

## Chapter 3B

### AIRCRAFT WEIGHING USING HYDROSTATIC UNITS

#### LIST OF CONTENTS

	Para.
<i>Introduction</i> ... ..	1
<i>Preparation for weighing</i> ... ..	3
<i>Weighing the aircraft</i> ... ..	5
<i>After weighing</i> ... ..	11
<i>Equipment</i> ... ..	12

#### Introduction

1. The procedure for weighing an aircraft is given in the following paragraphs. Information of a general nature regarding the practical measurement of Basic Weight and Moment is contained in A.P.1464D, Vol.1, Part 2, Sect.1, Chap.3. Descriptive information on the hydrostatic weighing units and instructions for their use are contained in A.P.1464G, Vol.1, Part 2, Sect.5, Chap.7.

2. Drain the aircraft down to residual fuel, in accordance with the instructions in Sect.4, Chap.2 of this Book.

#### PREPARATION FOR WEIGHING

3. Position the aircraft in a closed hangar on a level site. Note the condition of the aircraft with respect to oil, de-icing fluid, glycol, ballast and any other equipment. Check that all items listed as being in the aircraft basic weight are actually fitted.

4. Check that the jacks are undamaged and that the rams are truly vertical. Ensure that the wheel brakes are off. Open the relief screw in the shock-absorber recuperator. Fit two jacking pads (Ref. No.26DC/95063) to the forward jacking points and two jacking pads (Ref.No.26DC/

95004) to the rear jacking points as described in Sect.2, Chap.4 of this Book.

#### WEIGHING THE AIRCRAFT

##### WARNING...

*The four jacks must be raised simultaneously and evenly otherwise serious damage to the structure may result.*

5. Position the four jacks (Ref.No. 4Q/2610) vertically beneath the jacking points together with hydrostatic weighing units (Ref.No.4GB/4895) and adapters - jack to weighing unit (Ref.No.4GB/5051) and weighing unit to jacking pad (Ref. No.4GB/5739 to forward position and 4GB/5747 to rear position). Raise all jacks until contact is made with the jacking pads. Starting with the jack locking collars screwed down just touching the jack shoulders commence raising all four jacks simultaneously and evenly in one inch stages to ensure that the aircraft remains level when being raised.

##### NOTE...

*It is suggested that the operators at each jack should use a "halfpenny inch" and that the collars be again screwed down to the jack shoulders at each one inch stage.*

6. Continue jacking using the "half-penny inch" method and checking carefully for any malalignment of the adapters, until the aircraft is clear of the ground. Should any malalignment occur, the whole procedure must be repeated from the beginning.

7. When the aircraft is clear of the ground make any adjustments necessary to bring the aircraft into rigging position, using the levelling plate and plumb line (Sect.2, Chap.4).

##### WARNING...

*The aircraft may rock slightly to one side as rigging position is first reached causing a change, therefore a double check will be necessary.*

8. Remove the sump access panels and remove the fuel tank sump drain plugs and drain all the residual fuel. On completion of draining, the drain plugs must be fitted and wire locked and the access panels fitted.

##### WARNING...

*Before removing the drain plugs on aircraft post Mod.171 and pre Mod.1748, the appropriate precautions must be observed to prevent operation of the explosion protection system.*

**RESTRICTED**

9. After rigging position has been finalised, lock the jack collars and drop a plumb line from the Datum Point on the front fuselage and mark the position on the floor. Stretch fine lines around the screw threads of each front and rear pair of jacks. Support plumb lines on the overhead structure and position them so that the plumb lines are just touching the inside of the lines around the jacks. The centre point between each pair of these lines will be the front and rear jacking point positions respectively. Note the distance from the Datum Point to these centre points measured normal to the lines stretched between the jacks.

10. Again check that the aircraft rigging position has not changed, making any

necessary adjustments. Lightly tap the weighing units and record the readings.

#### AFTER WEIGHING

11. After the weighing operations are complete, raise the locking collar on all jacks one inch and lower all jacks evenly and simultaneously. As the collars approach the jack shoulders raise them another inch, continue lowering the aircraft in this manner until the weight of the aircraft is taken on its wheels. When the jacks have been lowered sufficiently, remove the weighing units and stow them in their cases and remove the jacks. Tighten the shock-absorber recuperator valve and wire-lock it and remove the jacking pads.

#### EQUIPMENT

12. The main equipment required for weighing the aircraft is as follows:-

Item	Ref.No.	No.off
25 ton H.W.U.	4 GB/4895	4
25 ton jack	4Q/2610	4
Jacking pad (forward)	26DC/95063	2
Jacking pad (rear)	26DC/95004	2
Adapters		
Jack to H.W.U.	4GB/5051	4
H.W.U. to jacking pad (forward)	4GB/5739	2
H.W.U. to jacking pad (rear)	4GB/5747	2

This file was downloaded  
from the RTFM Library.

Link: [www.scottbouch.com/rtfm](http://www.scottbouch.com/rtfm)

Please see site for usage terms,  
and more aircraft documents.

