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TANK TRAINING, VOL. II, PART III, PAMPHLET No. 4, 1936

AMENDMENTS (No. I)

1. Page 3. Contents.—*Add*:— Amdt. 1 Feb., 1937

2. Page 23. *Add* new sections :—

16. MOUNTINGS, M.G. No. 8, MARK I

Amdt. 1 Feb., 1937

(Fitted with bullet-splash proofing)

(For one ·303-in. M.G. Mk. VI or IV, or one ·5-in. M.G. Mk. IV or V. For Mk. III Medium Tank, Mks. II, IIA, IIB and III light tanks, and Mk. I Crossley armoured cars)

1. CONSISTING OF—cradle; cradle frame; splash plates frame; two hinged splash plates (one lower, and one upper, with supporting plate); three fixed splash plates; five filling-in plates; depression stop; mantlet; two mantlet end covers; brake; shutter; mounting lock; Mk. III (or Mk. II) brow pad; Mk. I brow pad arm and bracket; telescope adaptor (or rainshield); Mk. II (or Mk. I) gun protecting jacket; and spanner.

2. DETAIL.—The proofing consists of a frame, with a number of splash and filling-in plates, fixed to the rear of the mounting.

i. *Splash plates frame.*—Consists of two steel angles bent to shape, and connected at the bottom by a steel plate. A steel plate is also riveted to each side. The frame fits on the outside of the elevating bearing brackets and the bottom of the mounting, and is secured by the existing bolts of the upper transom and by screws which replace the lower transom bolts. A plate, bent downwards at right angles at the rear, is secured by two bolts and two screws to the top.

ii. *Upper hinged splash plate.*—Consists of four hinged sections with two reinforcing strips, having turned up edges riveted to the inside face of the two middle sections to protect the centre hinge. It is secured to the top plate of the frame by two nuts and bolts and to the rear face of the cradle by the existing upper securing screw (on the left) and a supporting plate with set screw (on the right).

The supporting plate is of triangular flat formation secured to the rear face of the cradle by two set screws.

iii. *Lower hinged splash plate.*—Consists of four hinged sections with one reinforcing strip similar to those on the upper hinged splash plate, and an angular bracket riveted to the lowest section. It is secured at the top by the two existing lower securing screws of the cradle and the angular bracket is secured to the bottom plate of the frame by four screws (two with nuts).

iv. *Fixed splash plates.*—(*a*) One is fitted to the top of the cradle, (*b*) one to the bottom and (*c*) one to the right angle of the splash plates frame.

(*a*) is secured by the screws holding the bottom section of the upper hinged splash plate. It consists of a steel plate bent lengthwise to form an angle over the top of the cradle, the angular section being strengthened by a number of webs.

(*b*) is secured by the cradle screws holding the lower hinged splash plate. It is an angular plate of special section.

(*c*) is secured by five bolts. It consists of a steel plate shaped to fit the splash plates frame.

v. *Plates, filling-in.*—Five flat, shaped plates, four of steel and one of aluminium, are fitted to the inside of the elevating bearing brackets as follows :—

One each between the top of the left and right elevating bearing brackets and the upper transom; these are secured by the existing bolts:

One riveted to the inside lower face of the left elevating bearing bracket and held to the splash plates frame by a bolt.

Two, one of steel and one of aluminium, riveted to the inside lower face of the right elevating bearing bracket and also held by the two bolts which secure the bottom plate to the right angle of the frame.

vi. *Depression stop.*—Is a flat steel plate bolted to the

fixed splash plate of the right side of the splash plates frame.

17. MOUNTINGS, M.G. No. 9, MARK I

(For one ·303-in. M.G. Mk. VI or IV, or one ·5-in. M.G. Mk. IV or V in light tanks, Mk. IV)

1. Consisting of—cradle (in two parts); inner and outer mantlets; brake; shutter; mounting lock; telescope holder; Mark IV brow pad; brow pad arm; gun protecting jacket; and spanner.

2. Detail.—Is of free elevation type and is arranged to give a maximum elevation and depression of 36° and 11°, respectively; traverse is obtained by movement of the turret. Details of the mounting are as follows :—

i. *Inner mantlet.*—Consists of right and left brackets of light alloy which are secured to the inside of the turret and project through to the outside; they are connected at the top and bottom by curved bullet-proof plates; above the top plate on the outside of the turret is fitted a bullet-proof strip. Each bracket has a gunmetal bush as a bearing for the cradle trunnions. A bullet-proof plate is secured to the outside of each bracket. A spanner is housed in a clip secured to the right bracket and is retained by a chain and screwed eye.

ii. *Cradle.*—Consists of two parts as under—

Part I (front portion) is of light alloy and has a central gun opening; near the top left side an aperture for the telescope is provided. A semi-circular extension to the rear at the right side forms a bearing for the brake shoe. A gunmetal bush is cast in the right side for a steel trunnion which is secured by three screws to the inside face of the cradle. A steel trunnion through the left side of the cradle is retained by a feather. Both trunnions project through the cradle to engage the bearings in the right and left brackets of the inner mantlet.

Part II (rear portion) is of manganese bronze and is secured to Part I by three studs. It is arranged to clamp the mounting base of the gun. The recoil pin is identical with that on the No. 8 mounting, but the clamping details differ in that the clamping screw is positioned in the side of the cradle.

iii. *Outer mantlet.*—Is of bullet-proof steel and is secured to the front of the cradle. It has a central gun

opening and a bushed aperture for the No. 24, Mk. II, sighting telescope at the top left side. Below the gun opening is an opening for the ejection tube of the gun. A bullet-proof steel plate is riveted to each side.

iv. *Gun protecting jacket.*—Is of oval cross-section externally to give increased thickness at the sides. It is secured to the front of the outer mantlet by four screws which pass through the cradle and the mantlet and screw into the flange of the jacket. The jacket is positioned on the mantlet by a circular projection on its rear face. At the bottom is a downward projecting portion with a curved groove cut in it to deflect empty cartridge cases into the cartridge case tray. At the front end is an opening for the muzzle attachment of the ·303-in. gun; it is threaded for the Mk. I B.P. flash eliminator which is used when a ·5-in. Vickers M.G., Mk. V, is mounted; a curved hood is arranged above the opening.

v. *Brake.*—Consists of a shoe, lined with ferodo, hinged to a projection on the right bracket of the inner mantlet. The brake shoe bears on the semi-circular flange of the cradle. A screw which is anchored on the right trunnion, and passes through the shoe, together with a spring and a hand adjusting nut, enables the tension of the brake to be regulated.

vi. *Telescope holder.*—Consists of a light alloy bracket of tubular formation which is fitted to the cradle at the rear of the telescope aperture. It is positioned by a flange which fits into a recess in the cradle and is secured by three studs. It is cut away on the right side and has on the top two slotted lugs through which pass bolts with wing nuts for clamping the telescope. At the left top near the rear end is another slotted lug bored for the brow pad arm and provided with a bolt and nut for clamping the arm.

vii. *Shutter.*—Is a steel plate which is arranged to slide in a slot in the cradle to cover the telescope aperture. A spindle in a bearing at the left side of the cradle has a handle at the rear and a lever at the front which, engaging a stud on the plate, operates the shutter.

viii. *Mounting lock.*—Consists of a bracket fitted to the right side plate of the inner mantlet; a short spindle, fitted in a hole at the top of the bracket, has an operating handle on the right end and a lever on the left end; the lever operates a plunger which, working in a hole in the bracket, engages slots in a steel quadrant secured to the semi-circular flange of the cradle. The handle and lever are secured to the spindle by $\frac{3}{16}$-in. × 1-in. taper pins. The mounting lock is used for preventing movement of the mounting when the latter is not in use.

ix. *Brow pad arm.*—Consists of a tubular stem with a bracket welded to the rear end; the bracket is slotted for the brow pad; a split pin through the stem acts as a stop.

x. *Mk. III brow pad.*—Is fitted.

MOUNTINGS, M.G. No. 10, MARK I

(For one ·303-in. M.G. Mk. VI or IV and one ·5-in. M.G. Mk. V. Alternately two ·303-in. M.G. Mk. VI or IV can be used in this mounting in light tanks, Mk. V or VI).

1. Consisting of—cradle; gun slides; inner and outer mantlets; shutter; mounting lock; telescope holder; Mk. III brow pad; brow pad arm; dual gun protecting jacket; and spanner.

2. Detail.—Is a dual mounting, of free elevation type, arranged to give a maximum elevation and depression of 37 degrees and 10 degrees, respectively. In general design it is similar to the No. 9 M.G. mounting but differs from it in the following details:—

i. *Inner mantlet.*—The top and bottom bullet-proof plates are longer to suit the increased width of the mounting. No bullet-proof strip is provided on the top of the plate. The spanner chain is secured by a tab washer under one of the securing bolts in lieu of the screwed eye.

ii. *Cradle.*—Is a light alloy casting designed to accommodate two guns. It also differs from the cradle of the No. 9 mounting in that it has two gun openings and, at the rear, two projecting platforms to which steel gun slides and recoil pins are fitted. Projections on the underside of the platforms are drilled for the belt box carrier. A clamping strip spring, arranged between the platforms, disengages either or both of the gun clamping strips, when the clamping strip screws are released for dismounting the gun or guns.

iii. *Outer mantlet.*—Has an elongated gun opening for the passage of two guns side by side. Two holes are provided for the ejection tubes of the guns.

iv. *Gun protecting jacket.*—Is designed to cover both guns. It is built up of upper and lower parts and a front

plate riveted together, all being of bullet-proof steel. A bronze casting, shaped to form seatings for the rubber joint rings of the guns, is riveted to the interior of the jacket at the front end immediately behind the front plate. The lower part of the jacket has two downward projections for deflecting cartridge cases. The front plate is drilled for the muzzle-attachments of ·303-in. M.Gs. and the holes are threaded to take the Mk. I B.P. flash eliminator when ·5-in. M.Gs. are used; a curved bullet-proof hood is riveted above each hole.

v. *Telescope holder.*—Differs only from that on the No. 9 in that the slotted lug for the brow pad arm is at the rear end.

vi. *Mounting lock.*—Has a longer operating handle and a longer spindle.

vii. *Brake.*—None is fitted.

NOTES.—1. A splash angle bracket will be fitted to the outer mantlet at the top, on all No. 10 mountings.

2. Lubricators are fitted to the cradle on the underside, for the lubrication of the recoil pins, on all No. 10 mountings.

3. The telescope shutter will be omitted in the future manufacture of No. 10 mountings.

19. ELIMINATORS, FLASH, B.P. MARK I

(With lock washer)

(For use on Nos. 9 and 10 M.G. mountings with ·5-in. Vickers M.G.)

The flash eliminator is made of bullet-proof steel for use when ·5-in. Vickers M.Gs. Mks. IV and V, are used in Nos. 9 or 10 mountings. It is of conical shape and is threaded at the rear end for assembly to the front of the gun protecting jacket of the mounting; in front of the threaded portion is an interrupted flange. A tabbed washer is provided for locking the eliminator when it is screwed home in the mounting, the tabbed portion of the washer being turned over into one of the interruptions of the flange of the eliminator and a part of the rim being punched into a groove in the front face of the jacket.

By Command of the Army Council,

H. J. Creedy

THE WAR OFFICE,
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