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**GERMAN INSTRUCTIONS
FOR THE EMPLOYMENT
OF FLAME PROJECTORS.**

Issued by the
CHIEF OF THE GENERAL STAFF OF THE FIELD ARMY.
12th December, 1915.

ISSUED BY
GENERAL STAFF (INTELLIGENCE),
GENERAL HEADQUARTERS.
10th December, 1916.

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(Translation of a German Document.)

CHIEF OF GENERAL STAFF OF THE FIELD ARMY.
No. 17791 op.

12/12/15.

SECRET.—NOT TO BE TAKEN INTO THE FRONT LINE.

INSTRUCTIONS FOR THE EMPLOYMENT OF FLAME PROJECTORS.

A.—Troops and Equipment.

1. Flame projectors (*Flammenwerfer*) are a new weapon for trench warfare. The 3rd Guard Pioneer Battalion (6 Coys.) has been equipped with them and trained in their use. They are under the command of General Headquarters, and will be placed at the disposal, as a unit or by sections, of particular formations for a particular purpose, when they will, for the time being, be entirely under the orders of the responsible Commander, who, after consulting with the Flame Projector Commander and taking the limitations of the weapon into consideration, will give the tactical orders for the assault. The responsibility for their technical employment rests entirely with the Flame Projector Commander.

2. Each company of the 3rd Guard Pioneer Battalion is equipped with 20 to 22 large flame projectors (range of jet 33-44 yards). They will be built into sapheads, advanced galleries, or the front line position. In addition, each company has 18 small flame projectors (range of jet 16-19 yards). These are easily portable and will be carried on the back.

B.—Capabilities of Flame Projectors.

3. During a flame attack each large flame projector (built in at about 27 yards distance from the enemy's trench), will cover the enemy's foremost trenches with flames on a front of about 55 yards. The enemy in these trenches will either be destroyed or driven off, or if he happens to be in deep dug-outs will have his *moral* so shaken that he will allow himself to be captured without resistance. Machine guns, even if provided with overhead cover or in blockhouses, are put out of action by directing the flames against the loopholes. The flame attack lasts about one minute.

4. The front covered by a company of the 3rd Guard Pioneer Battalion is about 1100 to 1640 yards. The effect, physical and moral, of such a flame attack on the enemy is very great.

5. The assault will be made by infantry and pioneers immediately after the flame attack. Detachments with small flame projectors will accompany the assaulting troops in order to overcome any resistance which may be offered by blockhouses, etc., and also to spread the fear of the flames to the enemy's rearward positions. Many successive positions can often be taken by assault at the same time.

6. The small portable flame projectors may also often be employed with advantage in combination with bombers in making progress in the enemy's trenches, and for flank attacks on portions of trench, etc.

C.—Necessary Conditions for Flame Attacks.

7. For large flame projectors, trenches, sapheads and galleries must have been pushed forward to within 27 yards at least of the enemy's position at several points, or there must be a prospect that they will be able to approach so near within the next few days.

8. For small flame projectors, the portions of trench referred to in para. 6 must be approached under the cover of trenches or saps.

9. In both cases (paras. 7 and 8) an accurate previous reconnaissance of the points at which the flame projectors are to be employed, and of the approaches to them is absolutely essential. This must be made by the officers of the Flame Projector Battalion. The reconnaissance, transport of the apparatus and other preparations take, as a rule, several days. The building in of the large flame projectors requires 12 hours and can be done without the enemy becoming aware of it.

10. The direction of the wind has very little influence on the effect of a flame attack. A postponement of an attack will become necessary only if there is a very strong head wind.

D.—Tactical Employment of the Flame Projector Detachment.

11. Flame projectors must be used offensively. It is forbidden to build flame projectors in as defensive weapons in the foremost lines. Small flame projectors may be used, however, to drive off counter-attacks against positions, the capture of which has been facilitated by a flame attack, until such positions have been consolidated. For technical reasons they cease to be effective after about 48 hours. In other special, and quite exceptional, cases, when it is proposed to use them defensively, the Commander of the Flame Projector Detachment should be consulted beforehand.

12. Flame attacks proper (*i.e.*, sudden attacks with a number of large flame projectors, without any special preparation by artillery and trench mortars) should be the usual method of employment. The assaulting troops (infantry, pioneers, and the small flame projectors) must advance *at once* (*i.e.*, 1 minute after the large flame projectors have come into action) and take every advantage of the panic caused in the enemy's ranks by the flame attack, with a view to capturing the 2nd and 3rd Line Positions. For the action of the artillery and trench mortars see para. 35.

13. If the Commander of the Flame Projector Detachment considers it safe to do so, one or more sections of the front to be attacked may be left untouched by the flames, between the areas covered by the individual large flame projectors which have been built in. The length of such sections may be 100 yards or even more.

14. The fact that the enemy is taken by surprise by the flame attack has much to do with making it a complete success. It is, therefore, of the highest importance that the enemy should not obtain information of the arrival of a Flame Projector Detachment in the Division, etc., or of the sector in which it is intended to employ it. It is consequently necessary that the word "*Flammenwerfer*" should never be mentioned during a conversation, when speaking over the telephone or in orders. A code word is to be used, such as "*Neue Minenwerfer*" or something similar. The Detachment will not be spoken of as "*Flammenwerfer*" Company, but as —th Company, 3rd Guard Pioneer Battalion.

E.—General Tactical Instructions.

15. When giving orders for an attack in which large flame projectors are to be employed, the following points based on previous experience should be considered:—

(i.)—Objective.

16. Exact instructions must be given *how far* the attack is to be *pushed* under the most favourable conditions. It has happened that our troops, taking advantage of the panic of the enemy, have carried the advance too far, thereby coming under our own artillery barrage.

17. In order to ensure secrecy as much as possible, it is advisable that the intended operation should be denominated by a code word (in writing or when using the telephone), such as "*Vortrag*," "*Vorführung*," "*Verhandlung*," (Lecture, production, negotiation).

(ii.)—Time of Attack.

18. As a rule, half an hour, or on dull days one hour *before sunset* is the most suitable time. Only in exceptional cases, when, in the course of the day, the destruction, by artillery or trench mortars, of the large flame projectors which are built in, appears to be fairly certain, may the attack be carried out in the early morning.

19. It is sometimes advisable that the day and hour should not be mentioned in the orders for the attack, but should temporarily be *kept secret*, and should be referred to as "X" and "Y." In later orders, which will be issued in writing only to Battalion, Artillery, and Group Commanders, and the Commanders of independent Companies, inclusive, the time should then be indicated, for instance, as follows: "X" equals 27th Nov. "Y" equals 3.20 p.m.

(iii.)—Assaulting Troops.

20. The carrying out of the preparations for the attack is often better done if the assault is not made by the troops occupying the trenches, but by a detachment which *has been kept in rest billets*. All troops which up to that time have been in the trenches will then retire to the 2nd Position shortly before the assault, and as soon as the attack by the assaulting party has begun, again move forward into the foremost trenches previously held by them, in order to hold a possible counter-stroke.

21. *The size of the assaulting force must not be too great. The calculation should be one (man ?) of the assaulting party to each metre of front. Each party must have a good Second in Command in addition to the Commander.*

22. The individual assaulting columns will be distributed in four successive waves, as follows:—

(a) **Assaulting Party**, which advances immediately after the flame attack and occupies the enemy's positions. In this party are included bombers, engineers (for the demolition of obstacles) and small flame projectors.

(b) **Consolidating Party** for the consolidation of the enemy's trenches.

(c) **Communication Trench Construction Party**, to construct communication trenches from the captured trenches to our previous foremost position.

(d) **Carrying Party**, which will take forward material for obstacles, especially knife-rests, sandbags, hand grenades and ammunition.

The attacking parties on the flanks will have several bombing parties and Small Flame Projector Detachments attached to them to assist them in clearing the trenches from the flanks.

23. Assaulting Detachments and Consolidating Parties will take up positions in the saps or in the front line trenches; Communication Trench and Carrier Parties will be ready behind them in the communication trenches. The stationing of troops in readiness will of course depend upon the existing system of saps, and will sometimes necessitate previous reconstruction of this system.

24. The division of the assaulting columns into these parties is best carried out well behind the front. If no other troops are to be employed except those manning the trenches, it is advisable to relieve them, for a short period at least, from the foremost trenches for the purpose of preparation and organization. The troops will march up to their positions in the line in the order detailed for the assault.

(iv.)—Preparations for the Assault.

25. Special preparations must be made in order that the assaulting troops can mount the parapet rapidly. *Short ladders* with one pole about 1 metre longer than the other are the most useful means. These should be made previously in the Engineer Parks. One ladder is required for every 3-4 men of the Assaulting Party. When being taken up to the front line they must be carried horizontally. They must not be placed in position in the trenches until the commencement of the flame attack.

26. All necessary *material*, such as hand grenades, loophole plates, sandbags, knife-rests, barbed wire, entrenching tools, and light-pistols with ammunition must be kept in readiness either in the communication trench depots or with the assaulting columns.

27. *Communication trenches and approaches* must be divided up and *allotted* to the assaulting columns and reserves. Communication trenches, saps, etc., will be distinctly marked with numbers, letters, or names.

28. Should other troops than those holding the trenches be employed for the assault, their officers and N.C.O.s must carry out a thorough *reconnaissance* of their trenches in the early dawn and during the day. No unusual movement, however, must take place in the trenches and there must be no loud talking.

29. The advance of the assaulting troops into the front line trenches and the relief of the troops in the trenches must be carried out in *complete silence*. No talking is to be allowed. Unnecessary crowding together should be avoided. *Bayonets* will be fixed behind the lines and not in the front line. Rifles must be carried at the trail as far as possible.

(v.)—The Assault in conjunction with a Flame Attack.

30. Charges (long or concentrated), to create gaps in our own *obstacles*, will be exploded by the engineers at the earliest 15 minutes *before* the flame attack, and this work must be completed 10 minutes before the flame attack. It will often be found sufficient if, on the night previous to the attack, the engineers cut the wire which connects the knife-rests in front of the foremost trenches. This must be done without attracting attention, the knife-rests being left in their original position until the troops are ready to attack, *i.e.*, immediately after the flame attack, when the engineers will precede the assaulting force, swinging the knife-rests round lengthways at right angles to the parapet.

Engineers will also hurry forward and make gaps in the *enemy's wire* should these not have been made previously, by trench mortars or engineer detachments. Obstacles which are not too strong can very often be easily crossed by the assaulting troops, as after a flame attack the enemy fires very little or not at all.

31. The duration of the *flame attack* is only one minute. The signal for it is given by a siren whistle, or at a given time, watches having been previously synchronized. The *assaulting troops* must be *instructed* that they have nothing to fear from the flames and smoke, nor need they fear that they may themselves be caught by the fire jet, as this is cut off by simply turning a tap previous to their advance. They must understand that they can advance immediately after the cessation of the spray without danger, as small bursts of flame on the ground or in the enemy's trenches will burn out at once, and a little fire on the ground is at once extinguished when trodden upon. It is most important to impress upon the troops that the assault is much facilitated by the use of the flame projector, as it has been proved by experience that the enemy fires very little or not at all after a flame attack.

32. The *assault* is made immediately after the flame attack. The *Assaulting Party* charges, followed closely by the *Consolidating Party*. The small flame projectors allotted to the Assaulting Party attack any machine guns that are still in action, blockhouses that are still being defended, etc., with short spurts of fire. They are at the disposal of the Commander of Assaulting Party for this purpose.

It is of the highest importance to drive out the enemy simultaneously to a considerable distance on both flanks by means of bombing and flame projector detachments (*see para. 22*), and to construct sandbag barricades at these points. Communication trenches which lead into the captured position must also be cleared for a certain distance and blocked by constructing sandbag barricades about 27 yards forward of the position won.

The action of the *Communication Trench Construction Party* will commence immediately after the nearest enemy position has been taken. Material is brought up as soon as possible by the *Carrier Party*, which will continue to bring up fresh material from the rear as required. Carrier Parties can at times on their return journey also take charge of prisoners as far as the point at which the reserves are situated in rear.

It is especially important to bring up and dig in machine guns immediately.

33. It may be of advantage to order a *password* for our attacking troops, especially if several successive positions are to be taken, and in the twilight of dull days. Words which the enemy would find it difficult to pronounce are particularly suitable, such as "*Schweineschmalz*," "*Stiefelwichse*," etc.

(vi.)—Action of the Artillery and Trench Mortars.

34. In a *flame attack pure and simple*, which is generally to be preferred (see para. 12), the action of the artillery and trench mortars will not commence until about one minute after the projection of the flames, when the more retired positions, which it is not intended to take, should be shelled. Barrage fire will be opened on the ground behind these positions and on the communication trenches, etc.

35. Should it be impossible, in exceptional circumstances, to dispense with previous *preparation by the artillery and trench mortars*, only the enemy's rear positions and not his foremost position are to be shelled. It does not matter if this results in the enemy pressing forward into the positions nearest to us in order to obtain shelter, thereby reinforcing the garrison. It must, however, always be borne in mind that by artillery and trench mortar preparation, the enemy is warned of an imminent attack, and is thus enabled to take precautionary measures.

36. In most cases, however, it is advisable to request the *Divisions on the right and left* to open with artillery on the enemy's rear positions behind the front which it is intended to capture. Registration must be carried out so as not to attract attention.

37. As a rule it is advisable to detail a *special Artillery Group* to repulse hostile counter-attacks. Its commander must take up his position with the Commander of the attacking force and must arrange for special telephonic communication.

(vii.)—Forces on the Flanks of the Front of Attack.

38. The effect of a flame attack is sometimes felt to the right and left of the front which is covered with flame. Our troops which are posted on the flanks of the actual front of attack can sometimes, therefore, gain ground by a prompt advance in force. It is, consequently, necessary to keep under close observation the enemy's troops on the flanks of the front of attack, and, according to circumstances, either subject them to a heavy fire or attack them as well. Engineer detachments are to be posted in readiness for forming gaps through the obstacles, should this be necessary.

(viii.)—Equipment, Ammunition, and Rations.

The assaulting troops will wear "assault order." Each man will take his greatcoat, tent square, mess tin, full water bottle, 4 days' rations in his haversack, and, in addition, at least 200 rounds, 2 hand grenades and rifle with fixed bayonet.

The Consolidating Parties are similarly equipped, except that they sling their rifles (bayonets not fixed). Each man will carry a loophole plate, 50 sandbags and heavy entrenching tool.

Communication Trench and Carrier Parties will appear in their usual order of dress. Only the N.C.O.s will carry rifles. The men of the Communication Trench Party will each carry a heavy entrenching tool, 50 sandbags and at least 2 hand grenades.

(ix.)—Telephone Communications.

40. A number of infantry telephone lines will be laid from the captured position to the rear, immediately after the assault.

47. All lines leading to the Commander of the attacking force are to be used solely for service messages which concern the attack, so that he can bring his personal influence to bear upon every part of the front.

ADDITIONAL REMARKS BY XIV. RESERVE CORPS.

XIV. Res. Corps H.Q., Ia No. 629, Secret, dated 28.4.16.

On the 23.3.16 attention of the Divisions was called to the fact that information had been received from the Moritz listening apparatus as to practice by the British with flame projectors and lachrymatory bombs (Corps H.Q., Ia No. 451, Secret, dated 23.3.16). During the raid against the 99th Res. Inf. Regt. on the night of the 22nd-23rd April, 1916, lachrymatory bombs were employed. The enemy continues to practise with flame projectors behind his front. Moritz Listening Post No. 52 reports on such a practice for the 29th of this month. It is quite possible that the enemy intends shortly to use this weapon against us. Whether he will combine his flame attack with artillery fire is doubtful. It is not absolutely necessary.

The troops are to be instructed as to the special features of this new weapon (Corps H.Q., Ia. No. 1505, Secret, dated 19.12.15). Flame projectors which have been built in in the enemy's positions (see para. 2 of the above-mentioned order) must be destroyed as soon as possible by concentrated artillery fire. The small portable projectors constitute a danger to the enemy's own troops if the men carrying the apparatus are hit. Every effort must be made to do this.

(Sd.) v. STEIN.