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SUBJECT: Fixed Mounts for Tank and Anti-Tank Guns
Section I - 5 cm KwK 39/1 on Pedestal Mount
Section II - 7.5 cm Pak 40 on Pedestal Mount
Section III - 8.8 cm Pak 43/3 on Pedestal Mount
Section IV - 8.8 cm Pak 43/3 on Cruciform Platform

GENERAL:

In the German defenses west of the Rhine River, a variety of fixed mounts for tank and antitank guns were encountered. In general, the Germans emplaced the weapons according to the area defended, the larger caliber weapons (7.5 cm Pak 40 and 8.8 cm Pak 43/3) being emplaced in flat terrain where their greater range could be utilized and the smaller caliber weapon (5 cm KwK 39/1) being emplaced in slightly hilly terrain.

Some of the mounts appear to be crudely designed, and their use may have been necessitated by a shortage of gun carriages and self-propelled chassis.

SECTION I

5 cm (1.97 in.) KwK 39/1 on Pedestal Mount

Observations by: Lt. M. S. Hochmuth, Ord. Tech. Intell. Team No. 1

1. THE GUN:

The gun is the normal 5 cm KwK 39/1 fitted with a new muzzle brake (Photo 1). It is normally mounted in an 8-wheeled armored car.

The muzzle brake is cylindrical in shape, with holes drilled at an angle on each side to divert the propellant gases sideward and rearward (Photo 1).

The standard breech mechanism, which is of the vertical sliding wedge type, and the electric firing mechanism have been retained (Photo 3).

2. THE MOUNT:

The mount consists of two sections, the lower mount and the upper mount.

The lower mount is constructed of a flat octagonal plate to which four vertical plates are welded. The vertical plates support the round bar pedestal. (Photo 2). The lower mount is bolted to a wooden platform.

The upper mount is constructed of two vertical plates and two horizontal plates which form a framework that is braced with channel iron (Photo 2)

The pedestal fits through holes in the horizontal plates, which act as bearing surfaces for the pedestal when the gun is traversed (Photo 2).

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3. ELEVATION AND TRAVERSE:

The elevating mechanism is of extremely simple construction, consisting of a screw and nut arrangement on the left side of the mount (Photo 3). The elevating lever is welded to the bottom of the elevating screw (Photo 3). Elevation is from -10° to $+10^{\circ}$.

No traversing mechanism is fitted. Traverse is obtained by rotating the gun and mount about the pedestal by exerting force on the elevating lever. No means of locking the gun is provided, and the gunner must steady the gun and mount while firing by use of the elevating lever. Traverse of 360° is obtained.

4. SIGHTING MECHANISM:

A telescope mount for a straight tube telescope is attached to a bracket which extends from the left side of the upper mount (Photo 3). The range drum is graduated for HE and AP ammunition.

5. SHIELD:

A protective shield is provided only on the left side of the mount. A hole is cut in it to allow for the line of sight (Photos 2 and 3).



Photo No. 1
Right rear view
showing upper and
lower mounts. Note
octagonal
jacket and channel
iron supporting
trunnion.



Photo No. 2
Left front view.
Note simple shield
and vertical plates
supporting
pedestal. Recoil
and recuperator
cylinders are
mounted above the
tube.



Photo No. 3.
Rear view with
breech open. Note
elevating screw on
left and electric
firing circuit.
Firing plunger
is on bracket to
right of elevating
shaft.

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SECTION II

7.5 cm (2.95 in.) Pak 40 on Pedestal Mount

Observations by: Maj. F. G. Wilson and Pvt. J. E. Corbett, Ord. Tech. Intell.
Team No. 9.

1. THE GUN AND CRADLE:

The standard 7.5 cm Pak 40 gun, recoil mechanism and cradle have been retained.

2. THE "FALSE" CRADLE:

A trough-shaped "false" cradle is bolted to the normal cradle (Photo 4). This "false" cradle contains the trunnions pins which are supported by the top carriage. (Photo 4).

3. THE MOUNT:

The top carriage is connected to the base at the front (Photo 6). Two traversing rollers at the rear, under pressure of Belleville springs, bear on the traversing slide, which is located on the upper side of the base (Photo 6). The rollers facilitate traverse and transmit the force of recoil from the carriage to the base.

Two pneumatic equilibrators are linked to the trunnion shaft. (Photo 5). The pressure in each equilibrator is 45 atmospheres (661 p.s.i.).

4. ELEVATION AND TRAVERSE:

The elevating handwheel is of larger diameter than that used with the 7.5 cm Pak 40 split trail carriage. It is mounted on the left side of the top carriage. (Photo 5). The firing plunger is in the center of the handwheel. (Photo 5).

The elevating pinion shaft is fitted with two pinions. (Photo 5). There is only one elevating arc, however. This is mounted on the right side of the "false" cradle. This feature, together with the necessity of the "false" cradle, suggests that the mount is designed for use with other guns as well with the 7.5 cm Pak 40.

Elevation is from -11° to 14° .

The traversing handwheel is also larger than that used with the normal Pak 40. It is located on the left side of the top carriage. (Photo 7). The traversing arc is on the upper side of the base. An azimuth scale and traversing stops are fastened to the base. The field of traverse is 60° (30° right and left of center).

5. THE SIGHTING EQUIPMENT:

A sight mount for use with a direct sighting telescope is mounted on the left trunnion. A range drum and elevation scale are fitted to the mount, and an azimuth adjustment and scale are fitted to the rear of the sight mount. (Photo 7).

The elevation and range scales are graduated for use with HE., A.P.C., and A.P. 40 ammunition.



Photo No. 4.
Top rear view of equipment.
Note "false" cradle and method
of mounting gun and cradle on
top carriage

Photo No. 5.
Left front view showing pintle bolt,
equilibrators and mount. Note
elevating handwheel and firing
plunger. Elevating shaft with only
one elevating arc and two pinions
is below cradle.



Photo No. 6.
Right rear view showing method
of attaching "false" cradle to
normal cradle. Traverse roller
assemblies are on either side
of hollow tube on top carriage.
Azimuth scale is to the rear of
top carriage.

Photo No. 7.
Left rear view showing traversing and
elevating handwheels and on-carriage
sighting equipment. Wheel at rear of
sight mount is for azimuth adjustments.
Vertical scale on top carriage is
elevation indicator.



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SECTION III

8.8 cm (3.46 in.) Pak 43/3 on Pedestal Mount

Observations by: Maj. F. G. Wilson and Pvt. J. E. Corbett, Ord. Tech. Intell.
Team No. 9, and Capt. L. M. Darrow, Ord. Tech. Intell.
Team No. 1.

1. THE GUN AND TOP CARRIAGE:

The gun and top carriage are those normally mounted in the self-propelled "Jagdpanther" chassis. Both the early type of gun with the monobloc tube and the later type with the sectional monobloc tube have been found on pedestal mounts.

The gun mantlet has been retained on the gun tube to maintain the balance of the weapon. (Photo 8).

2. THE PEDESTAL AND BASE RING:

The top carriage is connected to the pedestal by a pinion at the front. A rebound clip is fixed to the rear of the pedestal. (Photo 9). The inside surface of the rebound clip forms a bearing surface for the top carriage in traverse. (Photo 10).

The front of the pedestal is fitted with a leather "shoe" which contacts the top of the base ring and acts as an anti-friction device when the pedestal is traversed about the base ring. (Photo 10),

The pedestal is connected to the base ring by means of a pintle which projects upward from the center of the base ring. Two "C" clamps fix the pedestal to the base ring at the rear. (Photo 9).

3. TRAVERSE:

For controlled traverse, the normal traversing mechanism is retained. The traversing handwheel is on the left. The traversing mechanism is of the nut and screw type, the traversing screw traveling through a nut which is secured to the pedestal by a knuckle. Stops at each end of the pedestal bearing surface limit traverse to 20° each side of center.

In order to obtain 360° traverse, the two "C" clamps at the rear of the pedestal are released, and the pedestal and top carriage are rotated about the base ring by manual pressure on convenient parts of the carriage.

4. ELEVATION:

The elevating handwheel is on the right. The elevating mechanism is of the screw and nut type, and is enclosed within a dust cover. (Photo 9). Limits of elevation are -2° and 12°.

5. THE SIGHTING EQUIPMENT:

The sight bracket is the Z.E. 37 and will accommodate either the direct sight Sfl. Z.F. 1a or a panoramic sight for indirect fire. (Photo 11).



Photo No. 8.
Right side view of weapon.
Note gun mantlet which has
been retained to maintain
the balance of the piece.



Photo No. 9.
Right rear view showing elevating
mechanism enclosed in dust cover,
and rebound clip at rear of pedestal.
Note "C" clamps which secure pedestal
to base ring.



Photo No. 10
Right front view showing leather
"shoe" at front of pedestal and
concrete base into which base
ring is set.
Note bearing surface of rebound
clip at rear of pedestal.



Photo No. 11.
View of sighting equipment (minus
telescope).
Traversing handwheel is at bottom
of photograph.

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SECTION IV

8.8 cm Pak 43/3 on Cruciform Platform

Observations by: Lt. J. F. Eppes and Pfc. W. Wilcock Ord. Tech. Intell.
Team No. 3.

1. GENERAL:

This model of the 8.8 cm Pak 43/3 differs from that described in Section III in two respects:

a. The gun mantlet has been removed, and a counterweight has been fitted to the tube.

b. Instead of utilizing a concrete base into which the base ring is set, the weapon has been mounted on a cruciform platform. Mounting the weapon in this manner eliminates the necessity of digging a deep pit and also enables the equipment to be moved from one gun site to another.

2. THE COUNTERWEIGHT:

The counterweight, which weighs approximately two hundred pounds, is located directly behind the muzzle brake. (Photo 12). It is fixed to the tube by three locking screws.

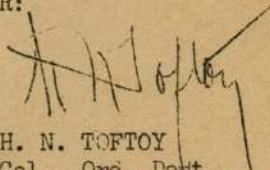
3. THE CRUCIFORM PLATFORM:

The cruciform platform consists of four outriggers to which the base ring is secured. (Photo 13).

The outrigger consists of rectangular girders. (Photo 13). Stakes are driven through the end of each outrigger to anchor the mounting.

The base ring is bolted to the cruciform platform. Traverse is accomplished in the same manner as for the Pak 43/3 mounting described in Section III.

FOR THE CHIEF ORDNANCE OFFICER:


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Incl::

Appendixes for Sections I thru IV

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Photo No. 12
View of counterweight at muzzle end of tube. Note
position in relation to muzzle brake.



Photo No. 13
Left rear view showing cruciform platform. Note
that outriggers are not hinged.

Appendix Section IV

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