CHAPTER 3

GENERAL SERVICING

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INTRODUCTION

1. This chapter, which describes certain servicing operations, is supplementary to the Servicing Schedule, Vol. 2, Part 2 of this publication. For information and servicing notes on items of equipment not dealt with in this chapter, reference should be made to the relevant Air Publications listed at the beginning of this book.

2. The location of inspection panels is given in fig. 1, and the lists given in para. 3 include some items of ground equipment necessary for servicing the aircraft. The positions of the various drain holes in the airframe structure are illustrated in fig. 35.

GROUND EQUIPMENT

3. The following items of ground equipment are provided for handling and servicing the aircraft. Table 1 identifies the Special Ground Equipment peculiar to the aircraft, and Table 2 the Standard Ground Equipment. These tables contain no items that are normally included in the relevant Appendix A, nor standard equipment normally provided for purposes not confined to aircraft servicing.

TABLE 1

Special ground equipment

Stores Ref. No.	Part No.	Description	Application
Sect. 26FC/			
		Towing and steering—	
9015	Y.00304.A	Arm, nose steering	
9016	Y.00413.A	Bridle, towing	
		Jacking—	
9000	Y.0073.A	Pads, mainplane jacking	
9001	Y.00152.A	Nose wheel changing jack (hinged legs)	Use with pillar jack—4Q/1229
		Trestling—	
9013	K(SK)1550	Former for use with U.J.T. No. 3 Port	Mainplane steadying at Rib 10
9019	K(SK)1550	Former for use with U.J.T. No. 3 starboard	Mainplane steadying at Rib 10
9002	Y.00118.A	Trestles, tripod, fuselage	Supporting fuselage when mainplanes are removed

TABLE 1
Special ground equipment—*cont.*

Stores Ref. No.	Part No.	Description	Application
9014	Y.00258.A	Former for tail trestle, Type D	Supporting mainplanes at front and rear of booms
9020	K(SK)1551	Former for nose trestle c/w U-bolts	
9017	Y.00307.A	Trestle, rear fuselage	Assembling mainplane to fuselage
		Slinging—	
1075	Y.00546.A	Sling, complete aircraft	
9018	Y.00323.A	Sling, mainplane	
		Rigging—	
9003	Y.0094.A	Board, incidence, mainplane	Port or Starboard for rib 3 or 10
9004	Y.0090.A	Board, dihedral, mainplane	Also used for boom levelling
9043	Y.00500.A	Board, incidence, tailplane	
9006	Y.0075.A	Board, lateral levelling	Fuselage
9011	Y.0076.A	Board, longitudinal levelling	Fuselage
		Miscellaneous—	
9021	A.H.8404	Extractor, mainwheel	
9044	Y.00519.A	Guard wire, air intake, port	Use when ground running
9045	Y.00520.A	Guard wire, air intake, starboard	
9046	Y.00516.A	Board, blanking, air intake, port	Use when aircraft is picketed
9047	Y.00517.A	Board, blanking, air intake, stbd.	
9012	Y.00110.A	Board, blanking, tail pipe	
9106	—	Key, combination tank cap and tank doors	

TABLE 2
Standard ground equipment

Stores Ref. No.	Part No.	Description	Application
		Jacking—	
4Q/2573		Jack, 3 ton hydraulic tripod	Mainplane jacking
4Q/2574		Adapter head, $1\frac{7}{8}$ in. dia. Mk. 38	
4Q/1229		Jack, 4 ton pillar hydraulic	Nose jacking
		Trestling—	
4G/		Trestle, universal jacking No. 3	With type A brackets less metal beam
4G/275		Trestles, general purpose, 2 ft.	Fuselage nose trestling
		Miscellaneous—	
4G/2872	WD.5317	Sling, engine, Goblin	
4F/1509		Trolleys, pressure cabin testing	
4G/3966		Mats, mainplane, type B	
4G/257		Pump, Oleo, type A	
4G/2433		Adapter	Oleo leg charging
4G/3026		Gauge, Mk. 1 (0–600 lb./sq. in.)	
4G/3027		Gauge, Mk. 2 (0–1,500 lb./sq. in.)	
4G/1358		Syringes, oil	Charging oleo legs with oil
4G/4090		Trolleys, oxygen cylinder	
4G/3964	K(SK)1632	Stands, engine, Goblin	
4G/4033		Creeper, Vampire	Gun servicing

JACKING AND TRESTLING

4. The diagram showing the jacking procedure is given in fig. 5 which is self explanatory.

FORMER STATIONS AND INSPECTION PANELS

5. The location of all inspection panels, doors and filler caps is illustrated in fig. 1.

LUBRICATION

6. Lubrication details are shown in fig. 2, 3 and 4. All the sealed ball bearings are packed with low-temperature grease (Stores Ref. 34B/174) on assembly which is sufficient to last their normal life. Some of the ball bearings have felt washers fitted to retain the grease and these should be inspected periodically, and the felt washers renewed when necessary. For the lubrication of Bowden cables, use graphited wax (Stores Ref. 34D/94).

Cleaning of external surfaces

7. The external surfaces are finished in Titanine aluminium nitro-varnish to specification D.T.D. 751-4. The method of application is described in A.P.1464D. The routine cleaning of the aircraft should be carried out with a castile soap and warm water. The external surfaces should be rubbed down with cellulose dope thinners before re-doping is undertaken. Instructions regarding the Madapollam covering and the detail finish of components are contained in Vol. 2, Part 3 of this publication.

Note . . .

On some early aircraft it may be found that the contour of the wing has been adjusted by the application of filler. Should any damage occur to the skin or any filler break away from the top surface of the mainplane, within an area contained by ribs No. 11 *and* 14 *and approximately one foot back from the leading edge, the damage must be repaired in accordance with the instructions given in A.P.*4099 *and* 4269, *Vol.* 2, *Part* 3.

RIGGING

General

8. The wings, fins and tailplane being fixed cantilever structures, no adjustment is necessary. The only rigging operations are those concerned with checking the diagonal measurements, the incidence and dihedral of the wings and the range of movement of the various control surfaces. The rigging data and the ranges of movement of the control surfaces are given in fig. 6 and 7 respectively.

RIGGING SEQUENCE (*fig. 6*)

9. The sequence of operations is as follows :—

(1) Trestle the aircraft at the points marked on the main spar, and trestle the tail booms as shown in fig. 5.

(2) Place the levelling boards, Stores Ref. 26FC/9006 and 9011, on the datum blocks in the cockpit as illustrated. Adjust the trestles until zero readings are obtained.

(3) Check the incidence and dihedral of the wing, which should be *zero* when using the checking board, Stores Ref. 26FC/9003 and 9004 respectively, on the positions marked on the aircraft.

(4) Check the angle of the tail booms by placing the reverse edge of the levelling board, Stores Ref. 26FC/9004, along the top-surface of the boom. The board should read *zero*.

(5) Check the incidence of the tailplane with incidence board, Stores Ref. 26FC/9043, in the position illustrated. Also check that the transverse level is horizontal and that the fins are vertical in relation to the tail booms.

(6) Check for symmetry by taking the diagonal measurements illustrated.

CONTROL SETTINGS (*fig 7*)

Ailerons

10. Lock the control column *neutral* as shown in Chap. 2, then proceed with the rigging as follows :—

(1) Remove the nut, washer, distance piece and bolt, located immediately above the cable pulley on the control column, and attach the locking plate, Stores Ref. 26FC/9108, to lock the pulley sprocket in the *neutral* position (*fig.* 13).

(2) Adjust the tie-rods at the top of the control column to give equal tension on the chain.

(3) At the ailerons, lock the differential pulleys *neutral* with 2 B.A. bolts (*fig.* 13).

(4) Couple the cables if their removal has been necessary. The cable run and adjusting points are shown in Sect. 7, Chap. 4.

(5) Remove the 2 B.A. bolts from the differential pulleys, the locking plate from the base of the control column and the control locking tubes. Replace the items removed in sub-para. (1).

(6) Move the control column over its full range of travel and check that the tension of the chain and cable is satisfactory at *neutral* and at full travel.

(7) Using a Mk. 4 tensiometer, placed in the flap-shroud, check that the cable tension is 70 lb.$\pm$20 lb. up to the first minor servicing, or 70 lb.$\pm$10 lb. after the first minor servicing, on the 20 cwt. scale.

(8) Check the aileron for full, free and correct movement of the ranges as shown in fig. 7. Adjustment may be made at the connecting link A (*fig.* 11). The gap between the aileron leading edge and the aileron shroud is 0·12 in. $\pm$0·02 in. Adjustment may be effected by the addition of laminum shims, up to a max. of $\frac{1}{8}$ in., on the four bracket attachment bolts, as shown in fig. 11.

Aileron balance tabs

11. The aileron balance tabs can be adjusted only on the ground. The method of adjusting the lever quadrant to give the different ranges of movement is shown in fig. 11. For example, when the lever quadrant is set so that holes A and C line up (*fig.* 11), the tab movement is 0·8 in.*up* and 0·7 in. *down*. After any adjustments, the tab must be brought to neutral, when the aileron is also neutral, by adjustment on the tab connecting rod.

Elevator (*fig. 9, 10 and 13*)

12. To rig the elevator proceed as follows:—

(1) Lock the elevator quadrant pulleys E (*fig.* 9) on the right and left-hand sides of the cockpit in the *neutral* position, with locking jig, Stores Ref. 26FC/9109 (*fig.* 13).

(2) If necessary, adjust the connecting rods F in the cockpit, so that the position of the control column is nominally 8·5 deg. forward of the vertical. The position of the control column may be adjusted to suit particular requirements, but it must have unobstructed travel over the full range of movement allowed by the quadrant pulley stops.

(3) Lock the elliptical pulleys, at the forward end of the tail booms (*fig.* 13), in the neutral position. Correctly tension the cables from the elevator quadrant pulleys to the elliptical pulleys as given in the Note below.

(4) Lock the elevator control levers at the boom rear end with pin, Stores Ref. 26FC/9110, and couple up the cables down the booms to the links on the control levers (*fig.* 10).

Note . . .

It is important that both sets of cables should be tightened at the same rate and that the tension, using a Mk. 5 *tensiometer, should be* 80 *lb.*$\pm$20 *lb. on the* 25 *cwt. scale up to the first minor servicing, and* 80 *lb.*$\pm$10 *lb. after the first minor servicing.*

(5) Couple up the elevator operating rod to the elevator lever, if necessary, and adjust so that the elevator trailing edge is in line with the tailplane.

(6) Remove the locking pins, which should come out easily, and check the elevator for full, free and correct movement of the ranges as shown in fig. 7.

(7) Push the control column fully forward and adjust the stop pins on the boom rear diaphragms so that they just contact the elevator control levers, then unscrew half a turn and lock. Repeat this operation with the control column fully back.

Note . . .

The gap between the elevator leading edge and both the top and bottom elevator shrouds is 0·08 *in.*$\pm$0·02 *in. with the elevator neutral. This clearance may vary, with the elevator in other positions, down to a minimum of* 0·002 *in.*

Elevator trim tab (*fig. 10*)

13. The trim tab cables run from the left-hand side of the cockpit down through the port boom to the elevator. The first part of the cable from the cockpit is a Teleflex control which extends halfway down the engine rib. It is important to see that there is an equal extension from the end of each Teleflex tube before coupling up the cables to the elevator. The rigging procedure is as follows :—

(1) Set the elevator tab control wheel in the cockpit so that the tab indicator is zero.

(2) Set the elevator tab jack on the tailplane rear spar at *neutral*.

(3) Ensure that the chain on the sprocket of the jack has an equal number of links on each side of the sprocket and couple up the cables to the Teleflex controls.

(4) Set the elevator to *neutral* and adjust the tab connecting rod until the tab has a $\frac{3}{8}$ in. droop, i.e., the tab trailing edge is $\frac{3}{8}$ in. below the trailing edge of the elevator when the cockpit indicator is zero.

(5) Operate the hand wheel in the cockpit and check for full and correct movement (*fig.* 7). The elevator tab should move upwards when the cockpit control is rotated clockwise.

Note . . .

It may be necessary to rig the tab either slightly more or less than the $\frac{3}{8}$ in. dimension in relation to the elevator so that the aircraft cruises with the indicator in the cockpit at ZERO. *This adjustment should be made on the tab connecting rod only, with the indicator in the cockpit remaining at zero.*

Rudders (*fig 9, 10 and 13*)

14. To rig the rudders proceed as follows:—

(1) Set the rudder pedals *neutral* with the locking tubes as shown in Chap. 2.

(2) Set the rudder levers at the tailplane to *neutral* and lock with the special pin, Stores Ref. 26FC/9110 (*fig.* 13), unlocking and slackening off the appropriate cable.

(3) Lock the elliptical pulleys at the forward end of the tail booms (*fig.* 8).

(4) Using a Mk. 5 tensiometer, tension the cables so that the indicator shows 80 lb.±20lb. on the 25 cwt. scale, up to the first minor servicing, and 80 lb. ±10 lb. after the first minor servicing.

(5) With the locking pins still inserted in the elliptical pulleys, ensure that the cables are connected from the forward end of the tail booms to the rudder lever links as shown in fig. 8 and 10.

(6) Tension up as in sub-para. (4).

(7) Couple up the rudder control connecting rods to the rudder control levers as shown in fig. 10.

(8) Remove all control locks and check for full, free and correct movement of the rudder as shown in fig. 7. It is important that the locking pins can be easily removed after the cables have been tensioned. Ensure that all cable adjusters are securely relocked.

(9) With full right rudder, adjust the stop pins on the boom rear diaphragms, so that they just contact the rudder control levers, then unscrew half a turn and lock. Repeat this operation with full left rudder.

Rudder tabs

15. There are no rudder trim tab controls but a small balance-tab is fitted to the rudder which can be set on the ground to a given angle after slackening the bolt at the bottom of the trailing edge of the tab.

ALIGHTING GEAR

General

16. All moving parts of the undercarriage and nose wheel units should be kept clean and lubricated (*fig.* 2 *and* 3). The aircraft must be jacked clear of the ground, as shown in fig. 5, before any dismantling of the alighting gear. For assembly and removal operations relating to the alighting gear, reference should be made to Sect. 5. On completion of any work on the main undercarriage or on the wheel doors it is very *important* to ensure that the latter are left in the *down* position, as the doors are spring-loaded to both the *up* and *down* positions. The sequence of adjustments for the undercarriage is as follows :—

ADJUSTMENT OF UNDERCARRIAGE
(fig. 14)

Radius rod

17. The stop bolt between the upper and lower links of the radius rod should be adjusted with the lock plate in the locked position. Adjust the stop bolt until the lock plate roller moves freely within its slot and ensure that the stop faces are in contact. The points A, B and C should now be in a straight line. The lock-plate micro switch, which is wired in series with both the up and door lock micro switches, should be adjusted so that the striker operates the switch when the roller is $\frac{3}{4}$ in. from the locked position.

Undercarriage jack

18. The length of the jack, which is critical for the satisfactory operation of the undercarriage, should be adjusted with the undercarriage retracted. When the jack is fully extended the lock plate roller should be $\frac{1}{16}$ in. to $\frac{3}{32}$ in. from the end slot. The position of the roller can be visually checked, with the aid of a mirror, through the inspection hole in the top surface of the mainplane. After adjustment ensure that the jack ram eye-bolt is in safety.

Retracting mechanism

19. With the wheel removed and the leg locked in the *up* position, adjust the leg attachment eyebolt on the radius rod until the gap between the end of the axle and the top structure of the mainplane is between $\frac{1}{16}$ in. and $\frac{1}{8}$ in. The striker of the *up* micro switch should be adjusted at the same time so that the switch is just operated when the leg is in this position. The switch striker should then be extended three complete turns and locked. The position of the up-lock micro switch is illustrated in Sect. 5.

Leg fairing and wheel door

20. The straps securing the leg fairing should be slackened off before retracting the undercarriage. When the leg is locked in the *up* position, ensure that the fairing makes a good all round contact with the undersurface of the wing. Adjustment may be made by adding or removing the packing washers at the strap attachment fittings and by moving the fairing about the leg. When a close fit between the fairing and the undersurface of the wing has been obtained, note the position of the fairing in relation to the leg and then lower the undercarriage and tighten up the securing straps. The wheel doors can now be adjusted, so that with the leg fully retracted, the door is a close fit against the surrounding wing surface and leg fairing. The radius rods on the wheel doors are adjustable for this purpose, but the doors will not lock in the *up* position until the adjustment dimensions given in para. 19 are obtained.

Wheel-door lock plungers and micro switch

21. The wheel-door lock plungers are controlled by Teleflex cables actuated by the initial movement of the radius rod (*Sect.* 5). To check the correct functioning of the plungers, disconnect the wheel door radius rods and retract the undercarriage. The circular groove on the plunger should be just visible when the plunger is fully extended. The extension of the plunger can be adjusted by removing the barrel from the plunger and screwing the latter on or off the slide tube; the plunger must be relocked after this adjustment. The Teleflex cable must not project beyond the end of the plunger. Replace the wheel and retract the undercarriage, then check that the wheel-door micro switch is just operated by the door lock plungers, finally extend the micro switch striker pin three complete turns and lock.

Compression leg micro switch

22. The compression leg micro switch operates the solenoid plunger which locks the undercarriage hydraulic selector lever in the cockpit. The selector lever is locked in the DOWN position when the weight of the aircraft is on the compression leg. An illustration of the micro switch is given in Sect. 5. To adjust the switch, jack the aircraft clear of the ground so that the port leg is fully extended, and extend the striker pin to compress the switch plunger by a further $\frac{1}{8}$ in. after the switch has operated. Check that the undercarriage selector lever is free to operate when the port leg is extended. Lower the aircraft from the jacks, *release the pressure from the hydraulic system* and check that the undercarriage selector lever is locked in the DOWN position.

ADJUSTMENT OF NOSE WHEEL

23. The adjustment procedure for the nose wheel radius rod, the lock-plate micro switch and the operating jack is exactly the same as that for the undercarriage legs as detailed in para. 17 and 18, except that the adjustment of the jack is carried out with the nose wheel in the down position, so that the lock plate roller is $\frac{1}{16}$ in. to $\frac{3}{32}$ in. from the end of the slot when the jack is in its fully extended position.

24. The amount that the nose wheel retracts into the wheel well is governed by the adjustable lower link of the radius rod. The nominal pin centre length of this link is 7·4 in. and it is inadvisable to depart appreciably from this dimension. Details of the nose wheel mechanism are illustrated in Sect. 5.

Micro switches

25. Two up-lock micro switches, which are positioned together on the roof of the wheel well, are operated by a common striker pin. The adjustment of these switches must be carried out by trial and error. The switches operate the undercarriage position indicator lamp and a solenoid which prevents the firing of the guns when the alighting gear is not fully retracted. The adjustment of the leg lock micro switch is similar to the undercarriage procedure.

Leg fairing and wheel door

26. The nose wheel leg fairing and spring door are illustrated in Sect. 5.

UNDERCARRIAGE SHOCK-ABSORBER STRUT (*fig. 15*)

27. The interchangeable struts are oleo-pneumatic in operation and are identical except for the position of the torque links connecting the cylinder tube to the axle. The struts become either port or starboard according to the position of the torque links. Details for the assembly and dismantling of the strut are contained in A.P.1803C, and the instructions for assembly of the strut to the airframe are given in Section 5. The seals in both the main undercarriage and the nose wheel struts are made of natural rubber, and only the fluid specified in the Leading Particulars should be used.

Charging and inflating

28. When charging and inflating the strut, the following equipment will be required :— Turner inflation adapter, SBAC/RS 177, fitted with a 0-500 lb./sq. in. air pressure gauge, elbow connection, AX.10167, for the above, and a fluid charging pump unit, AX.10171. With the wheel clear of the ground and the strut fully extended, the procedure is as follows :—

(1) Remove the blanking cap from the inflation valve and fully deflate the strut either by attaching the Turner adapter to the inflation valve and slackening the knurled screw, or by depressing the centre pin in the inflation valve by hand.

(2) Unlock and remove the inflation valve and gasket from the strut.

(3) Fully compress the strut.

(4) Remove the vent screw A (*fig.* 15) and fit the oil charging connection into the vent screw hole, slacken off the vent screw B and attach a suitable length of hose, allowing the free end to enter an oil container.

(5) Using the unit AX.10171, pump the fluid through the connection into the strut until a steady stream, free from bubbles, emerges from the hose attached to the vent screw B.

Note . . .

One strut holds approximately three pints of fluid, and the pressure during charging should not exceed 200 *lb/sq. in.*

(6) Remove the hose from the vent screw B and screw down tightly. Continue to pump fluid into the strut until the strut is fully extended, then remove the fluid charging pump connection and replace the vent screw A with a suitable length of hose attached to direct excess fluid into a container.

Note . . .

The vent screw must be left slack.

(7) Slowly and progressively compress the strut to its full extent to eject excess oil. When all the excess oil has been ejected, remove the hose from the vent screw and screw down tightly.

(8) Replace the inflation valve and gasket, screw down tightly and lock. Attach the elbow connection and the Turner inflation adapter and inflate the strut to a pressure of 350 lb./sq. in. The strut should now be fully extended to the dimension shown in fig. 16. If not, the above procedure should be repeated with particular attention to ensure adequate fluid charging.

(9) Remove the Turner adapter from the inflation valve and replace the blanking cap.

NOSE WHEEL SHOCK-ABSORBER STRUT (*fig. 15*)

29. The nose wheel shock-absorber strut is oleo-pneumatic in operation and consists of a plunger tube which is free to move in a cylinder tube. The details of assembly and dismantling operations for the strut are given in A.P.1803C and the procedure for the removal of the strut from the nose wheel leg is given in fig. 18. The oleo extensions are shown in fig. 17.

Charging and inflating

30. The procedure for charging and inflating is the same as that described in para. 28 except that the leg must be removed from the aircraft before charging, and the air pressure is 500 lb./sq in.

Nose wheel self-centring unit

31. The mechanism and the method of dismantling the nose wheel self-centring unit is shown in fig. 18.

HYDRAULIC SYSTEM

General

32. The hydraulic system is described in Section 9 and the three main services are illustrated in fig. 19 to 24 of this Chapter. Scrupulous cleanliness is essential in all servicing operations on the system, as small pieces of swarf or other foreign matter may render the system inoperative. Clean fluid only of the type specified in the Leading Particulars should be used for filling or topping up, and the filter in the reservoir should always be in position during this operation. Fluid containers must be perfectly clean. All air must be vented from the system, and the reservoir should be kept topped up to ensure efficient operation. The following are the principal hydraulic components used on this aircraft and the details for their dismantling and general servicing will be found in A.P.1803B.

Dive-brake jack	AIR.40022
Dive-brake selector valve Flap selector valve .... Alighting gear selector valve	AIR.40272
Hand pump....	UMC.501
Hydraulic accumulator	AIR.40016
Accumulator pressure-release valve	AIR.40018
Non-return valve for ground operation of the dive brakes	AIR.40504
Thermal relief valve	UMC.632
Flap jack	AIR.40008
Undercarriage jack	AIR.40010
Nose wheel jack	AIR.40542
Automatic cut-out valve	AIR.40020

WARNING

Before disconnecting the hydraulic pipes or removing any unit, the pressure in the system must be released by operating the release valve situated beneath the cockpit floor (fig. 22). All hydraulic pipes are identified with a broad white band.

PRESSURES

33. The following are the correct pressures for the main components :—

Hydraulic accumulator initial air pressure 1,250 lb./sq. in.
Normal operating pressure 2,500 lb./sq. in.
Thermal relief-valve pressure 3,000 lb./sq. in.

TESTING

Filling and priming

34. Before proceeding with the functional tests, the system should be filled and primed in the following manner :—

(1) Jack the aircraft as illustrated in fig. 5.

(2) Inflate the hydraulic accumulator to 1,250 lb./sq. in. air pressure using a Turner adapter and pressure gauge, and inspect for leaks.

(3) Fill the hydraulic reservoir until fluid runs through the vent pipe.

(4) Set the selector levers in the cockpit as follows—undercarriage and flaps UP, dive brakes OFF. The connecting rods between the control levers and the selector valves should be adjusted so that the selector valve stems are extended 1 in. in the extreme position.

(5) Operate the hand pump until all the jacks are fully operated.

(6) Set the control levers in the cockpit as follows—undercarriage and flaps DOWN, dive brakes ON.

(7) Operate the hand pump until all the jacks are fully operated.

Note . . .

During the operation of the dive brakes, the non-return valve in the hand pump pressure line must be held open. The location of the valve is shown in fig. 24.

(8) Release the hydraulic pressure and top up the reservoir to the level indicated on the window.

Functional tests

35. After carrying out the preparations described in para. 34, proceed with the tests as follows :—

(1) Connect test rig hoses to the ground test couplings on the port side of the firewall (*fig.* 19), and run the pump for two minutes, holding the accumulator release-valve open.

(2) Close the release valve and check the pressure of the hydraulic accumulator from the gauge attached (*para.* 34). If necessary, adjust the cut-out valve to operate at 2,500 lb./sq. in.

(3) Wire-lock the adjuster bolt after setting the cut-out valve. The valve should not cut-in for at least two minutes after cutting out.

(4) With the test rig running at between 1,400—1,500 r.p.m., operate the flaps three times, checking by the indicator in the cockpit. The functional times for the flaps are :—DOWN 9-14 seconds ; UP 11-16 seconds.

(5) Select flaps DOWN and move the lever to NEUTRAL when the indicator records 30 deg. movement.

(6) Leave the pump running for three minutes during which time the flaps should not move.

(7) With the test rig running, operate the dive brakes three times and check the functional times. The times for ON and OFF should be 0·5-1 second.

(8) With the test rig running, operate the alighting gear five times, checking the operation of the indicator lamps in the cockpit and the functional times. The times for UP and DOWN should be 2-3 seconds.

(9) With the undercarriage and flaps UP and the dive brakes OFF, stop the test rig and release the accumulator pressure.

(10) Disconnect the pump pressure line at the test point on the firewall, and restart the pump, collecting the fluid flowing from the pump into a clean container. When flow ceases, stop the pump and reconnect the pressure lines.

(11) Using the hand pump, select undercarriage and flaps DOWN and pump until the handle is immovable. Set the dive brakes ON and maintain the pressure on the hand pump for two minutes, during which time the dive brakes should not move.

(12) Refill the hydraulic reservoir and run the engine pump for two minutes on the test rig holding the accumulator release valve open.

(13) With the accumulator pressure released, stop the engine pump and finally top up the reservoir to the level line shown on the window.

(14) Run the test rig and operate the alighting gear and flaps five times.

PNEUMATIC SYSTEM (*fig. 25*)

General

36. The pneumatic system, which is provided for the operation of the wheel brakes only, is described in Sect. 9. The servicing instructions for both the brake differential unit and the pneumatic brakes are contained in AP.2337, and the instructions regarding the other pneumatic components in AP. 1519, Vol. 1. It is important that all air should be released from the system before attempting to remove any units.

CHARGING

37. The air reservoir is charged by an engine-driven Hymatic compressor to a pressure of 450 lb./sq. in. Alternatively, the air reservoir may be charged through a ground charging point provided on the pneumatic panel. Access to the ground charging point is gained by opening the gun bay doors.

OIL-AND-WATER TRAP

38. The oil-and-water trap should be drained, daily or after every long flight, by releasing the hexagonal blanking nut at the base of the trap and allowing sufficient time for the oil and water to drain away. The draining should be done when there is pressure in the air reservoir, to ensure that all deposits of oil and sludge are blown out.

ADJUSTMENT OF BRAKE CONTROL UNIT (*fig. 25*)

39. The brake control unit is adjusted as follows :—

(1) Lock the rudder pedal lever central (*Chap.* 2).

(2) Set the differential lever on the top of the brake control unit *neutral* (i.e., pointer central).

(3) Assemble the adjustable link when the respective levers are in the positions indicated in sub-para. (1) and (2).

(4) Adjust the Bowden cable at the brake operating lever in the cockpit, then adjust the control unit so that, with the rudder pedals central, the pressure recorded at each brake is 150 lb./sq. in. with the brake lever fully *on*. There should be no pressure at the brakes when the lever is *off*.

(5) Remove the rudder pedal lock and check the differential action of the control unit. With full starboard rudder, the port brake should be free and the starboard brake fully on, and vice versa.

ENGINE CONTROLS (*fig. 27*)

General

40. The setting data for the engine controls is illustrated in fig. 27. The angular movement of the levers, which are taken from the *fuselage vertical datum*, may be measured in relation to the aft face of the firewall. The angular movement of the levers, which are taken from the *engine vertical datum*, are for reference only and serve as a guide to the full movement of their respective engine controls. The general arrangement of the engine controls will be found in Sect. 8.

41. When assembling the engine controls on the firewall, ensure that the chains are positioned with an equal number of links on each side of their sprocket wheels when the respective control levers, on the firewall and in the cockpit, are in the mid position. The adjustable connecting rods between the airframe and engine have spring socket ends which fit over ball joints on the levers. The servicing instructions for the Teleflex cables, which run from the engine control box in the cockpit to the firewall, are contained in A.P.1464D, Vol. 1, Part 11, Sect. 2, Chap. 3. The lubrication details of the engine controls are given in fig. 2 and 4 of this Chapter.

PRESSURE TRANSMITTERS (*fig. 28*)

General

42. The pressure transmitters type 1.A., located on the top of the firewall, are used for recording the fuel and oil pressures in the cockpit, and transmit the pressure from the engine through a liquid-filled compartment in the transmitter to the respective gauges. The fuel or oil, the pressure of which is to be recorded, fills one side of the transmitter, while the other side is filled with fluid, Stores Ref. 34A/119. The two fluids are separated by a flexible diaphragm located between the two halves of the transmitter. Variations in fuel or oil pressure are immediately conveyed by movement of the diaphragm to the transmitter fluid and indicated on the cockpit pressure gauge.

43. The transmitters must be mounted so that the arrow, engraved on the back of the case, points upwards within 10 deg. of the vertical axis. Also the four hexagonal distance pieces must not be removed or loosened, as the flange screws securing these pieces to the case are set to a definite torque, and leaks may occur if they are disturbed. Before installing a transmitter, ensure that the grey or brass-coloured non-return valve is in position.

Servicing

44. When making a routine inspection of the fuel or oil lines, ensure that the transmitter and its connections are thoroughly tight. If the gauge reads other than zero without pressure being applied to the transmitter, the system should be thoroughly checked for leaks, as this condition is indicative of a loss of transmitter fluid. The pressure lines between the instrument gauge and the transmitter should be checked to ensure that no sharp bends, kinks or loose cleats can give rise to line failure through vibration. During extremely cold weather, trouble may be experienced with the oil pressure gauge due to increased viscosity of the engine oil in the line between the engine and the oil pressure transmitter. To overcome this difficulty, remove the plug E and add a little transmitter fluid, Stores Ref. 34A/119, to the line.

Pressure test

45. Disconnect the pipe at the transmitter end of the line, using a spanner to hold the adapter while the union nut F is unscrewed. Care should be taken in this operation as the transmitter casing is a fragile casting and damage will occur if unnecessary force is used. Attach a 12 in. length of rubber tube to the flared end of the pipe, securing this end with a jubilee clip. Insert a Schrader valve in the other end of the rubber tube and also secure with a Jubilee clip. Seal the top of connection D, making an airtight joint, then proceed as follows :—

(1) Fill the line through the Schrader valve with clean, dry air from a pressure supply fitted with a pressure gauge. Charge to 25 lb./sq. in.

(2) Check the joints in the system for leaks, using a brush and soapy water.

(3) The pressure gauge should indicate no drop in pressure with the circuit sealed over a period of one hour.

(4) When the test is considered satisfactory, remove the rubber tube from the pipe and connect the line to the transmitter.

Charging precaution

46. Before filling the transmitter system the following precautions should be observed :—

WARNING

Clean charging equipment is essential. If the filling tank has been used for other purposes it must be thoroughly cleaned by using a suitable solvent and finally rinsed in fluid, Stores Ref. 34A/119.

The pressure transmitter will be received with the lock-nut A tightened. Loosen the nut and screw it off the threaded portion of the stem. Push the knob B inward and turn it clockwise (approximately half-turn) until it is felt to be firmly in place against the diaphragm. This procedure will maintain the valve in its central position during the charging procedure. Fit a flexible pipe to connection D so that the free end rests in a clean receptacle placed on the cockpit floor. Connect the pipe from the filling tank to the transmitter as illustrated.

Charging procedure

47. The system now being ready for charging, proceed as follows :—

(1) Unscrew the valve on the filler tank and operate the pump.

(2) Force the fluid through the system until air bubbles cease to appear at the end of the overflow pipe. Do not exceed 25 lb./sq. in. on the tank gauge as excessive pressure will distort the diaphragm disc:

(3) Remove the overflow pipe and the filler pipe and fit blanking caps to the two connections D and C.

(4) Turn the knob B anti-clockwise and pull out to its full extent, then replace and tighten the locknut A. The system is now ready for use.

PRESSURE CABIN (*fig. 29, 30 and 31*)

CABIN SEAL

48. The cabin seal is maintained by pressure taken from the impeller casing of the engine. A pipe is led from the casing through a pressure-reducing valve and a non-return valve to a Vickers three-way cock, located on the right-hand side of the cockpit below the canopy jettison lever. The pressure is reduced to 5·5 lb./sq. in. The cabin seal is inflated by turning the cock to ON which permits air to flow to the seal. The seal is deflated by turning the cock to OFF which opens the circuit to the suction side of the vacuum pump.

PRESSURE CABIN

49. A Marshall blower, mounted on the port upper wheel case of the engine, is used for pressurising the cabin (*fig.* 31). The lever located on the right-hand side of the cockpit forward of the canopy jettison lever, operates an oil clutch which engages the blower as required. The blower is fed by air, through ducts and an air filter, from an intake in the leading edge of the port wing. From the blower, air is ducted through a kapok-lined silencer and a non-return valve to a manual control valve, which regulates the volume of air allowed to pass through a cooling radiator, to the cockpit. The temperature of the air may thus be regulated by the lever on the cooler control (*fig.* 29).

VICKERS VACUUM VALVE

50. When the cabin air pressure is high, a Vickers vacuum valve located on the rear face of the No. 1 bulkhead automatically reduces the negative pressure applied to the gyro instruments by the vacuum pump, and has the reverse effect when the cabin pressure is low.

PRESSURE CABIN CONTROL

51. The pressure in the cabin is automatically regulated by a Westland control valve, positioned on the forward face of bulkhead No. 1. The functioning of the valve is such that the cabin air pressure does not differ appreciably from the surrounding atmospheric pressure until the pressurising height is attained. At this predetermined height the action of the valve progressively increases the differential pressure in the cabin, in relation to the surrounding atmosphere, up to a maximum of 2·75 lb./sq. in. The valve also incorporates a switch to operate a warning lamp should the cabin pressure drop 0·5 lb./sq. in. below the normal for any altitude. Two

more valves are included in the unit; an outward relief valve set to 3 lb./sq. in. which functions when the main regulating valve fails to operate at the set pressure, and an inward relief valve which operates when the surrounding atmospheric pressure exceeds the cabin pressure as would occur in a power dive.

GROUND TESTING OF PRESSURE CABIN WITHOUT ENGINE RUNNING

Equipment required

WARNING

It is essential that personnel detailed for ground testing the pressure cabin are of the approved medical category.

52. Before commencing the following tests, the nose cowling must be removed and the following equipment obtained :—

(1) Petrol motor rig, Stores Ref. 4F/NIV/18, or an electric motor rig complete with an air flow meter.

(2) Vacuum rig with attachments to pressurise the canopy seal.

Vacuum system

53. The functioning of the vacuum system should first be checked with the cabin unpressurised, the minimum depression should not be less than 4·2 in. Hg. and the maximum not more than 5·0 in. Hg. With the system complying with these requirements, the cabin should be pressurised by increments of 0·5 lb. to 3 lb./sq. in. and then reduced by the same amount. The suction side of the vacuum rig should be connected to the suction line on the engine vacuum pump. The depression measured at the instruments should remain within the limits of 4·2 in. and 5·0 in. Hg.

A.S.I. system

54. The usual checks on the A.S.I. lines should be made with the cabin pressurised and unpressurised.

Pressurising and testing the cabin

55. To pressurise the cabin, proceed as follows :—

(1) Close the canopy.

(2) Connect the test rig air supply to the charging point on the door of No. 1 bulkhead (*fig.* 29).

(3) Connect the mercury U-tube and vacuum rig pressure line to their respective points on No. 1 bulkhead.

(4) Blank off the Westland valve atmospheric vent.

(5) Turn the cabin seal cock to ON.

(6) Start the vacuum rig and maintain a pressure in the canopy seal of 5·50 lb./sq. in.

(7) Start the air supply rig and pressurise the cabin to 2·75 lb./sq. in., maintaining this pressure with an air flow into the cabin of not more than 28 cu. ft. per minute. Check the Westland valve for leaks. Leaks may be detected by placing the hands over the gauze exits, which are around the periphery of the body and at the end of the unit. Access to the Westland valve is obtained by removing the inspection cover at the starboard side of the nose.

(8) Raise the cabin air pressure to 3 lb./sq. in. and check that the Westland valve relieves at this pressure. This is indicated by a passage of air through the gauze at the end of the valve body.

(9) It is desired to keep the leak rate as low as possible and, with the cabin pressurised to 2·75 lb./sq. in., it should take not less than 20 seconds for the pressure to drop to 1·375 lb./sq. in. If the leakage rate is greater than this, the cabin seal and the control cable seals should be examined and, if necessary, the latter should be cleaned and repacked with grease.

(10) At the completion of the test, turn the canopy seal cock to OFF, remove the test rigs from the aircraft and remove the blank from the Westland valve atmospheric vent. Reconnect the vacuum pump suction line to the engine vacuum pump.

Warning light

56. At the completion of pressure cabin test remove the tube from the Westland valve and test the pressure-warning light electrical circuit, by removing the terminal block cover on the Westland valve and bridging the terminals; the warning light should glow. In flight, the warning light will glow when the cabin pressure drops 0·5 lb./sq. in. below the normal pressure for any altitude.

GROUND TESTING OF PRESSURE CABIN WITH ENGINE RUNNING

57. With the engine running at 4,000 r.p.m. it should be possible to pressurise the cabin from zero to 2·75 ± 0·25 lb./sq. in. in a period of 3 minutes maximum, and to maintain this pressure indefinitely.

Test procedure

58. *1st test*

(1) Blank off the Westland valve atmospheric vent.

(2) Close the canopy.

(3) Turn the canopy seal cock ON.

(4) Set the cabin pressure control lever to OFF.

(5) Start the engine and, as soon as it is steady at 4,000 r.p.m., set the cabin pressure control lever to ON and check the time to build up to 2·75 lb./sq. in.

(6) Check that pressure is maintained with the cabin air control in the HOT or COLD position.

(7) To release the pressure, set the cabin pressure control lever and canopy seal cock to OFF and allow the pressure to escape.

59. *2nd test*

(1) Westland valve *not* blanked off.

(2) Close the canopy.

(3) Set the canopy seal cock ON, and the cabin pressure control lever OFF.

(4) Start the engine and, as soon as it is steady at 3,000 r.p.m., turn the cabin pressure control lever ON.

(5) Raise the engine speed to maximum r.p.m. (10,200), when the cabin pressure should not rise above 1 lb./sq. in.

(6) Release the pressure in the cabin and the canopy seal.

GROUND TESTING OF PRESSURE CABIN ON REPAIRED AIRCRAFT

Test procedure

60. The tests described in para. 58 and 59 are only applicable to aircraft receiving a periodical inspection, but if the non-return valve (*fig.* 29) has been replaced, or structural repairs to the cabin have been effected, then the following tests should be carried out :—

(1) Close the canopy.

(2) Connect the test rig air-supply line to the cabin blower line at a convenient point before the non-return valve. Such a point could be obtained by removing the blower silencer.

(3) Connect the mercury U-tube and the vacuum rig. pressure line to their respective points on No. 1 bulkhead.

(4) Blank off the Westland valve atmospheric vent.

(5) Remove the gauze filter and circlip from the Westland valve.

(6) Turn the cabin seal cock ON.

(7) Start the vacuum rig, and maintain a pressure in the canopy seal of 5·50 lb./sq. in.

(8) Start the air supply rig and pressurise the cabin to 3·66 lb./sq. in. This is accomplished by holding the Westland relief valve on its seating, by applying hand pressure to the head of the valve. Maintain this pressure for one minute. Examine all possible sources for leaks. For the method of stopping minor leaks, refer to A.P.1464B, Vol. 1, Part 2, Sect. 4, Chap. 6.

(9) Replace the gauze and circlip in the Westland valve.

(10) Carry out the procedure given in para. 58 and 59, and check the operation of the cabin air control lever. Ensure that the non-return valve, operates instantly when the cabin pressure control lever is turned to OFF.

DRY-AIR SANDWICH WINDOWS (*fig.* 32)

61. The windscreen and canopy are constructed of Triplex glass and moulded transparent plastic respectively. The inner and outer sheets are separated by a frame around the edge of each panel to give a sealed air space between the two layers. To ensure that this air is kept dry, the system illustrated in fig. 32 is employed. The drier containing silica-gel is positioned just forward of the right-hand instrument panel. The crystals, which can be seen through an inspection window in the drier, should be changed when they show a pink pigment.

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Testing the drier (*fig. 34*)

62. To test the drier, available means are required to apply air pressure at 2·75 lb./sq. in., and suction at 0·5 lb./sq. in. at hose connection A on top of the drier, and a 12 in. mercury tube; then proceed as follows:—

(1) Remove the blanking cap from its stowage adjacent to the drier.

(2) Remove the hose from connection A on the drier, and seal the hose by screwing it on the blanking cap stowage.

(3) Seal the drier with the blanking cap, and remove it from the aircraft.

(4) Remove the blanking cap and air-pressure pipe to the drier, at connection A, with the mercury U-tube interposed, blank off the open end of the drier, by a rubber hose and plug as illustrated, and apply pressure at 2·75 lb./sq. in. The complete assembly must be airtight.

(5) Remove the rubber tube and plug from the lower end of the drier and check that the outlet valve opens at 0·4 to 0·5 lb./sq. in. pressure, but is airtight below 0·4 lb./sq. in. pressure.

(6) Connect the vacuum pipe in place of the pressure pipe at connection A, with the mercury U-tube interposed, and check that the inlet valve opens at 0·4 to 0·5 lb./sq. in. suction, and is airtight below 0·4 lb./sq. in.

(7) Disconnect the vacuum pipe and mercury U-tube, attach the blanking cap at connection A, and re-install the drier in the aircraft.

(8) Pinch the hose connection to the windows, remove the blanking cap and, keeping the hose pinched, re-connect to the drier at point A.

(9) Replace the blanking cap in its stowage.

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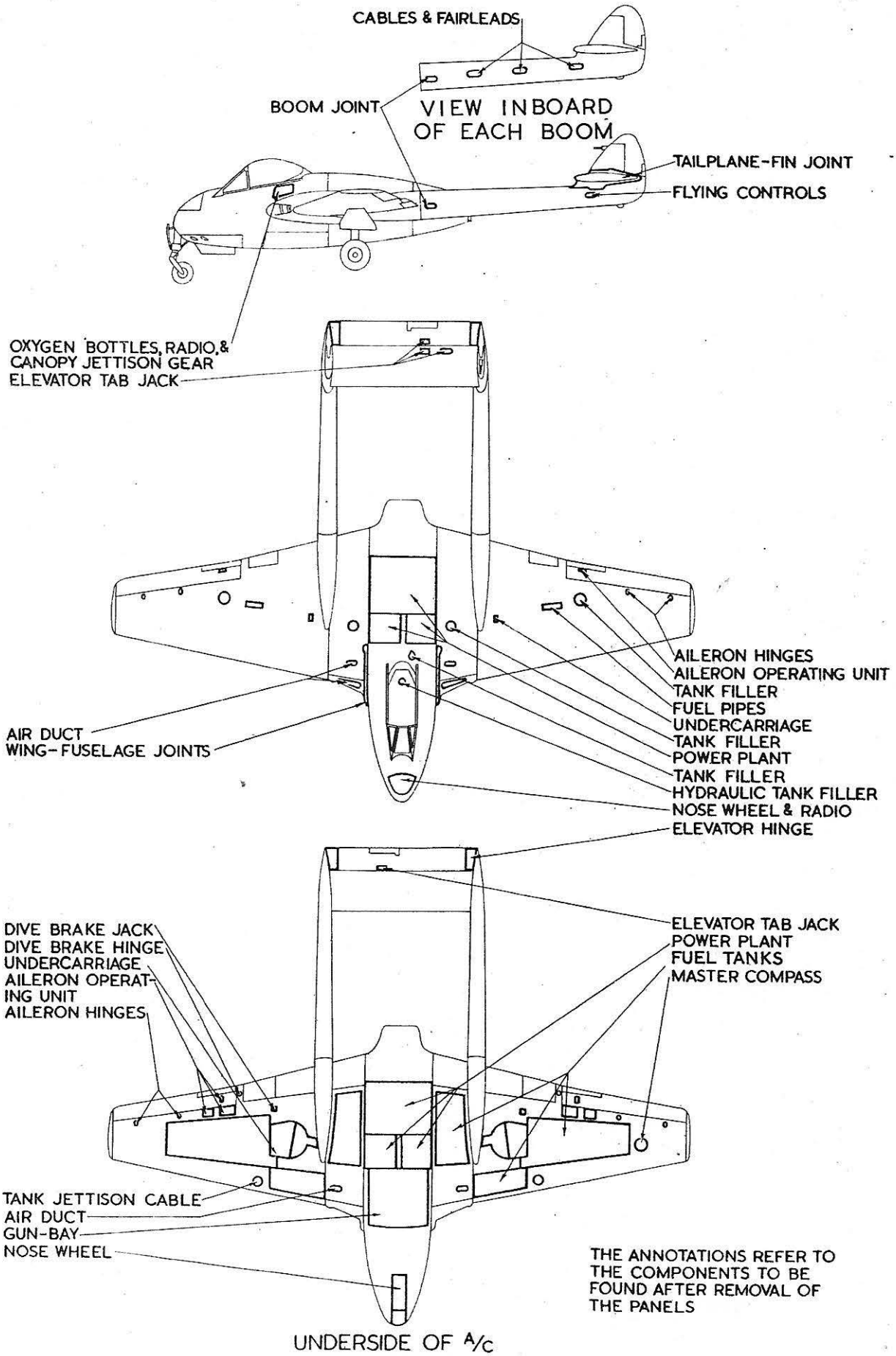


FIG. 1 INSPECTION PANELS

G2309 M13536 1/49 360 C.B.& S.Ltd. Gress.

Ⓐ NOSE WHEEL 13 ⊨
Ⓑ NOSE WHEEL DOOR 6 ▣
Ⓒ RUDDER PEDALS ▣
Ⓓ CONTROL COLUMN & ELEVATOR LEVERS 8 RACES ▣
Ⓔ CONTROL PULLEYS 60 ▣
Ⓕ ELEVATOR QUADRANT & CON RODS 8 ▣
Ⓖ TELEFLEX CONTROLS 6 ⊨
Ⓗ ENGINE CONTROLS ▣
Ⓙ WHEEL HUB. HIGH TEMP. GREASE
Ⓚ UNDERCARRIAGE 14 ⊨
Ⓛ UNDERCARRIAGE DOORS 4 ⊨ 20 ▣
Ⓜ CANOPY WINDING GEAR 5 •
Ⓝ CANOPY RELEASE MECHANISM 11 ▣ 2 RACES ▣
Ⓞ CONTROL CABLE SEAL 8 ▣
Ⓟ TANK JETTISON CABLE ▣ •
Ⓠ FLAP JACK & HINGES 4 ⊨ 20 RACES ▣
Ⓡ DIVE BRAKE JACK & HINGES 4 ⊨ 4 RACES ▣
Ⓢ AILERON OPERATING UNITS 12 RACES ▣
Ⓣ AILERON HINGES 8 ▣ TAB HINGES •
Ⓤ ELEVATOR HINGES 4 ▣ TAB HINGE •
Ⓥ RUDDER HINGES 4 ▣ 2 RACES ▣
Ⓦ CONTROL LINKAGE IN TAIL UNIT 50 RACES ▣
Ⓧ ELEVATOR TRIM JACK 2 RACES ▣ CHAIN ▣

SOME OF THE POINTS INDICATED ARE SEALED BALL RACES WHICH REQUIRE NO LUBRICATION

◎ THESE POINTS ARE ILLUSTRATED IN FIG. 3 & 4
⊨ GUN LUBRICATION, GREASE (STORES REF. 34A/174)
• LUBRICATING OIL ANTI-FREEZE (STORES REF. 34A/86 AND 87)
▣ GREASE LOW TEMPERATURE (STORES REF. 34A/174)

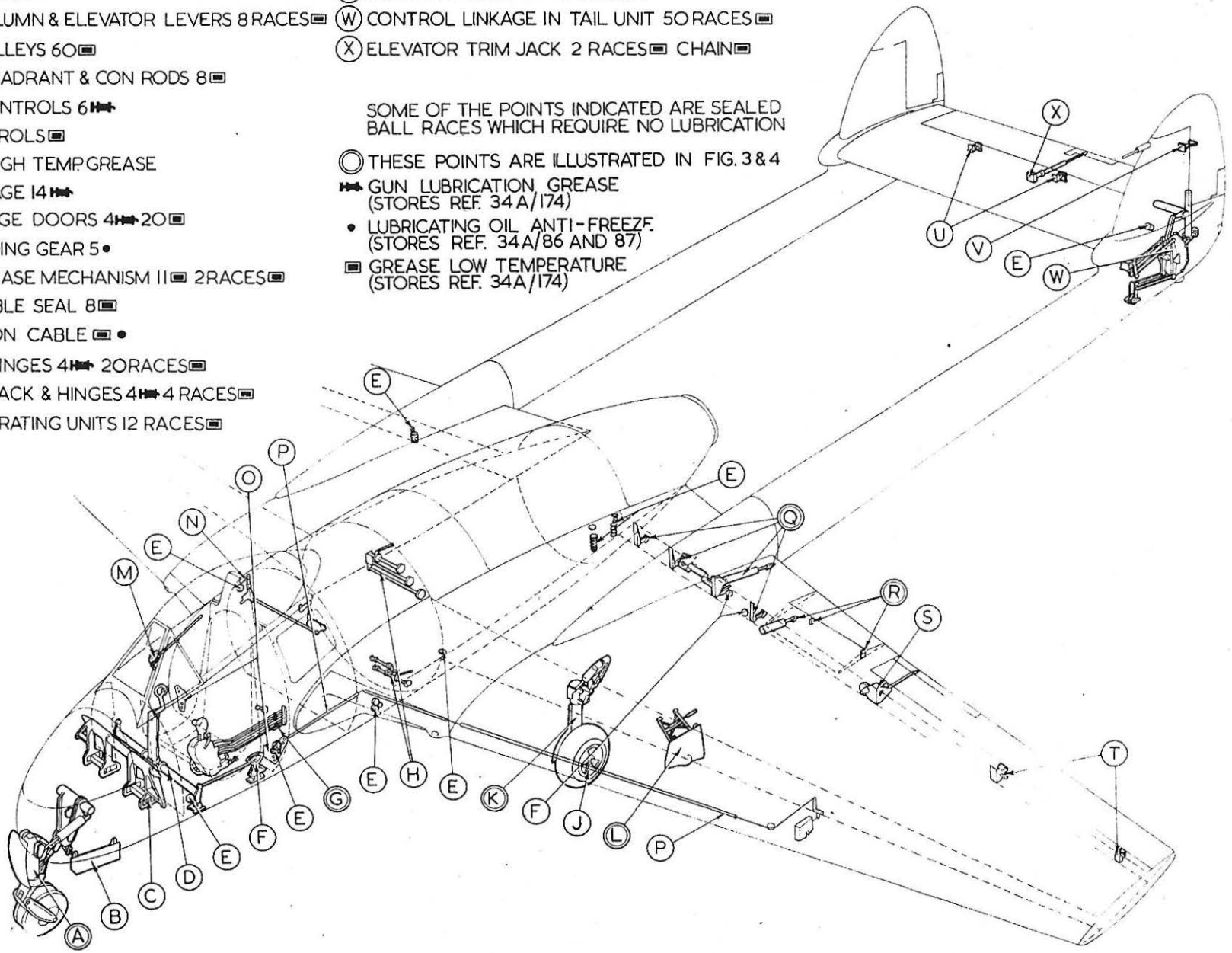
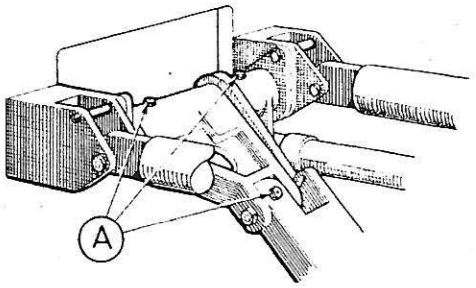
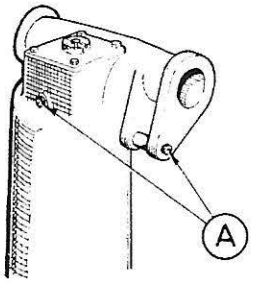


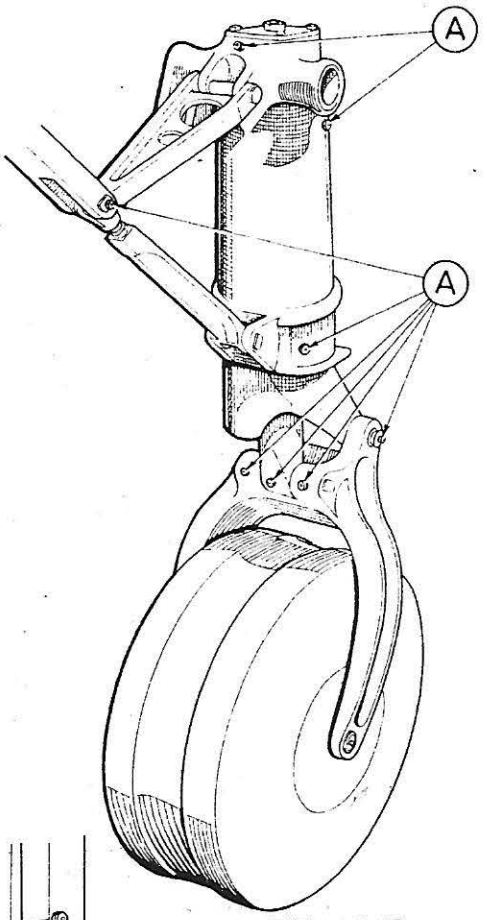
FIG. 2 LUBRICATION DIAGRAM



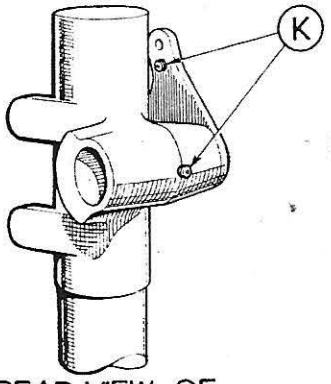
NOSE WHEEL RADIUS ROD HINGE



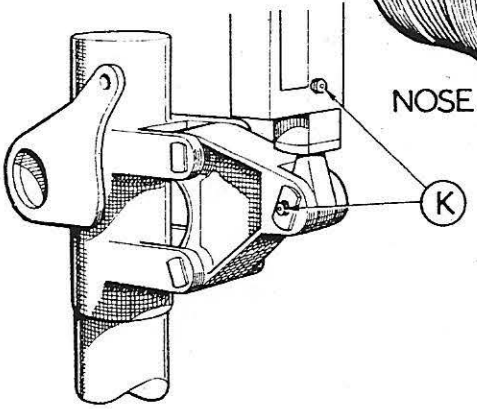
NOSE WHEEL UNIT TOP STRUCTURE

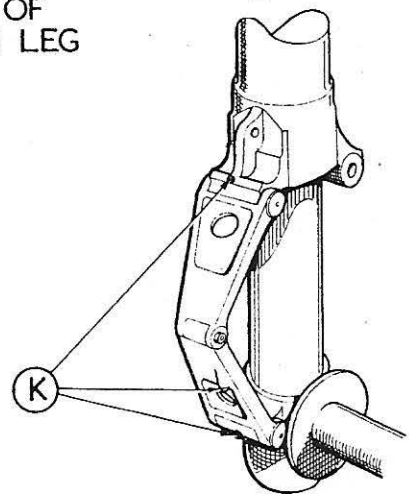


NOSE WHEEL UNIT

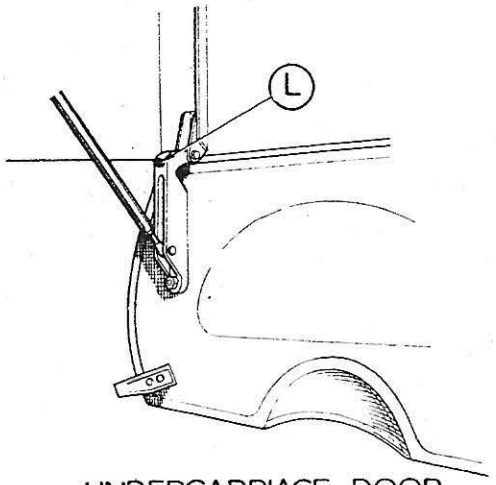


REAR VIEW OF COMPRESSION LEG





UNDERCARRIAGE COMPRESSION LEG



UNDERCARRIAGE DOOR

FIG. 3 LUBRICATION DETAILS (1)

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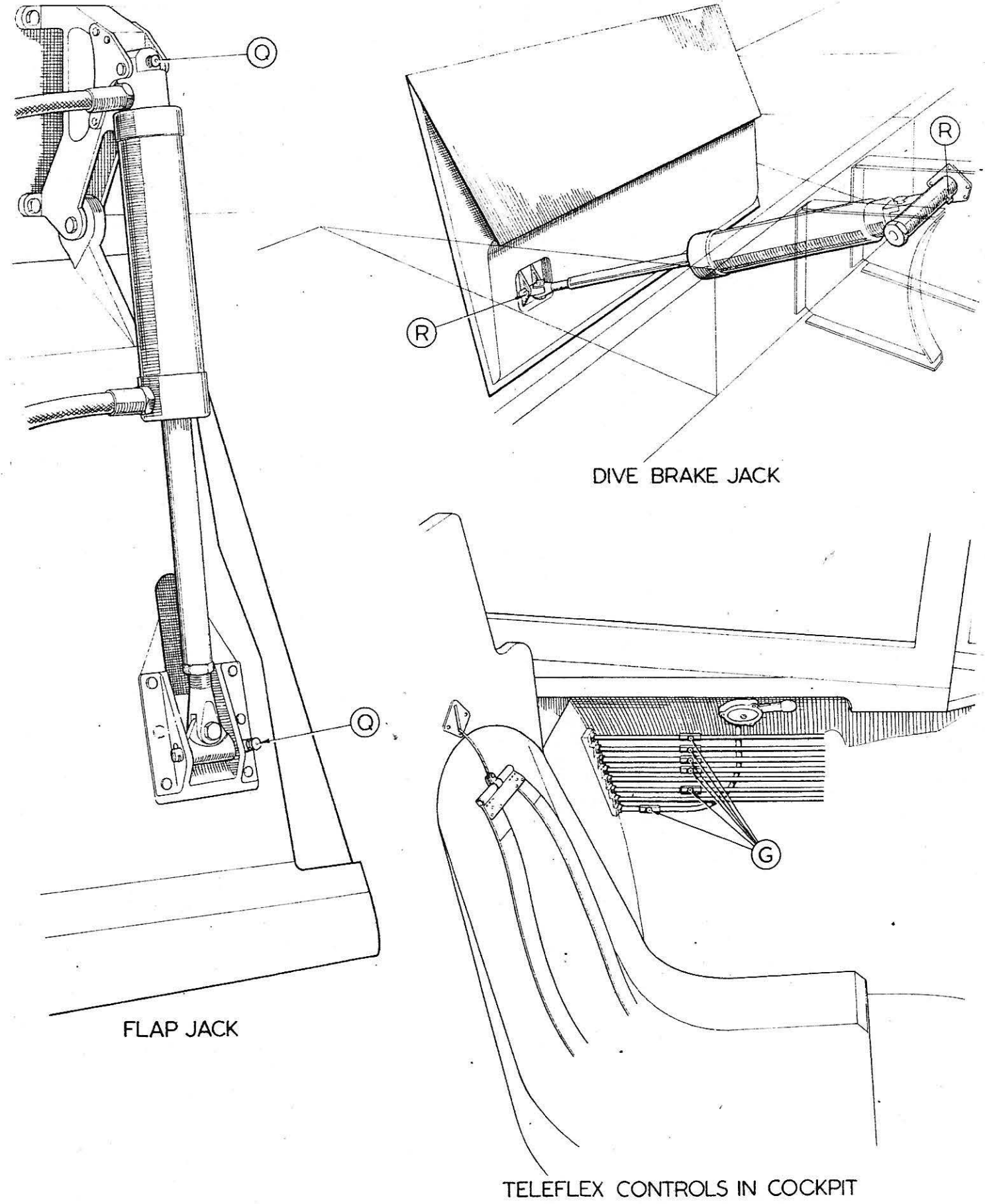

FIG. 4 LUBRICATION DETAILS (2)

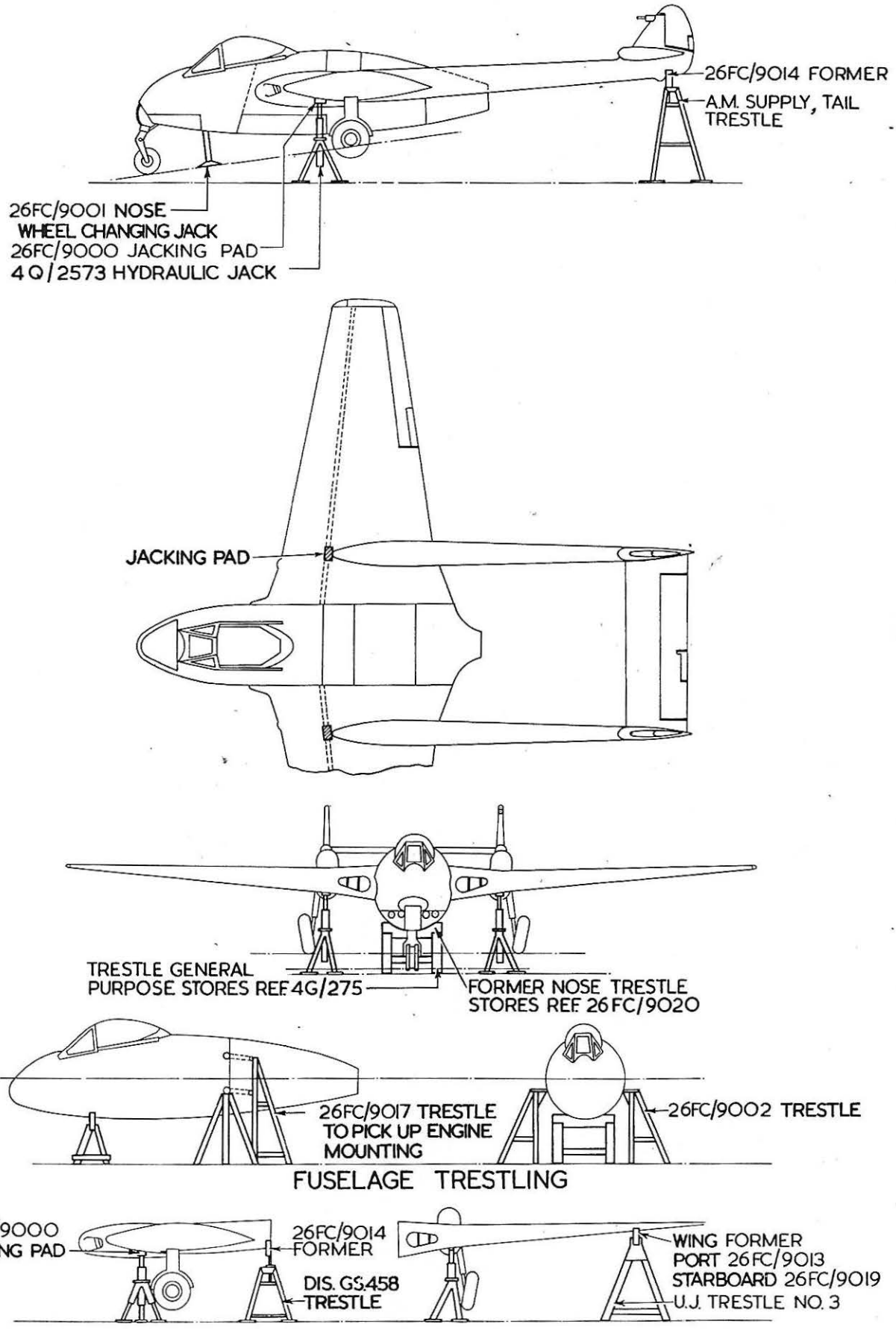

FIG. 5 JACKING AND TRESTLING

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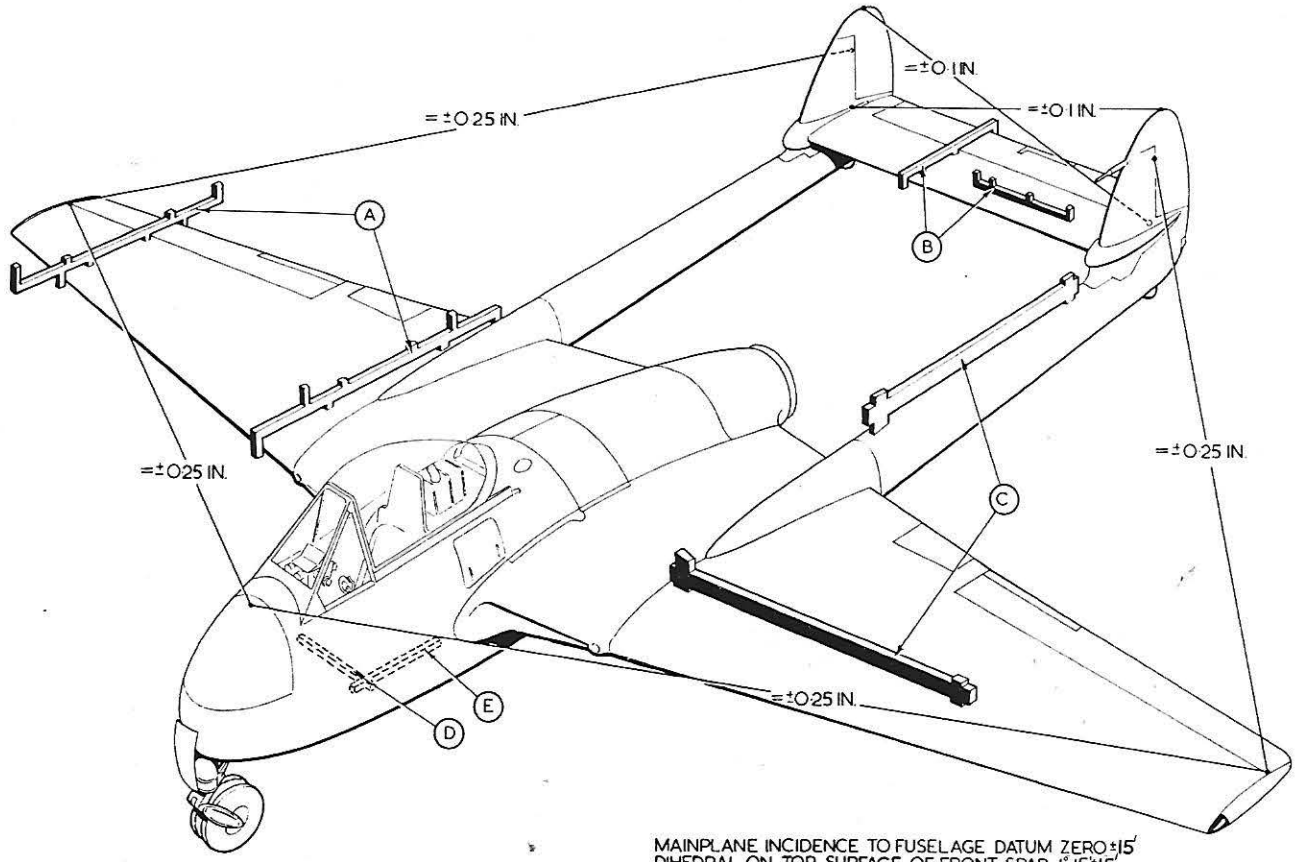


MAINPLANE INCIDENCE TO FUSELAGE DATUM ZERO ±15'
DIHEDRAL ON TOP SURFACE OF FRONT SPAR 1° 15'±15'
TAILPLANE INCIDENCE NEUTRAL ±15'
RIGGING BOARDS READ ZERO
LOCATION POINTS FOR RIGGING BOARDS ARE PAINTED ON THE AIRFRAME
DATUM BLOCKS FOR LEVELLING BOARDS ARE ON COCKPIT FLOOR.

A	26FC/9003	WING INCIDENCE BOARD FOR RIBS 3 & 10
B	26FC/9043	TAILPLANE INCIDENCE BOARD FOR TRANSVERSE LEVEL PLACE IT INVERTED ALONG THE FRONT SPAR
C	26FC/9004	WING DIHEDRAL BOARD INVERTED FOR BOOM LEVELLING
D	26FC/9006	LATERAL LEVELLING BOARD
E	26FC/9011	LONGITUDINAL LEVELLING BOARD

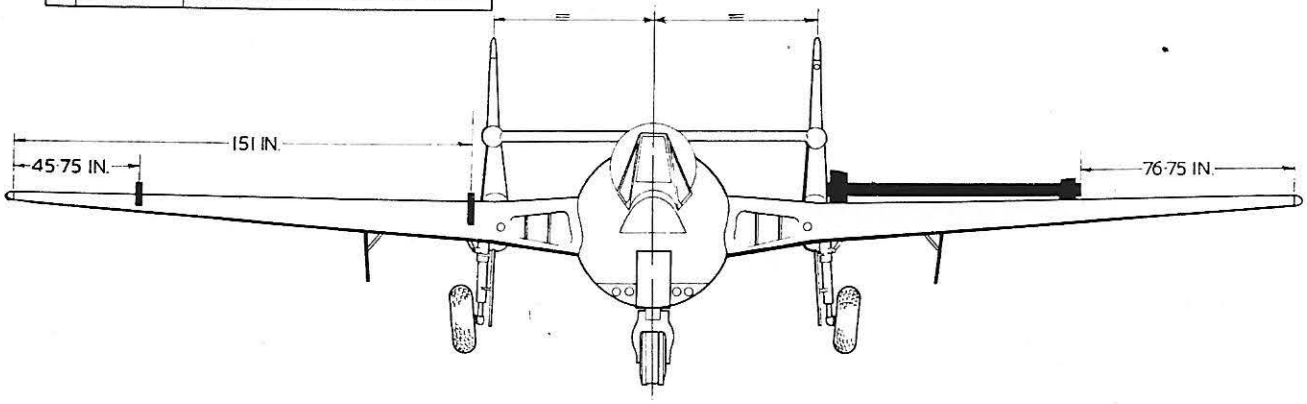
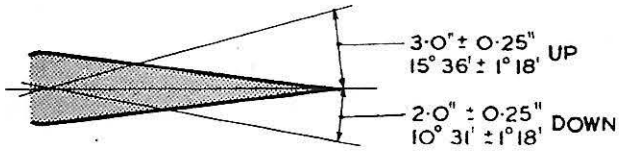
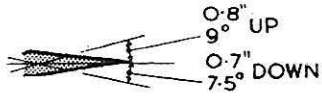


FIG. 6. RIGGING DIAGRAM



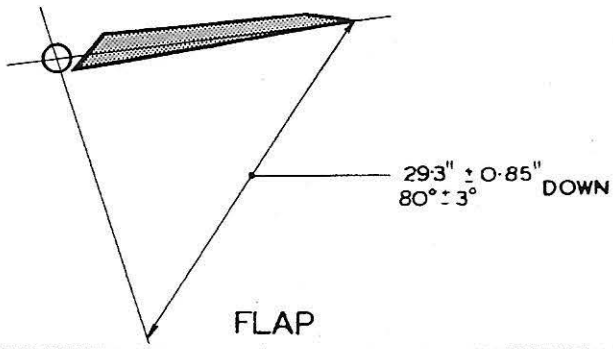
AILERON

MOVEMENT TAKEN AT RIB 7 OR THE OUTBOARD EXTREMITY OF THE TAB



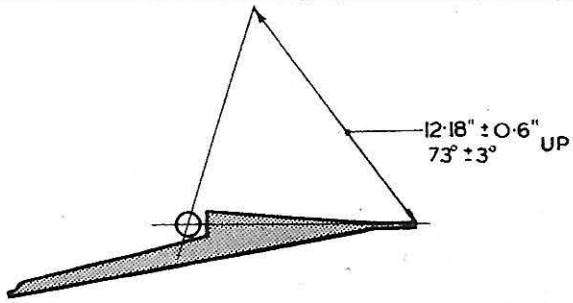
BALANCE TAB

MOVEMENT TAKEN AT OUTBOARD END OF TAB



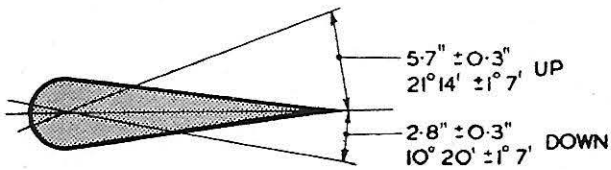
FLAP

MOVEMENT TAKEN AT ℄ OF JACK



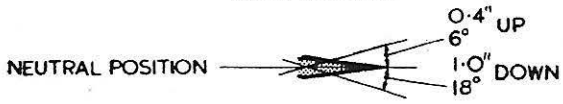
DIVE-BRAKE

MOVEMENT TAKEN AT INBOARD EDGE



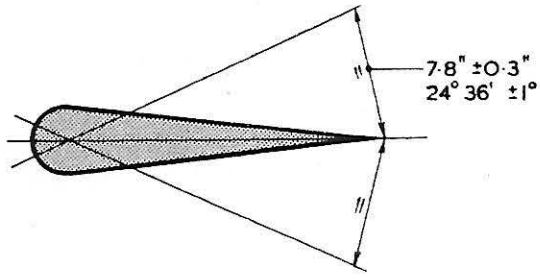
ELEVATOR

LINEAR DIMENSION IS CONSTANT OVER SPAN OF ELEVATOR



TRIM-TAB

POINTER ON DIAL IN COCKPIT MUST REGISTER ZERO WHEN TAB IS 0·375 IN. BELOW ITS NEUTRAL POSITION



RUDDER

MOVEMENT TAKEN AT BASE OF RUDDER

TAB IS FOR GROUND TRIM ONLY

FIG. 7 CONTROL SURFACE MOVEMENTS

G2309 M13536 1/49 360 C.B.& S.Ltd. Gress.

Ⓐ AILERON BALANCE CABLE

Ⓑ Ⓒ } ELEVATOR TRIM CABLES (PORT ONLY)

Ⓓ AILERON OPERATING CABLE

Ⓔ ELEVATOR CABLE

Ⓕ ELEVATOR CABLE

Ⓖ RUDDER OPERATING CABLE

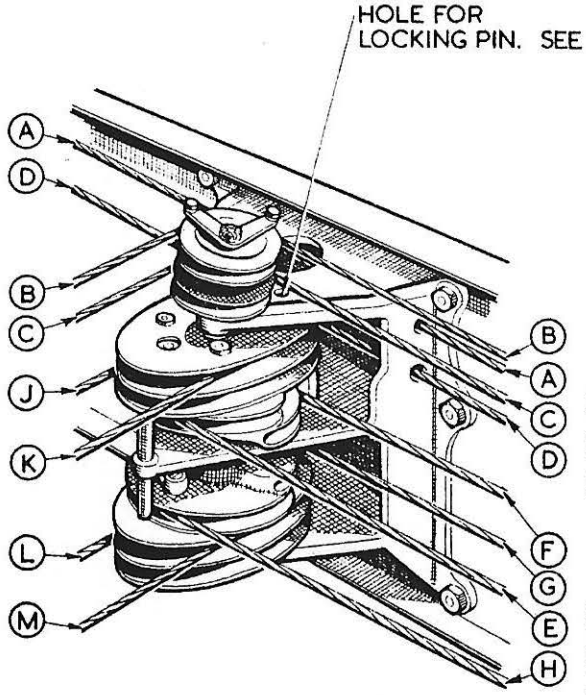
Ⓗ RUDDER BALANCE CABLE

Ⓙ TO UPPER ELEVATOR LEVER

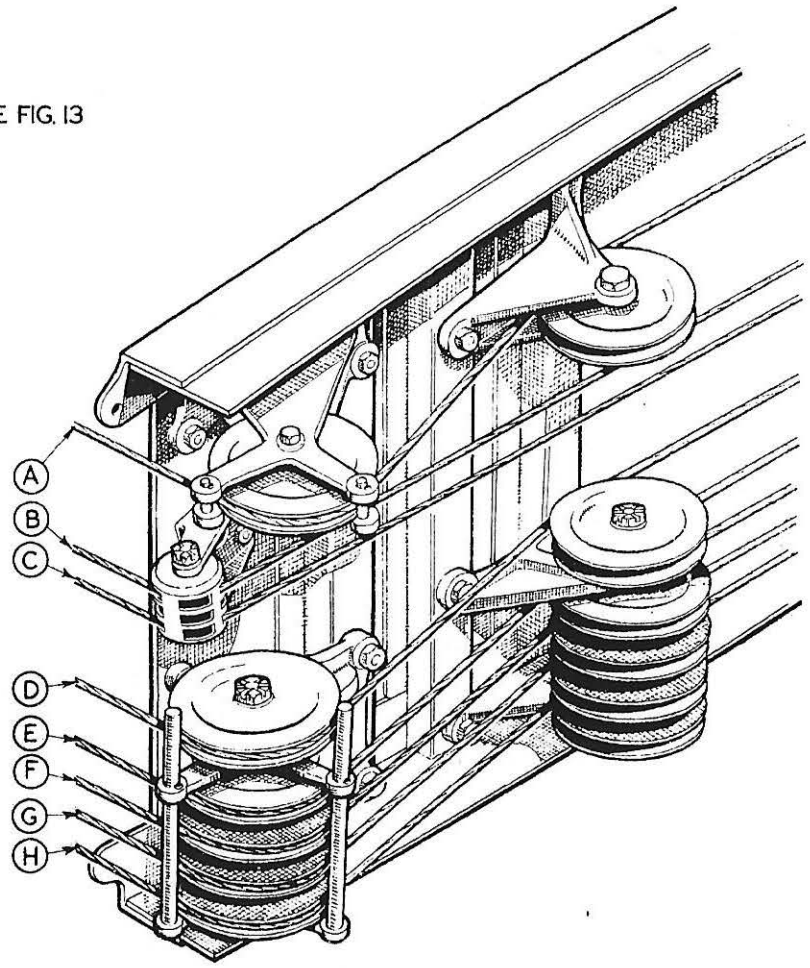
Ⓚ TO LOWER ELEVATOR LEVER

Ⓛ TO UPPER RUDDER LEVER

Ⓜ TO LOWER RUDDER LEVER



CONTROL PULLEYS AT ℄ BOOM



CONTROL PULLEYS AT REAR OF RIB 1

ACTION OF CABLES ON PULLEYS AT ℄ OF BOOM IS REVERSED ON STBD. SIDE. SEE SECT. 7 CHAP. 4

FIG. 8 FLYING-CONTROL PULLEYS

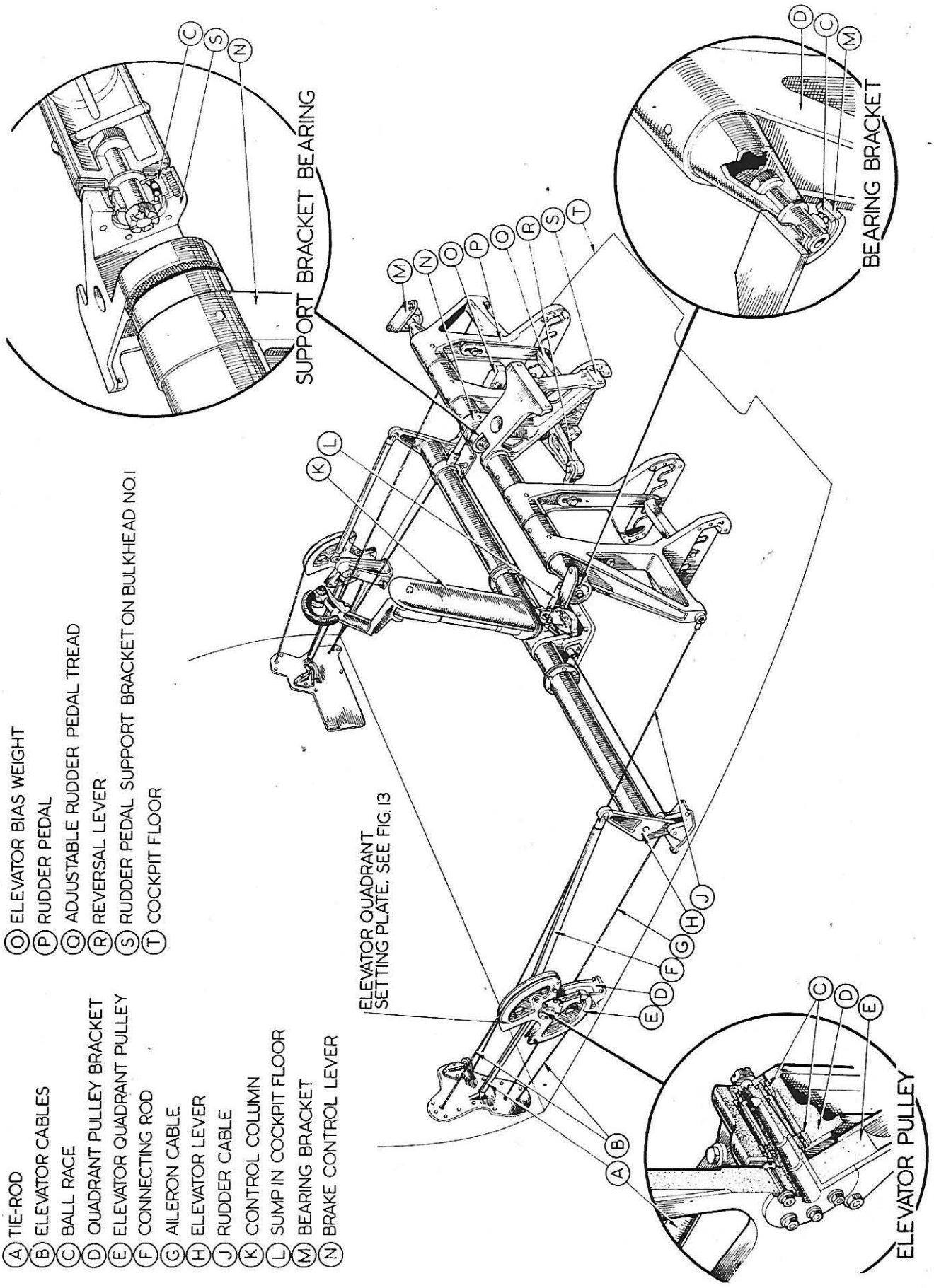


FIG. 9 FLYING CONTROLS IN COCKPIT

G2309 M13536 1/49 360 C.B.& S.LTD. GP55.

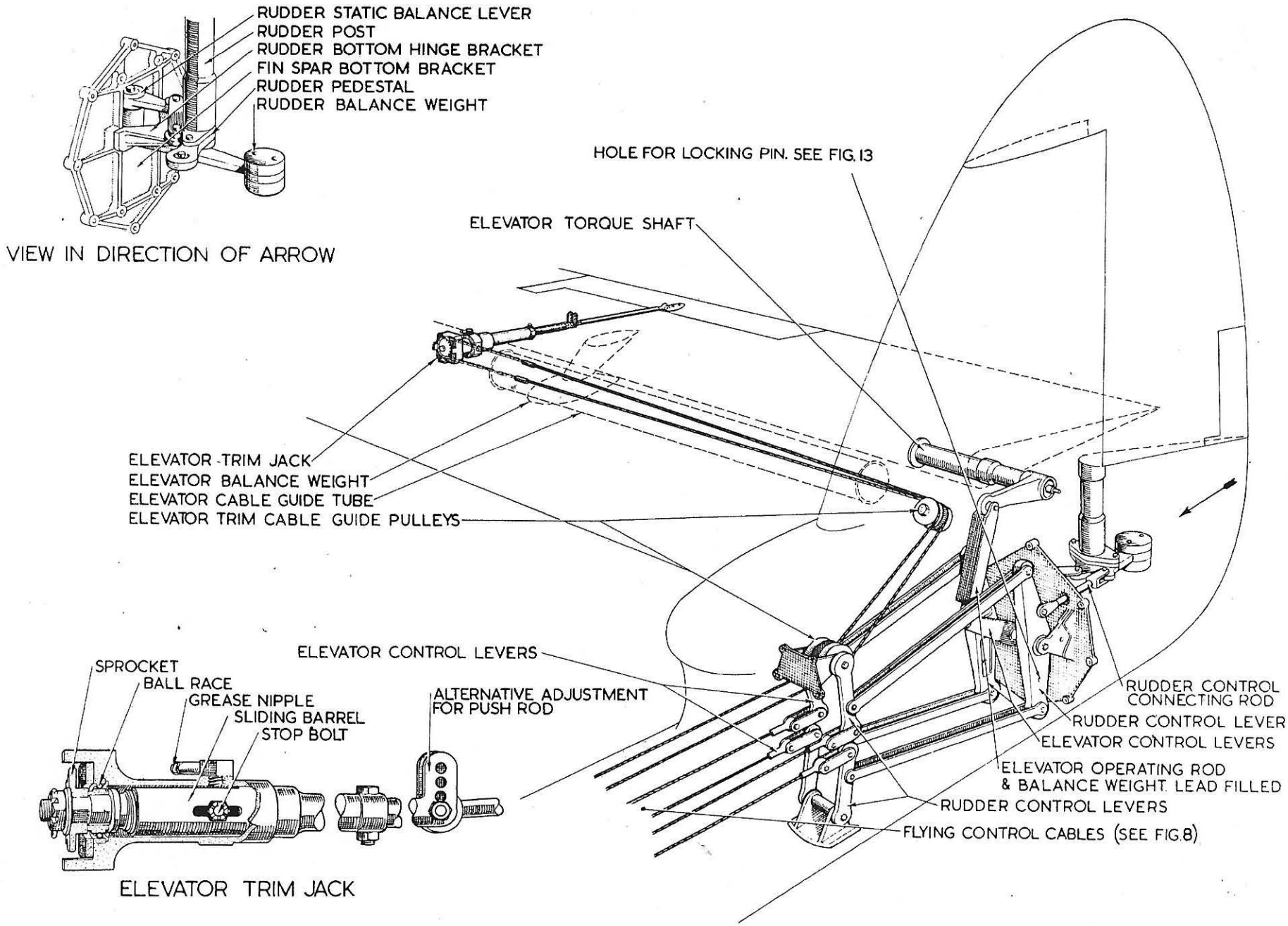


FIG. 10 CONTROLS IN TAIL UNIT

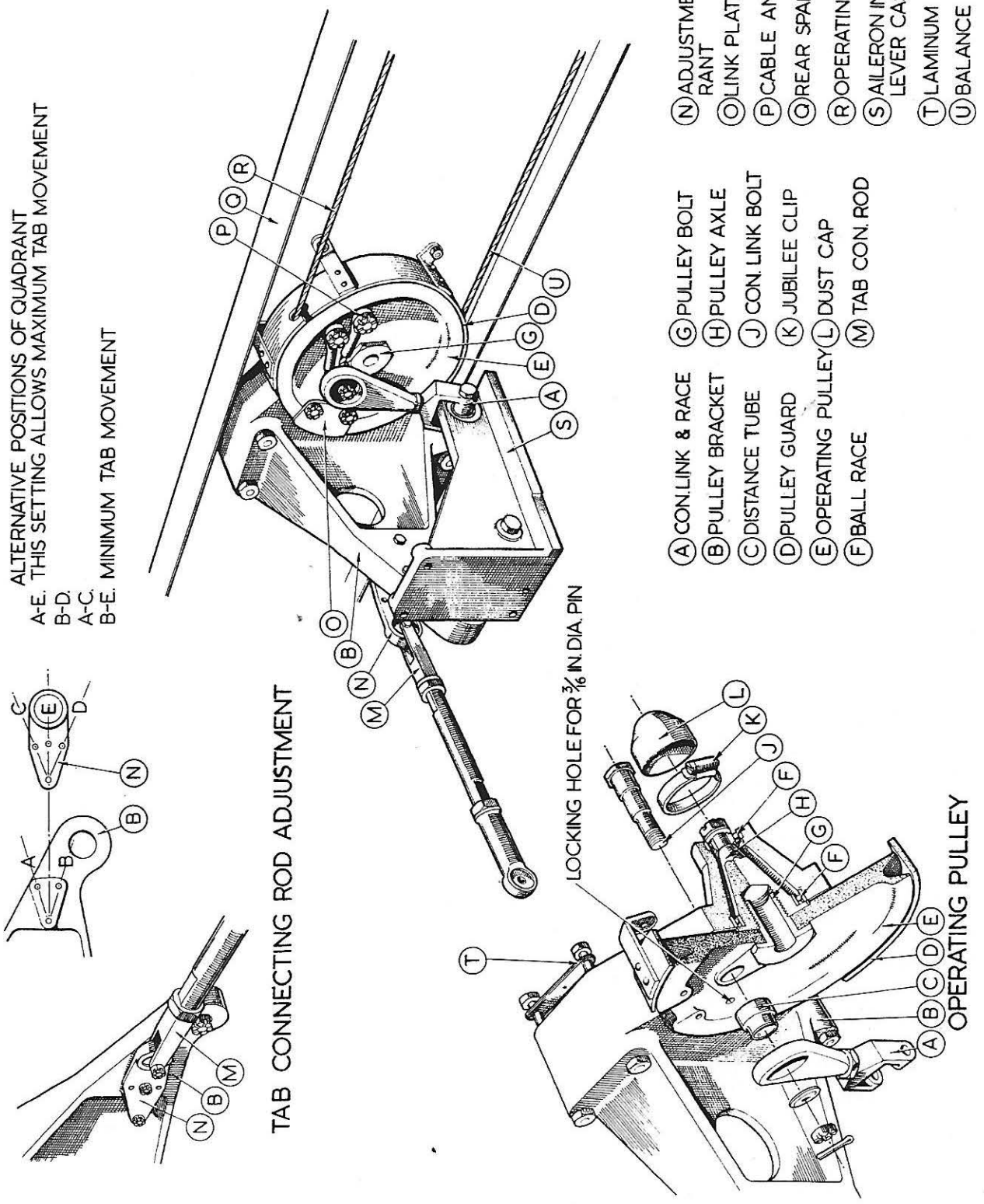


FIG. 11 AILERON OPERATING UNIT

G2379 M28562 10/49 360 C.B.& S.Ltd. Gr55.

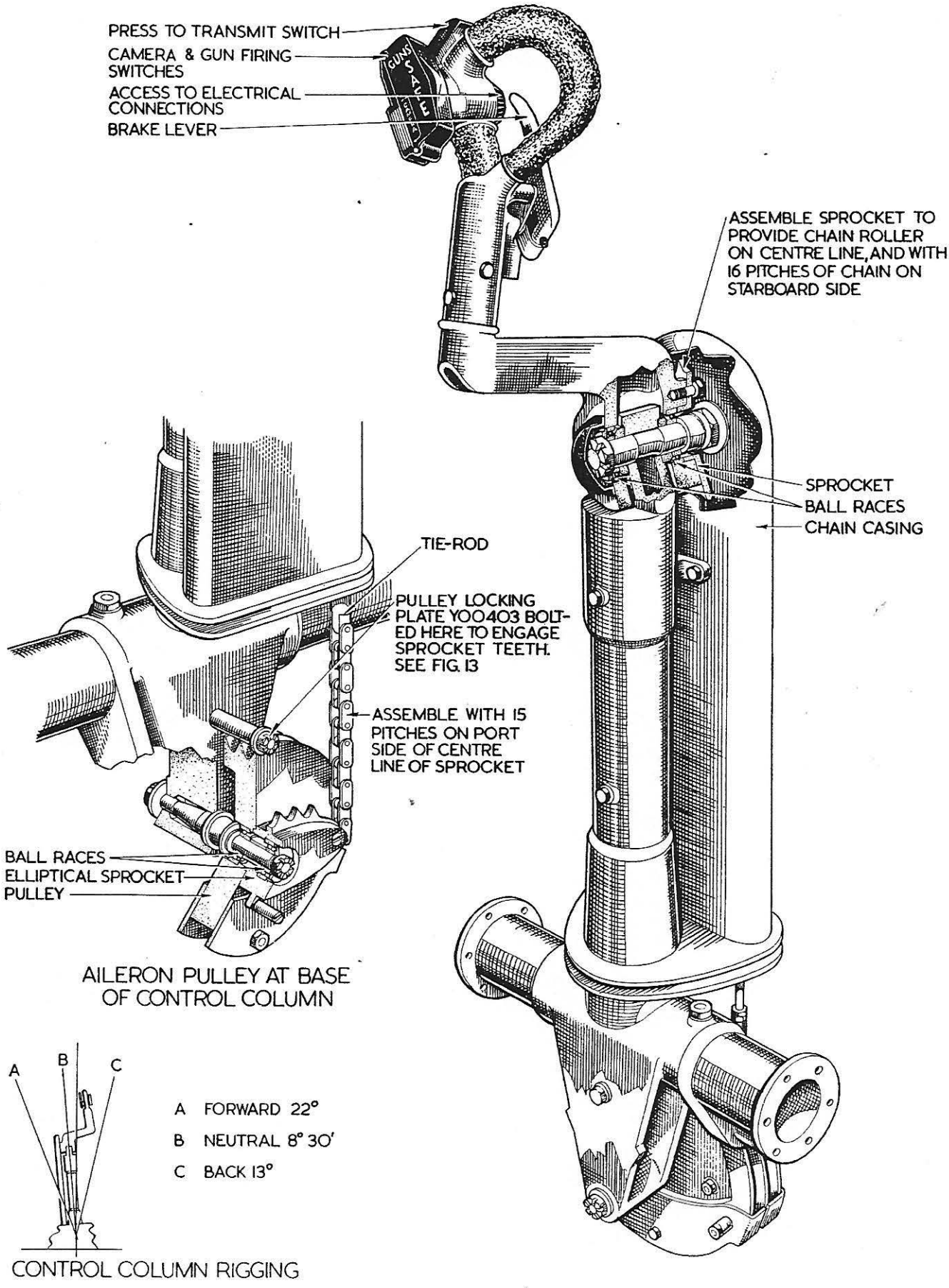


FIG. 12 CONTROL COLUMN

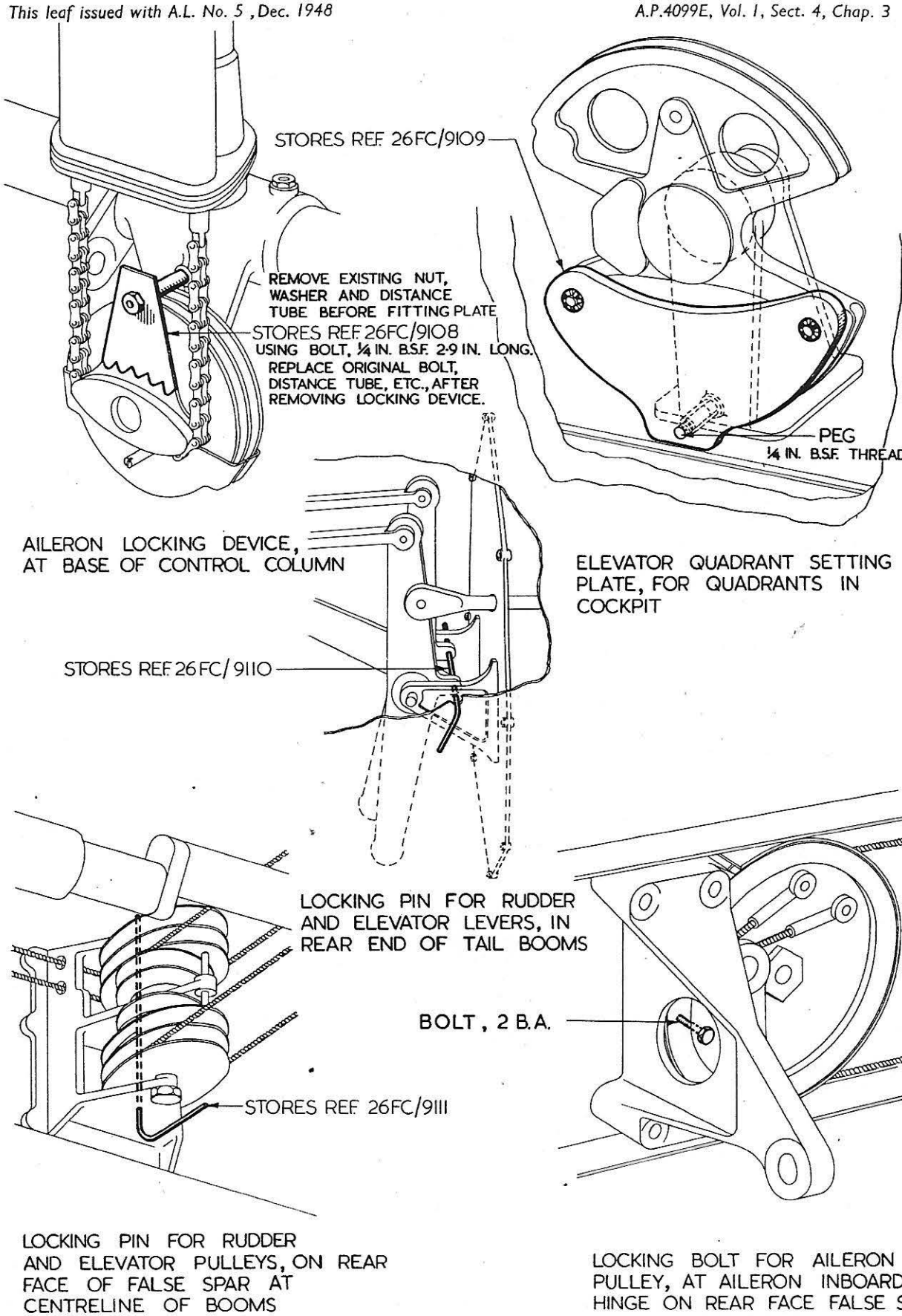


FIG. 13 FLYING-CONTROL LOCKING DEVICES

G2309 M13536 1/49 360 C.B.& S.LTD. GP.55.

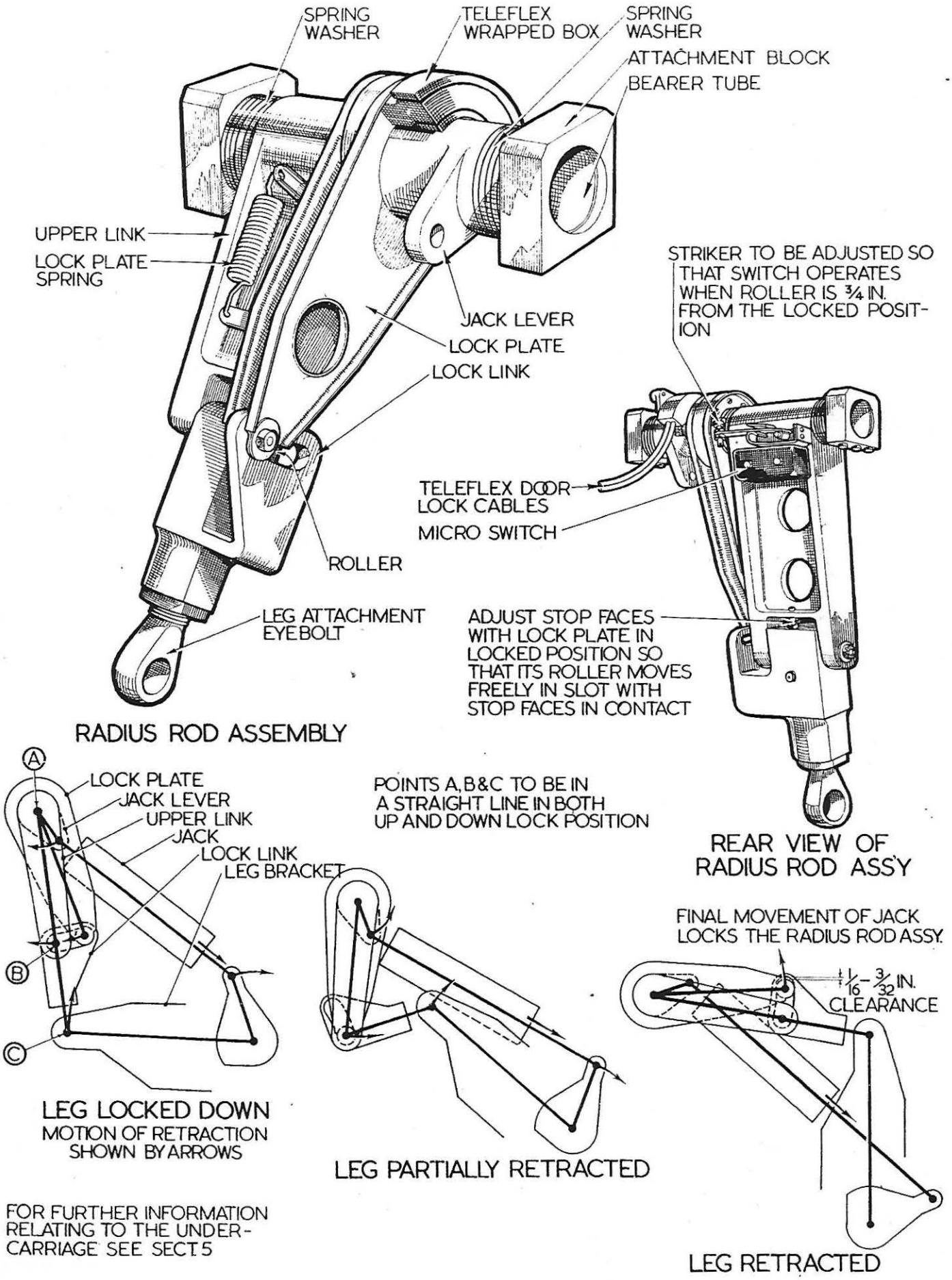
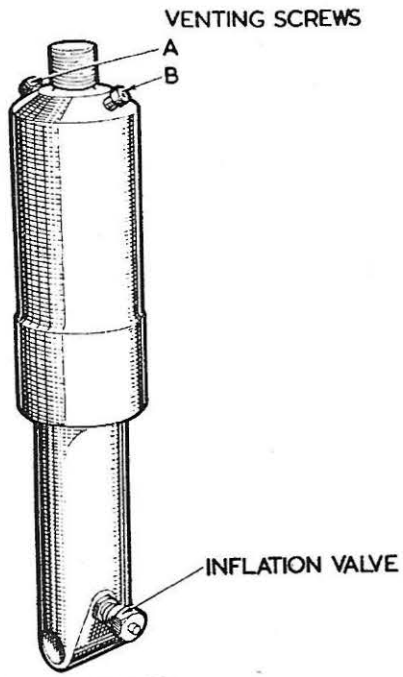
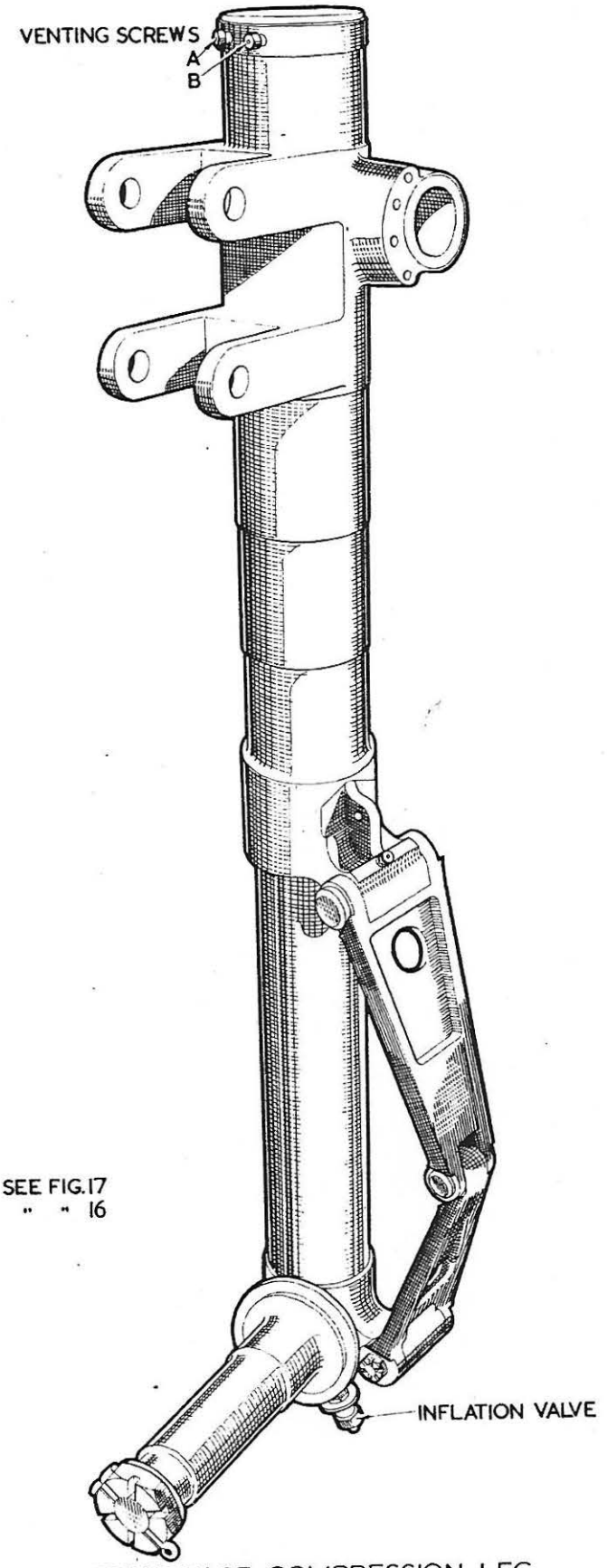


FIG. 14 UNDERCARRIAGE DETAILS



NOSE WHEEL
COMPRESSION UNIT,
A.I.R. 51540
FOR REMOVAL SEE FIG.



UNDERCARRIAGE COMPRESSION LEG
A.I.R.51756 R.H. A.I.R.51757 L.H.

FOR NOSE WHEEL UNIT INFLATION DIAGRAM SEE FIG.17
" UNDERCARRIAGE " " " " " 16

FIG. 15 UNDERCARRIAGE AND NOSE WHEEL COMPRESSION LEGS

G2309 M13536 1/49 360 C.B.& S.LTD. GP.55.

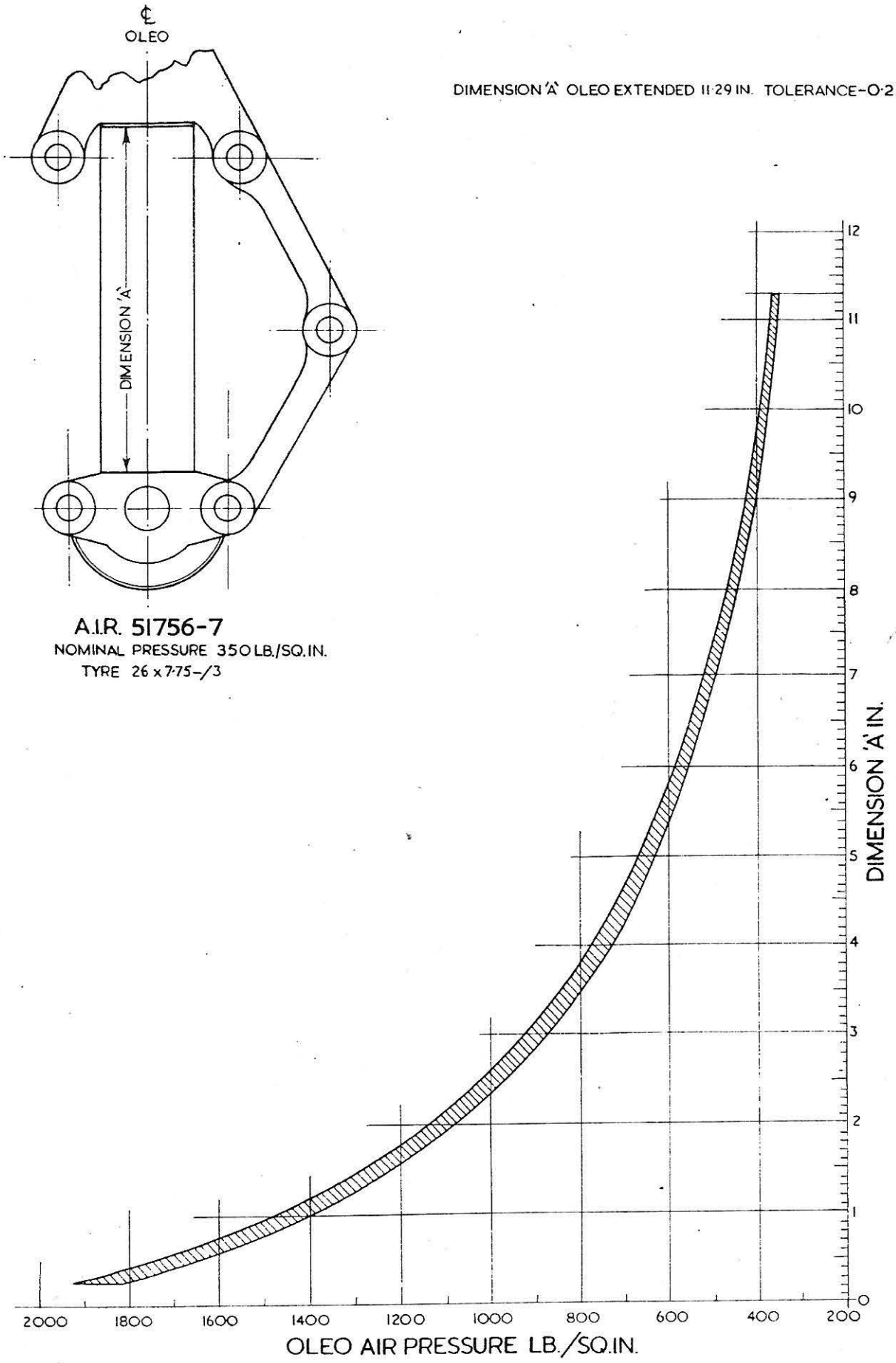
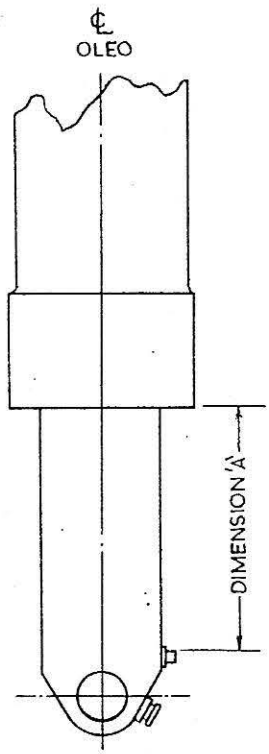


FIG. 16 UNDERCARRIAGE INFLATION DIAGRAM



A.I.R. 51540

NOMINAL PRESSURE 500LB./SQ.IN.
TYRE 6·5 x 5·5

DIMENSION 'A' OLEO EXTENDED 4·02 IN. TOLERANCE – 0·08 IN.

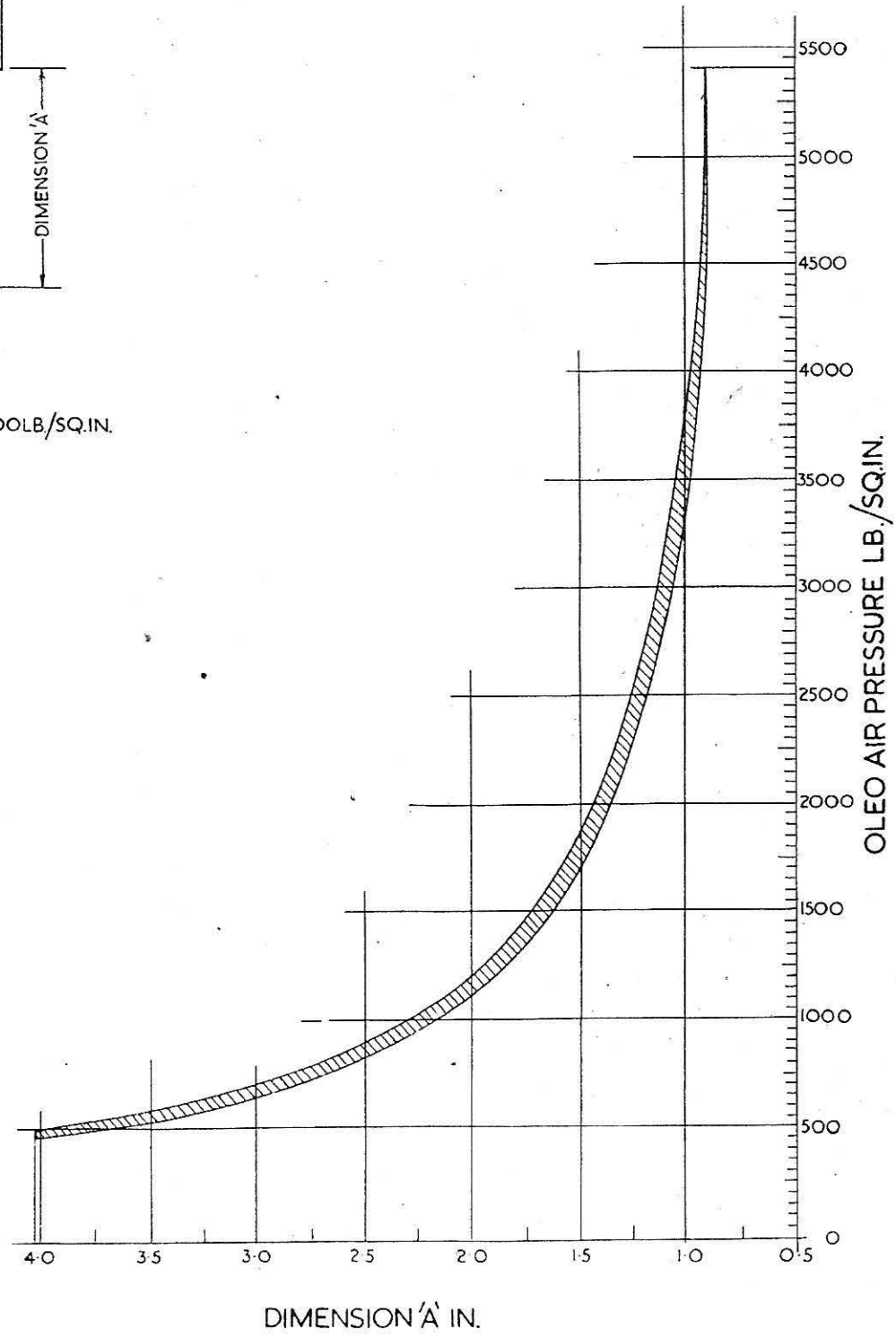
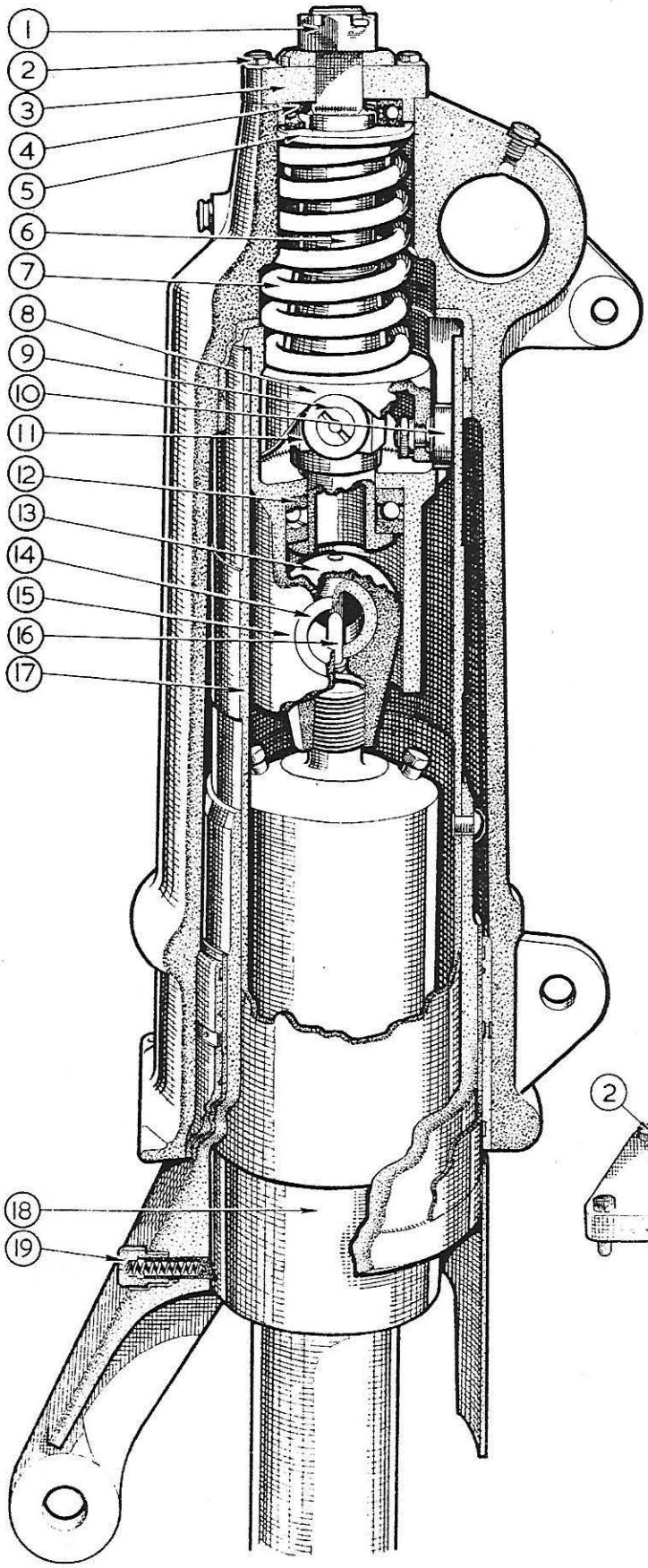


FIG. 17 NOSE WHEEL INFLATION DIAGRAM

G2309 M13536 1/49 360 C.B.& S.LTD. GP.55.

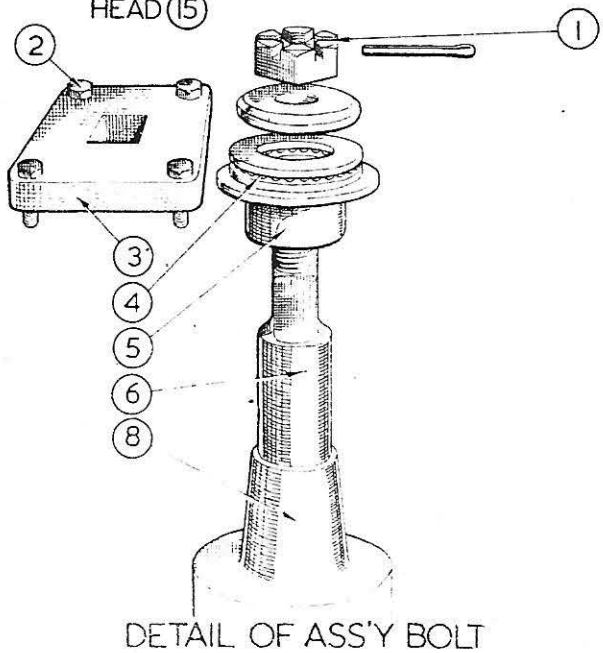


DISMANTLING PROCEDURE

UNSCREW SLOTTED NUT (1) REMOVE 4 SECURING BOLTS (2) AND LIFT OUT LOCATING PLATE (3) THEN REMOVE THRUST BEARING (4), SPRING COLLAR (5) AND SPRING (7)

REMOVE SHOCK-ABSORBER UNIT (18) AND SELF-CENTRING UNIT COMPLETE, INSIDE SWIVEL LUG (17). (TO REMOVE SHOCK ABSORBER UNIT (18), UNSCREW LOCK PLUNGER (19), SECURE LOWER END OF UNIT IN A VICE AND, INSERTING A LEVER IN PIVOT SOCKET PIN (14), UNSCREW AT PIVOT SOCKET (13))

UNSCREW BOLT (16), KNOCK OUT PIVOT SOCKET PIN (14), REMOVE SWIVEL LUG (17) AND PIVOT SOCKET (13). UNSCREW ROLLERS (9) AND REMOVE SELF-CENTRING CAM (8); ENABLING ROLLER (10) TO BE REMOVED FROM IT. THE SUPPORT COLLAR (11) MAY NOW BE REMOVED. ASSEMBLY BOLT (6) AND THRUST RACE (12) ARE THEN EXTRACTED FROM THE THRUST HEAD (15)



DETAIL OF ASS'Y BOLT

FIG. 18 SELF-CENTRING UNIT

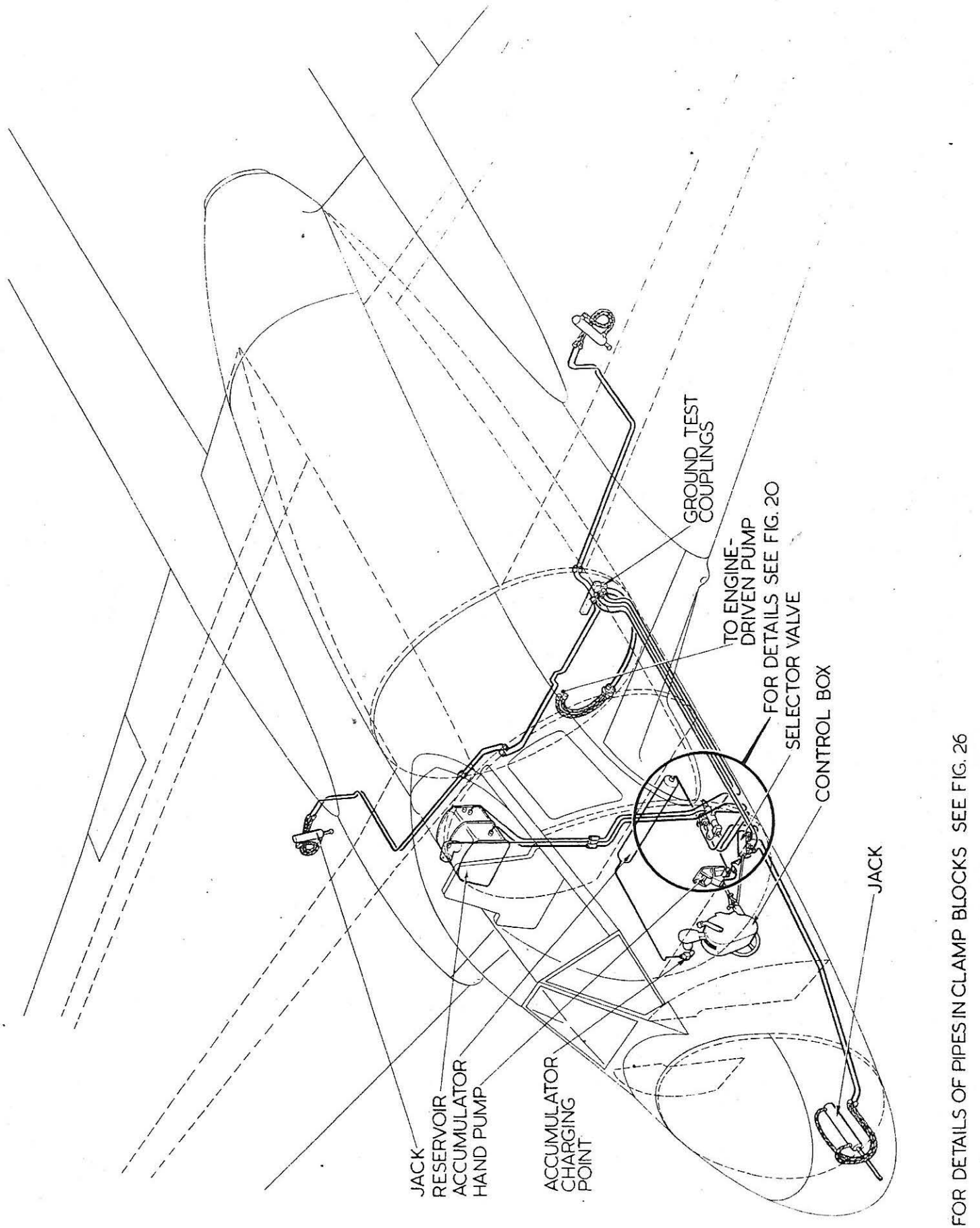


FIG. 19 ALIGHTING GEAR HYDRAULIC SYSTEM

G2309 M13536 1/49 360 C.B.&S.LTD. GP.5S.

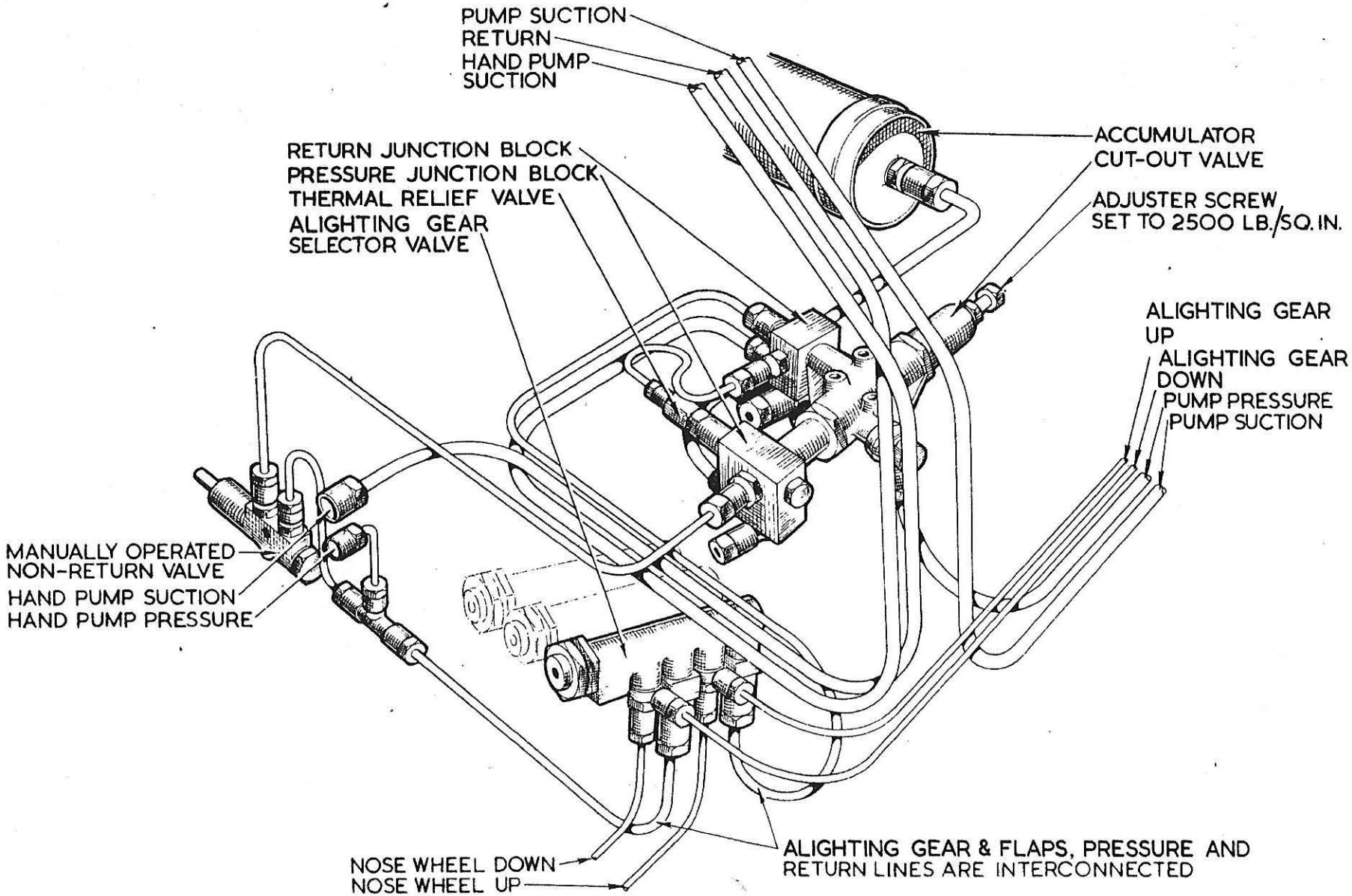


FIG. 20 ALIGHTING GEAR HYDRAULIC DETAILS

FOR PIPES NOT SHOWN SEE FIG. 22 & 24

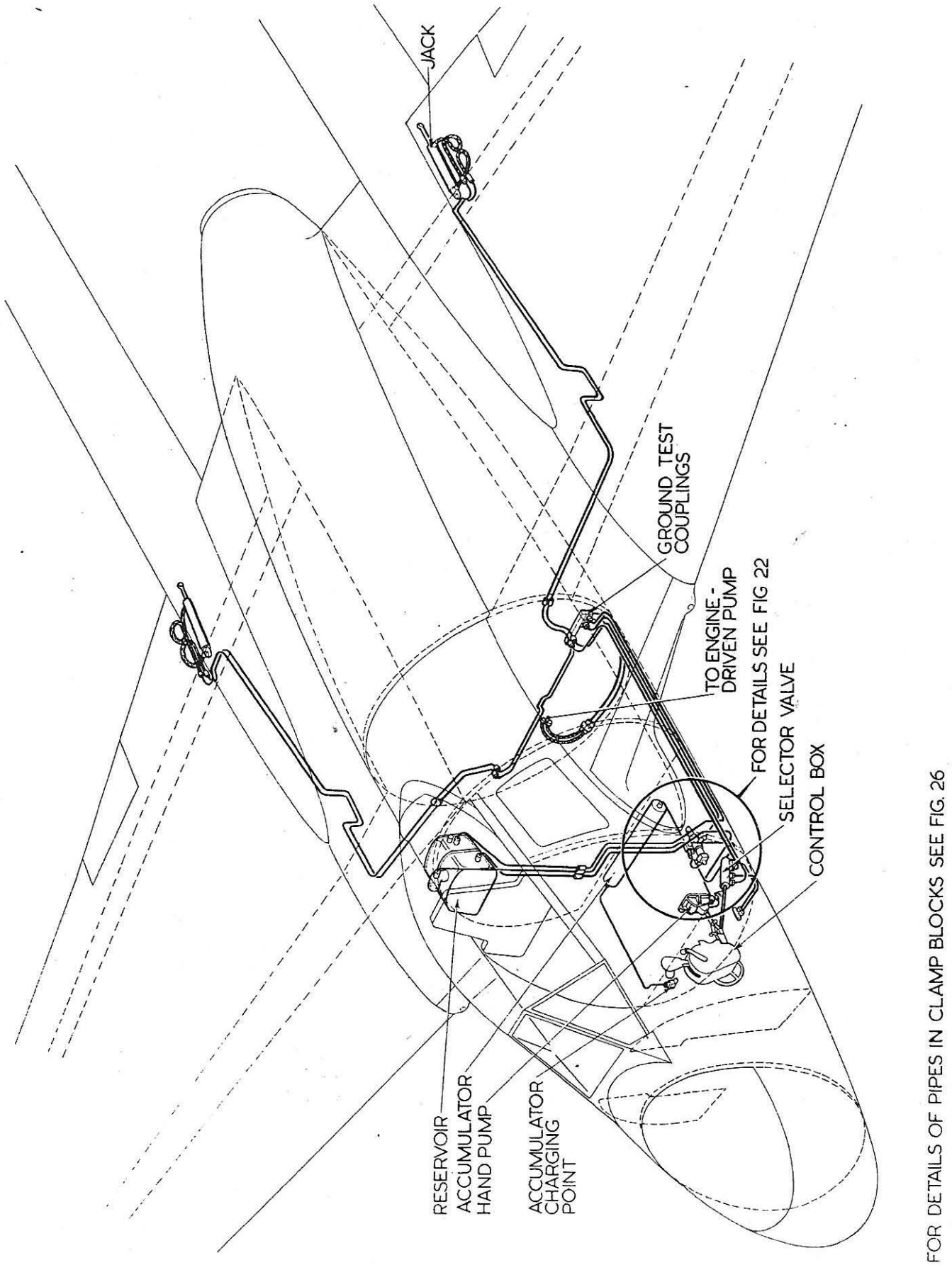


FIG. 21 FLAPS HYDRAULIC SYSTEM

G2309 M13536 1/49 360 C.B.& S.LTD. GP.55.

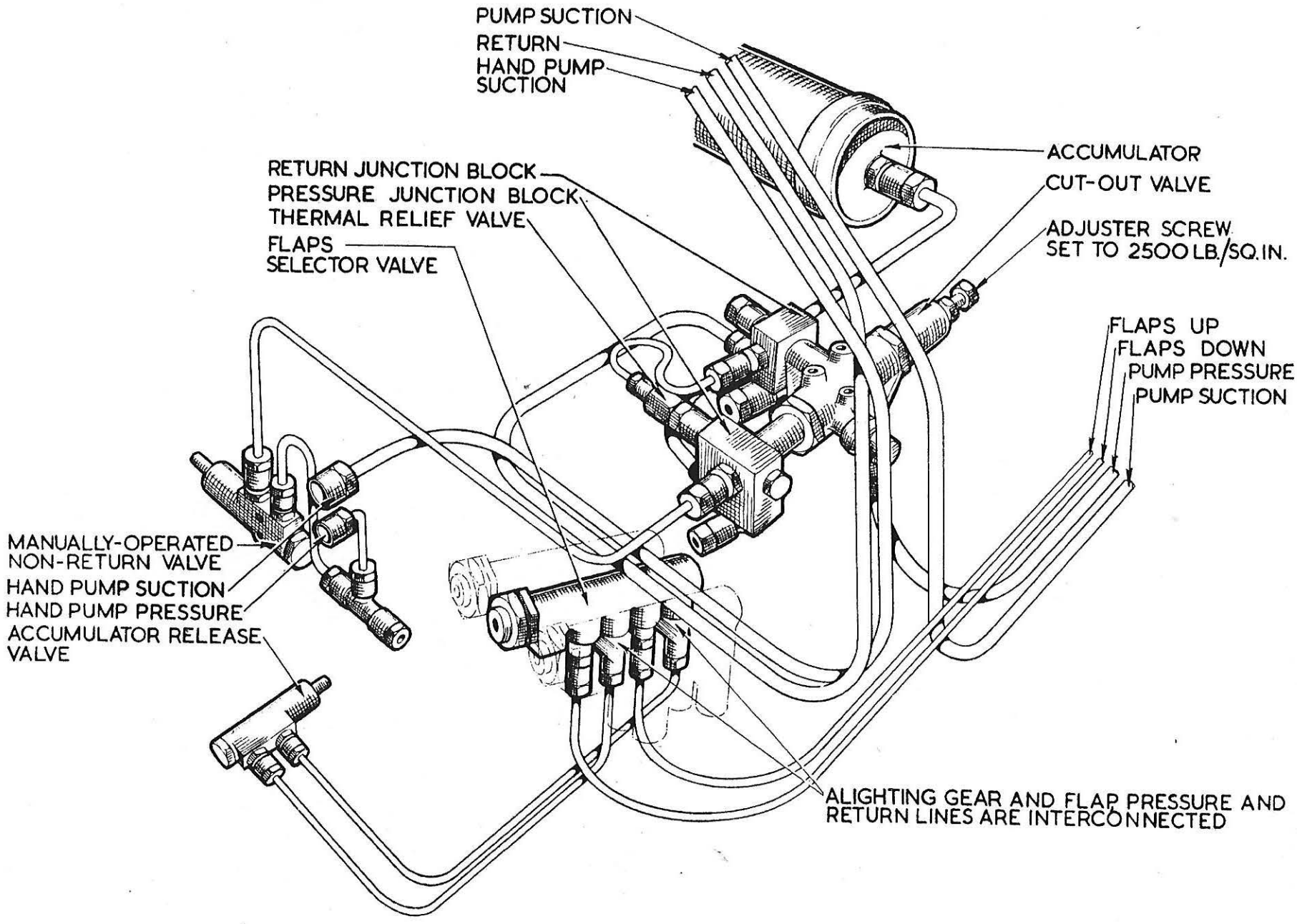


FIG. 22 FLAPS HYDRAULIC DETAILS

FOR PIPES NOT SHOWN SEE FIG. 20 & 24

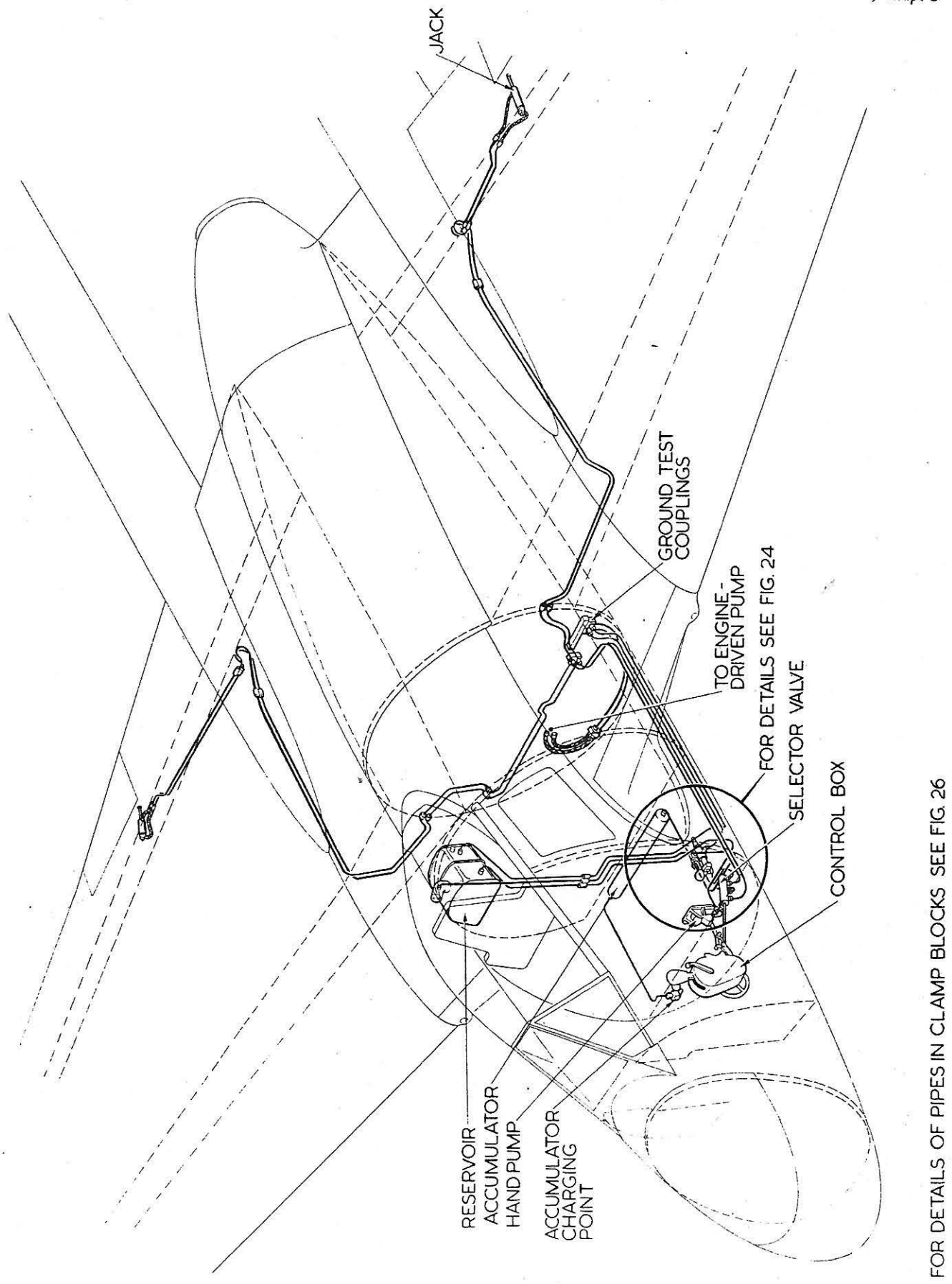
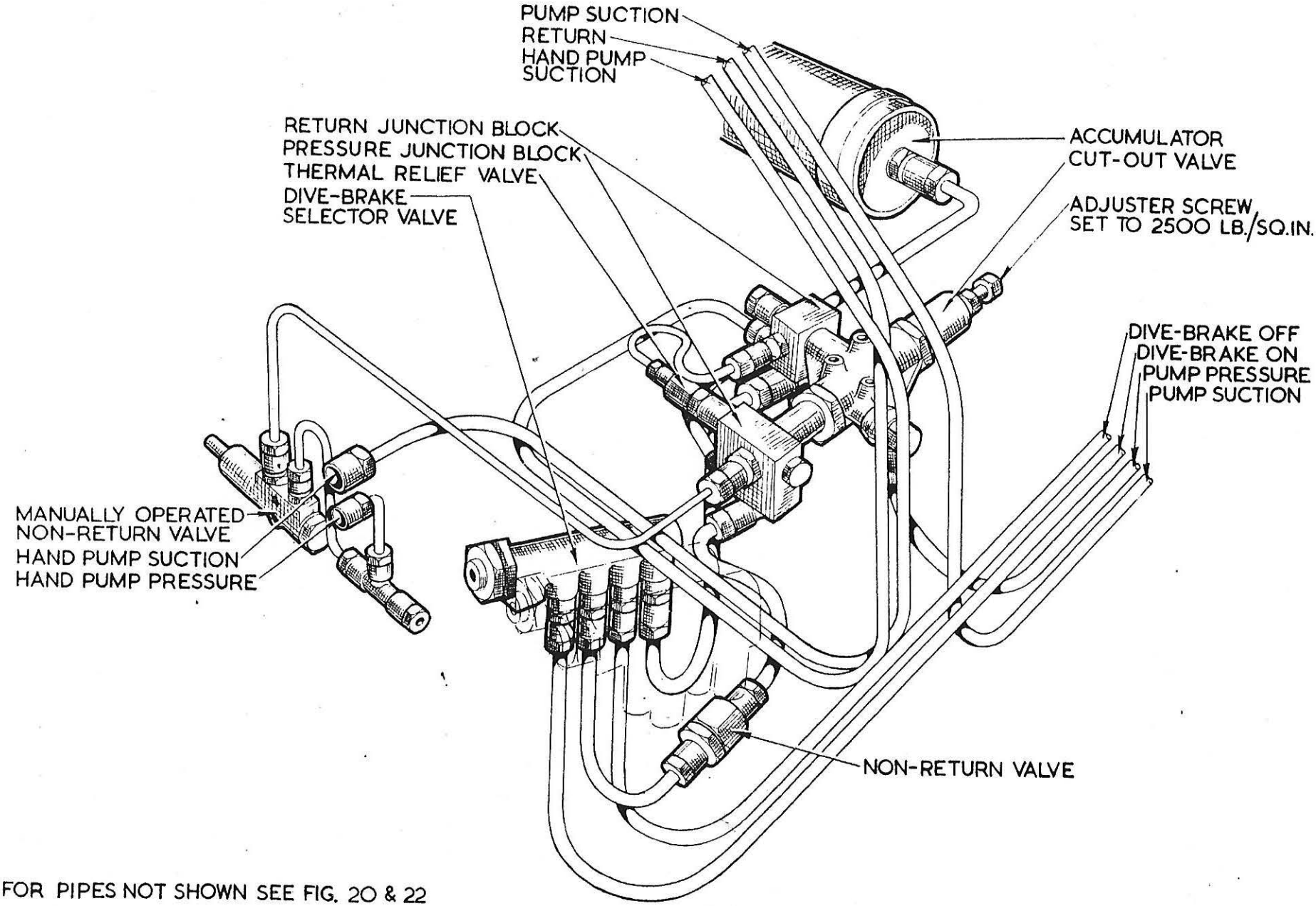


FIG. 23 DIVE BRAKE HYDRAULIC SYSTEM

Gz309 M13536 1/49 360 C.B.& S.Ltd. Gp55.



FOR PIPES NOT SHOWN SEE FIG. 20 & 22

FIG. 24 DIVE BRAKE HYDRAULIC DETAILS

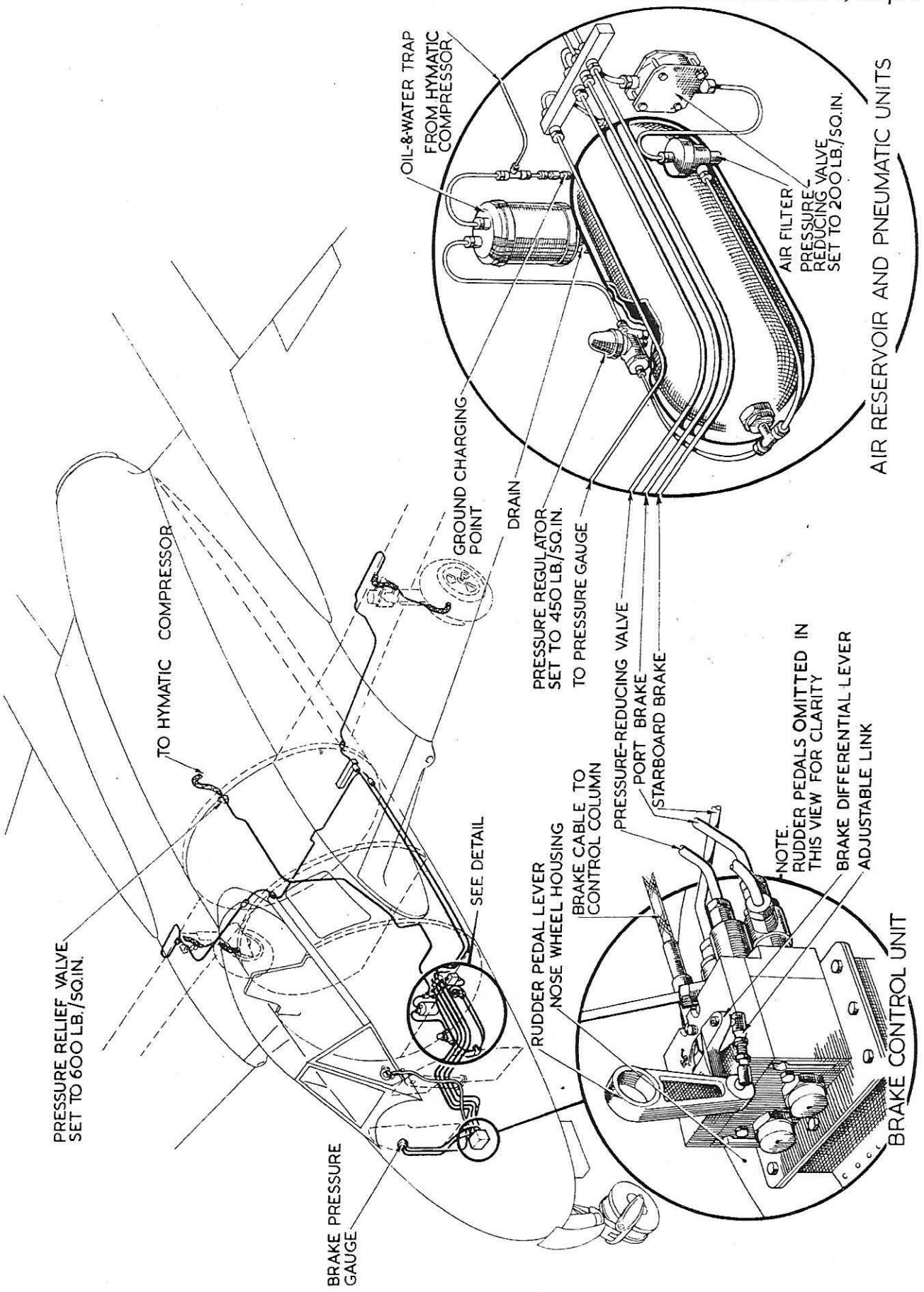


FIG. 25 BRAKE PNEUMATIC SYSTEM

G2309 M13536 1/49 360 C.B.& S.LTD. GP55.

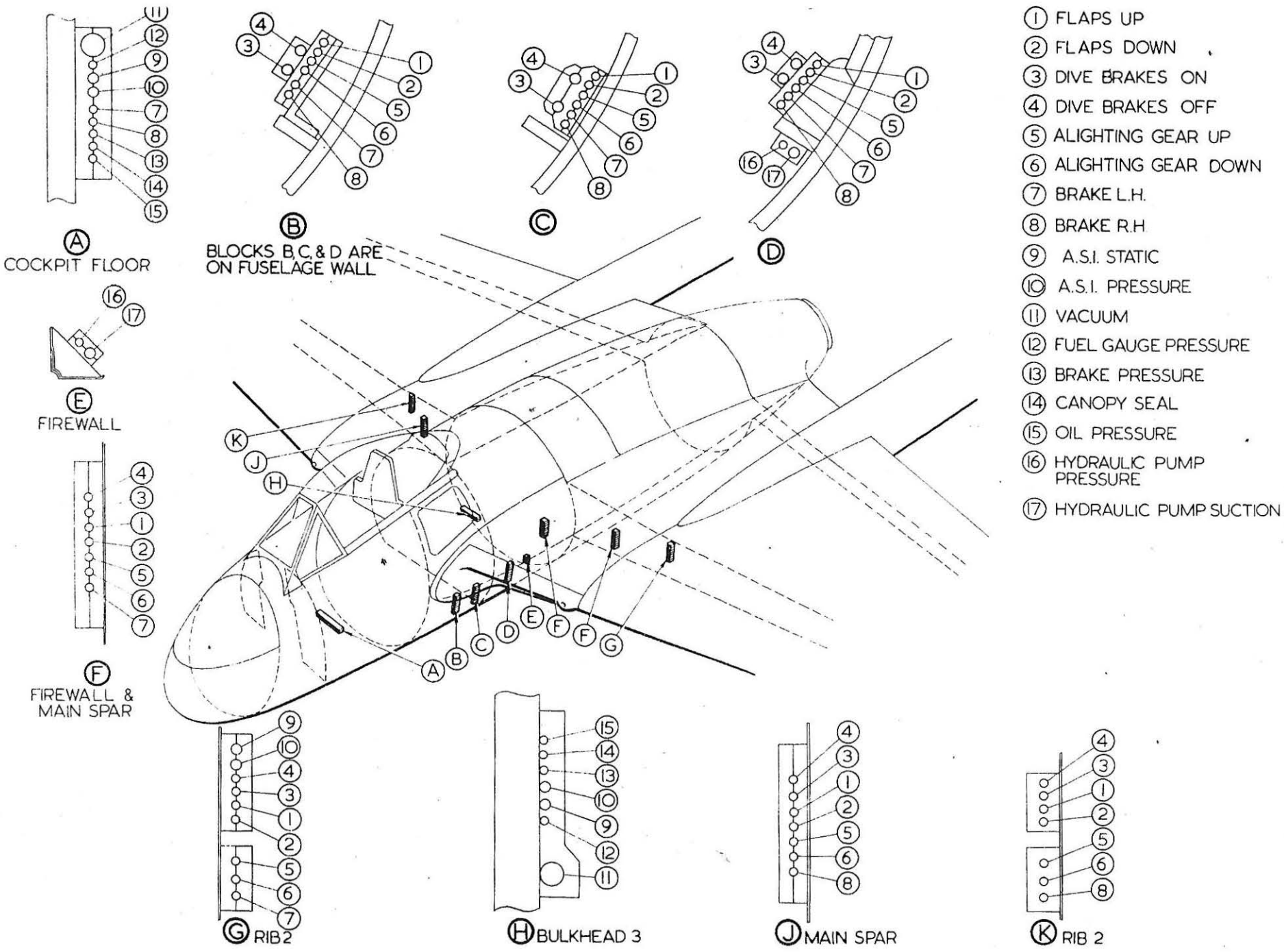
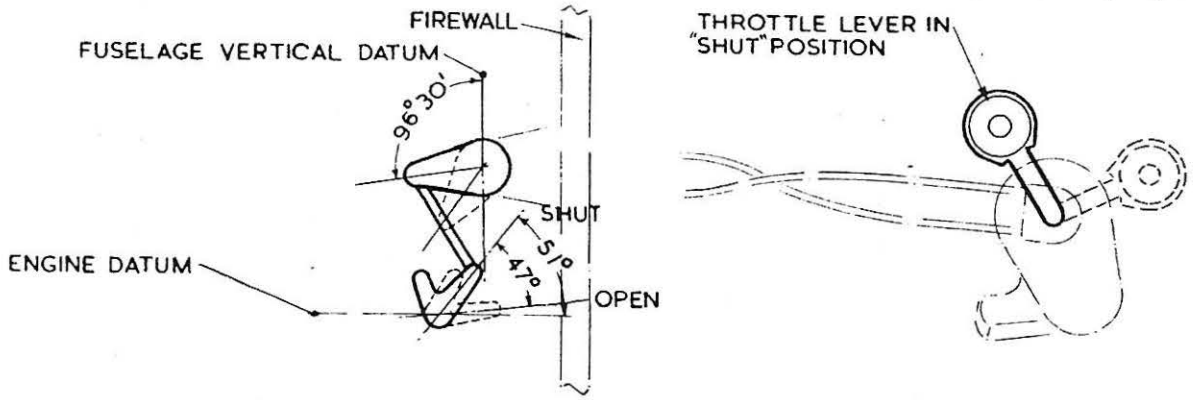
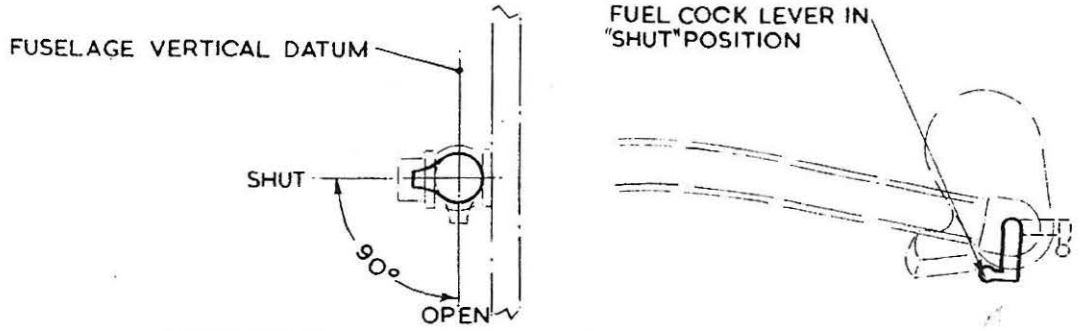


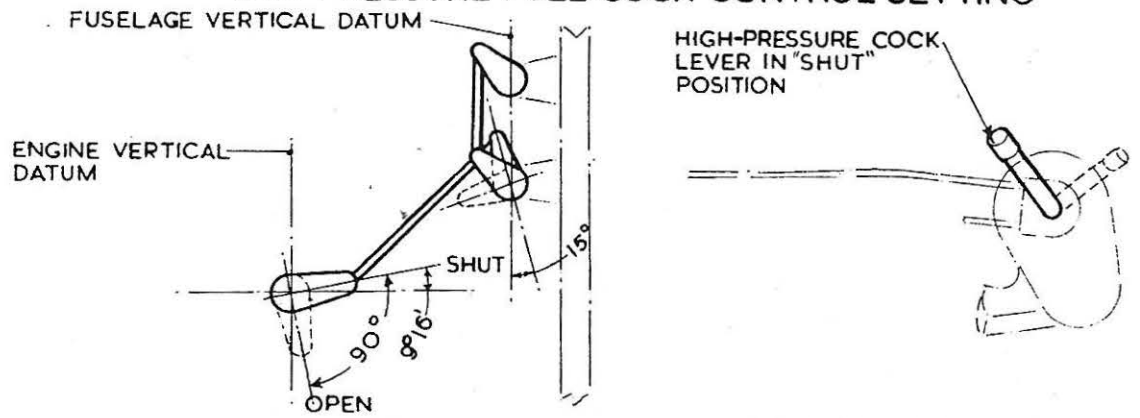
FIG. 26 PIPES IN CLAMP BLOCKS



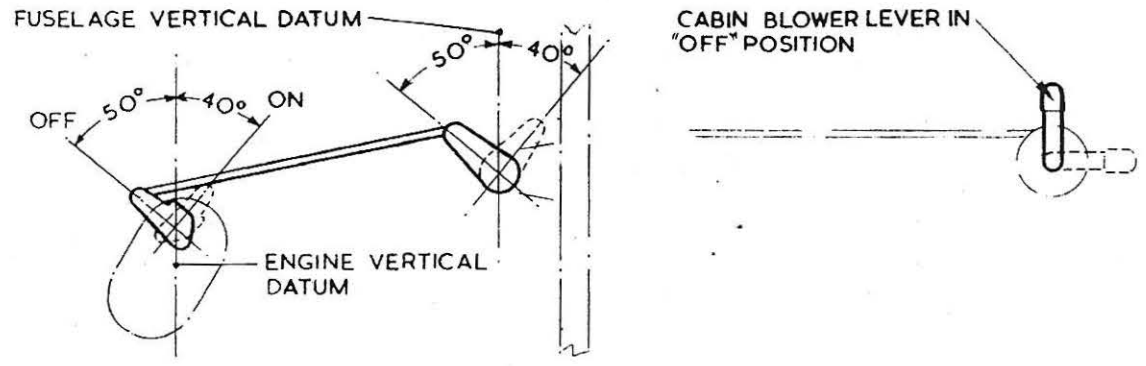
THROTTLE CONTROL SETTING



LOW-PRESSURE FUEL COCK CONTROL SETTING



HIGH-PRESSURE FUEL COCK CONTROL SETTING



CABIN BLOWER CONTROL SETTING

FIG. 27 ENGINE CONTROL SETTINGS

G2809 M13536 1/49 360 C.B.& S.LTD, Grss.

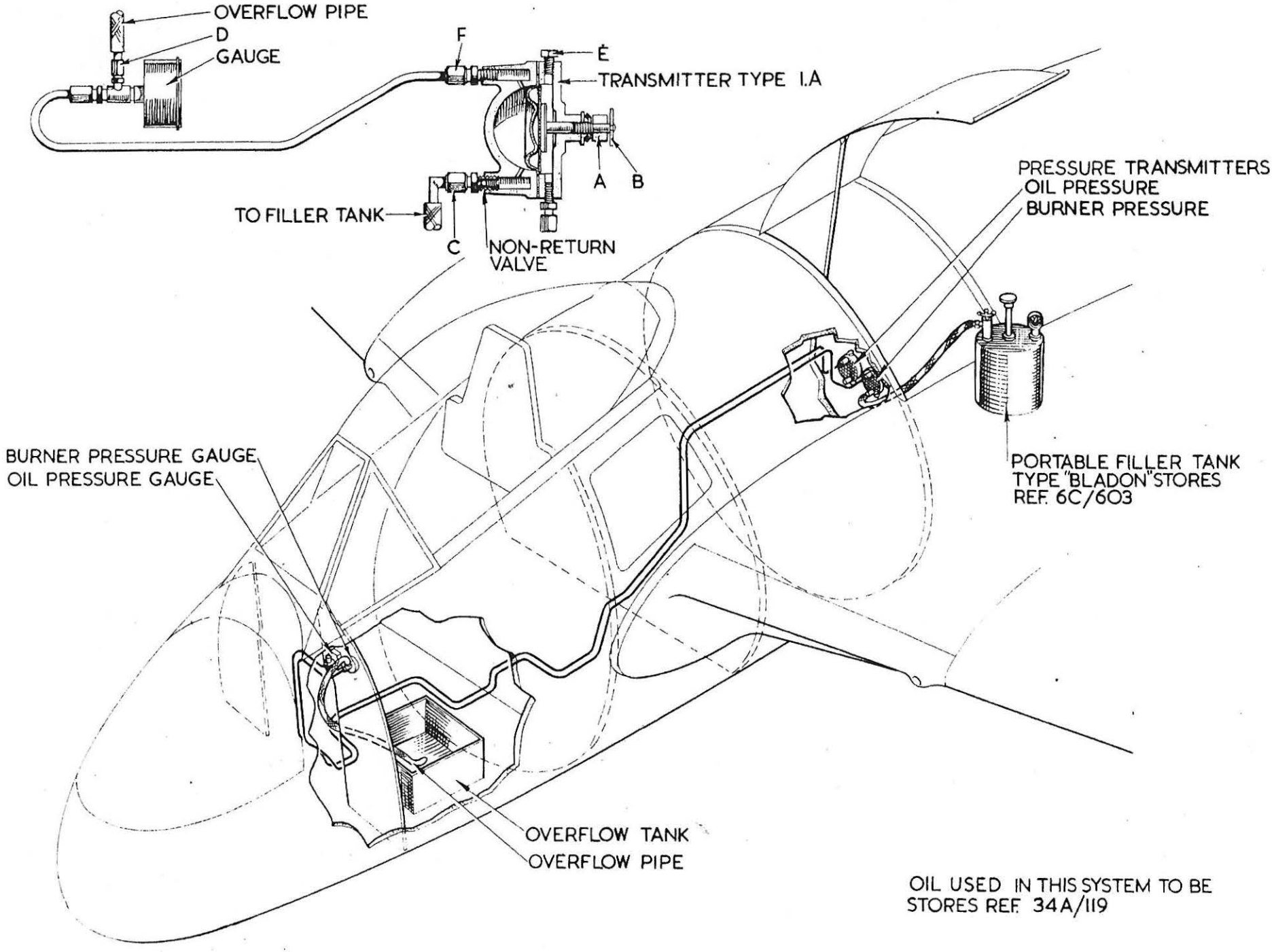


FIG. 28 PRESSURE TRANSMITTERS

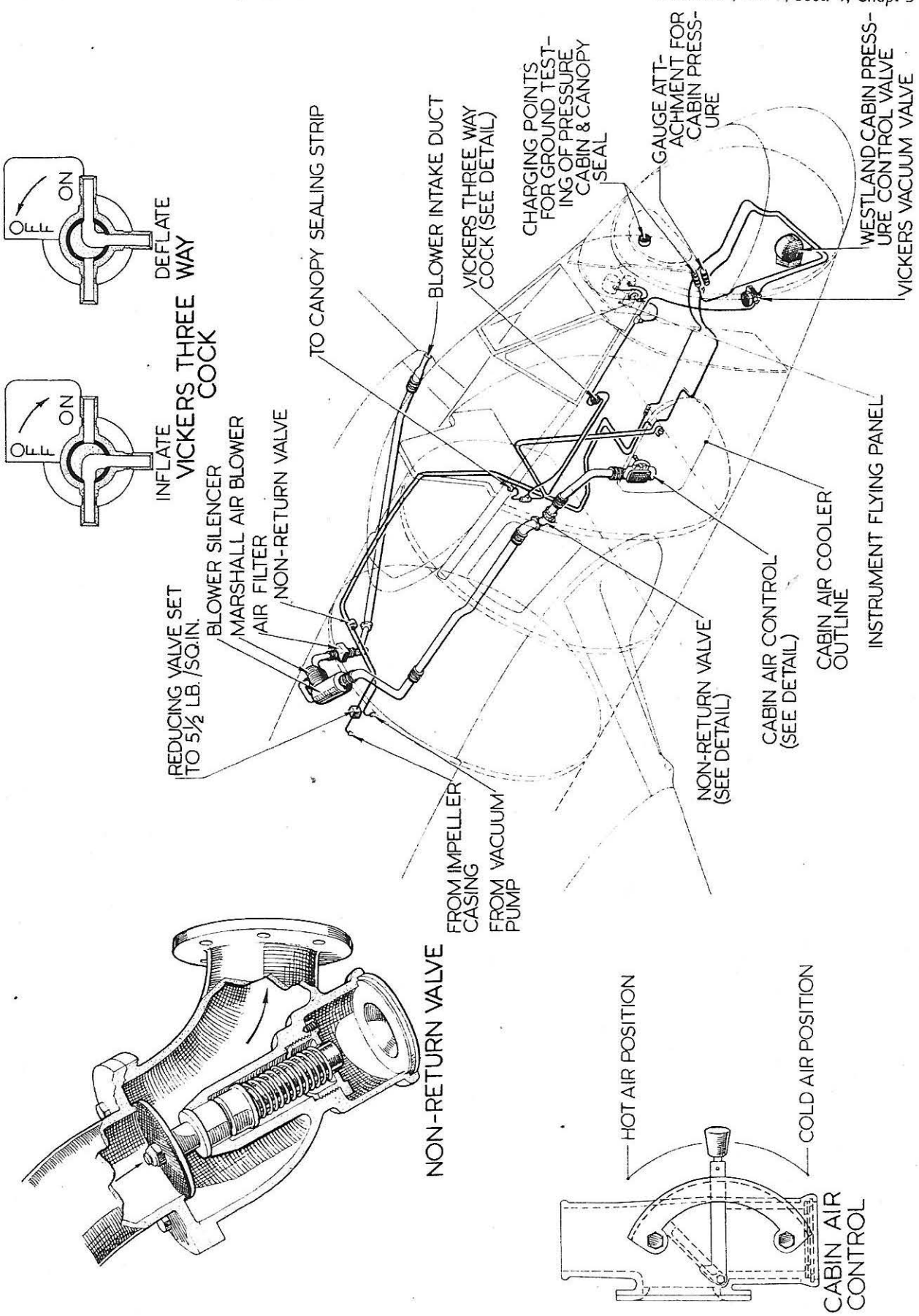


FIG. 29 PRESSURE CABIN AIR SYSTEM

G2309 M13536 1/49 36a C.B.& S. LTD. GP55.

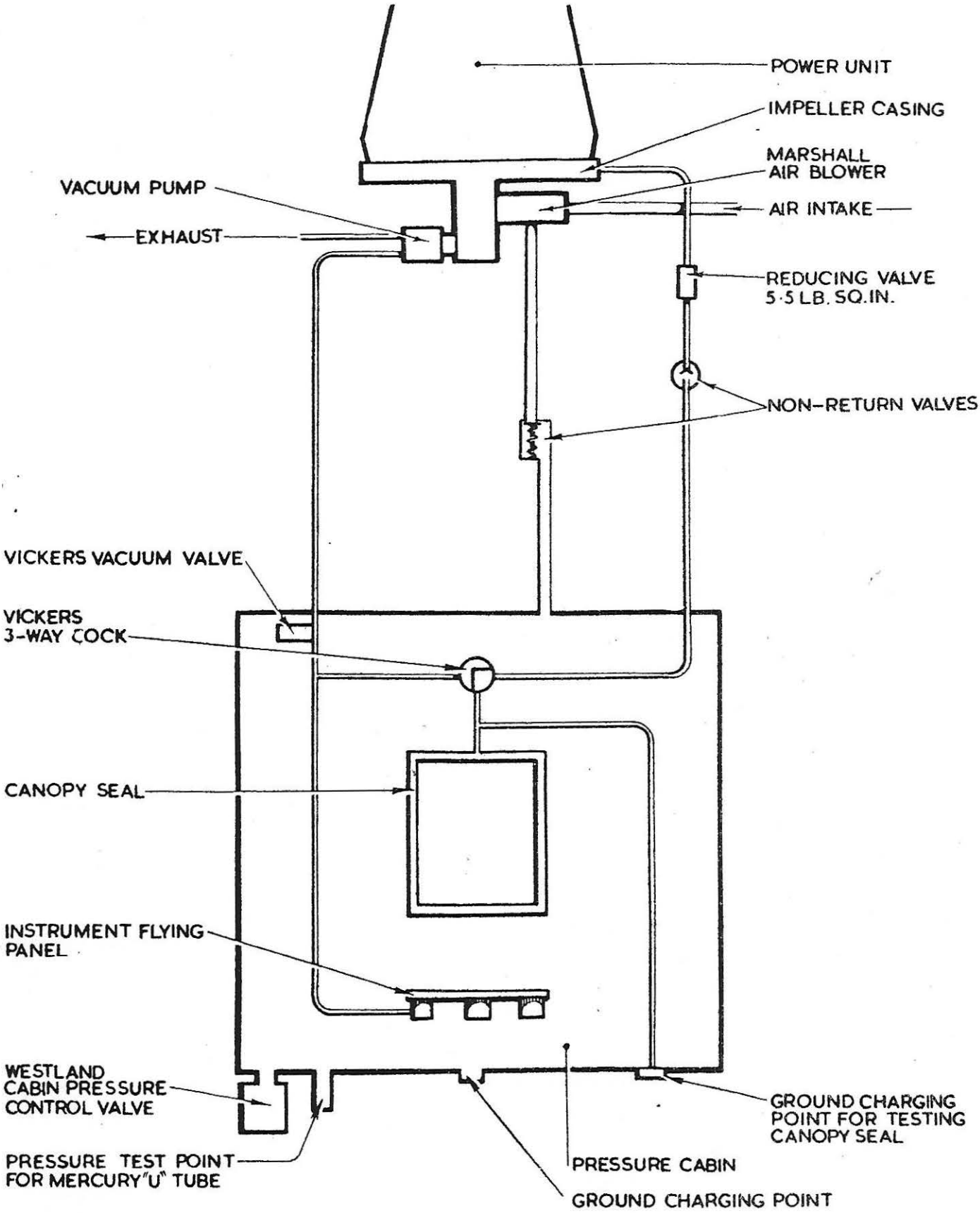


FIG. 30 CABIN AIR AND CANOPY SEAL DIAGRAM

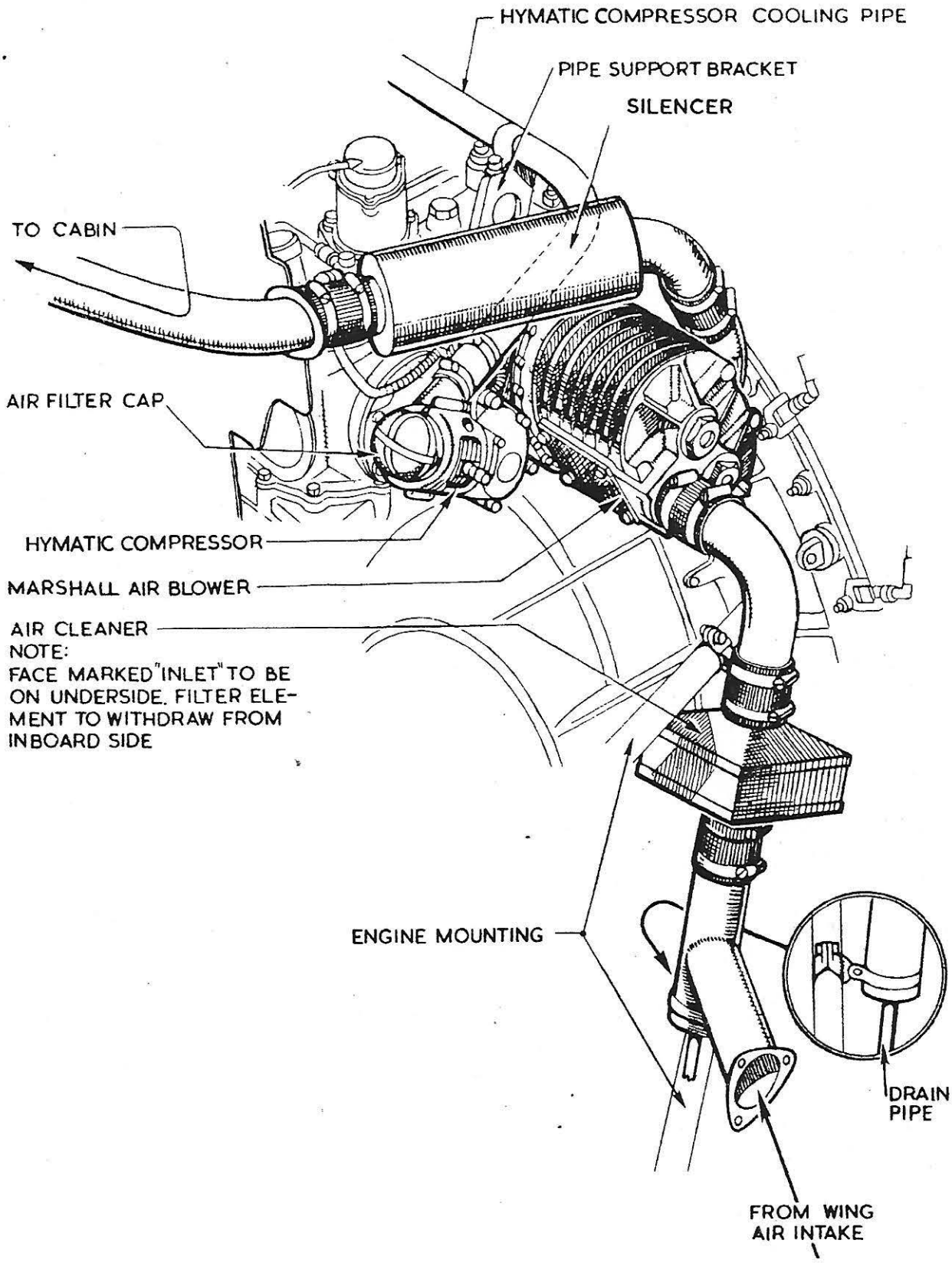


FIG. 31 CABIN BLOWER

G2309 M13536 1/49 360 C.B.& S.LTD. GP55.

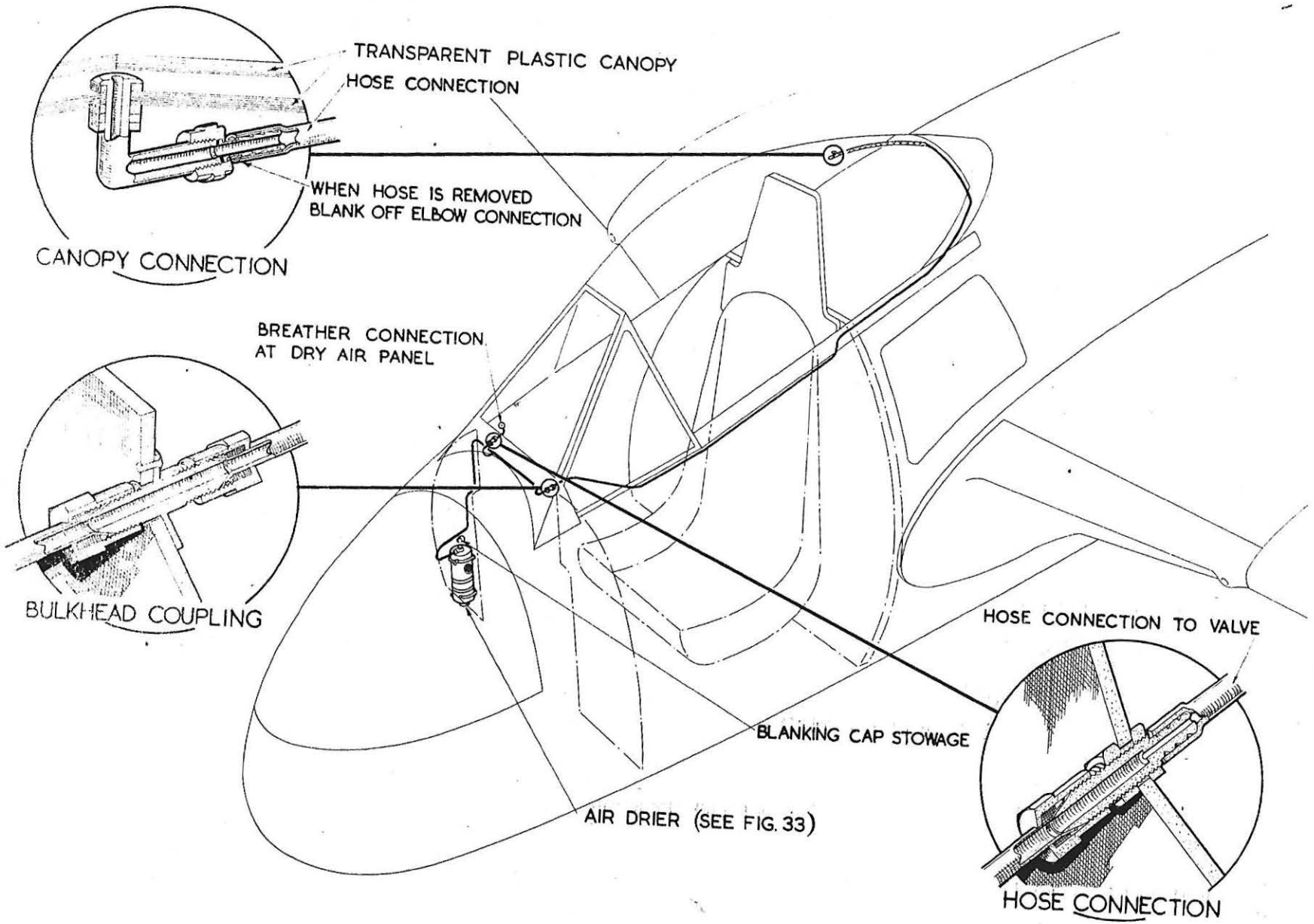


FIG. 32 AIR DRIER SYSTEM

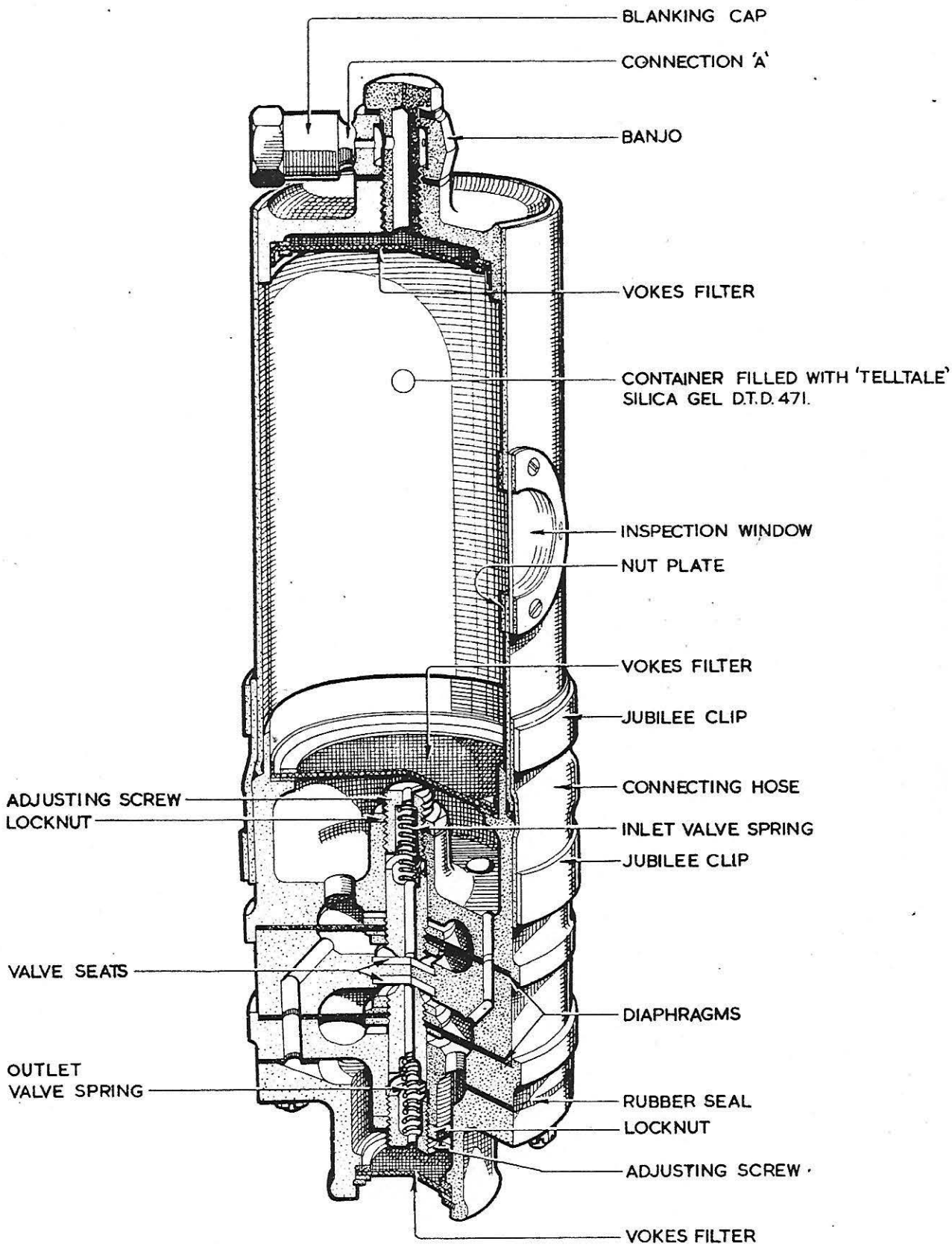


FIG. 33 SECTION OF AIR DRIER

G2309 M13536 1/49 360 C.B.&S.LTD. GP.SS.

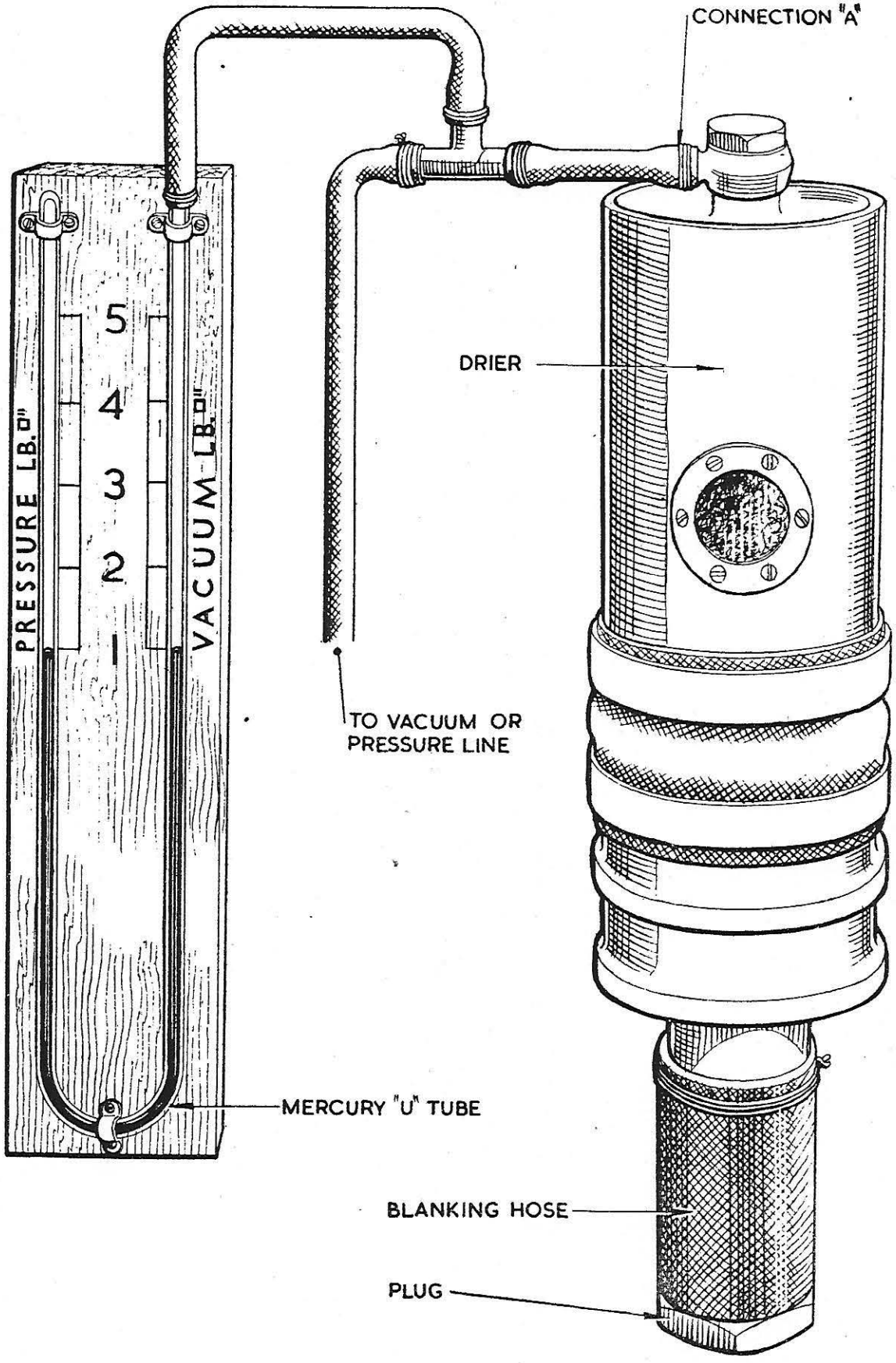


FIG. 34 DRIER TEST

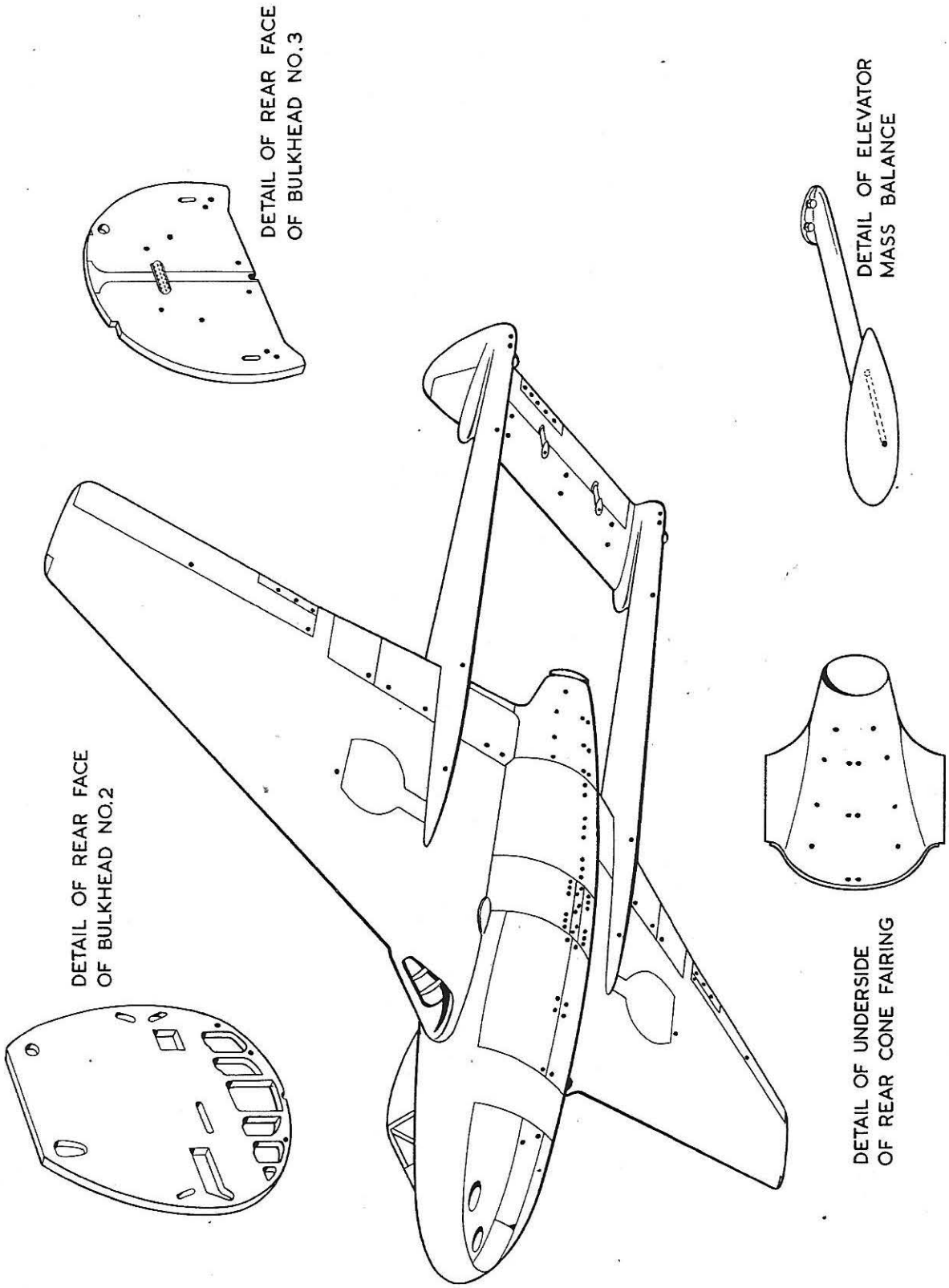


FIG. 35 LOCATION OF DRAIN HOLES

G2309 M13536 1/49 360 C.B.& S.LTD. GP.55.