CHAPTER

2

GROUND HANDLING AND PREPARATION FOR FLIGHT

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LIST OF CONTENTS

LIST OF ILLUSTRATIONS

Introduction

1. Information on the general handling of the aircraft on the ground and on preparing it for flight is given in this chapter. Auxiliary equipment for handling and servicing is listed in the appropriate M leaflet in Vol. 2, Part 1, and special gear and tools are included in the Schedule of Spare Parts in Vol. 3 of this publication.

WARNING

Before running-up the engine, care should be taken in choosing the position and attitude of the aircraft in relation to other buildings, machines, etc., on the airfield. Owing to the great quantities of air drawn into the air intakes at the front, no individual should approach to within a distance of 4 yards. It is also important to see that the ground local to the aircraft should be free from rags, paper, light pieces of wood, etc., while the engine is running, as they can be easily sucked in through the ducts. Care must be taken in positioning the aircraft so that the jet at the rear does not blow on any other aircraft or obstruction. This is necessary, not from the point of view of performance while the engine is running, but as a safeguard from the effect of hot gas and stones, etc., which may be blown up from the ground. It is most essential that the starter battery should be fully charged as the amount of current consumed during starting operations is considerably in excess of the normal and a battery which is not fully charged will fail to give the necessary r.p.m. for starting the engine. The air-intake blanking plates must be on the air intakes and tail pipe whenever the engine is stationary. They should be replaced as soon as possible after any engine running and only removed at the last minute before starting. The Ref. Nos. are as follows :—

Air-intake blanking plate—Stores Ref. 26FC/9046 (port) and 26FC/9047 (starboard).

Air-intake guard—Stores Ref. 26FC/9044 (port) and 26FC/9045 (starboard).

Tail pipe blanking plate—Stores Ref. 26FC/9012.

GROUND HANDLING

Towing

2. In all cases of towing by tractor, the operation will be greatly simplified if a responsible person is placed in the cockpit to operate the brakes. It will be found that, when towing by tractor, the turning of the aircraft will be easier if the brakes are used.

3. The aircraft may only be towed forward by tractor when the special towing equipment is available; this is attached to the main wheels by a cable which is coupled to an eye on each of the main shock-absorber struts at the top (*fig.* 1). The maximum angle of the steering arm is 20 deg. either side of the forward towing position.

4. The aircraft may be man-handled in either direction.

Slinging

5. The slinging arrangements are shown in fig. 6 and are self-explanatory.

Control locking

6. The gear for locking the control column and rudder pedals is stowed on the bulkhead at the rear of the pilot's seat on the left-hand side. The method of fixing the locks is shown in detail in fig. 4. The ground locking of the undercarriage is shown in fig. 5.

Picketing

7. The aircraft must always be picketed head to wind. Sockets for screw-in shackles are provided at the tops of the main undercarriage struts. The shackles are not carried in the aircraft. The nose wheel should be picketed by a rope around the strut. Additional ropes should be passed over the booms forward of the fins.

Covers

8. No covers are provided for the cockpit. Normally, the air intakes and jet opening are plugged when the aircraft is parked (*refer to Warning after para.* 1). If the standard blanking plates are not available, substitutes should be improvised. The pressure head, on the port fin, should also be covered.

Jacking

9. The jacking and trestling arrangements are illustrated in fig. 2 and are self explanatory.

GENERAL PREPARATION FOR FLIGHT

WARNING. Attention is drawn to the warning after para. 1.

Fuel system

Re-fuelling

10. The fuel system is described and illustrated in Sect. 8. Before attempting to fill any tank make sure that the main fuel cock in the cockpit is OFF. A tool, Pt. No. Y00162, is used for unscrewing the filler caps. Each filler cap incorporates a relief valve and care should be taken not to damage it when unscrewing the caps. When refuelling, particular care should be taken to avoid spilling the fuel; the flaps should be *down* and an examination for fuel in the flap compartment should be made after each refuelling operation.

11. The filler cap for the fuselage tank is on the port side of the after end of the cockpit hood fairing. The filler caps for the wing tanks are in the top surface of the wing.

Draining

12. The fuel tanks can be drained (*a*) by means of a bowser, sucking the fuel from the tanks through the filler caps, or (*b*) through the drain plug under the collector box in the fuselage tank.

Cleaning the L.P. fuel filter

13. A Tecalemit or Vokes type L.P. fuel filter may be fitted and these should be serviced in accordance with the Servicing Schedule. To remove the Tecalemit filter element, disconnect the safety pin, depress the securing pin and turn the bowl in an anti-clockwise direction. The bowl and element can then be withdrawn. When assembling this filter, ensure that the two arrows, one on the bowl the other on its housing, coincide before inserting the safety pin. The Vokes filter element is contained in a bowl which screws into a housing and is readily removed. The filter elements should be cleaned with kerosine, a stiff brush being used to remove any sediment. Dirty or choked felt-type elements should be renewed.

Priming the system

14. If the pipelines have been disconnected the system must be primed before starting the engine. To prime the system, disconnect the pipe leading from the L.P. filter to the engine fuel pump at the filter connection, close the H.P. fuel cock, open the L.P. cock and switch on the booster pump. When the fuel discharge is unrestricted, re-connect the pipe and switch off the booster pump. The remainder of the system will be primed automatically as the engine starts.

Oil system

Replenishing oil sump

15. The oil system is self contained within the engine, oil being supplied from a small

sump of 1½ gall. capacity. The filler cap and separate dipstick are accessible when the starboard upper and lower engine cowls are removed. When filling the sump the dipstick must be removed to act as a vent, and the oil poured in very slowly until the indicated level on the dipstick is reached. It is important that the sump is not overfilled or the accessory gears will run submerged, causing possible leakage and damage.

Draining

16. To drain the oil sump remove the filter by undoing the six small bolts holding the cover, and remove the cover with the filter. A small quantity of oil will escape but a steel plunger will be observed projecting through the hole alongside the gauze; this is an extension of a spring-loaded valve which permits removal of the filter for cleaning without draining the sump. To drain, push the plunger up against the spring; the oil will flow from the sump (*refer to fig.* 3).

Hydraulic reservoir

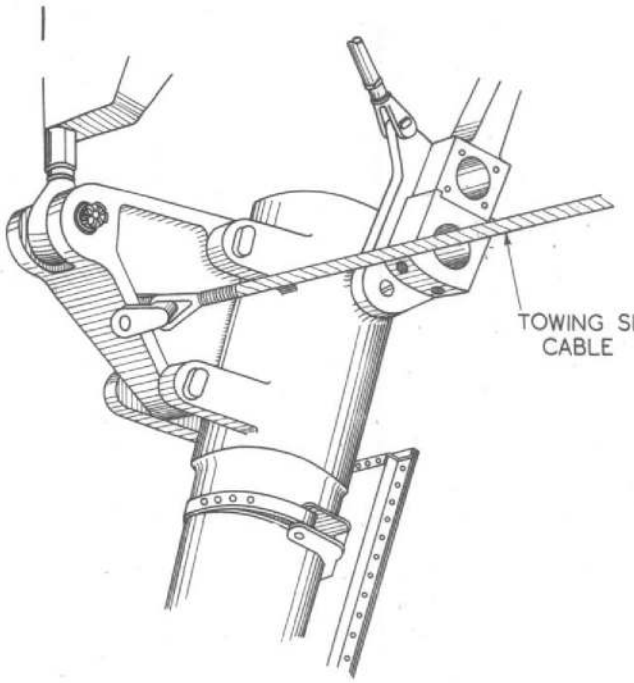
17. This is filled through a filler cap at the rear end of the canopy. Use tool, Part No. Y00162. The capacity is 1 gall. Fill to the level shown on the window on the forward end of the tank, and avoid spilling any fluid. There are two pressure test gauge connections mounted on the aft face of bulkhead No. 2 at the bottom left-hand side. One is for checking the air pressure in the hydraulic accumulator and the other is to check the pneumatic system pressure. The air pressure in the accumulator should read 1,300 lb. per sq. in. The gauge couplings are Turner A53686.

Pneumatic system

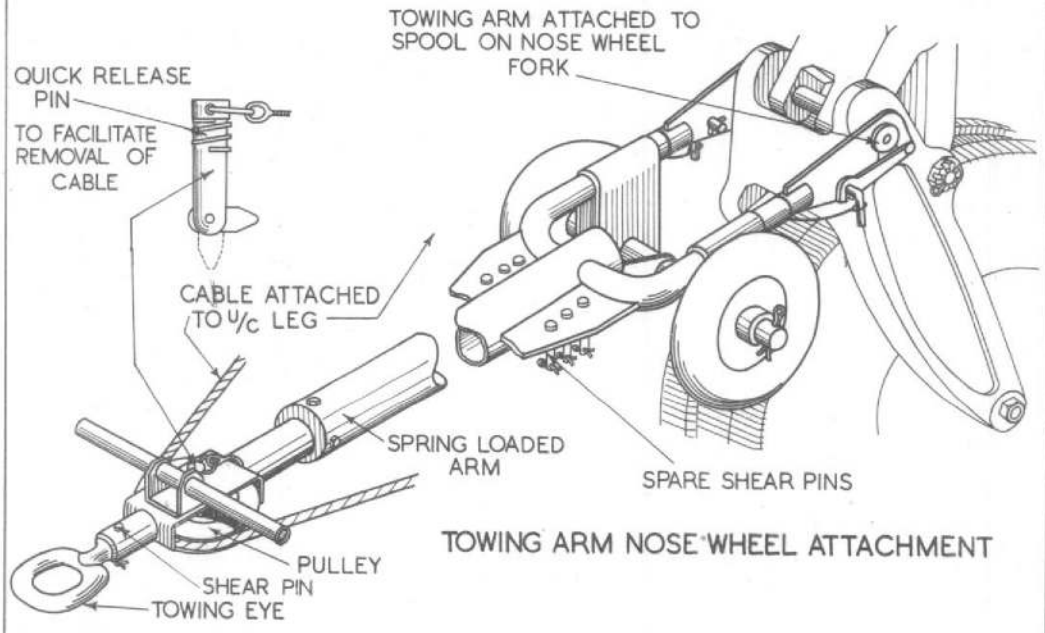
18. The air bottle may be filled from an outside supply through the charging block on the pneumatic panel on the rear of bulkhead 2. The maximum pressure is 450 lb. per sq. in. The test pressure gauge connection is next to the hydraulic air test gauge connection. The oil and water trap should be drained at intervals given in the Servicing Schedule (*refer to A.P.*1519.)

Dry-air sandwich windows

19. The silica-gel container is positioned just forward of the instrument panel on the right-hand side. The crystals should be changed when they show a pink colour through the inspection window.



COMPRESSION LEG ON STARBOARD UNDERCARRIAGE
VIEW LOOKING REARWARDS



TOWING ARM NOSE WHEEL ATTACHMENT

FIG. 1 — TOWING — FIG. 1

G464 M02483 5/48 600 C.B. & S.L.TD. G255.

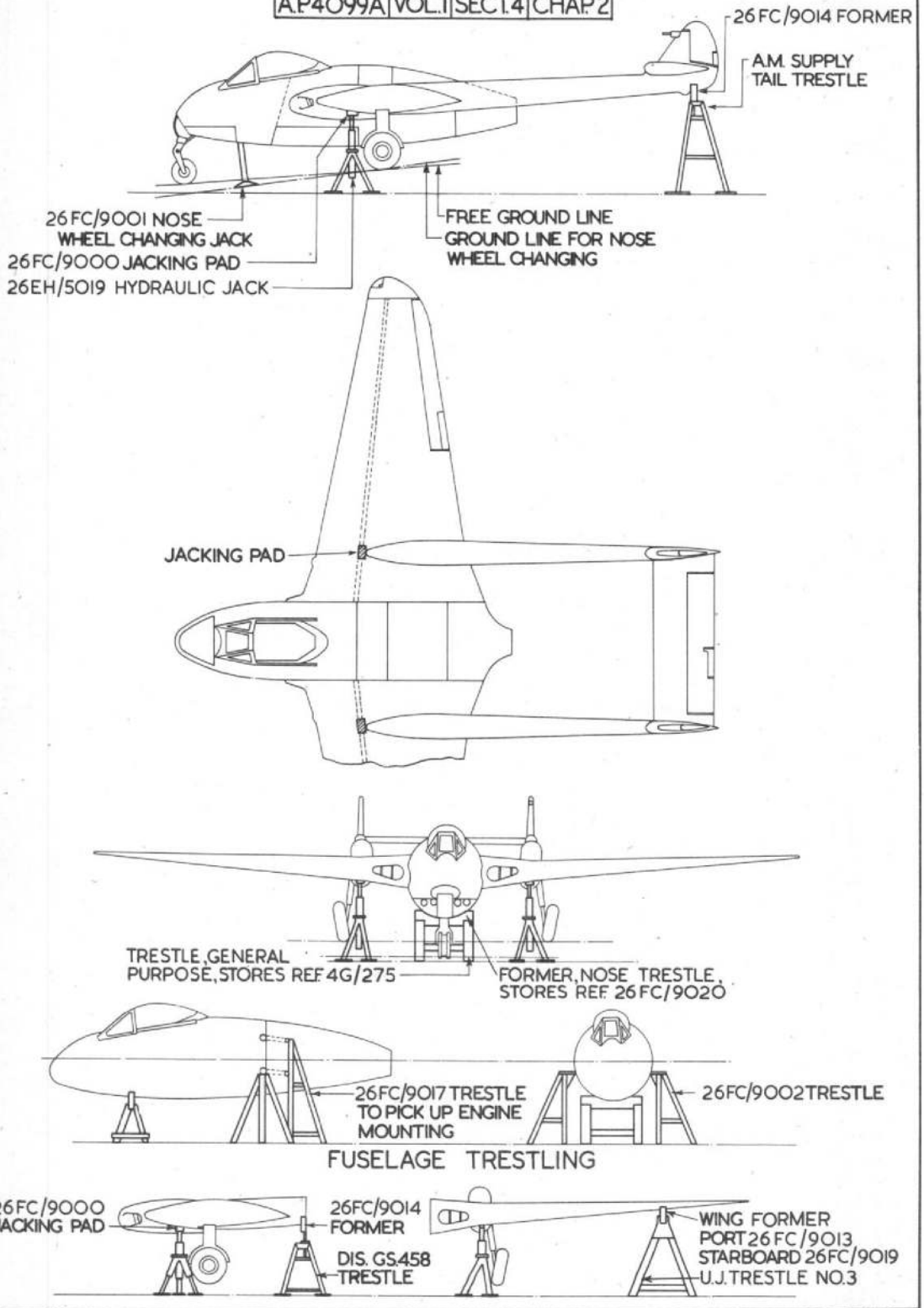


FIG. 2

TRESTLING DIAGRAM

FIG. 2

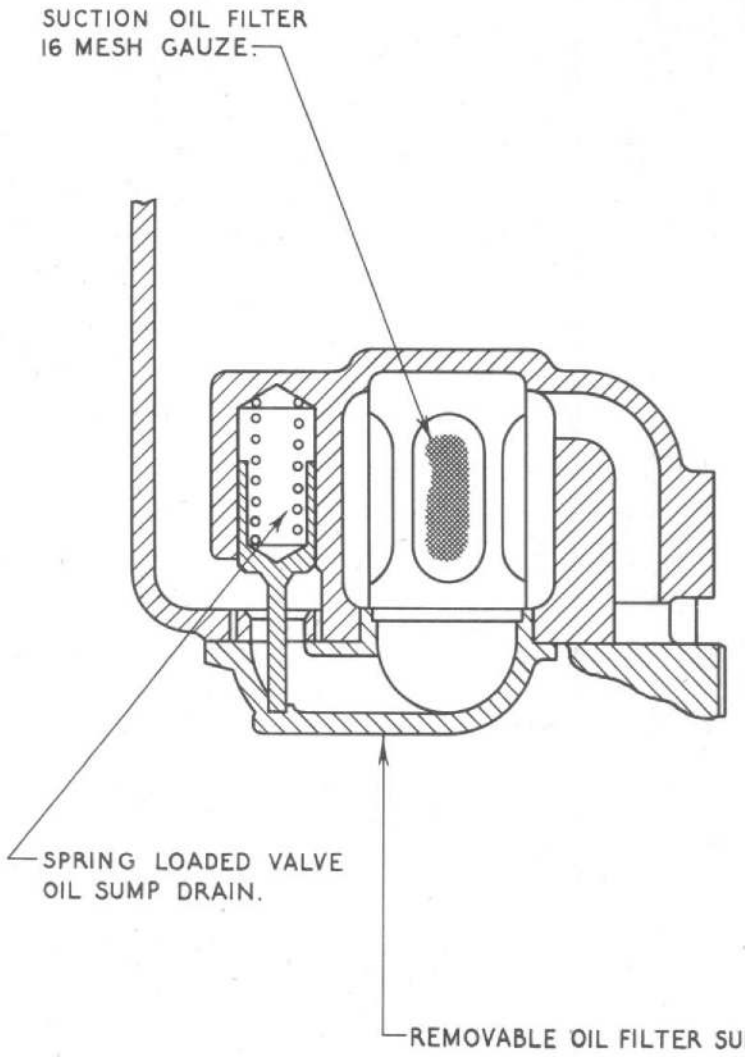
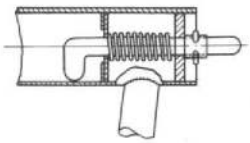
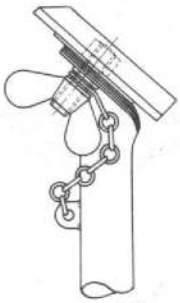


FIG. 3 — OIL FILTER & SUMP DRAIN. — FIG. 3

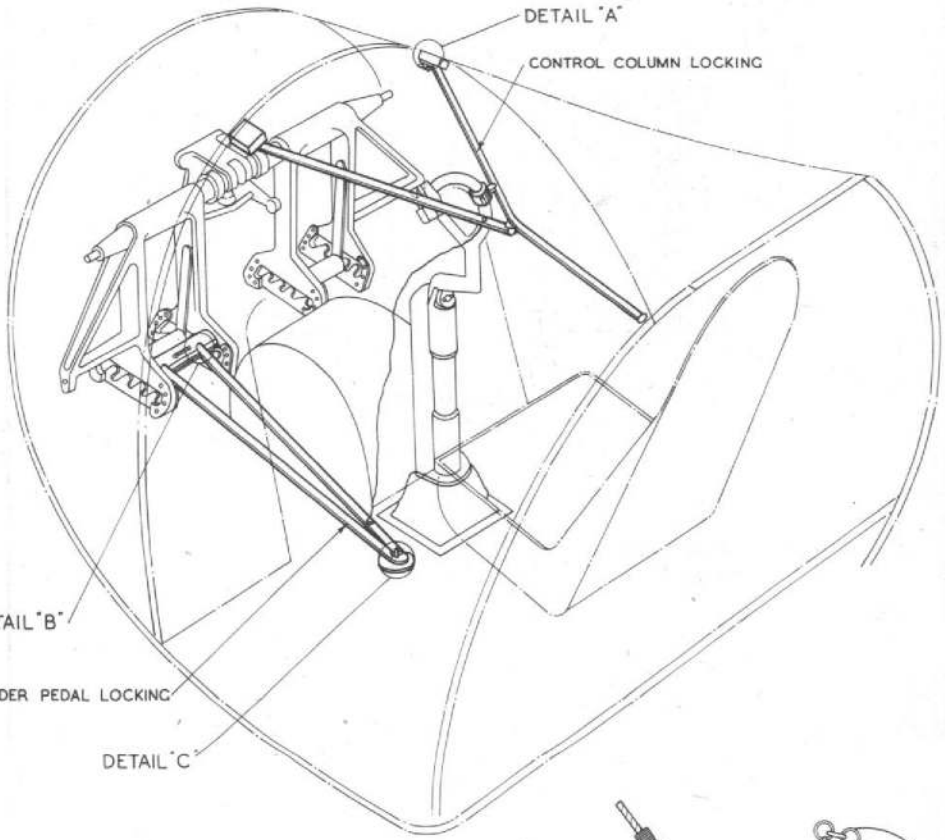
G3664/M01559 12/45 325 C.B.& S. LTD. GP.55.

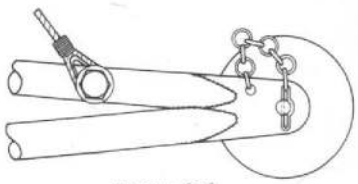


DETAIL "B"
SECTION SHOWING SPRING BOLT
IN RUDDER PEDAL LOCKING BAR.



DETAIL "A"
ATTACHMENT OF CONTROL COLUMN
LOCKING BAR TO FUSELAGE SIDE.





DETAIL "C"
SECURING OF RUDDER PEDAL
LOCKING BAR TO FLOOR.

FIG 4

CONTROL LOCKING

FIG 4

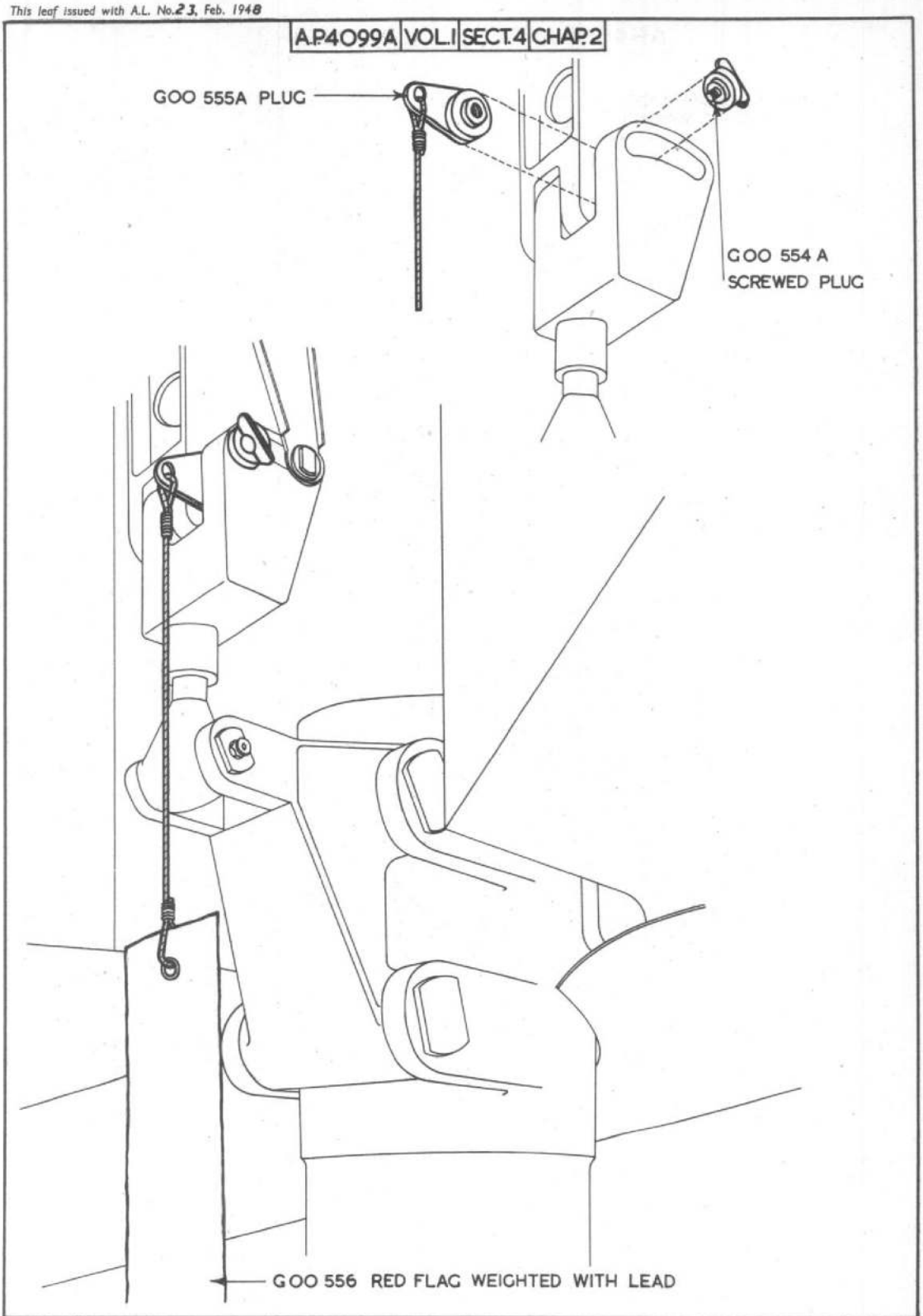
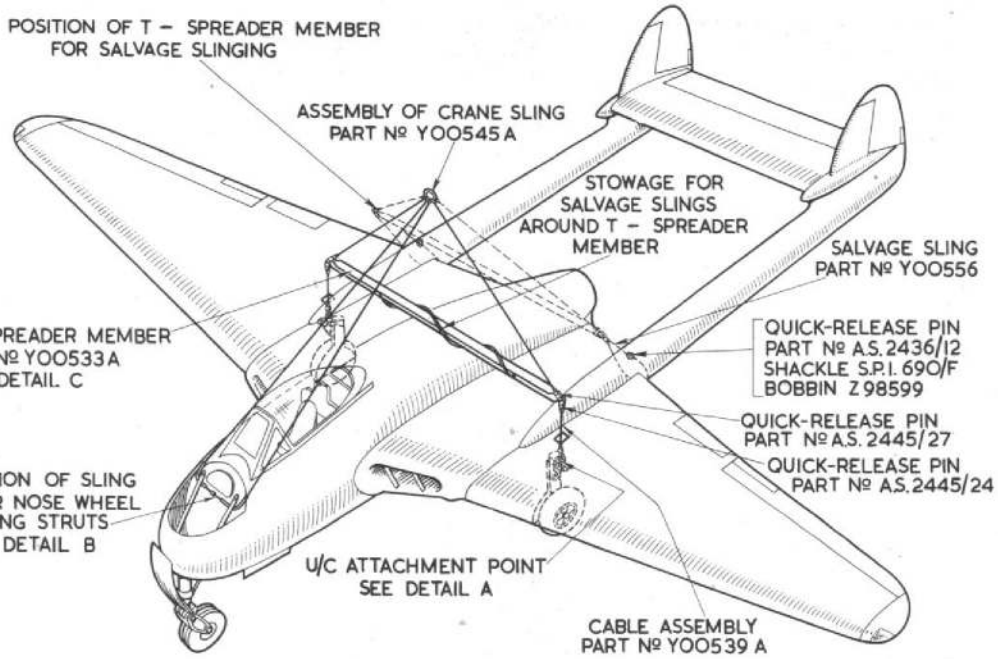


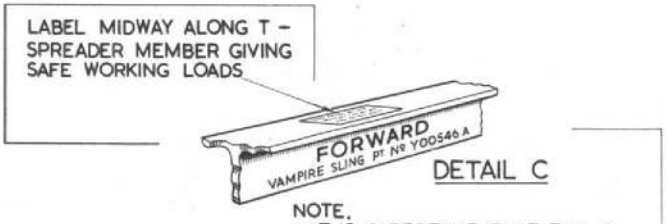
FIG. 5

UNDERCARRIAGE LOCKING

FIG. 5

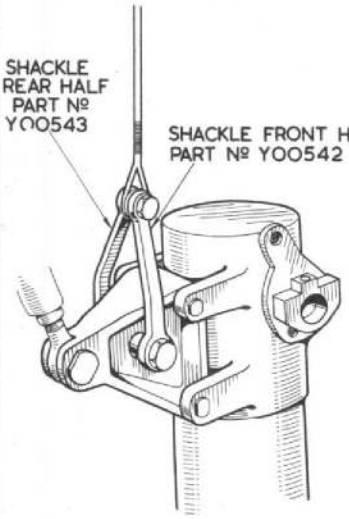
G1959 M45974 2/48 780 C.R.& S.LTD. GR.55.



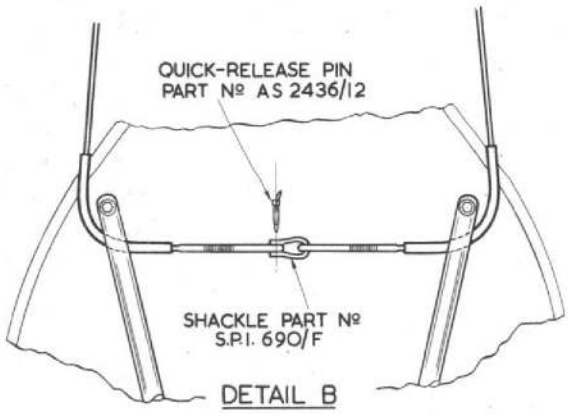


DETAIL C

NOTE.
IT IS IMPORTANT THAT THE T – SPREADER MEMBER IS ASSEMBLED WITH THE LETTERING FACING FORWARD, TO AGREE WITH SHACKLES YOO542 & 3



DETAIL A



DETAIL B

AIRCRAFT SLING COMPLETE PART Nº YOO546 A

FIG. 6

AIRCRAFT SLINGING

FIG. 6