping aircraft level.
- (21) Remove weighing units and adapters.
- (22) Remove nose and wing jacking pads.

Calculations

6. Complete MOD F756C.

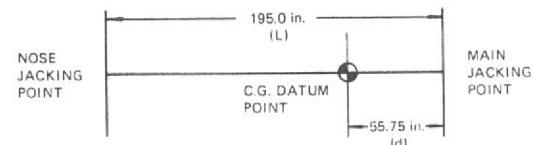


Fig. 1 Fixed dimensions

Recording

7. Check the last recorded entry on aircraft MOD F751 and ensure that results obtained are within maximum permissible variation. Results not within these limits are unacceptable until the reason for deviation has been determined.

- (a) Weight within \pm 50 lb.
- (b) C.G. range within \pm 0.5 in.

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