Chapter 1 GROUND HANDLING

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LIST OF ILLUSTRATIONS

TOWING (fig.1 to 7)

1. The aircraft must not be towed unless four jury struts, Ref.No.26FP/313 two to each main wheel unit are fitted in position between the top joint of the main-wheel unit shock-absorber strut and the retracting strut knee joint (fig.1) and a jury clamp, Ref.No.26FP/381 is fitted to the upper end of the tail-wheel retracting jack on the aircraft incorporating Mod.404 (fig.1). A competent person must occupy the pilot's seat to manage the controls and apply the brakes as required.

Forward towing (fig.2,3,4 and 7)

2. A towing bridle, Ref.No.4G/4139, is attached to the eye-bolt at the bottom of each inner shock-absorber strut (fig.3) and a tail-wheel steering arm (fig.4) is attached to the twin tail-wheel axle. Reference should be made to fig.7 for the maximum turning movement of the steering arm.

Backward towing (fig.4,5,6 and 7)

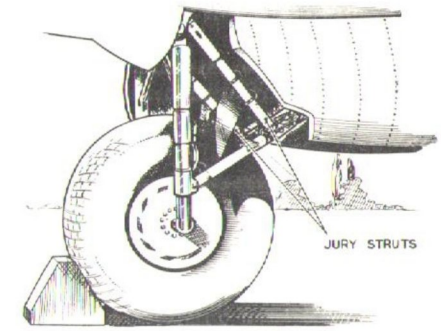
3. Normally, a towing arm, Ref.No. 26FP/333 is attached on the tail-wheel axle. The arm incorporates a release mechanism which can be pre-set to operate at any draw-bar pull between 9,000 and 15,000 lb. To arrive at a satisfactory setting for the draw-bar, multiply the approximate aircraft all-up weight by 0·15, e.g., 82,000 lb. A.U.W. x 0·15 = 12,300 draw-bar pull setting. The latter arm release mechanism should be set to position "A". Before using the tail towing arm the controls must be locked in the neutral position (refer to paragraphs 5-7 of this chapter).

◀ *NOTE...*
The towing bar must not be used for pushing the aircraft ▶

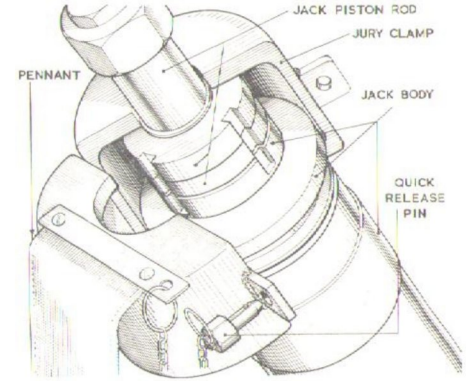
4. In cases where it is impracticable to use the backward towing arm, e.g., when one of the main wheels of the aircraft is bogged or when manoeuvring in a confined space, a backward towing cable, Ref.No. 26FP/301, is attached to one of the eye-bolts fitted at the bottom of each outer shock-absorber strut, and a tail-wheel steering arm must be used.

LOCKING THE FLYING CONTROLS (fig.8 and 9)

5. The ailerons and elevators are locked in conjunction with the remotely actuated rudder locks which are described in Sect.3, Chap.4.



MAIN-WHEEL JURY STRUTS.



TAIL-WHEEL JURY CLAMP

Fig.1. Alighting gear safety devices

Rudders

6. The method of applying the rudder lock is as follows:-

(1) Move the rudder pedals to bring the rudders into the neutral position and pull back the locking lever on

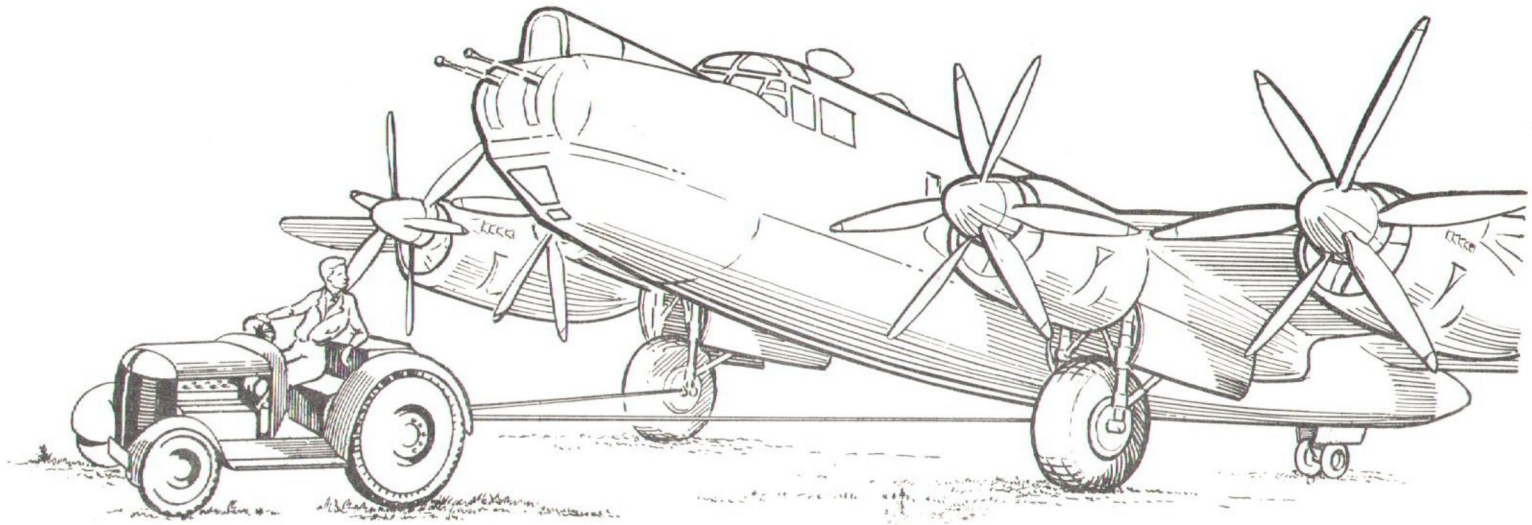


Fig.2. Forward towing using bridle

the first pilot's engine control pedestal.

(2) If any undue resistance is felt when pulling the lever right back into the locked position, release the lever just sufficiently to allow easy movement of the rudder control pedals. Slowly swing the rudders each way and pull back the locking lever when a decrease in its resistance to movement is felt. The bolts on the fin post will then enter the bosses on the two rudder locking blocks.

Ailerons and elevators

7. After the rudders have been locked, the ailerons and elevators can be locked by using two pins, stowed, when not in use, in a rack between formers 30 and 31, as follows:-

(1) Ailerons: Centralise the control column hand wheels and insert the locking pin, Part No.1/U.999, into the hole in the front plate of the aileron lock mounting (this is located near the top of the aft face of the rear spar in the fuselage). With the ailerons neutral, a hole at the top of the aileron control rocker lever coincides with the hole in the front plate, and the lever is locked when the pin is inserted. A label, inscribed ALIGN ARROWS BEFORE INSERTING LOCKING PIN, and aligning arrows are provided as shown in the illustration.

(2) Elevators: The elevator override stop lever has a hole at its forward end which, when the elevators are in the neutral position, coincides with the two

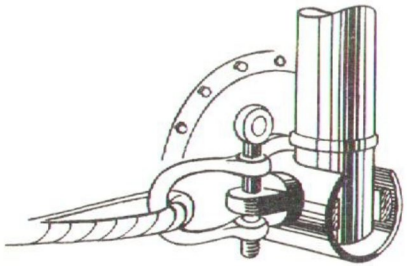


Fig.3. Attachment of bridle to undercarriage

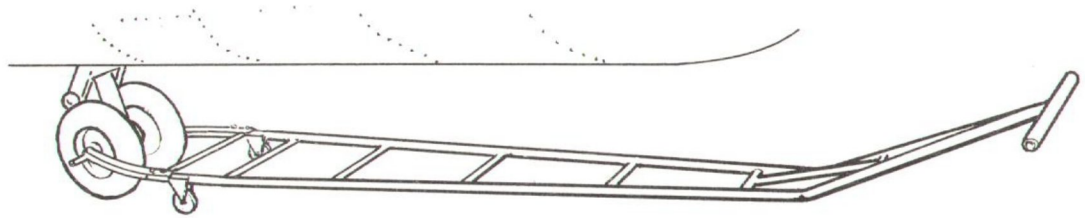


Fig.4. Tail wheel steering arm

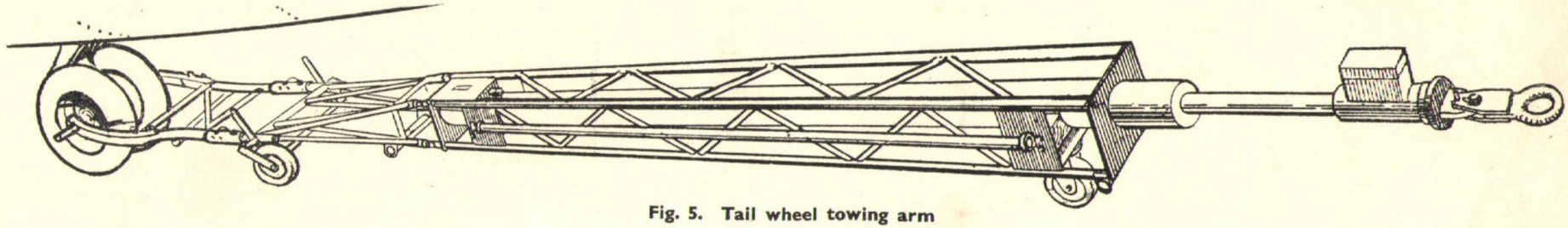


Fig. 5. Tail wheel towing arm

brackets holding the stop blocks. Alignment of these holes for inserting the associated locking pin, Part No. 1/U.999 is done with the aid of two arrow markings, one on the port stop block bracket and the other on the stop lever. A label is fitted to the stop lever and is inscribed ALIGN ARROWS BEFORE INSERTING LOCKING PIN.

REMOVAL OF CONTROL LOCKS

8. Since the aileron and elevator locking pins may be inserted only when the rudders are locked (*Sect.* 3, *Chap.* 4), it is necessary to remove the first mentioned locks before the rudder locking control handle can be released to unlock the rudders. The locking pins are stowed in a rack between formers 30 and 31, just aft of the door.

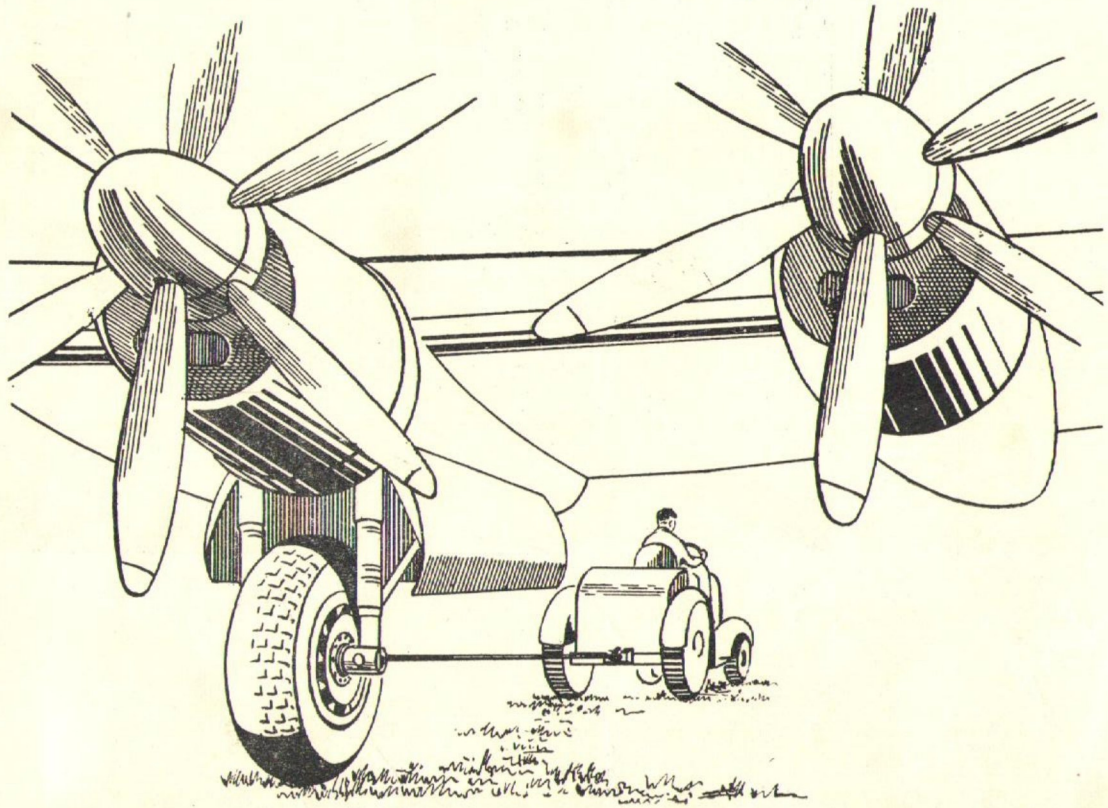


Fig. 6. Backward towing using bridle

WHEEL BRAKES

9. When the aircraft is parked or picketed, the brakes parking system must be used. On the port side of the pilot's instrument panel is a parking control valve and the lever on the panel is moved up to the ON position.

BOMB DOOR JURY STRUTS (*fig. 11*)

10. These are fitted as shown in the illustration.

PICKETING (*fig. 10*)

11. Picketing shackles are provided on the main plane front spar between ribs 17A and 17B, inboard of the main plane outer joints,

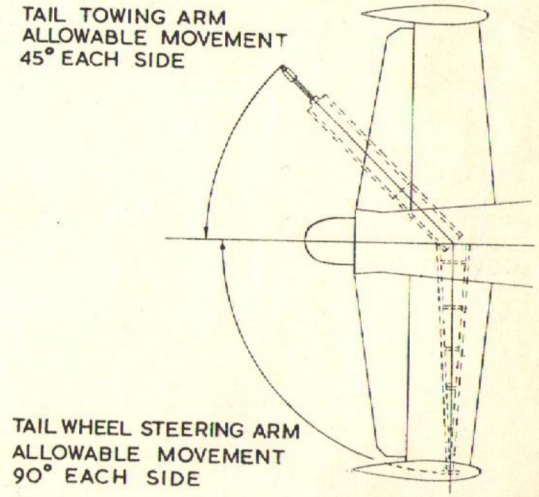


Fig. 7. Towing and steering arm—turning limitations

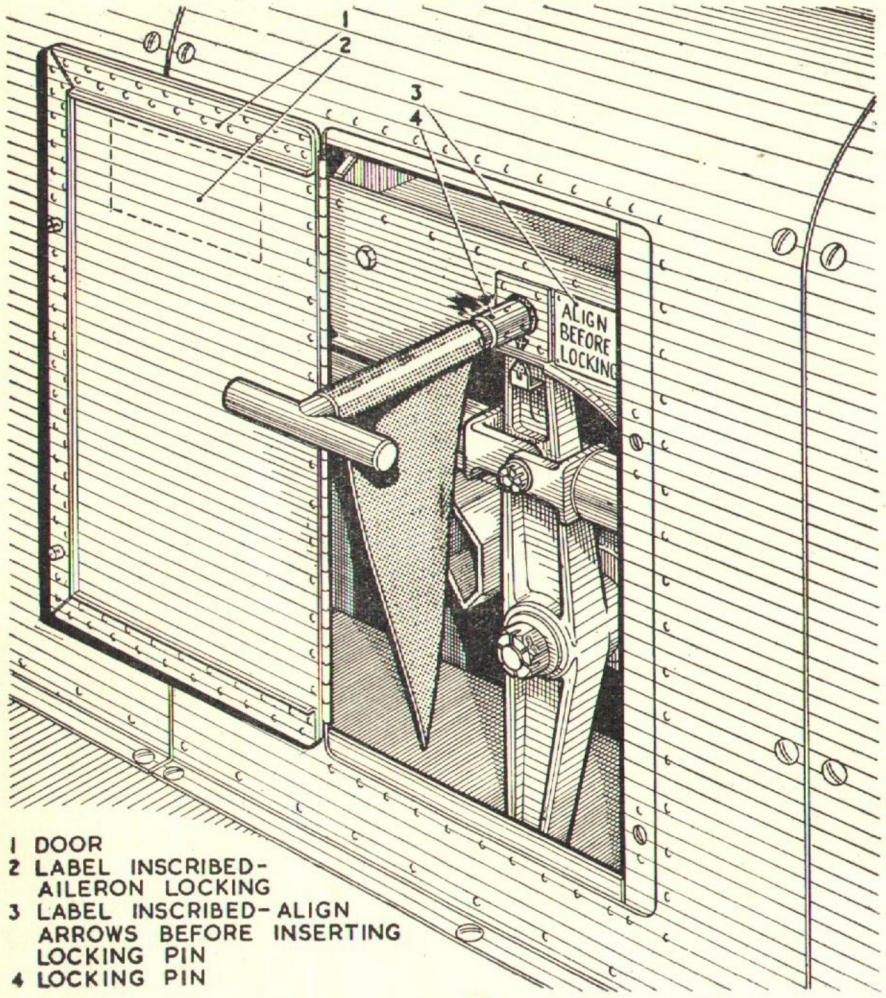


Fig. 8. Aileron locking

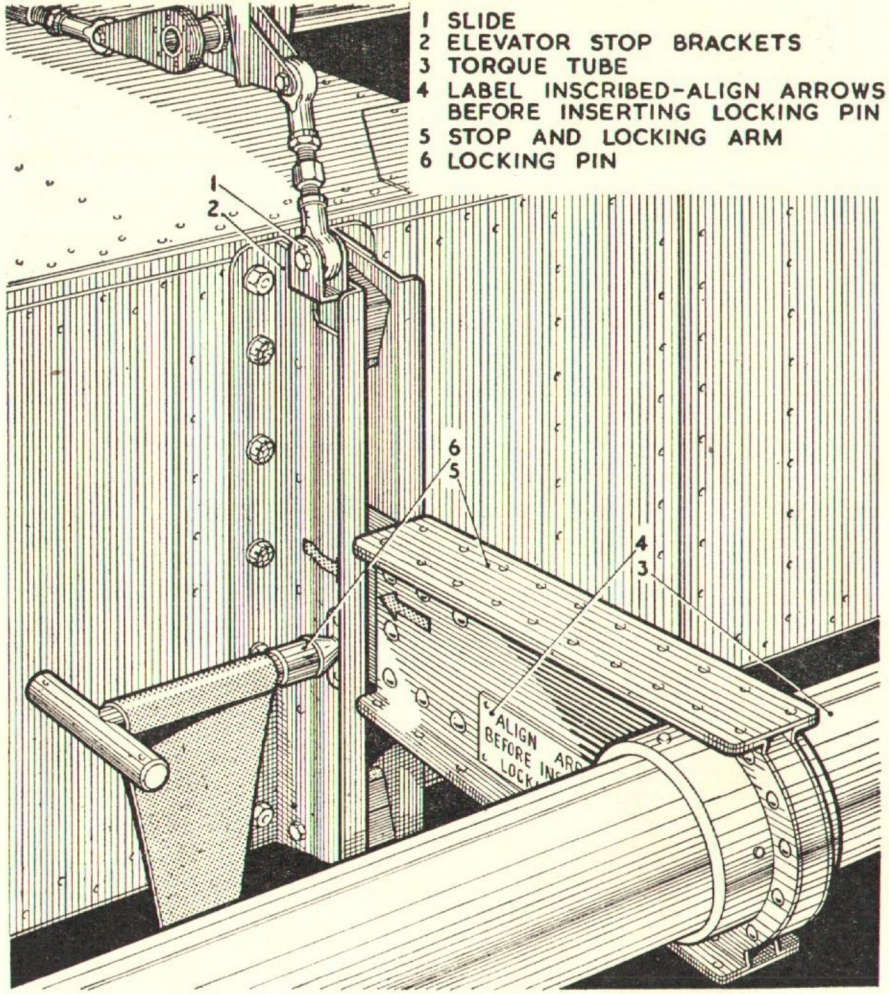


Fig. 9. Elevator locking

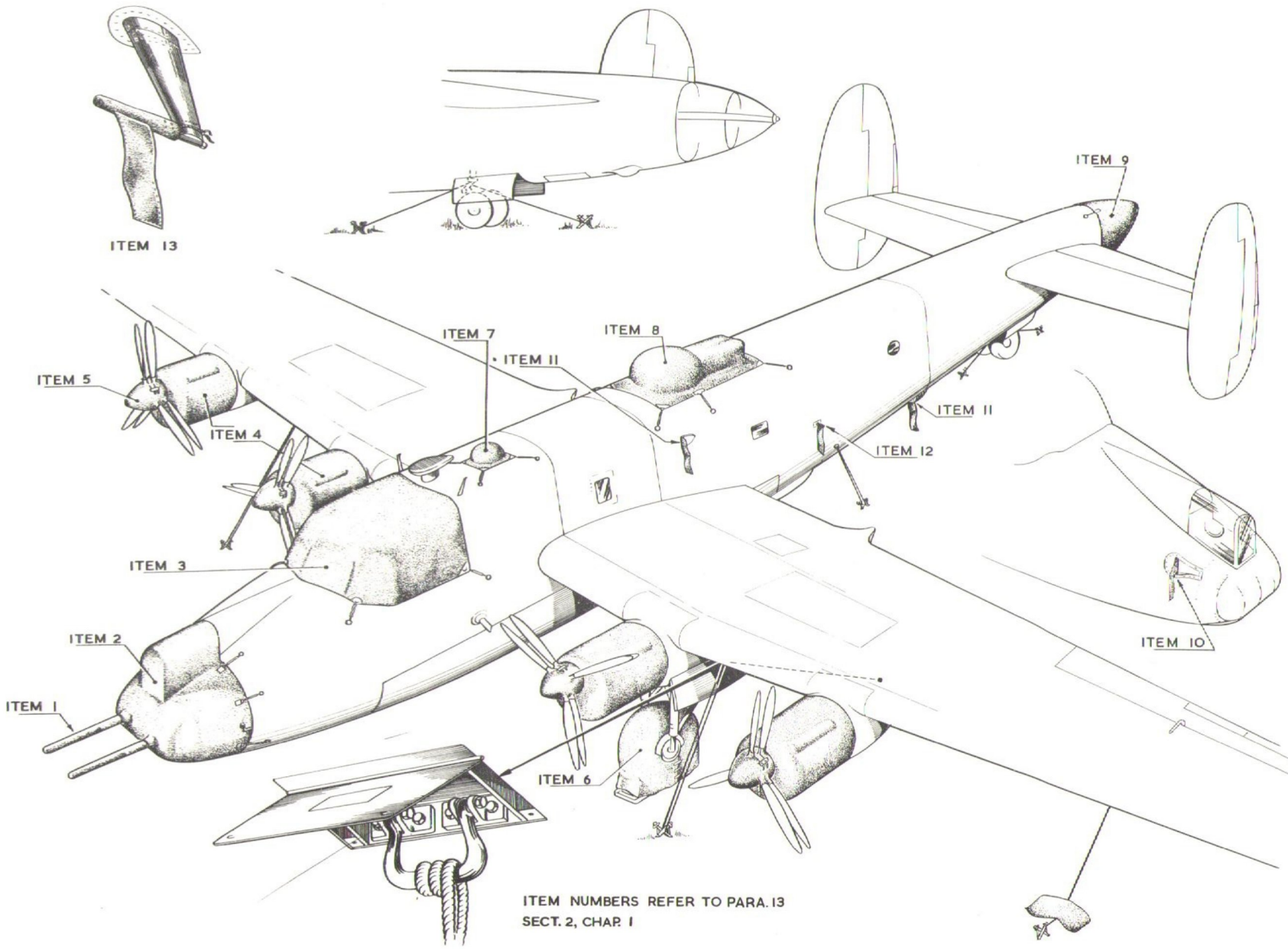


Fig. 10. Picketing and arrangements of covers

and between ribs 2 and 2A, outboard of the main plane inner joints. These shackles are to be used in conformity with the standard picketing layout (A.P. 1464G, Vol.1, Part 2, Sect.5, Chap.2). Doors in the skin on the underside of the main plane give access to these shackles. The fuselage is picketed at former 22 by ropes secured to eyebolts (Ref.No.26EA/4262) which screw into the longerons just above the aft end of each bomb door, after removal of a plug from each hole, and to the tail wheel unit as shown in the illustration. The eyebolts are stowed with the aircraft tool kit and the plugs should be stowed after removal from the longerons.

12. When the aircraft is picketed, the weatherproof covers, which are part of the aircraft tool kit, should be placed in position and secured as shown in the illustration. The main wheels should be chocked with the chocks held in position by stakes. The secondary picketing ropes (those secured to the outboard shackles), should be left slack and weighted down with sandbags as illustrated.

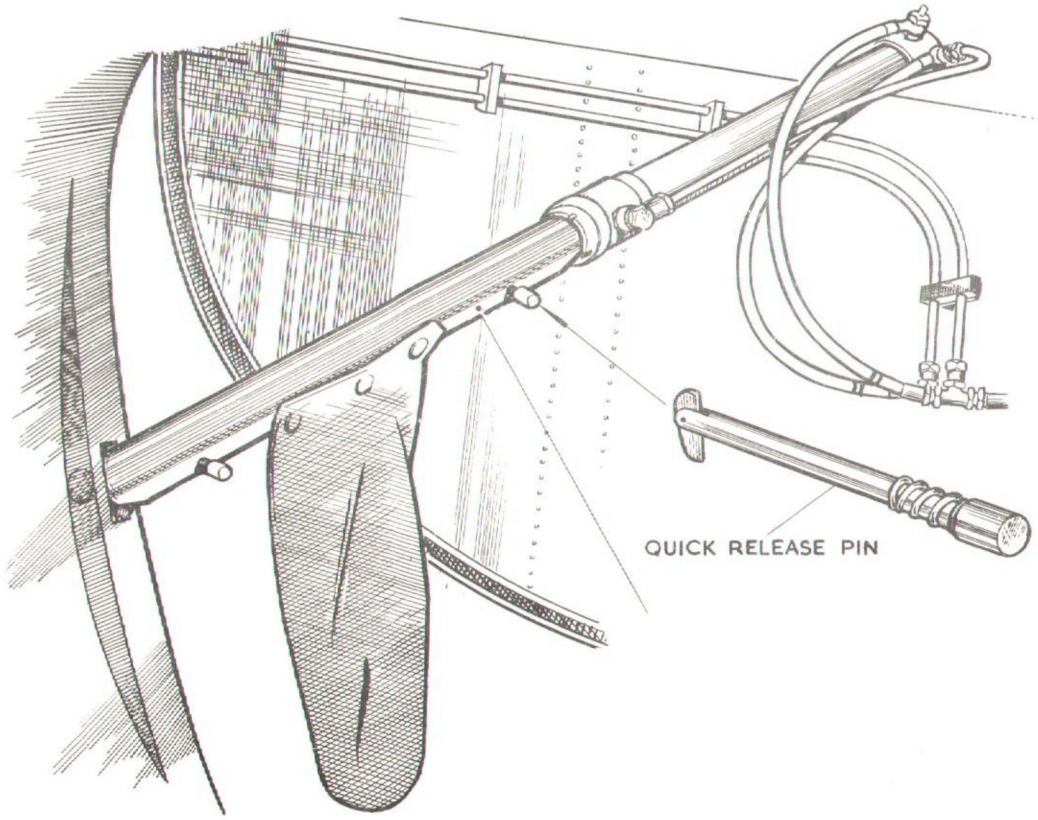


Fig.11. Bomb door jury strut.

After removal of the ropes from the aircraft, the picketing eyebolts must be removed and stowed and the plugs refitted.

NOTE...

When the aircraft is picketed out or left unattended, the control locks must be used. The locks are stressed for wind velocities up to 80 knots in any direction relative to the aircraft.

Weatherproof covers (fig.10)

13. The weatherproof covers provided are fitted as follows:-

(1) The nose, canopy, astrodome, turret and rear fairing covers are secured in position by bungee cords which hook on to raised buttons fitted to the fuselage skin.

(2) The engine covers are Dutch laced and the lacing is covered by a flap which is fastened by straps and "Lift-the-dot" fasteners.

(3) The main-wheel covers are fastened in a similar manner.

(4) Plugs are provided for the static vents and air conditioning system scoops.

(5) The pressure head covers are secured by tapes.

The following is a list of the above stating their reference numbers against their item number on fig.10.

ITEM NO.	REF.NO.	ITEM NO.	REF.NO.
1	27D/2889	7	27D/2745
2	27D/2885	8	27D/2746
3	27D/2744	9	27D/2884
4	27D/2741	10	27D/2885
5	27D/2750	11	27D/2840
6	27D/2749	12	6A/2679
		13	27D/2666