Chapter 2 — R.P. EQUIPMENT

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LIST OF ILLUSTRATIONS

Introduction

1. This chapter contains a description of the R.P. installation on the aircraft. Provision is made for the firing of SNEB rockets from MATRA launchers fitted to the outboard pylons, and 3-inch rockets from launchers No. 12 Mk. 3 attached to the underside of each main plane. Information on the gyro gunsight and G.90 camera will be found in Sect.5, Chap.2 and a description of the electrical circuits in Sect.5, Chap.1. Fitting instructions for the MATRA launcher are detailed in Sect.2, Chap.2. Further information on rocket launchers generally and re-arming procedures will be found in A.P.2802A, Vol.1.

2. The 3-inch rockets are carried on rails A, C and D which are secured to each wing and on rail B which is fitted to an adapter crutched up to each outboard pylon. As an alternative to the fitting of rail B a MATRA launcher may be crutched up to each outboard pylon.

Launcher rails

3. The launcher rails are located on the underside of the wings as follows :—

Rail A — outboard of rib R and across rib S.
Rail B — on adapter fitted to outboard pylon.
Rail C — between nose rib N and interspar rib Q (*across junction of nose rib P and interspar rib P with main spar*).
Rail D — between nose rib L and nose rib N.

Launcher rail mountings (fig. 1)

4. Launcher rails A, C and D are each attached to a pair of mounting posts which are themselves attached to the wing structure. The mounting posts are of tubular structure and have a top fitting which is machined at an angle to conform with the contour of the upper surface of the wing. Each post passes through the wing structure and terminates, on the undersurface of the wing, with an eye-end to which the launcher rail is attached by means of a high tensile steel bolt. The rear posts are grooved at their lower ends to permit the assembly of the electrical cables which run from the wings to the rails. The posts are secured to the wing by means of a knurled bronze nut which screws on to the threaded portion above the eye-end. The bronze securing nuts are machined to a spherical shape at one end to fit in to a corresponding recess in a light alloy washer interposed between the nut and wing skin, thus allowing the washer to align itself with the undersurface of the wing. Each bronze nut must be hand-tightened only.

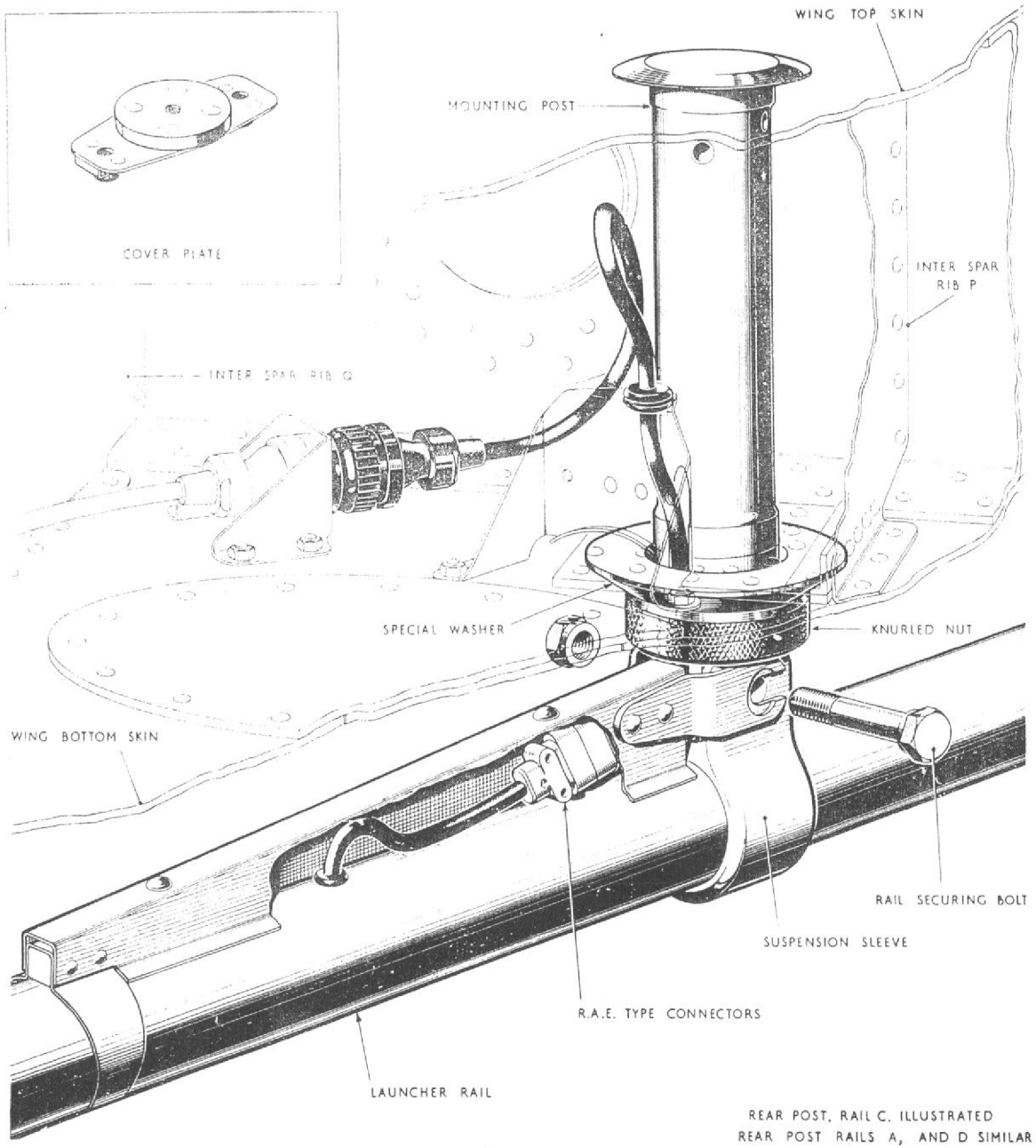

Fig. 1 Launcher rail attachment - post mounted

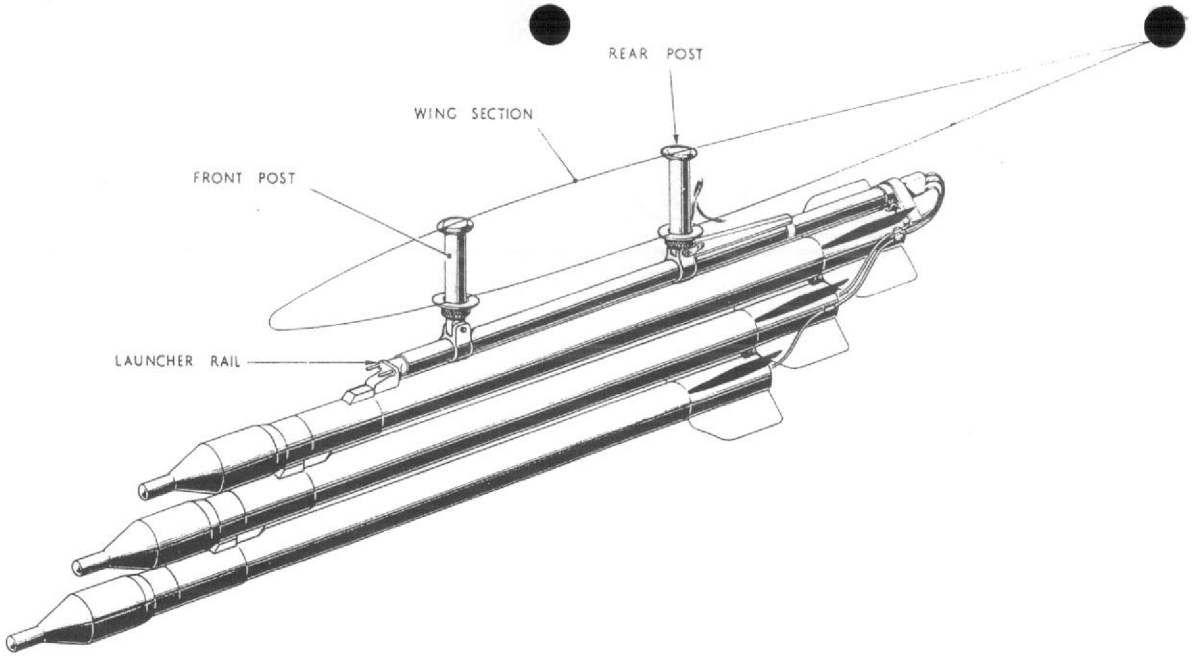

Fig.2 R.P. assembly - Post mounted

5. Owing to the variation in depth and contour of the aerofoil, the posts, three front and three rear for each wing, are not interchangeable, either port or starboard or with each other on their respective wings (*para. 10, sub-para. 3*). A cable cover is attached to each rear post and extends rearwards to clamp over the launcher rail. These cable covers are interchangeable.

6. Launcher rail B is secured by two suspension brackets bolted to an adapter which is crutched up under each outboard pylon. *It is important, when this adapter is fitted, that the pylon E.R.U. cartridge is removed and the E.R.U. breech cap connector correctly positioned in its stowage in the wing upper fairing.*

7. Cover plates are provided to seal the holes vacated by mounting posts A, C and D when the R.P. installation is removed. The plates, which are provided with captive nuts, lie flush with the outer surface of the wing when bolted in position. A blind hole in each plate is threaded (*2 B.A.*) to receive a piece of screwed rod, or bolt, which is used to insert the plate into the wing during fitment. It also serves to hold the plate in position whilst the securing bolts are fitted, after which the screwed rod, or bolt, is removed.

R.P. controls

8. Controls for rocket firing consist of a Master switch (ON–OFF), a Mode switch (3″ RIPPLE — 3″ SALVO — PODS) and a Salvo selector switch (2, 4, 6, 8), all mounted on a panel located on the port forward side of the cabin, and a firing push switch on the control column handgrip. In addition, the respective outboard pylon switches (ON–OFF), located on the top port instrument panel, are used when rocket pods are fitted and selected. The switch settings for the various modes of fire are as follows :—

3″ Ripple
Master switch — ON, Mode switch — 3″ RIPPLE, Salvo selector switch — either 2, 4, 6 or 8 as required.

3″ Salvo
Master switch — ON, Mode switch — 3″ SALVO, Salvo selector switch — either 2, 4, 6 or 8 as required.

Pylon mounted pods
Master switch — ON, Mode switch — PODS, outboard pylon switches, port and/or starboard — ON (*depending on whether port, starboard, or both pods are to be fired*).

▶ ◀

Note . . .

It is important to note that the bomb master switch on the top port instrument panel must be in the OFF position during all rocket firing.

Attachment of removable parts

9. The front and rear mounting posts, launcher rail adapters, launcher rails and cable covers comprise all the removable parts. Before commencing to fit the mounting posts, the cover plates (*para. 7*), which normally seal the holes in the wings for the mounting posts, must be removed and their attachment bolt holes sealed by using the existing bolts with nuts (*Part No. AGS.2002. C1*) and washers (*Part No. SP.16C*) in lieu of the captive nuts on the plates.

Mounting posts and rails

10. When assembling the mounting posts:–

(1) Pull the electrical cables down thro the aperture in the wings. (*When posts are not fitted these cable stowed in the wings with the cab fitted into spring clips mou brackets adjacent to the apertures*).

(2) Lubricate the threads on spherical end of the nut ar recess in the washer ◀ XG-278. ▶

(3) Ensure that they are positioned correctly. The posts are engraved for port or starboard and with a numeral to indicate their respective rails. Similar indication is stencilled adjacent to the holes on both upper and lower surfaces of the wings. The markings are as follows :—

POST		RAIL
FRONT	REAR	
PORT 1	P.5	PORT A
PORT 3	P.7	PORT C
PORT 4	P.8	PORT D
STBD 1	S.5	STBD A
STBD 3	S.7	STBD C
STBD 4	S.8	STBD D

(4) Tighten the bronze securing nuts by hand only.

(5) Fit the launcher rails to the eye-ends of the posts, using the special H.T. steel bolts provided.

(6) Make electrical connection by fitting the cable plugs into the sockets of the launcher (*fig. 1*) and fit the cable guards, which are secured by the rear post rail securing bolt.

(7) Lock the knurled nuts with 22 s.w.g. S.S. wire. In the case of the front post the wire is passed through the hole located between the threaded portion of the bolt and the eye-end. In the case of the rear post, the wire is passed through the hole in the end of the H.T. steel bolt that secures the rail to the eye-end, the wire also serving to lock the nut of this bolt. The nut of the rail securing bolt in the eye-end of the front must be locked with a split pin.

ng of the rail adapters to the
s are similar to the fitting of
2, *Chap. 2*), the following
ould be noted :—
U. cartridge must be
E.R.U. breech cap
its stowage in the

passed through
the pylon rear
to rail B

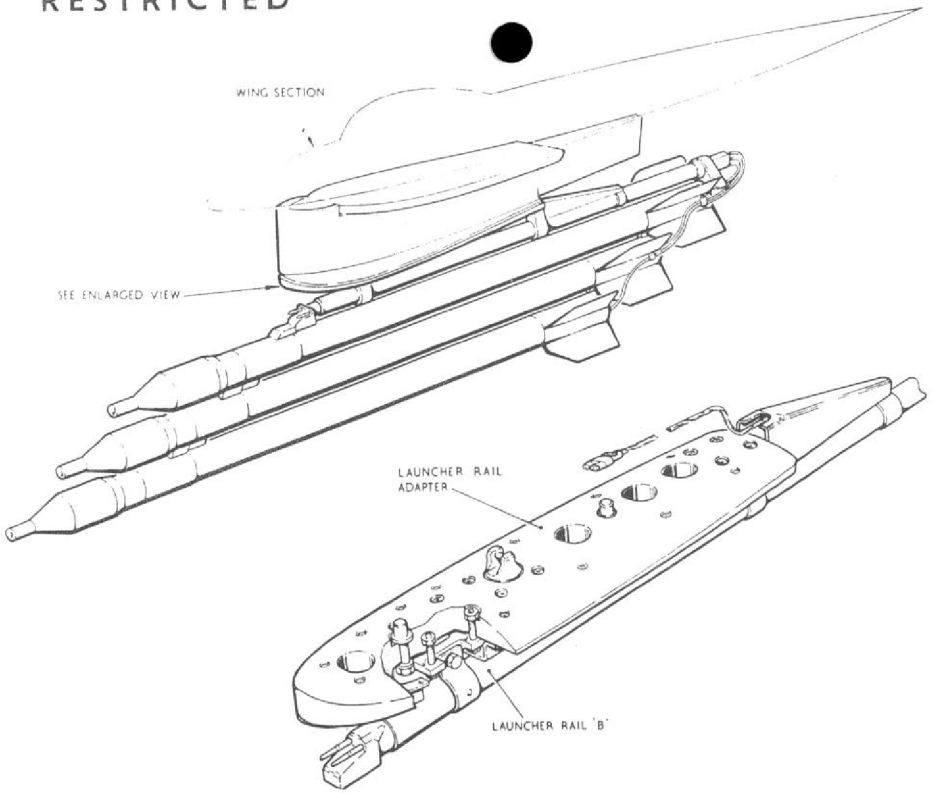

Fig.3 R.P. assembly - Pylon mounted

connector from the wing (*when the adapter is not fitted the connector from the wing is stowed tied to adjacent cables in the rear of the pylon*).

(3) The rail adapter is crutched up to the pylon with the torque wrench loaded to 40 ±2 lb. ft.

(4) The PRACTICE/NORMAL switch must be in the up (NORMAL) position

(5) (a) The adapter (*Sect.2, Chap.2, Fig.6, Item 9*) must be in position when E.R.U. Pre M.L. Mod.D.L.94 is used.

◀ (b) When loading a launcher on E.R.U. post M.L. Mod.D.L.94 a check must be made with a 1/8 in. dia. rod through the inspection hole in the housing to ensure that the piston is fully home and the split pin undamaged. ▶

Armament safety break

12. An armament safety break is located on the starboard glare shield in the cabin. It consists of a plug assembly which, with the armaments 'live', is connected to the socket of cable A.101, thus completing the electrical circuit; in this position the engraving ARMAMENT SAFETY BREAK on the plug cap is seen, with an arrow pointing upward. To place the armament circuits in a safe state for servicing or re-arming, the plug assembly is removed from its socket, thus breaking the electrical circuit, and placed in a stowage adjacent to the socket; in this position the engraving SAFE is seen on the plug cap. To prevent the plug from being dropped whilst changing its position, it is attached by a short length of cable, to the stowage bracket.