

TRANSLATION OF
GERMAN DOCUMENT.1ST BATTALION,
395TH INF. REGT.

10.9.17.

THE EMPLOYMENT OF MACHINE
GUNS IN TRENCH WARFARE.

1. In trench warfare, machine guns must maintain a methodical and intense harassing fire by day, and particularly by night, on the hostile trenches, communication trenches and lines of approach. The machine guns detailed for harassing fire, together with their targets, and those detailed for anti-aircraft work must always be specially marked on the machine gun sketch-plans, after the division moves into the line.

2. The engagement of the enemy's infantry aeroplanes (by machine guns) will be organized on the following principles:—

(a) Regiments will detail a portion of the machine guns in the defensive zone for anti-aircraft defence during the opening stages of the battle until the commencement of the infantry battle.

The remainder of the machine guns will keep under cover on the appearance of the enemy's infantry aeroplanes (contact patrols).

(b) When the infantry battle commences, all machine guns not required for repelling the enemy's infantry assault will open fire on the aeroplanes which are attacking our infantry.

3. Instructions for the engagement of the enemy's infantry aeroplanes (up to a height of 1,000 metres).

Case (a).

(i.) The aeroplane is flying in a direct or approximately direct line towards the observer.

(ii.) The aeroplane is flying nearly straight overhead, away from the observer.

In both cases, fire should be opened by machine guns and by the infantry also.

When the aeroplane is approaching, fire will be taken straight at it.

When the aeroplane is flying away, fire will be taken below the aeroplane, up to a range of 1,000 metres, and directly at it, above that range.

Machine guns will not open searching fire on an approaching aeroplane, but will do so (3 graduations) when the aeroplane is flying away.

If the aeroplane is not approaching directly in the line of fire, the direction of its flight should be traversed with fire to a width of 50 metres.

Sights should be set as follows:—

Height of Aeroplane.	Aeroplane approaching.	Aeroplane flying away.
Metres.	Sights at, Metres.	Sights at, Metres.
100 — 400	1,400 — 1,700	400
400 — 700	1,700 — 2,000	400
700 — 1,000	1,900 — 2,000	400

Aeroplanes flying at a height exceeding 1,000 metres should not be fired on. Fire will be opened at about 2,000 metres range. Sights once set will not be altered so long as the aeroplane remains at the same height. Variation of range does not entail a corresponding modification of the sighting.

Case (b).

If the aeroplane is flying across the front or obliquely to a flank, it will be engaged by machine guns only.

Aim will be taken, on principle, in front of the aeroplane, in the direction in which it is flying.

In order to keep the aeroplane as long as possible within the zone of dispersion of the bullets, machine guns will both employ searching fire (*Tiefenfeuer*), and will alter the point of aim from one of minimum "lead" (in which the cone of dispersion certainly lies behind the aeroplane) to one of maximum "lead" (in which the cone of dispersion certainly lies ahead of the aeroplane).

This traverse will be made slightly faster than the speed of the aeroplane.

As soon as the point of aim of maximum "lead" is reached, fire will cease, and will be opened again at the point of aim of minimum "lead."

TABLE SHOWING SETTING OF SIGHTS AND AMOUNT OF "LEAD."

Range.	Angle of Sight.	Sights set at	Minimum "lead" and maximum "lead."	Searching fire.
Metres.		Metres.	Aeroplane lengths.	Graduations.
100- 600		600	2- 5	3
600-1000	below 45°	900	5-11	3
	above 45°	650		
1000-1300	below 45°	1200	8-16	3
	above 45°	850		

The length of an aeroplane length is taken as being about 8 metres, and the velocity 160 km. per hour (100 m.p.h.).

4. The gun captains of detached machine guns, who are left to themselves in the open, must be provided with exact instructions which contain the following points:—

In the order book:—

- Habits of the enemy.
- The main task of the machine gun, with exact orders when fire is to be opened.
- The points at which stores have been established of R. and armour-piercing ammunition in belts or loose, hand grenades, light-pistols, belt fillers, and portable wire entanglements.
- The arrangements for the supply of ammunition during the fighting.
- The points to be held by the infantry attached to the gun.
- When the gun ought to be in position, and where it must be kept when not in position.

On a sketch-plan:—

- The position of the machine gun and of the machine guns in the neighbourhood.
- The sectors of the field of fire.
- The position of the trenches.
- Ranges.
- The positions of the platoon and company commanders' posts and the ammunition depot.
- The nearest telephone and lamp signalling station.

The machine gun captains in the position should be given small schemes to solve, so that during the fighting they cannot be surprised by any situation which may arise.

When machine gun teams are relieved, with every '08 pattern machine gun a competent man should be left for 24 hours longer in the position. His duty is to instruct the new garrison.

5. Owing to the fact that the troops are equipped with a larger number of machine guns, regiments are now better able than was previously the case to employ their '08 machine guns by sections. The employment of machine guns by sections has the greatest advantages compared with the employment of single guns as detached machine guns.

The team of a detached machine gun often feel as if they had been left in the lurch in an attack, especially if the enemy is advancing from several directions. In future, therefore, where the employment of single detached guns cannot be avoided, 4 to 6 infantrymen should be invariably attached to the gun, as has already been ordered. These will not only take over the defence of the flanks, but are also intended to stiffen the *moral* of the garrison and prevent them from feeling isolated.

The employment of machine guns by sections should be the rule. The guns can then mutually support one another, and combine their fire on a particular area, or fire in two different directions. In a critical situation which lasts for days, the gun teams can obtain the necessary rest in turn, and casualties can be made good. In case one gun is put out of action, the other is able to continue the defence.

To transform machine guns employed by sections into real centres of resistance, by which we hope to repulse with certainty even the strongest hostile attacks, and to ensure that they will be able to hold out, even when cut off, until the counter-attacks delivered from the rear destroy the enemy or at least drive him back, it is necessary that they should be equipped for long continued fighting. Iron rations, soda water and, especially, enough ammunition—not necessarily in belts—belt fillers, spare locks, spare barrels, water for cooling purposes, etc., should, therefore, be stored in the positions. The guns and gun teams of such sections should never be posted in the same dug-out or shell hole, so that the whole section may not be put out of action by one direct hit; they should be separated, but close enough to one another to form one battle unit under a single command. The greatest importance must be attached to the fact that the command of a machine gun section is in one officer's hands.

Although detached machine guns in their positions are regarded as emergency garrisons, and are, therefore, not to leave their positions (except to occupy alternative positions close by, which have been laid down beforehand) even if the enemy has pushed forward beyond them, the situation during an attack changes so quickly, and in so many different ways, that it cannot be appreciated by the gun captain, who is engaged in serving the gun. It is, therefore, absolutely essential that there should be a section commander with every section, that is to say, with *every pair* of guns which are employed as a unit. He must be an energetic man, capable of quick decisions, and of thinking tactically, and possessing the necessary authority. *I therefore give orders that the section commander must always be with his machine gun section.*

It is the duty of the regiment to see that the right individuals are appointed to the position of section commander. The most careful selection must be made. The most efficient individuals are only just good enough to be machine gun section commanders. It is absolutely essential to appoint probationary officers to machine gun companies in good time, as well as to continue their instruction in special courses behind the front. Reports must be sent in by the 8th September that the above orders have been carried out.

The *Einjährigen* detailed at present for the course for probationary officers will be trained at the machine gun school in the use of both the '08 and '08/'15 pattern machine guns. In case it is desired that other *Einjährigen* or probationary officers should be trained in the use of the '08 pattern machine gun, in view of their transfer to the machine gun companies, the applications from the regiments should be collected by the brigade and sent in to the division. The necessary instructions will then be given to the machine gun school.

So long as the supply of officers and warrant officers is insufficient to fill all the vacancies for section commanders, these will be filled by energetic and competent senior non-commissioned officers. A list of the names of section commanders is also to be furnished by the brigade by the 8th September. The machine gun marksman section will also furnish a similar list to the division by the same date.

I have satisfied myself that the steps which I wish to see taken have not yet been carried out in the case of some machine guns of the 19th Res. Inf. Regt. and the machine gun marksman sections attached to it, thus:—

(a) The principle, that a machine gun should not open fire until the enemy has passed the machine gun which lies in front of it, has not yet been adopted. In some cases, also, the machine gun captains were not in a position to act on this general principle, as they had not the least idea where the machine guns in front of them were sited.

(b) The sketch plans in existence were for the most part inadequate. They did not show the neighbouring machine guns and their principal field of fire. In practice, it is useful to prepare a sketch plan which can be hung up in the position, showing the method of co-operation of the neighbouring machine guns, so that the gun team can get the information from it.

(c) It is very important that the company commanders should spend a considerable time with their sections, and should discuss with them the different possibilities of the enemy's advance over the ground, with special reference to the sketch plan.

(d) Alternative positions were not marked out on the ground, and therefore their positions were not accurately known.

(e) I must once more point out that, whenever a gun team is relieved, one man must be left behind 24 hours in the position to instruct the new team, except in cases where gun teams have already been once in the position.

(f) In the case of anti-aircraft machine guns, the back-sight attachment for use in conjunction with the circular sight must always be fixed on the gun. In order that this attachment may be quickly removed, the screw at the top of the leaf of the back-sight should be removed. In the case of machine guns which have to be removed quickly from the anti-aircraft stand in order to fire from the ground, the auxiliary mounting as adapted by Lieut. Braun's 77th Machine Gun Marksman Section should be used.

The brigade will report as soon as each machine gun company has been equipped with 4 mountings of this pattern.

(g) Machine gun teams were still quite insufficiently equipped with hand grenades. Each man should be provided with ten hand grenades, in two bags containing five each. The brigade and machine gun marksman detachment will report by the 8th September that this order has been carried out.

I request that the men be instructed frequently in these orders. I must once more call particular attention to the personal letter from the division which was sent to the machine gun companies a few days ago.

(Signed) BREITHAUP.

GENERAL STAFF (INTELLIGENCE),
ADVANCED GENERAL HEADQUARTERS.

27th October, 1917.