

Chapter 2

R.P. AND R.A.T.O. EQUIPMENT

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DESCRIPTION AND OPERATION

Introduction

1. Provision is made for the installation of rocket projectile and rocket-assisted take-off equipment. The rockets are electrically-fired (*Sect. 5, Chap. 1*).

R.P.

2. Four rocket projectiles, having 25 lb. or 60 lb. heads, can be carried on tier type carriages under each main plane, inboard of the wing fold (*fig. 1 and 2*). The electrical selecting and firing controls consist of an armament master switch, a "pairs/salvo" selector switch and a firing push button switch, the two former being mounted on the centre instrument panel and the latter being located beneath the safety cover switch on the control column handle (*Sect. 1, Chap. 1*). The firing order of the rockets is controlled by an automatic selector switch. Reference should be made to A.P.(N) 1023(7) for details of the installation.

R.A.T.O.

3. The equipment consists of two carrier assemblies, each incorporating two 5 in. rockets. A safety switch and a master switch are located on the panel above the radar console, and the firing push switch on the control column (*Sect. 1, Chap. 1*). Three warning lights, one on the R.A.T.O. switch panel and one either side of the nose fuselage, are illuminated when R.A.T.O. selection is made. An inertia switch is incorporated in the system for automatic operation of the rockets on catapult take-off.

4. The carrier assemblies are fitted to the outboard side of each boom (*fig. 3*) by locating the thrust rod of the forward attachment into the thrust fitting, the jettison strut into the jettison strut fitting, the lower rear attachment strut into its retaining bracket; the upper rear attachment strut spigot is secured in the latch lever housing by pushing the cocking lever towards the tail of the air-

craft, inserting the spigot into its housing and releasing the cocking lever. The electrical plugs are mated with the spring-loaded sockets at the bottom of each boom. On jettisoning the carrier assemblies, the plugs pull away from these sockets.

5. The carrier assemblies may be jettisoned by depressing the jettison push valve, situated on the cabin port shelf (*Sect. 1, Chap. 1*). The jettisoning force is provided pneumatically (*Sect. 3, Chap. 7*). Depressing the jettison push valve, extends a pneumatic ram in each boom, which is coupled to the release mechanism. As the pneumatic ram piston extends, the latch lever, operated through linkage, disengages from the spigot of the rear upper attachment strut of the carrier assembly (*Fig. 4*). The weight of the assembly causes it to fall away from the aircraft, the jettisoning lever keeping it clear of the boom and tail plane. Details of the installation are given in A.P.(N) 1023 (7).

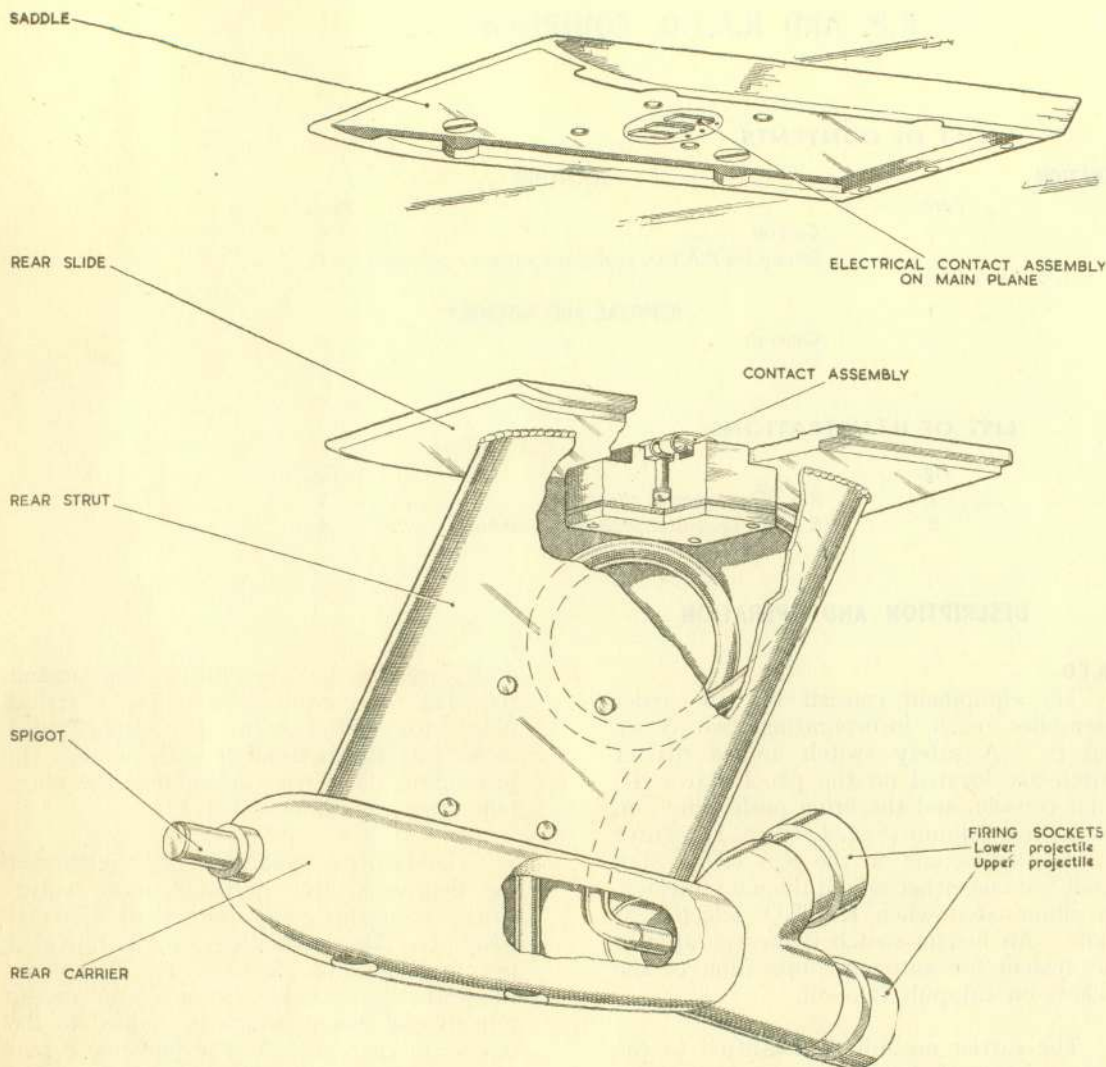


Fig. 1. Rear attachment assembly

SERVICING

General

6. Reference should be made to A.P.(N) 1023(7) for information on servicing of the R.P. and R.A.T.O. equipment.

Setting the R.A.T.O. equipment jettison mechanism

7. Whenever the pneumatic ram has been disturbed, the following adjustments should be checked to eliminate premature release of the assembly:—

- (1) Remove the forward inboard access panel of the boom.
- (2) Adjust the latch lever fork-end (*fig. 4*) so that the toe of the latch lever has a 0.2 in. minimum engagement with the spigot of the rear upper R.A.T.O. carrier strut, and check for sufficient thread showing through the inspection hole in the fork-end of the lock-nut.
- (3) Turn the adjusting screw until the points 'A', 'B' and 'C' (*fig. 4*) are in line.
- (4) Turn out one and two thirds turns on the adjusting screw (10 flats at the hexagon head) and lock in position with the lock-nut.

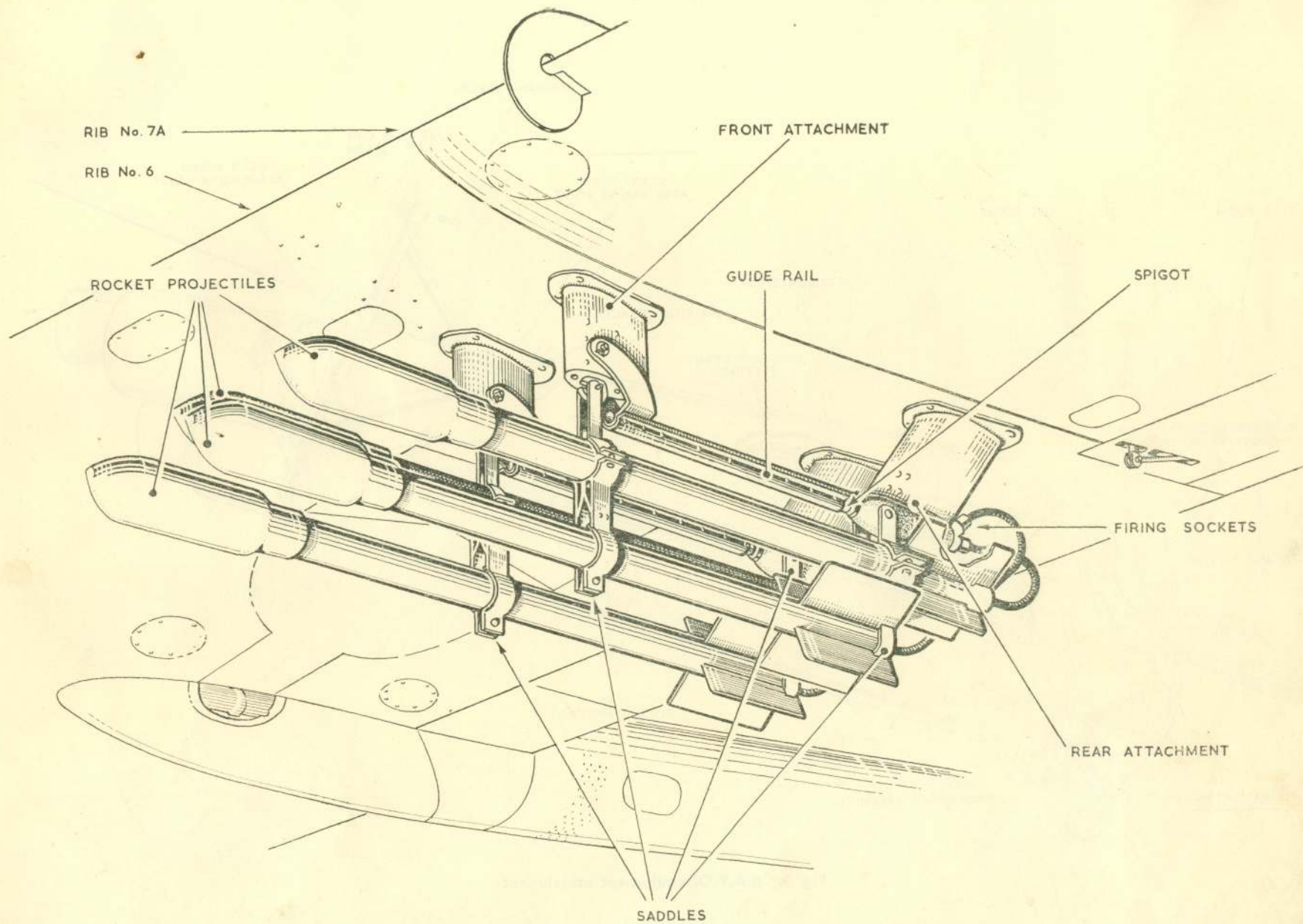


Fig. 2. R.P. installation

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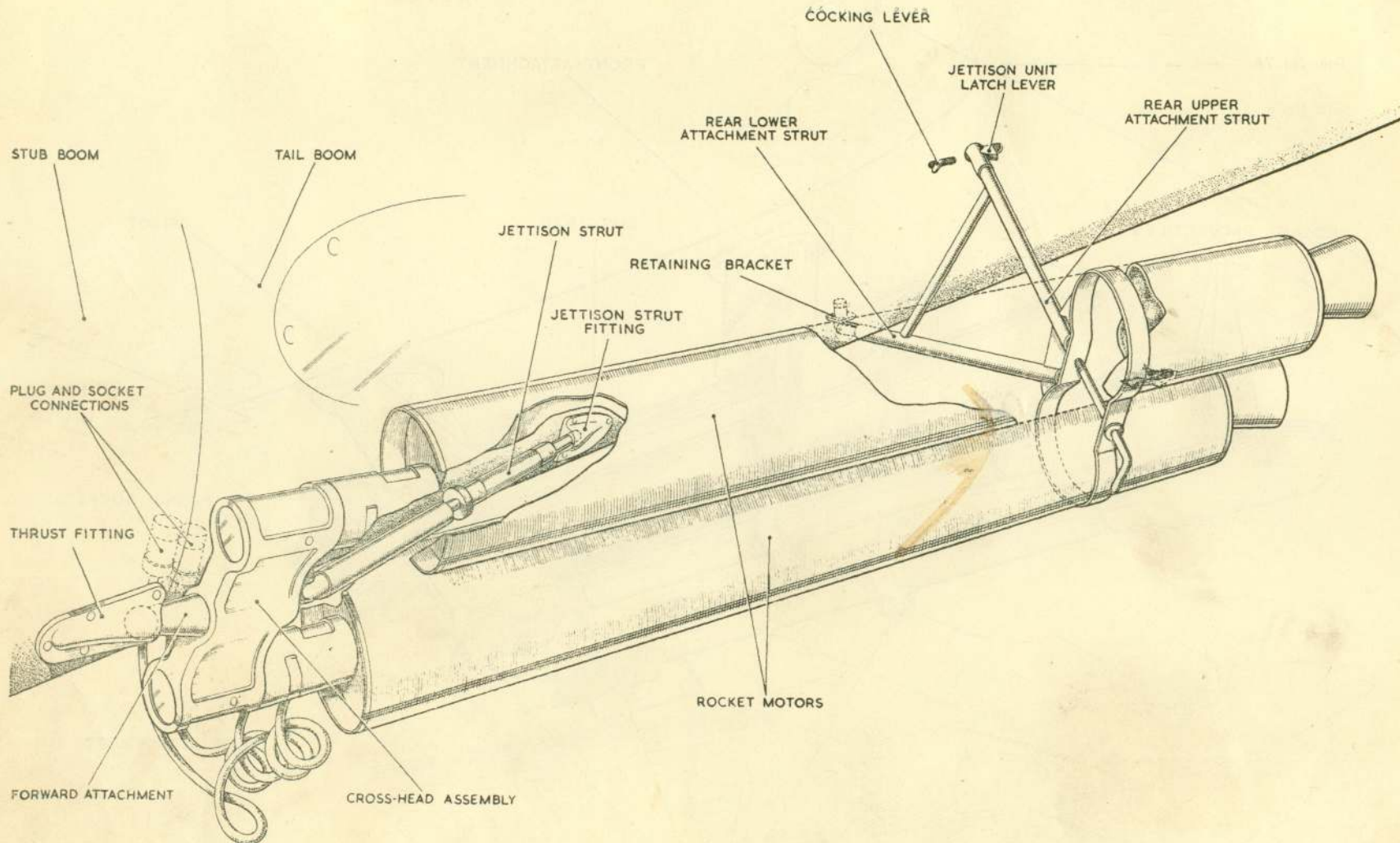


Fig. 3. R.A.T.O. equipment attachment

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- (5) Adjust the piston-rod fork end of the pneumatic ram so that the piston-rod extends 0.5 in. from the body of the ram, and check for sufficient thread through the inspection hole in the fork end.
- (6) Tighten the lock-nuts on both fork end adjusters.
- (7) By moving the cocking lever, protruding

through the boom skin, towards the latch lever, check that the latch lever toe moves forward slightly before withdrawing from the rear upper attachment strut hole.

REMOVAL AND ASSEMBLY

General

8. Reference should be made to A.P.(N)

1023(7) for information on the removal and assembly of components of the R.P. and R.A.T.O. equipment. ◀ When fitting a new R.A.T.O. carrier assembly, it is possible that the spigot on the rear upper attachment strut may fail to latch. It is permissible to file up to 0.05 in. off each end of the 0.26 in. slot to make a 1.5 in. radius as shown in fig. 4. ▶

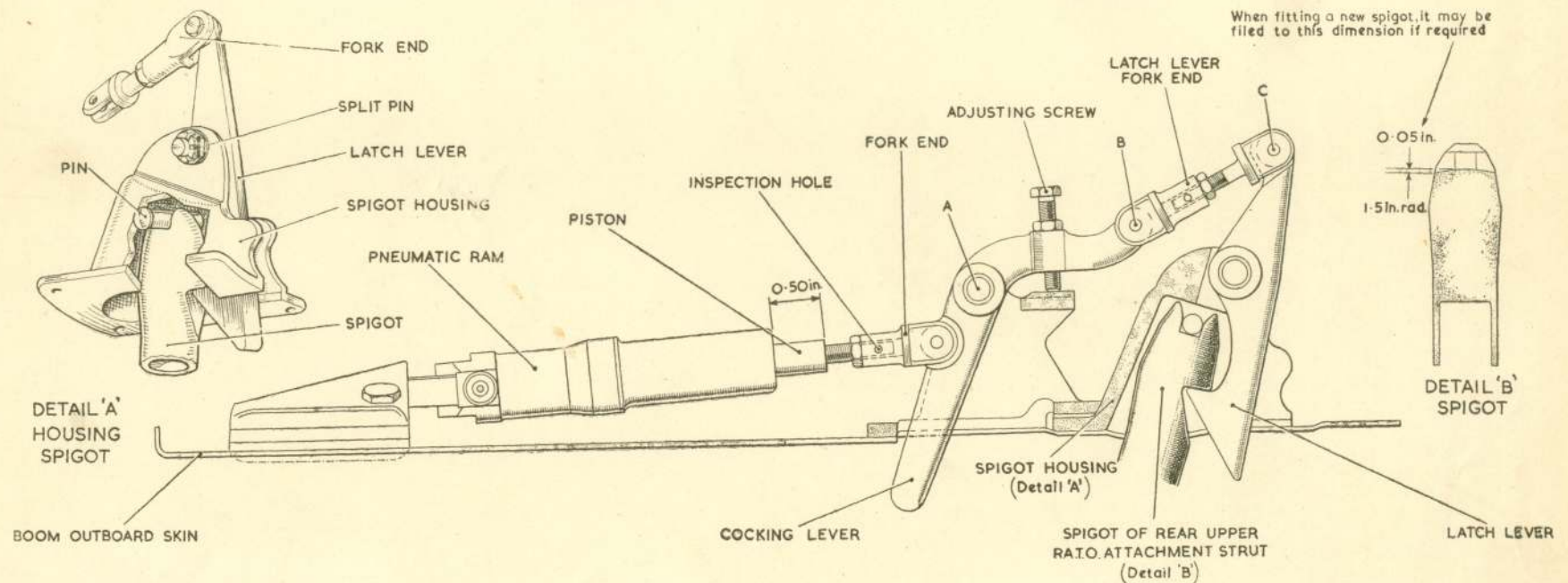


Fig. 4. R.A.T.O. equipment jettison unit assembly

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