

## CHAPTER 3A AIRCRAFT WEIGHING

## LIST OF CONTENTS

	Para.
<b>Aircraft weighing, using hydrostatic units</b>	
<i>General</i> ... ... ... ... ...	1
<i>Weighing</i> ... ... ... ... ...	2

## TABLE

	<i>Table</i>
<i>Hydrostatic weighing equipment</i> ... ...	1

**Aircraft weighing, using hydrostatic units****General**

1. Information of a general nature regarding the practical measurement of the basic weight and moment is contained in A.P.4747A, Sect. 1. A description of the hydrostatic units, together with instructions for their use, will be found in A.P.4747A, Sect. 1. The method of determining the basic moment from the practical measurement is contained in A.P.4747A, Sect. 2.

**Weighing**

2. The procedure for weighing an aircraft to determine the basic weight is as follows:—

(1) The aircraft is to be equipped to the standard of equipment listed in Chap. 3, Table 1.

**Note . . .**

*Fuel and stores listed in Chap. 3, Tables 2 and 3 are not included in the basic weight and must be removed. The recommended method of defuelling the aircraft is given in Sect. 2, Chap. 2 and Sect. 4, Chap. 2. The weight and effective moment of consumable fuel remaining in the aircraft after this defuelling procedure has been applied is:—*

*3.5 lb. with a moment of 79 lb. in. about the C.G. datum.*

- (2) Position the aircraft on a level site inside a closed hangar.
- (3) Fit the nose and wing jacking pads (Post Mod. 241, Part No. B.205907 and B.205909 or Pre Mod. 241, Part No. B.191156 and B.206725).
- ◀ (4) When the fuselage datum line is horizontal, the distance between the centre line of the wing jacking pads and the C.G. datum point is 55.75 in. and the distance between the wing jacking pads and the nose jacking pad is 195.0 in. Both these dimensions being measured parallel with the fuselage datum line. ►
- (5) Position the five ton jacks under the wing jacking points and adjust the trestles to ensure that the jack rams are truly vertical. The jacking and rigging equipment required is listed in Section 2, Chapter 4, Table 1.
- (6) Remove the existing jack adapters and fit the special adapters supplied for use with the weighing units.
- (7) Release the aircraft wheel brakes.
- (8) Note the zero error of each weighing unit.
- (9) Place a weighing unit centrally on each adapter and extend the jack rams gradually up to the wing jacking pads. Ensure that the jacking pads are centred on the weighing unit roller frame (A.P.4747A, Sect. 1). Continue the operation of the jacks until the aircraft is level longitudinally.
- (10) Position the nose fuselage jack under the nose jacking pad, adjust the trestle to ensure that the jack is truly vertical.
- (11) Remove the existing jack adapter and fit the special adapter supplied for use with the weighing unit to the jack.

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(12) Note the zero error of the weighing unit.

(13) Place the weighing unit centrally on the adapter and extend the jack ram gradually up to the nose jacking pad. Ensure that the pad is centred on the weighing unit. Extend the jack gradually until weight registers on the unit dial. (A.P.4747A, Sect. 1).

(14) Extend all three jacks equally until the alighting gear wheels are clear of the ground and adjust the jacks until the aircraft is in the rigging position.

(15) Remove the rigging equipment and close the canopy.

(16) Lightly tap the dials of the weighing units and note the readings.

(17) Lower the aircraft, maintaining the aircraft level.

(18) Remove the weighing units and stow them in their transit cases.

(19) Apply the wheel brakes.

(20) Remove the adapters from the lifting jacks and refit the normal jack adapters.

(21) Remove the jacking pads from the aircraft, weigh them and deduct their weights from the weights obtained at operation (16).

(22) Remove the jacks from the aircraft.

TABLE 1

**HYDROSTATIC WEIGHING EQUIPMENT**

REF. No.	DESCRIPTION	QTY.	REMARKS
4GB/4894	Hydrostatic weighing unit	3	
4GB/4937	Adapter (lifting jack to unit)	3	
4GB/4940	Adapter (unit to aircraft pad)	3	Only required if Pre-Mod. 241 aircraft jacking pads are used.

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