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ADVICE ON MASTERING SMALL ARMS AND ROCKET LAUNCHERS

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Abstract: This book contains advice on training, material support, and methodology of conducting training sessions with soldiers and students, involving study of small arms and rocket launcher parts, their maintenance, protection under various conditions, and preparation for firing.

INTRODUCTION

Modern small arms and manual antitank rocket launchers have good combat characteristics: considerable effective fire distance, high firing rate, high accuracy. Small arms are usually automatic, have low weight and small size, and are reliable in combat.

The soldier of the Soviet Army is required to master the weapon entrusted to him, be thoroughly familiar with its construction, know how to care for it, and take well-aimed fire under all conditions and various combat situations.

The fundamental role in the mastery of the weapons by the soldiers falls to the sergeants, the immediate organizers and instructors of classes in mastery of the technical aspects of weapons. Perfect knowledge of the weapons by the sergeants themselves, their ability to expertly demonstrate the studied technique and to generate interest by the soldiers, their creativeness during the study and demonstration of various methods determine to a large degree the success of the study. In addition, the sergeant must not forget that study of a weapon presents rich possibilities for the military training of his subordinates. Here, he must point out the care taken

by the Communist Party and the Soviet Government in equipping our army with the most modern combat weapons and the selfless labor of the Soviet people who have placed in the hands of their protectors first-class weapons; he must tell of the famous designers of these weapons.

This pamphlet is intended to assist the sergeant in the preparation, organization, supply, and methodology of conducting training sessions on the technical aspects of weapons. However, the recommendations and advice given are not exhaustive but propose the creative work of the sergeants themselve , both in the process of preparing the sessions and during the course of them, their initiative, their ability to take into consideration the preparation of the soldiers, their individual abilities, etc. The degree of success in training the soldiers depends on the flexibility and completeness with which the sergeant considers the specific conditions and training of his unit.

GENERAL COMMENTS

Knowledge of the technical aspects of small arms and manual antitank rocket launchers is the basis for their skillful use in combat. Study of the technical aspects of a weapon has the goal of teaching the soldier how to carefully handle his weapon, maintain it under all conditions in full combat readiness, and ensures its operation without fail.

The general organizer and leader of training sessions in the technical aspects of a weapon in the platoon is the platoon commander. He may also in the course of his own sessions direct the studies of the technical aspects of the weapon in one of the units (groups) of the platoon. As a rule, the unit leaders - the sergeants - directly train the soldiers in the technical aspects of the weapon. They render the necessary assistance to the soldiers during practice sessions. When necessary experienced soldiers may also be drawn in for conducting classes in the technical aspects of a weapon in a unit (group) of the platoon.

The sergeants should know how to organize each session, ensure mastery of the technical aspects, and conduct them in a systematic way. During the sessions, the sergeant, having cultivated in the soldier love for the weapon entrusted to him, must also instill in his subordinates a sense of pride in the outstanding Soviet weapon and a desire to perfectly master it.

The first acquaintence of the new soldiers with the combat weapon occurs in a firing demonstration which takes place on the firing range. Here by practical firing are demonstrated the purpose and combat characteristics of various types of weapons, including small arms and rocket launchers: firing range, firing rate, penetrating ability of bullets (shells), accuracy of fire.

Study of the technical aspects of a weapon is carried out both in separately planned class sessions and in the course of complex field exercises in firing preparation where, in addition to mastering of techniques and rules of firing, techniques of throwing hand grenades, of observation and determination of distance, the technical aspects of the weapon are also studied.

In the first case one topic is usually studied during the sourse of a single session; in the second case one topic is covered during several sessions, since during each session the technical aspects of any given weapon are discussed only part of the time.

Furthermore, the soldiers must have practical training in stripping and assembly, cleaning and lubrication, storage and protection, avoidance of jamming during firing, weapon inspection, and preparation of the weapon for firing. These exercises must be performed constantly over the course of the entire service and training of the soldier: in classes

on various topics, while on guard, during cleaning and lubrication of the weapon, in practical firing, in studies both day and night.

Taking into consideration that motorized rifle platoons are equipped with modernized Kalashnikov submachine guns (AKM) and Kalashnikov light machine guns (RPK) which have similar mechanisms, as well as with dissimilar manual antitank rocket launchers (RPG), it is expedient to organize the training sessions for studying the technical aspects of the weapons in the platoon by units, forming a separate platoon group of rocket launcher personnel.

In such a training session organization, the unit commander has the opportunity to instruct the operators of both light and submachine guns of his unit. As has been shown in practice, this ensures the most responsible attitude of subordinates toward the task and their most solid mastery of the technical aspects of the weapons.

Training sessions with the rocket launcher group are carried out by the platoon commander or by one of the unit commanders. In the latter case, the sessions with the light and submachine gunners of this groups can be conducted by the most highly trained, experienced soldier.

In the initial period of training, when all of the new soldiers of the platoon study the technical aspects of

one basic type of small arms (submachine gun), classes are conducted by unit under the direction of their commanders.

In light machine gun units, where the training program for all soldiers is the same, study of the technical aspects of the sub- and light machine guns (PK) are carried out with all unit personnel under the direction of the unit commander.

The duration of the training sessions for studying the technical aspects of a weapon is: 1-2 hours for separate sessions and 30-50 min for complex field firing exercises. Depending on the content and training goal, the sessions may be conducted in the classroom, in the field, in the room where the weapons are stored and cleaned, or on the firing range.

The following methods are employed in training in the technical aspects of weapons: demonstration, explanation, lecture, exercise and training, and discussion.

The demonstration method is used when studying practical techniques (operations) with the weapon: stripping and assembly, cleaning and lubrication, inspection, preparation of the weapon for firing, etc. In this method the instructor first demonstrates the complete technique (operation) at a rapid speed without explanation. Then the technique (operation) is demonstrated step-by-step at a slow rate, accompanied by a brief explanation. The demonstrated technique is *then*

carried out by the soldiers: first, step-by-step, then in full at a slow rate, then in full at a rapid rate. The development of each practical technique (operation) with the weapon is accomplished when the soldiers have met the established and accepted norms.

Explanations and lectures are narrative expositions of the material under study. The lecture method has limited application in the study of the technical aspects of a weapon. It is used when giving the history of a particular type of weapon and examples of its use in combat.

In the explanatory method the essence of the phenomenon, process, or operation under study is discussed, giving arguments and evidence. This method is widely employed in the study of the technical aspects of weapons.

An exercise is a repetitious, deliberate performance by the soldiers of the studied technique (operation) with the weapon.

The basic form of the exercise method is conditioning. Conditioning is used after the soldier has mastered the practical technique (operation) for the purpose of making the technique automatic and developing practical habits in the soldier.

In a discussion, the soldiers, relying on their own knowledge, draw their own general conclusions on some question at the request of the instructor.

Discussion is a very active method of instruction, but it requires that the leader knows how to apply it. The discussion method is also used to test the soldiers on material studied previously in the introductory phase of the training and also on matters which were already discussed during the main part of the class.

The chief method of instructing soldiers during the study of the technical aspects of weapons consists of the personal model demonstration of the commander, accompanied by explanation, with subsequent exercise (conditioning) of the soldiers in work with the weapon.

In dealing with any given question, the commander employs not one but several instructional methods. For example, when studying the purpose and construction of the bolt, the sergeant first shows the bolt, then demonstrates and explains its function and interaction with the other parts of the weapon; he then demonstrates and explains the construction of the bolt and, finally, by discussion consolidates the knowledge gained by the soldiers. For each class the basic training methods are selected and indicated in the plan (plan-synopsis) of the class.

Study of the technical aspects of a weapon is usually done with a training weapon. If there is not a sufficient number of training weapons, combat weapons may also be used. In the latter case, however, excessive stripping and assembly, especially in full, must not be permitted. To show the

operation of the internal parts and mechanisms it is best to use a cutaway model of the weapon.

For best mastery of the problems under study, it is desirable that each soldier has a sample of the weapon, but it is also sufficient if there is one weapon for 2-3 students. In the latter case each soldier works with the technical aspects in turn.

In addition to the weapon, special stands are also widely used to demonstrate the working parts and mechanisms of the weapon, model trigger-and-firing mechanism, models demonstrating the principle of locking the bolt, dummy cartridges, ordinary and electrified diagrams, posters, and other training aids.

As has been shown in practice, the following sequence is the most expedient in studying the technical aspects of any type of weapon:

- purpose, combat characteristics, and general construction of the weapon;

- stripping and assembly of the weapon;

- purpose and construction of the separate parts and mechanisms of the weapon, accessories, and live cartridges;

- rules and procedures for cleaning and lubricating the weapon;

- rules for storing and protecting the weapon under various conditions;

- position of parts and mechanisms of the weapon before loading and their operation during loading and firing;

- typical malfunctions causing jamming during firing and methods for their elimination;

- procedure for inspecting the weapon under various conditions;

- procedure for preparing the weapon to fire;

- malfunctions disturbing the normal accuracy of fire;

- rules and procedure for checking the accuracy of fire and setting it to normal;

- procedure for conducting partial special treatment of the weapon.

Besides the indicated sequence, one may successfully employ several other procedures for weapon study which allow the soldier to immediately begin to acquire practical habits in cleaning and lubricating the weapon and its inspection, storage, and protection. In this case, after studying the purpose, combat characteristics, and overall construction of the weapon and its stripping and assembly, the rules and procedures for cleaning and lubricating the weapon and its daily inspection are developed, then the rules for storing and protecting the weapon under various conditions, and only after this the purpose and construction of the separate parts and mechanisms. Further study proceeds in the sequence described above.

Every training session in the technical aspects of the weapon should be carefully thought out and prepared.

When preparing for a session, the sergeants use data obtained in instructor-methodology classes and in briefings conducted by the platoon commander on the eve of each session. During the briefing, the platoon leader gives directives on organization of the session, procedure for conducting it, material supply, and distribution of training sites among the units (groups).

The following procedure may be recommended to the sergeant in preparing for a training session:

- understand the scheduled requirements and problems of the session and also the relationship of the problems of the given session with the material of other training sessions;

- study in depth the content of the thematic problems according to the manual with compulsory work on the technical aspects; during study of this material it is also necessary to plan (think out) the organization and procedure for carrying out material supply of the session;

- think over the session from all sides: plan the training problems for the session; scrutinize the test questions, training goal of the session, and material supply; select the method and technique for working out the separate questions of the session and the general method for

conducting the session as a whole; determine the distribution of time;

- become familiar with the methodology literature and material from periodicals available on the given subject of the session; when necessary, make changes improving the methodology of conducting the session;

- draw up a plan-synopsis or plan for conducting the session and submit it for approval of the platoon commander;

- prepare material before the session.

The principal guide when preparing to conduct a training session on the technical aspects of a weapon is the manual for the appropriate type of weapon. In addition, available methodology literature and also separate articles published in periodicals should be widely employed.

For each session the sergeant draws up a plan-synopsis or plan for conducting the session (appendices 1 and 2). Sergeants who have had little experience in training soldiers should draw up the more detailed plan-synopsis.

It must be kept in mind that one must not begin to draw up the plan-synopsis (plan) immediately after the class topic is known or even after the briefing by the platoon leader. Such a plan-synopsis (plan) will be just a formal document.

One should begin to draw up the plan-synopsis (plan) for conducting the training session only after an in-depth study by the manual of the contents of the session and detailed

thought, consideration of its contents, and also organization and procedure for carrying out supply of material.

The plan-synopsis and plan for conducting the session should be drawn up in a manner such that conduction of the session is facilitated. These documents should reflect the creative work of the sergeant the night before the session. They should indicate the chief method to be used in instructing the soldiers. Therefore, when drawing up a plan-synopsis, especially a plan for conducting a training session, one should not write in detail the contents from the manual of any given training question. One should rather indicate the sequence of its exposition and only in extreme cases indicate the consise contents of the question being treated

It is absolutely intolerable (although often done in practice by poorly prepared sergeants) in the absence of a good plan-synopsis to open the manual during the session and read articles from it with incidental, primitive explanations and demonstrations on the weapons. Such a session os of little use; in addition , such a sergeant will have no authority in the eyes of his subordinates.

All training sessions consist of three parts: introduction, body, and conclusion.

The introductory part of the session has the goal of preparing the students for learning the new material. The

length of the introduction may be 5-15 min, depending on the total length of the session. During the introduction the appearance and correctness of placement of the soldiers are checked, the weapons and dummy cartridges are inspected, control questioning is done, and the subject and goal of the session are explained.

The students should be arranged such that they can easily see all activities of the sergeant. For this purpose it is best to arrange the chairs in the class in a "U" shape; if there are few students, they may be situated in a row. Under field conditions, for convenience it is necessary to have an equipped site or small depressions in the ground for sitting Under these conditions, the weapon is placed on a groundcloth; a poncho, piece of plywood, and board may be used.

The control questioning is done for two purposes. It verifies the soldiers' degree of mastery of earlier studied questions and, at the same time, the new material is tied in with that developed earlier. In giving a test question one should allow the soldiers a little time to collect their thoughts and formulate the answer; only after this designate a soldier to answer the question. Do not interrupt. If the answer is incomplete or contains errors, one may ask another soldier. After two or three soldiers have answered the given

question, a brief critique is conducted and an appraisal is given. One should usually question those soldiers who are not progressing well.

The training goal of the session should be presented concisely and clearly and, most important, must be devinitely understood by each student.

The new material is studied in the body of the session. This part occupies most of the time of the session

In the course of studying the new material, the soldiers must not be limited to observing the activities of the sergeant. They should, as much as possible, work directly with the weapon: stripping and assembly, inspection, cleaning and lubrication, elimination of malfunctions which arise.

The soldiers should be guided and corrected during the practical work with the weapon. In this way, from the very beginning, they will be trained not in arbitrary but in correct and efficient operations with it.

The study of any given question in the session should be consolidated with questioning; at the end of the body of the session, if time is available, a quiz should cover all the material of the session. If the soldiers are unable to give a full and correct answer to a given question the subject must be explained again.

When presenting new material it is necessary to formulate the basic element on the mastery of which depends the soldiers' mastery of all the material of the session. Particular

attention must be given to presenting and consolidating this basic element.

In the conclusion of a session a critique is given and independent work is assigned.

This part of the session occupies no more than 3-5 min. The critique is carried out roughly in the following sequence:

- recall the goal of the session and show how it has been met;
- note the soldiers who have had good and poor results;
- point out typical errors (deficiencies) which showed up during the session and demonstrate ways of correcting them;
- comment on the discipline of the soldiers during the session.

Assignments for practice are given to an entire unit (group); when necessary, an individual assignment may be given, especially to a soldier who is not showing good progress.

METHODOLOGY OF STUDYING TECHNICAL ASPECTS OF WEAPON

1. Learning the Purpose, Combat Characteristics, and General Structure of Weapon

This session is conducted first after the demonstration firing which is organized for the purpose of acquainting the new soldiers with the purposes and combat characteristics of various types of small arms and other combat weapons. In the session the soldiers should first study the purpose and combat characteristics of the type of weapon assigned to them, then become familiar with the general structure of firearms, and in conclusion study the general structure of their own type of weapon.

In the session there should be a training weapon for the sergeant and one sample of the weapon for each student, dummy cartridges, and also a training poster showing the general structure of the weapon If a collective weapon is used one model should be available to each crew.

After examining the weapon and explaining the topic and goal of the session, the sergeant should point out that of all the types of weapons demonstrated on the firing range, the soldiers must definitely know that type of weapon, the

study of which is to begin the current session; this may be the submachine gun, light machine gun, rocket launcher, PK Kalashnikov machine gun, depending on which group is being trained.

It is then necessary to briefly relate the history of the creation of the studied type of weapon, its use in combat, and its superiority over similar weapons of foreign armies.

For example, when studying the submachine gun one should point out that it was created by the talented Soviet designer M. T. Kalashnikov, who was born in 1919 in Altai to a family of peasants. M. T. Kalashnikov is a former sergeant first class, tank commander, participant in the Great Patriotic War. The submachine gun was accepted into the armaments of the Soviet Army in 1949. In the course of its creation, the high achievements of Soviet technology were utilized and the experience of the Great Patriotic War was taken into account. The submachine gun is simple in structure and reliable in operation. This has been confirmed by numerous studies and field firings.

In 1959 the submachine gun was improved in design and received the name "modernized Kalashnikov submachine gun" (AKM). With respect to combat characteristics the submachine gun yields little to the light machine gun designed by the same Kalashnikov (RPK) and has no equal among the weapons of foreign armies.

To corroborate this we may compare the Soviet machine gun with, for example, the American 11.43 mm submachine gun or the British 9 mm submachine gun. The sighting range of the American weapon is 90 m, of the British 180 m, and of ours 1000 m. The initial velocity of the bullets from the American submachine gun is 275 m/sec, while from the Soviet weapon it is 715 m/sec.

Besides the submachine gun and light machine gun, M. T. Kalashnikov developed yet another machine gun which was accepted for the armaments under the name "Kalashnikov machine gun (PK)".

The Communist Party and the Soviet Government, in high appreciation of the service to the Motherland rendered by the renowned designer M. T. Kalashnikov, awarded him the titles Hero of Socialist Labor and Lenin and State Prize Laureate; he has been decorated with the orders and medals of the Soviet Union.

In conclusion, the sergeant should call on the soldiers to keep the combat weapon entrusted to him as the apple of his eye and exert all his strength and skill in order to master it in perfection.

After this introduction study is begun on the first study topic: the purpose and combat characteristics of the weapon.

In studying the purpose of any given type of weapon with the soldiers it is necessary to strive for a deliberate

understanding by them of the pu poses of the various types of small arms and manual antitank rocket launchers. One should explain that the submachine gun is intended for liquidation of enemy personnel, for which its fire is most effective at distances up to 400 m, and also for delivery of fire to descending aircraft (helicopters) and parachutists at distances up to 500 m. Sighting range of fire from the submachine gun is 1000 m.

The light machine gun is a more powerful device than the submachine gun. Its firing is carried out with the use of a bipod. The light machine gun serves for hitting not only personnel but also enemy fire weapons. The fire from the light machine gun is most effective at distances up to 800 m for ground targets; for aircraft (helicopters) and parachutists, fire is delivered up to 500 m, the same as for the submachine gun. The sighting range of fire from the light machine gun is 1000 m

The PK machine gun is the most powerful type of small arms; it is intended for liquidation of enemy personnel and fire weapons To deliver fire from it a rifle cartridge is used which is more powerful than the cartridges of the 1943 model used in the sub- and light machine guns. The PK machine gun is fired using both bipod and tripod mounts

Fire from the PK machine gun is most effective at distances up to 1000 m for both ground and air targets. The sighting range of fire from this weapon is 1500 m.

The Dragunov sniper's rifle (SVD) is the weapon of the sniper and intended for liquidation of various important individual targets. Fire from the sniper's rifle is most effective at distances up to 800 m. The sighting range of fire with telescopic sight is 1300 m and with an open sight 1200 m.

The Makarov pistol (PM) is a hand weapon of attack and protection and intended for hitting the enemy at short distances; its fire is most effective at distances up to 50 m.

The manual antitank rocket launcher (RPG) is intended for combatting enemy tanks and self-propelled artillery and also for striking various other armoured targets (armoured cupolas, armoured doors, armoured turrets).

It should be explained to the soldier that the combat use of a weapon for striking any given target should correspond to the purpose of the weapon. For example, to strike an enemy located at 200 or 300 m, the fire mission should be assigned to the submachine gunner, while for hitting an enemy machine gun located at 500 m, the submachine gun is not efficient. In the latter case it is expedient to employ the fire of a light machine gun or PK machine gun.

Only the basic combat characteristics of the weapon need be pointed out: weight of weapon, length, height of firing

line (for machine guns), range of fire (sighting range of effective fire, range of direct shot with respect to targets such as silhouette or moving figures), technical and combat firing rate, type of fire according to intensity, initial velocity of bullet, and penetrating action of bullet. All of this information should be solidly mastered by the soldiers.

For best retention of the weapon's combat characteristics by the soldier, the information must not be limited to only one verbal presentation; it is expedient to write the information on the blackboard or, better still, to post a specially prepared general table of the combat characteristics of the basic types of small arms.

During study of the second study topic it is necessary to give the soldiers an idea of the general structure of firearms. To do this the sergeant explains that all weapons in which the energy of powder gases is used to eject the shell or bullet from the weapon are called firearms.

Small arms are a type of firearms which have small caliber and fire bullets of low weight

All small arms are classified as nonautomatic or automatic; the latter, in turn, is further divided into self-firing (submachine gun, light machine gun, PK machine gun) and self-loading (sniper's rifle, pistol).

In nonautomatic weapons (rifles) reloading is done by the person who fires; in automatic weapons it is accomplished

by the energy of the powder gases. The firing is conducted from the self-firing weapon by bursts and by continuous fire; the self-loading weapon fires by single shot. All forms of firearms, including small arms, consist of three basic parts: the barrel, the shell (bullet), and the propellant (powder) charge.

In addition, firearms include various mechanism (cartridge feed, bore lock, firing mechanism, extractor mechanism, and others), sighting devices for orienting the weapon to the target and holding it in a stable position during firing (butt or bipod, or mount).

For studying the second study topic it is a good idea to have samples of all those small arms mentioned or even some of them. Due to the impossibility of providing the class with the indicated samples, one may be restricted to diagrams of their general structure.

For study of the third study topic of the session - the general structure of the weapon - one begins with the study of the basic parts of the weapon and then studies the second part of the topic - the concept of operation of the weapon during firing. For studying the first part of the topic, the basic parts of the weapon, the sergeant preliminarily and without explanation carries out partial stripping of his weapon sample. Then he points out that the given type of weapon consist of so-many basic parts (the submachine gun - 10, light machine gun - 9, PK machine gun - 7, etc.).

After this the sergeant in sequence picks up some part, shows it to the soldiers, and indicates its name. Only the basic parts of the given weapon should be shown and named; the sequence is specified in the manual. It is not necessary to dwell on the purpose and structure of these basic parts of the weapon since they will be studied in a subsequent session.

It is also necessary to indicate that in the weapon kit are included: accessories, strap, magazine carrier for the submachine gun and light machine gun, and accessories, strap, case, and spare barrel for the PK machine gun. The latter is also provided with a belt box and tripod mount. All of these objects should be named and shown to the soldiers

To consolidate the knowledge of the basic parts of the weapon, the sergeant has the soldiers name and show the basic parts of the type of weapon under study. He calls one soldier to the table to answer a given question; the soldier is required to correctly name the part and handle it carefully. If the answer is incorrect the sergeant calls on another soldier, who may answer in place.

When studying the second part of the given training topic - the concept of the weapon's operation - the sergeant, using the studied type of weapon in an assembled state and also a stand for showing the operation of the parts and mechanisms of the weapon and not going into detail (this will be done when

studying the subject "Operations of Parts and Mechanisms of Weapon During Loading and Firing"), should demonstrate and explain only the general character of the operation of the parts and mechanisms of the weapon in the following order:

- using a dummy cartridge, he shows how the weapon is loaded, how it is fired, how it is unloaded;

- he explains and shows how to seat the cartridge, lock the bolt and tightly close the barrel, break the cartridge percussion cap, open the bolt, and extract the spent case (the process of locking and unlocking the bolt is best shown on a special model);

- he explains the basis of the automatic action of the weapon.

The instructor must always keep in mind that if the soldiers do not know the names and structures of the separate parts and mechanisms of the weapon their mastery of the material being developed will not always be deep. Therefore, one must provide all the soldiers with the opportunity to find out all that interests them about the studied type of weapon. Solid mastery by the soldiers of the operation of the parts and mechanisms of the weapon should be achieved not in this session but in a special one on this theme which will be subsequently conducted.

2. Training in Stripping and Assembly of Weapon

Stripping and assembly of the weapon is one of the most important topics of the entire section "Technical Aspects of the Weapon", since the correctness of handling the weapon, its service life and quickness in eliminating jamming arising during firing all depend on the skilled and rapid stripping and assembly of the weapon.

Initially it is necessary to teach the soldiers to perform only partial stripping and assembly of the weapon, and only then proceed to teach them complete stripping and assembly. It is of course impossible to teach the soldiers how to quickly and correctly strip and assemble the weapon in a single session. The main point here is to study with them the procedure for partial stripping and assembly and also to establish in them elementary habits in carrying out these operations with the weapon. They receive practical training in carrying out stripping and assembly of the weapon within a limited time and under various circumstances in subsequent sessions and also during the daily care and upkeep of the weapon and during preparation for firing.

For the material supply of the session one should have the weapon with its accessories; for complete stripping, bronze or wooden hammers and a wooden bar.

In the beginning of the session, after inspection of the weapons and appearance of the soldiers and checking that

they are correctly situated in the training area, the sergeant should conduct a control quiz on the material studied in the first session

The following control questions may be defined:

- purpose of the studied weapon;

- combat characteristics of the weapon;

- give definition of firearms and point out the basic parts;

- point out and demonstrate the basic parts of the weapon under study.

Proceeding to development of the procedure for stripping and assembly of the weapon, one should at the very beginning indicate that two types of weapon stripping are used: partial and complete. Partial stripping is used for cleaning and lubricating the weapon after insignificant contamination and for inspection. Complete stripping is done for replacement of parts, for cleaning and lubrication after greater contamination, when the weapon has been in rain or snow, and when changing type of lubricant. Here one must point out that unnecessarily frequent stripping and assembly of the weapon is harmful, since it leads to premature wear of the weapon's parts and mechanisms.

The instructor then sets forth the basic rules to be observed during stripping and assembly of the weapon:

- stripping and assembly of a weapon must be done on a table (bench) or, in field conditions, on a clean support;

- parts and mechanisms must be handled carefully, avoiding unnecessary stress and sharp blows; do not place one part on top of another;

- place the individual parts in the order in which they were stripped;

- when assemblying the weapon check the numbers on its parts, remembering that the basic number is located on the receiver.

The sergeant himself must observe precisely the indicated rules and see that they are followed by his subordinates. From the very beginning it is important to train the soldiers in the correct and careful handling of the weapon.

Having consolidated the material with questioning, the sergeant proceeds to the direct training of the soldiers in partial stripping and assembly of the weapon First, the sergeant says, "Pay careful attention to my actions. Now I will demonstrate how to partially strip and assemble the weapon," and then he rapidly and without explanation carries out partial stripping and then assembly of the weapon.

The sergeant's demonstration should be perfect; such a demonstration calls on the soldier to strive for the same quickness and precision in working with the weapon. After the demonstration the sergeant says that each soldier should know how to strip and assemble his own weapon as rapidly and correctly as was demonstrated.

Then the sergeant slowly, accompanying his actions with brief explanations, demonstrates how to remove the first of the parts in the stripping. The soldiers follow the actions of their instructor. After completing the demonstration the sergeant shows the soldiers the same procedure for the removing the same part from their own weapons; he himself sees that they do so correctly.

In the same manner the second and then all the remaining parts of the weapon are removed until the entire partial stripping has been performed During this process the sergeant must especially carefully check the correctness of the position of the weapon in the hand (both his own and the soldiers), the correctness of disconnecting any given part, and also that the parts of the weapon are placed on the table in the order of their removal

If one weapon is used for several soldiers, then during the initial stripping and assembly the soldiers take turns; afterwards each soldier is given practice in carrying out the stripping (assembly) from beginning to end

Having completed partial stripping of the weapon, the sergeant points out that its assembly is done in reverse order By the same method as was used during stripping, he teaches the soldiers assembly of the weapon. If sufficient time is available it is expedient to give the soldiers practice in performing the partial stripping and assembly of the weapon several times.

As an example, let us show the method for training machine gunners in the partial stripping and assembly of the PK machine gun. At the very beginning the sergeant points out that partial stripping of the PK machine gun is done in the following sequence:

1 Mount the machine gun on the bipod. To do this, holding the machine gun in the right hand by the barrel handle in a vertical or slightly inclined forward position, the sergeant with the left hand releases the legs of the bipod from the spring fasteners and draws the bipod forward from the barrel so that its legs occupy a fixed position; with the right hand he mounts the machine gun on the bipod with the muzzle end to the left or forward.

The sergeant accompanies his actions with explanations. He then has the machine gunners by the same procedure set the remaining machine guns on the bipods.

2. Remove belt box from machine gun if it is connected and check if there is a cartridge in the chamber. The sergeant takes the machine gun in his left hand by the small of the stock and slightly raises it; with the right thumb he moves the box clamp to the right. He removes the belt box from the machine gun (Fig. 1) and places it on the table. Taking the machine gun in the right hand by the small of the stock, the sergeant, using the thumb of the same hand, presses down the plate catch of the receiver, simultaneously holds the plate with the left hand, and then,

drawing it forward, opens it (Fig. 2). He raises the base of the feed block and puts the safety catch in the position "Fire". With the right hand behind the bolt handle, he draws the bolt carrier to the extreme rear position so that it remains in the cocked position and sees if there is a cartridge in the chamber. If there is no cartridge or other object in the chamber, he smoothly, holding the bolt handle with the right hand, disengages the bolt carrier from the cocked position.

Then the sergeant orders the machine gunners to remove the belt boxes from their machine guns and report the results of their inspection; he checks the correctness of their actions, especially that of smooth disengagement of the bolt carrier from the cocked position.

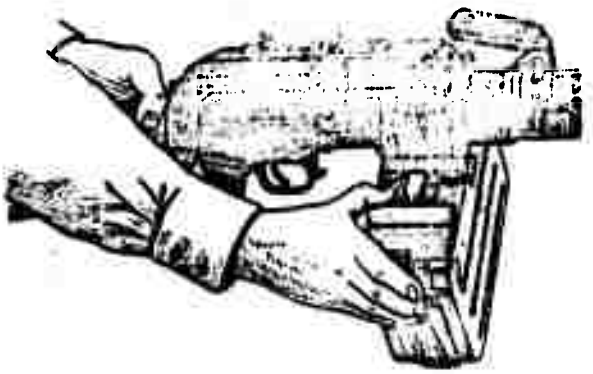

Fig. 1. Removal of belt box

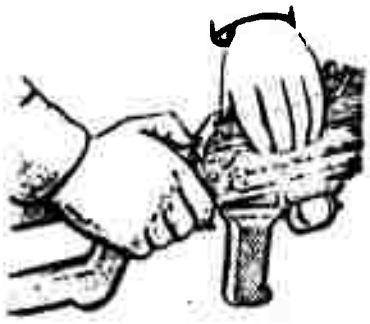

Fig. 2. Opening of receiver plate

3. Pulling out the accessory case from the stock housing. The sergeant takes the machine gun in his left hand by the small of the stock and lifts it slightly. With the index finger of the right hand, he taps the cover of the stock housing so that the accessory case come out of the housing under the action of the spring; he lowers the housing, removes the cover of the case, and removes the parts from the case (cleaning rod, brush, screwdriver, and drift) and arranges them neatly. The sergeants then orders the soldiers to remove the accessory case, open it, remove the accessories, and arrange them on the table.

4. Removal of the units of the cleaning rod from the right leg of the bipod. With the right hand, the sergeant draws up the movable collar of the right leg of the bipod; with the left hand he removes the cleaning rod units from the bipod leg (Fig. 3).

Fig. 3. Removal of cleaning rod units from bipod leg.

The sergeant then orders the machine gunners to remove the cleaning rod units from their machine guns and place them on the table.

5. Removal of hammer spring plunger with recoil spring. The sergeant holds the machine gun in the left hand by the pistol grip. With the right hand he draws forward the positioning stop of the bolt carrier situated on the hammer spring plunger until its projection comes out of the opening in the base of the stock; he slightly raises the rear end of the hammer spring plunger with the positioning stop and extracts it, together with the recoil spring, from the receiver. He detaches the recoil spring from the hammer spring plunger and places them on the table The sergeant then orders the soldiers to repeat this process on their own weapons, checking the correctness of their actions. (Fig. 4).

Fig. 4. Removal of hammer spring plunger with recoil spring.

6. Removal of bolt carrier with bolt. Holding the machine gun in the left hand by the pistol grip the sergeant, with his right hand on the clearing plug, draws the bolt carrier as far as it will go; slightly raising the bolt carrier, he pulls it, together with the bolt, from the receiver (Fig. 5) and takes it in the left hand. He then orders the machine gunners to repeat the procedure.

Fig. 5 Removal of bolt carrier with bolt.

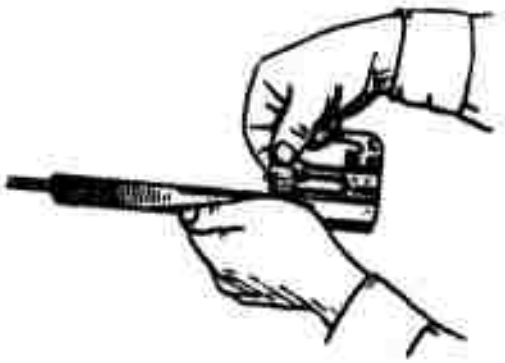

Fig. 6. Removal of bolt from bolt carrier

7. Removal of bolt from bolt carrier. The sergeant, holding the bolt carrier in his left hand with the bolt upward, with his right hand draws the bolt backward and turns it to the right so that its driving cam comes out of the cam slot of the bolt carrier; he then advances the bolt (Fig.6) and, turning it to the right, removes it from the bolt carrier. The sergeant has the soldiers perform this operation and carefully observes their actions.

8. Removal of firing pin from bolt. The sergeant takes the bolt in his left hand with the channel forward; with his right hand he moves the firing pin down as far as possible and, moving it forward with the fingers of this hand by the projection (Fig. 7), extracts the firing pin from the bolt channel. The sergeant then instructs the machine gunners to remove the firing pins from the bolts of their weapons

Fig 7. Removal of firing pin from bolt

9 Removal of barrel from receiver. With the right hand the sergeant moves the barrel locking stud to the left as far as possible; with the left hand, turning and moving the grip forward, he removes the barrel from the receiver. He then orders the soldiers to remove the barrels from their machine guns and place them on the table.

The sergeant explains that if the barrel locking stud will not move to the left by the force of the hand or if the machine gun is very hot, then movement of the locking stud is accomplished using the bolt carrier. To demonstrate this technique the sergeant connects the barrel to the receiver and moves the barrel locking stud as far to the right as possible He then takes the bolt carrier, inserts it into the receiver, with his left thumb presses the feed pawl toward the end of the locking stud (Fig 8); he then draws the bolt carrier farther back, the barrel locking stud being

moved to the left by the feed pawl. After completing the demonstration, he pulls the bolt carrier out of the receiver and removes the barrel in the usual manner

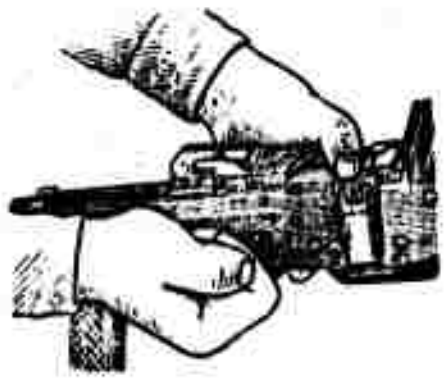

Fig. 8 Moving the barrel locking stud by the feed pawl.

The sergeant then indicates that at this point the partial stripping of the machine gun is complete; he has one or two soldiers state verbally the sequence of removal of the machine gun parts.

He then indicates that the PK machine gun is assembled in reverse order. He explains and demonstrates the procedure for connecting each separate part of the machine gun and then requires the soldiers to perform the same actions In conclusion, he requires the soldiers to partially strip and assemble the machine gun.

Proceeding to the teaching of the complete stripping and assembly of the weapon, it is necessary to point out that the first stages of complete stripping are the same as for partial stripping. Here the partial stripping of the weapon is done by the method already learned. Further disassembly of the weapon until complete and also its assembly are performed in the same manner which was used in teaching the soldiers partial stripping.

To consolidate the developed topic, depending on the time available, one or a few practices in complete weapon stripping and assembly should be carried out. To develop independence in the soldiers' actions, the sergeant should not during this process indicate the sequence for stripping and assembly of the weapon or the procedure for removing (connecting) any part of the weapon, but should require this from the soldiers themselves.

In addition to the initial session on weapon stripping and assembly one may set up special sessions for conditioning in partial stripping and assembly under both ordinary and special circumstances: in the dark, in gas mask, in winter during heavy frost. The goal of all these sessions is the development in the soldiers of firm habits in stripping and assembly of their own weapons under various conditions and in meeting the established norms In the beginning, these sessions should proceed without keeping track of time or

hurrying, by discussion and by exercises to recall the procedure for stripping and assembly of the weapon. The sergeant in turn questions the soldiers on the procedure for stripping (assembly) Having obtained the correct answer, he orders all the soldiers to remove or connect the given part. In this manner he proceeds until the stripping or assembly is complete. Then the sergeant conditions the soldiers in carrying out timed full (partial) stripping and assembly. To motivate the soldiers it is expedient, in conclusion, to conduct a contest for first place among the units (groups) in time expended.

In order to monitor all of the soldiers the aid of an experienced soldier should be enlisted

The initial conditioning of the soldiers in partial stripping and assembly of the weapon in the dark may also be carried out under daylight conditions in the classroom using blindfolds or dark glasses.

3. Learning the Purpose and Structure of Separate Parts of Weapons, Accessories, and Cartridges

The goals in studying the present topic are that the soldiers firmly master all parts and mechanisms of the weapon, remember the purpose of each part and mechanism, and study their structure.

Material supply consists of training weapon and cutaway model of weapon, set of accessories, stands for demonstrating the operation of the parts and mechanisms of the weapon, dummy cartridges and cut-away models, hammers, drift, and wooden blocks for carrying out complete stripping and assembly of the weapon, diagrams, posters, models, wooden ammunition chest, and galvanized metal box.

A control quiz tests the soldiers' skills in conducting partial (complete) stripping and assembly of the weapon and their knowledge of the basic parts of the weapon. For a two hour session it is best to conclude the quiz with full stripping of the weapon so that before beginning the study of the purpose and structure of the parts and mechanisms additional stripping of the weapon will not be carried out. For a one-hour session one is limited to partial stripping of the weapon

The separate parts and mechanisms of the weapon are studied in the sequence indicated in the manual and roughly by the following procedure. First, demonstrate the part (mechanism) and clearly state its name and purpose, then step-by-step explain and demonstrate the interior and exterior structure. For demonstration of the interior structure of the parts (mechanisms) it is useful to employ a cut-away model of the weapon and posters and diagrams.

During the explanation the soldiers take the appropriate part (mechanism) of their own weapons in their hands or put them in front of them, attentively listen to the sergeant

and observe his demonstration. One must remember that mastery by the soldiers of the structure and especially the purpose of the parts (mechanisms) should not be mechanical but conscious Thus, when studying any given part it is necessary to explain and demonstrate what operation the given part or element performs in interaction with the other parts (elements). In the course of studying one or another part (mechanism) the soldiers' knowledge is consolidated by questioning.

As an example let us demonstrate the method of studying the purpose and structure of the bolt of the light machine gun.

Taking the bolt in his hand and ordering the soldiers to do the same, the sergeant explains what the bolt it used for:

a) For seating the cartridge in the chamber

The sergeant takes the stand with the parts and mechanisms of the machine gun mounted on it or a mounted light machine gun with receiver plate removed, connects to it a magazine loaded with several dummy cartridges, and demonstrates that during the forward movement of the bolt carrier the bolt by the breechblock pushes the top cartridge out of the magazine and rams it into the chamber.

b) For locking the bore.

The sergeant demonstrates and explains that as soon as the bolt carrier and bolt arrive at the extreme forward

position, the bolt is turned to the right, and in this process the bolt is locked and the bore tightly closed by the bolt,

c) For breaking the percussion cap of the cartridge.

The sergeant first explains that during pressure on the trigger, the hammer strikes the firing pin located inside the breechblock, the firing pin breaks the cartridge percussion cap - the shot occurs; then the sergeant presses the trigger of the light machine gun and simulates the "shot".

d) For extraction of the cartridge case from the chamber.

On a loaded light machine gun the sergeant demonstrates that during sharp backward rotation of the carrier with the bolt the cartridge (case) is extracted from the chamber and expelled

In studying the purposes of weapon parts and mechanisms one may also employ the discussion method. Let us demonstrate this for the example of the same light machine gun bolt.

Removing the receiver plate from the light machine gun and connecting to it a magazine loaded with dummy cartridges, the sergeant states a problem to the soldiers "Observe and prepare an answer: what kind of operation does the bolt perform?" while he himself slowly demonstrates how the cartridge is rammed into the chamber by the bolt and how it is turned to the right when reaching the extreme forward position The sergeant questions one or two soldiers and makes the final conclusion that the bolt serves, first, for

ramming the cartridge into the chamber and, second, for tightly closing the bore. The other functions are developed by the same technique.

Having finished explaining the purpose of the bolt, the sergeant questions one or two soldiers and then points out that the bolt consists of the following parts: breechblock, firing pin, extractor with spring and pin, stud.

Disassembling the bolt and ordering the soldiers to do the same, the sergeant demonstrates each of the designated parts He then proceeds to the study of the structure of each.

Taking the breechblock, the sergeant explains, simultaneously demonstrating by pointing with a pencil, that the block has on its forward face two cylindrical notches for the bottom of the cartridge case and for the extractor; during this process he shows that the cartridge case and extractor go right into these notches. Along the side of the breechblock are two cocking notches which are engaged in the notches of the receiver during locking of the bolt. The sergeant shows these notches in the receiver and again demonstrates on the model the process of locking the bolt He then shows the driving cam for turning the bolt when it is locked and unlocked The sergeant takes the bolt carrier and shows the cam slot along which the driving cam of the breechblock travels. On the left side of the breechblock there is a longitudinal slot for the passage of the ejector point of the receiver. Using a stand with the parts and

mechanisms of the light machine gun mounted on it, the sergeant, moving the bolt carrier with bolt back and forth, shows the passage of the ejector point across the longitudinal slot of the breechblock. The sergeant shows the opening in the thick part of the breechblock for the extractor pin and stud, then places them in the breechblock opening. Inside the breechblock is a channel for the firing pin Placing the firing pin in this channel, the sergeant shows the position of the firing pin in the breechblock.

Having explained the structure of the breechblock, the sergeant questions a few soldiers. Then, removing the firing pin from the breechblock, he demonstrates and explains the structure of the ejector together with the spring and pin, and shows the last part of the bolt - the stud serving to fix the firing pin and extractor pin

Having studied the purpose and structure of the bolt, the sergeant asks if the soldiers have any questions, which he then answers. Then he again asks several machine gunners to give the purpose and structure of the bolt.

After completing the study of all parts and mechanisms of the weapon, one assembles the weapon and proceeds to the study of the purpose and structure of the accessories.

It is necessary to point out at the beginning that the accessories serve for assembly, stripping, cleaning, and lubricating the weapon, and then to demonstrate and list all articles in the accessory kit One should draw the

attention of the soldiers to the fact that the accessory kit, besides the parts in the case, includes a cleaning rod and oil can; for the PK machine gun, an extractor used for removing from the chamber broken-off parts of a shell case in case of cross-rupture of the latter. Then, by demonstration, explanation, and questioning, the purpose and function of each part of the accessories is studied In developing this topic one should strive for the soldiers' complete mastery of the purpose of each part of the accessories, especially the case and cover, the cleaning rods, and brush which are very important for proper cleaning and lubrication of the weapon.

In conclusion, one should show the soldiers the correct packing of the accessories into the case and condition the soldiers in this packing

To pack the accessories for the submachine gun, light machine gun, and PK machine gun, one must hold the case in the left hand, place the accessories in it in sequence, then close the cover.

The following parts are placed in the accessory case for the submachine gun and light machine gun: cleaning rods, brush, screwdriver, drift, and pin used for assembly of the trigger-and-firing mechanism. The PK machine gun accessory case includes the same parts except for the pin.

Study of the purpose and structure of the live cartridge should begin with showing a cut-away model of the cartridge

or on a diagram (poster) the special parts of the live cartridge: bullet, cartridge case, propellant charge, and percussion cap. Then the sergeant points out the purpose of each of these parts of the cartridge. For example, the purpose of the bullet is to inflict damage to enemy personnel and fire weapons.

The propellant charge, a cellulose nitrate smokeless powder, serves to give a high translatory motion to the bullet.

The percussion cap is intended to ignite the propellant charge. Inside the percussion cap, in a brass cap, is compressed the priming composition consisting of a detonating agent which is extremely sensitive to mechanical and thermal actions. In connection with this the sergeant should direct the soldiers' attention to the necessity of careful handling of the live cartridge, especially the percussion cap located at the bottom of the cartridge case.

The cartridge case serves to unite all the parts of the cartridge, protect the propellant charge from outside actions, and for preventing the escape of propellant gases to the side of the bolt. Further, in sessions with the submachine gunners and light machine gunners, it is necessary to enumerate the type of bullets used for the cartridges of the 1943 type (ordinary, tracer, and armor piercing - incendiary); in sessions with the PK machine gunners, the types of rifle

bullets (ordinary bullets: with steel core, light (1908), and heavy (1930); tracer, and armor piercing - incendiary). Then, using diagrams and a set of dummy cartridges with various types of bullets, the sergeant should explain the purpose of each bullet and their distinctive signs, then study their overall structure.

However, one need not study in detail the structure of the various types of bullets. It is sufficient that the soldiers solidly master the applications of cartridges with any given type of bullet and know their distinctive signs.

In concluding the development of this topic the sergeant should demonstrate and explain that the cartridges arrive in the unit in wooden chests or galvanized metal boxes. In each chest are two boxes of 660 cartridges each for weapons using the 1943 cartridges (submachine gun, light machine gun) and of 440 cartridges each for the PK machine gun. The cartridges in the galvanized boxes are packed in cardboard packages, 20 cartridges in each.

Depending on the type of bullet, on the sides of the chest and on the packages are painted distinguishing colored stripes corresponding to the color of the nose of the bullet: green for cartridges with tracer bullets; black and red for armor piercing - incendiary bullets; silver for steel core bullets; yellow for heavy bullets. The nose of the 1908 light bullets has no distinguishing color and no colored stripe is painted on the sides of a chest or packet with this type of bullet.

After that, one shows the soldiers how, with the aid of an axe or small crowbar (or, in extreme cases, with a small shovel), one opens the chest or box.

At the end of the session, if there is time available, one should give the soldiers the opportunity to clarify any remaining problems and then conduct a critique of the session and give the soldiers assignments for practice.

4. Training in Cleaning and Lubricating Weapon

The following training topics may be outlined for this session:

1). general requirements and duties of the unit commander with respect to cleaning and lubrication of weapons;

2). rules for cleaning and lubrication of weapon under various circumstances;

3). characteristics of cleaning and lubricating materials;

4). procedure (sequence) for cleaning and lubricating weapon;

5). practical cleaning and lubrication of weapon.

The session should be held in the room used for cleaning and lubricating weapons or in a classroom specially equipped with tables for this purpose.

Material supply of the session should include: regulation weapon with accessories, set of cleaning and lubricating materials (patches, oakum, KV-22 paper, liquid rifle lubricant, rifle lubricant, solution for cleaning bore), set of wooden rods for convenience in cleaning and lubricating grooves, notches, and holes.

In the introductory part of the session, to connect the new material with that studied earlier, one should check the soldiers' knowledge of the purpose and structure of the accessory kit.

In studying the first training topic, it is expedient to point out that all weapons (both combat and training weapons) must under all circumstances be maintained in full serviceability and cleanliness and that this is achieved by prompt and skillful cleaning and lubrication, correct storage, and protection. Referring to the practice of storing and protecting the weapons in one's own unit, it is suitable to tell about experienced soldiers lovingly protecting their weapons and also about cases of negligent attitudes toward the entrusted weapons.

Further, one should explain that cleaning of the weapon in the barracks or in camp is done in sites set aside for this purpose on specially equipped tables, while in combat or field conditions, it is carried out on clean groundcloths, boards, pieces of plywood, etc. After this one points out

that the soldiers clean and lubricate their weapons under the direct supervision of the unit commander, who determines the degree of stripping necessary, the weapon's cleaness and lubrication, checks the serviceability of the accessories and quality of the materials used for cleaning and lubrication, and the quality of the finished cleaning, verifies the quality of lubrication and correctness of assembly of the weapon, and authorized replacement of it in the rack.

Finishing the explanation, the sergeant gives several control questions and proceeds to the development of the second topic - the rules for cleaning and lubrication of the weapon under various conditions.

The sergeant sequentially states the rules for cleaning the weapon after firing with live or blank cartridges, after fatigue duty or field sessions without firing, in combat and during prolonged drill, when preparing the weapon to fire, and also in those cases in which the weapon stands in the gun rack without use.

One should particularly stress the three stages in cleaning a weapon after firing:

- immediately after firing on the firing range (in the field) clean and lubricate the bore and parts acted upon by the powder residue (bolt, gas tube, bolt carrier with gas piston, gas cylinder, receiver);

- when returning to the unit after firing, perform complete cleaning and lubrication of weapon;

- for the next 3-4 days clean and lubricate the weapon daily.

Here one should alert the soldiers to the fact that often among certain soldiers there will be incorrect recollection of the procedure for cleaning the weapon after firing live or blank cartridges For one reason or another some think that immediately after firing it is sufficient to pour any rifle lubricant into the bore and merely lubricate with rifle lubricant or liquid rifle lubricant those parts which have come in contact with the powder residue This is in complete violation of the weapon cleaning procedure. One must explain to the soldiers that immediately after firing the weapon it is absolutely necessary to clean it in order to optimally remove the powder residue from the surfaces of the bore and other weapon parts; only in this way may one be sure that corrosion will not occur However, since it is impossible to mechanically remove all the powder residue in one cleaning, the procedure should be repeated on returning to the unit location and over the course of the next 3-4 days.

Then, if there is sufficient time, it is a good idea to briefly explain to the soldiers how the process of corrosion of the weapon parts, especially that of the bore, proceeds under the action of the powder residue with which these parts are covered after firing.

The residue contains both water-soluble and water-insoluble substances. The soluble substances are salts (basically

potassium chloride) formed during explosion of the primer. Immediately after firing these salts readily absorb water from the air and form a solution which causes the metal to rust. Here the lubricant is of little help. If the powder residue is not removed immediately after firing, the bore, in places where the chrome has sheared off, and other parts will be covered with rust which will leave traces after removal. Repetition may cause pits to appear.

Having consolidated the soldiers' knowledge of the second study topic by questioning, the sergeant begins to enumerate and show the cleaning and lubricating materials to be used and then gives their characteristics.

Characterizing the liquid rifle lubricant, one should emphasize that it is general-purpose and is used both for cleaning and for lubricating the bore and other parts and mechanisms of the weapon at air temperatures from -50° to +50°C. In addition one should direct the soldiers' attention to the following points:

- under field conditions the weapon is cleaned and lubricated only with this lubricant;

- if, after firing on the firing range, the weapon is cleaned with this material, then after returning to the barracks it must be cleaned with BCS.

Rifle lubricant is used only for lubricating the bore, parts, and mechanisms of the weapon after cleaning when the air temperature is above 5°C.

In studying the lubricating materials the soldiers should learn how to distinguish one type from another by color, smell, and viscosity, both in the light and in the dark Therefore, the sergeant should have lubricants in glass tubes or other glass containers; the soldiers have the materials in oil cans. During the explanation the soldiers' attention is directed to the color of the lubricant; pouring it from one container to another, the sergeant shows its viscosity; each soldier is given the opportunity to smell each type of lubricant

BCS (bore cleaning solution), specially prepared in the unit, is used only for cleaning the bore and other parts of the weapon subject to the effects of the powder gases This solution is usually prepared for a single weapon cleaning and is not poured into an oil can. It may be stored for 7 days in the unit in a well-stoppered bottle in a warm place away from heating devices After using the BCS for cleaning one must very carefully wipe the bore, first with oakum, then with a clean patch (other parts are wiped with a patch); then all parts are lubricated with rifle or liquid rifle lubricant.

In characterizing BCS one should point out that it is only used under the supervision of the unit officers or master sergeants.

Of the cleaning materials one should mention patches, oakum, and KV-22 paper, used in place of patches Showing

oakum (short flax fiber) with scutch removed, one should emphasize that it is better able to enter the grooves of the bore than are patches, providing better cleaning. Therefore, oakum is used only for cleaning the bore. Patches and KV-22 paper are used for wiping, cleaning, and lubricating all parts and mechanisms of the weapon. The sergeant should then point out that for convenience in cleaning and lubricating slots, holes, grooves, and notches one may use wooden rods; he then shows a set of these (Fig. 9) and also explains the purpose of each of them. The rods with wedges on the ends serve for cleaning and lubricating slots; various diameter cylindrically shaped rods - for cleaning and lubricating holes, grooves, notches, chambers, and also the gas chamber. When using the rods one must always affix a patch to them.

In concluding the development of the third study topic of the session the sergeant should stress that use of lubricating and cleaning materials other than those indicated in the manual is absolutely forbidden.

When developing the fourth study topic the sergeant points out that the weapon must be cleaned and lubricated in the following sequence:

- prepare cleaning and lubricating materials;
- strip weapon (partial or complete, depending on degree of contamination);

- inspect accessories and prepare for cleaning;

- clean and wipe dry the bore and all remaining parts and mechanisms of the weapon;

- report to the sergeant that cleaning is complete; with his permission proceed to lubrication and then assembly of the weapon;

- after assembling weapon verify the operation of its parts and mechanisms and again show the weapon to the unit commander; with his permission place the weapon in the rack.

The indicated procedure for cleaning and lubricating the weapon must be firmly mastered by each soldier. Having convinced himself of this, the sergeant proceeds to practical training in cleaning and lubricating the weapon.

In the very beginning the sergeant shows the procedure for preparing the cleaning and lubrication materials. The patches, KV-22 paper, oakum, oil cans with rifle and liquid rifle lubricant, and the rod set are placed on the table. The oakum is scutched and the cover of the oil can nozzle unscrewed. In addition, a container with BCS is placed on the table.

The soldiers first watch the actions of the sergeant and then, at his order and by the same procedure, they themselves prepare the cleaning and lubricating materials

The sergeant then orders them to partially strip their own weapons while he simultaneously strips his own.

It is then necessary to demonstrate and explain the procedure for inspecting the accessories and preparing them for cleaning.

As an example of training submachine gunners, let us discuss first how they inspect the accessories and how they are prepared for cleaning, then how the soldiers carry out the cleaning and lubrication of the submachine gun Inspection of the accessories is done in the following manner:

1 Inspect the cleaning rod. To do this one takes it in both hands, raises it to eye level and, closing one eye, sees whether it has any bends. Check that the rifling at the end of the rod is in good condition.

2. Inspect the brush Screw it onto the cleaning rod: the brush should be held tightly to the cleaning rod while its shank should rotate freely. By eye check that the brush is not bent.

3. Inspect the wire brush It should be clean and straight; its bristles should not fall out Screw it onto the cleaning rod It should be held tightly to the rod and not be bent.

4. Inspect the case It should not have any cracks, dents, or flaws Unscres the wire brush from the cleaning rod; pass the rod through the side opening in the case. The head of the cleaning rod should not protrude through the small opening in the case.

5. Inspect the case lid. Attach it to the muzzle end of the submachine gun barrel It should not have significant lateral swing If there is, the cleaning rod will rub the muzzle end of the barrel. Try to pass the cleaning rod and then the brush through the opening in the case lid The cleaning rod should pass freely, while the brush should not pass at all.

6. Inspect the oil can Check that there are no cracks or dents The oil can cover should have a gasket and be tightly screwed on. Lubricant should not leak from the oil can.

7. Inspect the screwdriver with drift It should not have any indentations or wear along the edge, key, or walls of the slot.

During the explanation and demonstration the soldiers sequentially inspect their own accessories and report the results of their inspection Observed defects are immediately corrected If defects show up in the cleaning rod, brush, wire brush, case, or lid, they are unfit for use and not used for cleaning and lubricating the weapon.

Preparation of the accessories for cleaning the submachine gun is done in the following manner. Take the cleaning rod in the left hand and the case in the right. Pass the cleaning rod first through the large, then through the small opening in the case Fix the head of the cleaning rod to the case using the small screwdriver. Then put the case lid onto the cleaning rod and screw on the brush. (Fig. 10)

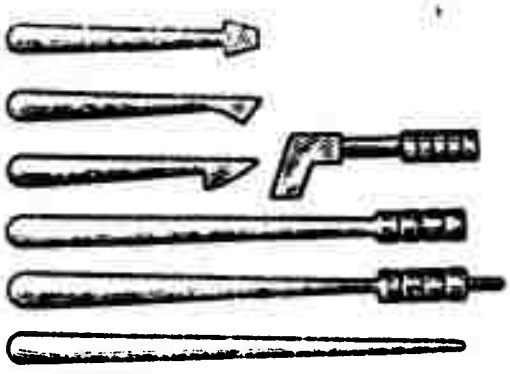

Fig. 9. Set of wooden rods for cleaning and lubricating weapon.

Fig. 10. Submachine gun accessories prepared for cleaning

Having finished the demonstration and explanation, the sergeant orders the soldiers to prepare their own accessories in the same way for cleaning. He then points out that during the cleaning of the weapon after firing it is necessary to unscrew the replenisher from the muzzle end of the barrel.

The sergeant then demonstrates how to clean the bore of the weapon with liquid rifle lubricant To do this he places the barrel with the receiver, sighting device, and stock in the cut-outs of the weapon-cleaning table or simply on an ordinary table. The soldiers are ordered to do the same He points out that if there is no table, the submachine gun is set by the stock on the ground or floor.

Take a small piece of oakum (best with long fibers), shake scutch from it, and shape it into a figure-eight To do this conveniently, wind it first in a circle around four fingers of the left hand. Attach the figure-eight shaped oakum by the center to the end of the brush, lay the oakum fibers along the bristles, and fix by overwinding The thickness of the oakum should be such that the brush may be inserted into the bore with little force; the length of the oakum attached should be slightly less than that of the rotating part of the brush. After the demonstration and explanation the sergeant trains the soldiers in shaping the oakum into a figure-eight. They should learn how to make the figure-eight of the required length and thickness

The sergeant then pours a little liquid rifle lubricant from the oil can onto the oakum and explains that one must not dip the cleaning rod with brush and oakum into the oil can since this would cause contamination of the lubricant. The sergeant then inserts the cleaning rod with brush and oakum into the bore and fixes the case lid (front handguard) to the muzzle end of the submachine gun. Taking the weapon in the left hand and the case (protective sleeve on cleaning rod handle) in the right and not bending the rod, the sergeant pushes it with the brush and oakum along the entire length of the bore 6-8 times

He directs the soldiers' attention to the fact that when using the case lid (front handguard) the muzzle end of the bore remains uncleaned. Therefore, after cleaning the bore, having removed the front handguard from the barrel, he cleans the muzzle end by moving the rod with brush approximately the length of the brush. He removes the rod from the bore, replaces the oakum, puts liquid rifle lubricant on it, and repeats the process. He then orders the soldiers to clean the bores of their own weapons.

The sergeant explains that one must clean the bore in this manner several times, depending on how dirty it is He wipes the rod and brush with a patch and the bore with dry oakum and then a clean patch He then orders the soldiers to do the same for their weapons.

He inspects the patch after wiping the bore with it and points out that if there are any noticeable traces of residue (black), rust, or contamination the cleaning must be continued and the bore again wiped with dry oakum and a patch.

Having completed cleaning the rifled part of the bore, the sergeant in the same manner cleans the chamber from the receiver side and requires the soldiers to perform the same actions. He inspects the bore of the weapon in light from the muzzle end, slowly rotating the barrel in his hands in order to see the rifling well, and checks that there are no traces of residue or pieces of oakum or patch remaining in the angles of the rifling. He inspects the chamber from the breech.

He orders the soldiers to inspect the rifled portion of the bores and chambers of their own weapons and report the results of the inspection.

He directs the attention of the soldiers to the fact that if the brush with oakum or patch sticks in the bore during cleaning, one pours a small amount of warm liquid rifle lubricant into the bore and allows a few minutes for the oakum (patch) to soak it up Then one tries to withdraw the rod with brush from the bore. If after this it still will not come out, send the weapon to the repair shop.

The sergeant then explains the peculiarities of cleaning the bore of the weapon with BCS. He first reminds them that this solution is used only to clean the bore and other parts subject to the action of the powder gases durig firing He then points out that when using the BCS the bore is cleaned with the wire brush screwed only to cleaning rod and moistened with the solution. After cleaning, the bore is wiped with dry oakum and a patch. Cleaning of the bore with the BCS is repeated until the oakum and patch are withdrawn from the bore without residue, green spots, or contamination On completion of cleaning of the rifled parts of the bore, the chamber is cleaned from the receiver side by the same procedure.

Having finished the instruction in cleaning the bore, the sergeant proceeds to train the soldiers in cleaning all the remaining parts and mechanisms of the weapon. He first explains that the gas chamber, gas tube, and replenisher are washed with the liquid rifle lubricant or BCS and thoroughly cleaned with oakum and patches with the aid of the cleaning rod and brush or the wooden rods These parts are then wiped thoroughly with a clean patch.

The receiver, bolt, bolt carrier, gas cylinder piston are cleaned several times with patches soaked in liquid rifle lubricant or BCS. The slots, holes, depressions are cleaned especially carefully using the rods After cleaning these parts must be wiped dry with a patch.

All remaining metal parts of the weapon are cleaned with a patch lightly moistened with liquid rifle lubricant and then wiped dry. The wooden parts are wiped with dry patches.

After the explanation, the sergeant cleans all the parts and mechanisms of the weapon by the indicated procedure, orders the soldiers to do the same, and monitors the correctness of their actions.

Having completed training the soldiers in cleaning all parts and mechanisms of the submachine gun, the sergeant reminds them that each soldier reports to the unit commander concerning completion of the cleaning, and the commander verifies that the weapons of his subordinates are clean Then the sergeant demonstrates and explains how to lubricate the bore and all metal parts of the weapon.

To lubricate the bore the sergeant screws the brush onto the cleaning rod and applies to it oakum soaked in lubricant. He inserts the cleaning rod with the brush into the bore from the muzzle end and smoothly draws it two or three times along the entire length of the bore in order to evenly cover the bore with a thin layer of lubricant In the same manner he lubricates the chamber from the receiver side and the replenisher He has the soldiers lubricate the rifled portion of the bore, chambers, and replenishers of their own weapons, and himself monitors their actions.

He then points out that all the metal parts and mechanisms of the submachine gun are lubricated with an oiled patch. He draws the attention of the soldiers to the fact that to avoid contamination and dust on the parts and mechanisms, the layer of lubricant should be thin, and also to the fact that the wooden parts of the weapon are not lubricated. He lubricates all the metal parts and mechanisms of the weapon and has the soldiers lubricate theirs The sergeant then points out that after assembling the weapons the soldiers again report to the commander and show him their weapons; only at his order do they place them in the rack The sergeant orders the soldiers to assembly their weapons.

The sergeant then inspects the assembled weapons and evaluates the quality of lubrication of each soldier's weapon; he orders them to prepare the weapon for placement in the rack and to place them in the fixed sites

In concluding development of the final study question of the topic it is necessary to indicate the peculiarities of cleaning and lubricating a weapon in cold, winter weather, after a rain, when changing from one lubricant to another, and when surrendering the weapon to the depot for prolonged storage

In the cold and winter, before taking the weapon into a warm place, it is recommended that the exterior parts be rubbed with a patch soaked in liquid rifle lubricant Then allow the weapon to stand in the warm area for 10-20 min

and only then proceed with the cleaning and lubrication. Furthermore, in cold and winter weather with air temperatures below +5 C, the weapon is lubricated only with liquid rifle lubricant. It is absolutely forbidden to use rifle lubricant under these conditions since this may lead to disturbance of the operations of the moving parts of the weapon

If the weapon has been in the rain, all of its parts must be rubbed with a dry patch immediately after going inside; this prevents the parts from rusting Only then is complete cleaning and lubrication carried out.

When changing from one lubricant to another one must thoroughly remove the old lubricant from all parts and mechanisms of the weapon. To do this, completely strip the weapon and wash all metal parts with liquid rifle lubricant, allowing no lubricant to remain on the spring coils, in the angles of the slots, in screw threads or in other hard-to-reach places. The parts are then wiped with a dry patch.

After this all parts and mechanisms of the weapon are lubricated with the new lubricant and the weapon is assembled.

When surrendering the weapon to the depot for prolonged storage one must most carefully clean all parts and mechanisms of the weapon, lubricate them with liquid rifle lubricant, and then wrap it first in one layer of inhibitor, then one layer of paraffined paper.

At the end of the session the sergeant conducts a critique and gives assignments for self-study.

5. Training in Storing and Protecting the Weapon Under Various Conditions

Study of this topic has the goal of teaching the soldiers how to correctly store and protect the weapon in barracks and camp locations, when located in inhabited areas, when moving in dismounted formation and by motor vehicle (armored carrier), during transport by rail or water, when on field exercises, and when performing guard (sentry) duty. Subsequently, on all field exercises, in shooting, when on guard, in drills, one must train the soldiers in storing and protecting the weapon in these typical conditions of the unit's combat activities. The training sites are the rooms where the weapons are stored and cleaned and the field For the session one must have regulation and training weapons, dummy cartridges, and a motor vehicle (armored carrier).

The session should begin in the room used for cleaning and storing weapons. After forming up the soldiers with their weapons, inspecting the weapons, and explaining the topic and goal of the session, the sergeant explains the general requirements (rules) for storing and protecting the weapon:

- each soldier is obliged to maintain his own weapon

clean and serviceable in all situations and handle it with care;

- the weapon should always be unloaded when stored and transported;

- the weapon should always be on safety; it should be taken off safety only to fire;

- in order to avoid inflation or even rupture of the bore, it must never be stopped up.

Having consolidated by questioning the soldiers' knowledge of the general rules on storage and protection of the weapon, the session leader proceeds to explanation and practical demonstration of the procedure for storing the weapon under various conditions.

The sergeant first explains and demonstrates the procedure for storing the type of weapon under study in barracks or camp locations. In both cases all small arms and rocket launchers are stored in special equipped covered racks which are set up in the room used for storing and cleaning weapons. The doors of this room should open to an inside location; there should be iron gratings on the windows. Each rack and door of this room should close with a lock. The keys to the rack and to the room are kept by the company duty officer. The room, and also the racks, should be under 24-hour guard All small arms and rocket launchers are stored vertically in the racks with the sighting devices outside. Special compartments are

made in the racks for seating each type of weapon. A label should be glued to each compartment of the rack indicating the type and number of the weapon, number of the gas mask, and also the last name of the soldier to whom they are assigned. In addition an inventory indicating the number of weapons and equipment according to type is hung on the inside left door of the rack.

Weapons are stored without covers (except rocket launchers, on the barrel of which is placed a cover); the movable system of the weapon is situated forward; the hammer is disengaged; the weapon is on safety; the sight is fixed in a constant setting and the rear sight of the light machine gun and PK machine gun is set at "0"; straps are tightened; handle for shifting the PK machine gun is turned to the left; the legs of the machine gun bipods should be folded and fixed with spring clasps. In special sections of the same rack are stored:

- magazines, magazine cases, oil cans for submachine guns and light machine guns, submachine gun bayonets in sheaths;

- box magazines, spare barrels and covers for the PK machine guns; here the spare barrels should be wrapped with oiled paper and put in cases;

- telescopic sights in covers; magazines, accessories and bags for sniper's rifles;

- grenade pouch for manual antitank rocket launchers.

The pistols belonging to the unit's soldiers and sergeants are stored unloaded and out of their holsters in iron or iron-covered cabinets or draws with specially made divisions Spare magazines are stored beside the pistols The cabinets (drawers) are locked and sealed by the company first sergeant The keys are kept by the company duty officer These cabinets (drawers) are kept in the room used for cleaning and storing weapons

The unit's training weapon, except training pistols, is kept in a separate rack. If there is no separate rack available it is kept in the same rack with the combat weapons. In this case its location is marked "Training Weapon". Training pistols are stored in the same cabinets (drawers) as the combat pistols in separate compartments.

After the explanation the sergeant prepares his own weapon for placement in the rack, puts it in, and orders each soldier to carry out the same actions with his own weapon. The sergeant monitors the correctness of their actions and corrects them as necessary.

The sergeant then explains and demonstrates how to store the live cartridges for the guards and unit duty officers, and also the dummy cartridges. The cartridges for the guards and unit duty officer are stored in iron or iron covered wooden drawers which are locked and sealed by the company first sergeant, who keeps the key This drawer

is located in the room for cleaning and storing weapons. The drawer should contain a cartridge inventory. Dummy cartridges are stored separately in a special wooden drawer.

When firing on the shooting range the live ammunition is stored in a dry place, protected from the sun's rays The cartridges should be hand_led with care, protecting them from shock, moisture, dirt, and especially fire. They must not be lubricated One must never forget that loss of cartridges is not allowed

The sergeant then directs the attention of the soldiers to the peculiarities of storing weapons when in inhabited localities, during transport by rail or water, when on guard (sentry) duty. When temporarily located in some sort of building not equipped with gun racks, the weapon is stood or hung in a convenient dry place farther off from doors, stoves, and heating devices. During rail or water transport the weapon is set in special racks. If none is available the weapons are hand-held or put on the floor in a manner such that they cannot fall or be damaged.

At the guard house the submachine guns are stored in racks which are not locked. Pouches with loaded magazines for the submachine guns and scabbards with bayonets are not removed from the leather belts of the guards.

The sergeant then develops in field practice the rules for storing and protecting weapons when moving in dismounted formation, during breaks between sessions, and when riding

in motor vehicles (armored carriers). These sessions require field uniform with light field pack equipment.

The sergeant first explains and demonstrates how one should carry the weapon when moving in exercises and on march. In these cases the weapon, with magazine connected, is carried "Sling arms". The weapon's remaining magazines are in the pouch. One should stress that during movement the sling should be correctly adjusted so that the weapon will not sustain shocks against the hard objects in the pack (small shovel, grenades, canteen).

The sergeant then orders the soldiers to prepare their weapons for moving; he first gives the command "Adjust slings!". After this is done he gives the command "Quick-time (double-time), march!". During the march the sergeant checks for correct adjustment of the slings and equipment of the soldiers

After having executed a short march, the sergeant halts the unit, conducts a critique, and explains how to store the weapon during breaks between sessions and during rests. The weapon in this case is on sling, in the hands, or, at the order of the commander, may be put on the ground. Machine guns are placed on their mounts, while submachine guns are put on the ground with the cocking handle down

After the explanation the sergeant gives the order

"Put down arms", and then the order "Take arms" and trains the soldiers now to correctly put down the weapons and take them from the ground.

In conclusion the sergeant trains the soldiers in the rules for weapon handling during boarding and traveling on motor vehicles (armored carrier). He first explains that during boarding and disembarking the weapon must be carefully protected from shocks against the sides of the motor vehicle, especially against the metal sides of the armored carrier; when traveling the weapon should be held in the hands between the knees. It must be especially stressed that during travel one must under no circumstances set the machine guns on bipods on the floor of the vehicle.

Having finished the explanation the sergeant gives the commands "To the trucks" and then "Take your places". He then checks how the soldiers are positioned in the trucks and whether they are properly holding their weapons. He commands "Forward" and observes how the soldiers protect their weapons during travel After a while he gives the order "Halt" and "To the truck".

At the end of the session the sergeant forms the ranks, points out the mistakes observed in the course of the session, makes a critique, and gives assignments.

6. Training in Performance of Parts and Mechanisms of Weapon

Knowledge of the operations of the parts and mechanisms of a weapon is not an end in itself; it provides the soldiers with a conscious understanding of the character of malfunctions which arise during firing, of the causes of these malfunctions, and, therefore, ensures their quick and reliable elimination Thus, when studying this subject the soldiers should only be familiarized with the positions of parts and mechanisms of the weapon before loading Study of their functions during loading and firing is the most important part, requiring considerable attention and effort, since the operations must be studied as a whole (this should be pointed out at the beginning of the session) Due to this complexity, the sergeant should make maximum use of visual aids In addition to training (combat) weapons, there must be cut-away models of it, dummy cartridges, special stands for demonstration of the interaction of the weapon's parts and mechanisms, colored diagrams, and models of the trigger-and-firing mechanisms. For more convenient demonstration of the operations of the parts and mechanisms of the whole weapon as well as of its separate blocks, the instructor should preferably have two samples of the weapon: one assembled (best if placed on a special stand), and the other stripped. Half of the soldiers' weapons should also be stripped, and the other half - assembled

Before the training session or during the control questioning the sergeant should assemble the parts of a submachine gun and light machine gun (except for the magazine) on a special stand

On the stand for demonstrating the function of the parts and mechanisms of the submachine gun and light machine gun (Fig. 11), the bolt carrier with bolt, recoil mechanism, and magazine with dummy cartridges are assembled.

In order to successfully master the functions of the weapon's parts and mechanisms, the soldiers should already know the purpose and arrangement of certain parts and mechanisms, especially the moving ones: this should be checked by control questioning during the introduction to the training session

The three following topics should be outlined for the session:

1) position of weapon parts and mechanisms prior to loading;

2) functions of parts and mechanisms during loading;

3) functions of parts and mechanisms during firing (for submachine guns and light machine guns - during automatic and single-shot firing).

It has been found that the first question is mastered with difficulty, since all parts of the weapon are studied in static position When the functions of the parts and mechanisms during loading and firing are mastered, the

first question becomes more clear. Therefore, one should not worry if some soldiers do not master the first question at the beginning. It is recommended that after studying the contents of the second and third questions, the sergeant returns to the first and consolidates this knowledge by discussion.

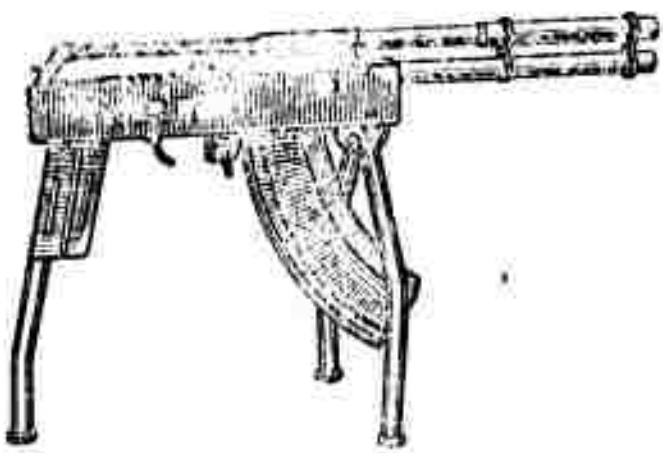

Fig 11 Stand with assembled parts for demonstration of operation of parts and mechanisms of submachine gun (light machine gun).

To develop the first problem the sergeant uses a cut-away model of the weapon, disassembled and assembled weapons on special stands, and also diagrams, and demonstrates and explains the positions of the parts and mechanisms of the weapon prior to loading. Special attention should be given to the positions of the moving parts of the weapon.

After finishing his explanations and demonstrations, the instructor questions a few soldiers; then he starts the study of the operations of the weapon's parts and mechanisms during loading

First, the sergeant shows and briefly explains how to load the magazine (belt) of the studied type of weapon with cartridges. To load the submachine gun magazine and light machine gun box magazine, the sergeant takes the magazine in the left hand with its throat up and arched side to the left, in the right hand - dummy cartridges with bullets toward the little finger so that the base of the cartridge case is slightly elevated above the thumb and forefinger Holding the magazine inclined slightly to the left, the sergeant inserts cartridges one by one with his thumb (Fig. 12) under the lip of the magazine side wall, placing them with the base of the case toward the backplate of the magazine

To load the light machine gun drum magazine, the sergeant takes it in his left hand with the throat up and cover facing away from him With his right hand he removes the carrier flap from the magazine with his left hand so that the left thumb is on the projection of the loading lever, while the other fingers grasp the magazine near the throat (Fig 13), he takes in his right hand blank cartridges with bullets toward the little finger. With his

left thumb he turns the loading lever of the magazine counter-clockwise; with his right hand he pushes the cartridge under the lock and releases the loading lever. All other cartridges are loaded in the same manner. Loading of the magazines of the sniper rifle and pistol is carried out in a manner similar to that for the submachine gun and light machine gun box magazines.

Fig. 12. Loading submachine gun magazine.

Fig 13 Loading light machine gun drum magazine.

To load the cartridge belt of the PK machine gun, the sergeant takes the belt in his left hand with the front edge facing away and cap to the left; he then takes cartridges with his right hand, inserts them one by one into the belt sections, and, using either his thumb or right palm, rams the cartridges until the cut-off of the cartridge mouth coincides with the front edge of the belt (Fig. 14)

Fig. 14. Loading of PK machine gun belt.

After that the loaded belt is placed in a box. It should be especially stressed that when loading the belt with cartridges, one must absolutely never press the base of the cartridge case against metal objects, particularly sharp ones.

Having finished the demonstration and explanation, the sergeant orders the soldiers to load the magazines and belts and place the belts in the boxes.

We will duscuss methods of further development of the second topic using, as an example, the training of light machine gunners.

After the machine gunners load the box and drum magazines with dummy cartridges, the sergeant announces that he will now show how to load the machine gun and orders them to watch his actions attentively; then he performs the loading without explanation. Next, he says that the machine gun is loaded and ready to fire.

It is expedient to explain and demonstrate the functions of the parts and mechanisms during loading on an unloaded machine gun; since the light machine gun is already loaded, it is necessary to unload it.

After unloading the light machine gun, the sergeant loads it once more, but this time step-by-step, explaining and demonstrating on an assembled light machine gun each function of its parts and mechanisms during loading. To demonstrate the operations of the separate parts and mechanisms, the sergeant makes use of blocks of a stripped weapon sample, separated in advance, and also of diagrams.

To load a light machine gun, one should:

1. Connect a loaded magazine to the weapon. The sergeant takes the magazine in his right hand, slightly elevates the rear part of the machine gun by the small of the stock using his left hand, then connects the magazine to the machine gun

He orders the soldiers to do the same for their weapons and to continue observation of his operations and listen carefully.

He then explains that when the magazine is connected, its hook overlaps the projection of the receiver, while the supporting projection goes behind the catch, and the magazine is well secured to the receiver. The upper cartridge, resting against the bolt carrier from below, somewhat lowers the cartridge into the magazine, compressing its spring.

2. Put selector lever in automatic firing (AV) position. The sergeant orders the machine gunners to set the selector levers of their machine guns on automatic fire He shows and explains that during this operation the wedged notch in the receiver plate for the bolt carrier handle is freed, while the sector of the selector lever remains in the single-fire sear notch without impeding the movement of the trigger.

3, Pull block carrier back as far as it will go and then release it. The sergeant performs this operation, pointing out that the machine gun is now loaded and ready to fire. One point should be stressed, namely that after pulling the bolt carrier, one should just release it but not ram it with the hand, since this may cause jamming during firing due to sticking of a cartridge in the chamber.

The sergeant orders the machine gunners to perform final loading of their machine guns.

He then explains and demonstrates in detail the functions of the parts and mechanisms of the light machine gun during this operation. When the bolt carrier is pulled back, it first moves without the bolt for a free-travel distance. This

distance is necessary in order that the bullet has time to leave the bore (to travel from gas cylinder to chase) before the bolt is unlocked, and to prevent blowback. After traversing the free-travel distance, the bolt carrier, by the forward slope of its cam slot, acts on the lead lug of the bolt, turning it to the left; the cocking notches of the block are released from the notches of the receiver, i.e. the bolt is unlocked. The bolt carrier lug frees the automatic trigger lever; under the action of the spring, the autotrigger sear is pressed toward the front surface of the hammer. The process of unlocking the bolt should be thoroughly demonstrated on a stand and on a model.

The sergeant then proceeds to show and explain those operations which take place during the continued movement of the bolt carrier:

- after unlocking, the bolt goes back, together with the bolt carrier, and opens the bore;

- recoil spring is compressed;

- under the action of the bolt carrier, the hammer rotates around its axis and the main spring is compressed; the sear cam notch of the hammer catches the trigger cam notch under the hammer retarder catch, and the hammer is put against the autotrigger sear, elevating the autotrigger lever and blocking the backward movement of the bolt carrier lug;

- as soon as the base plate of the bolt carrier passes the magazine well, the cartridges, under the action of the

magazine spring, rise until the upper cartridge is pressed against the lip of the magazine side wall.

After that the sergeant explains and demonstrates the operations of the parts and mechanisms of the machine gun when the bolt carrier is released:

- under the action of the return mechanism the bolt carrier moves ahead, together with the bolt;

- by its front notch, the bolt pushes the upper cartridge from the magazine, rams it into the chamber, and closes the bore; when the bolt approaches the breech face of the barrel the extractor hook engages in the cannelure;

- the slope of the left receiver notch acts on the slope of the left cocking notch of the bolt, and the cam slot of the bolt carrier affects the lead lug of the bolt ; as a result the bolt rotates about its longitudinal axis to the right; its cocking notches snap the bolt locks of the receiver, i.e., the bolt is tightly locked;

- by its stud, the block carrier rotates the autotrigger lever forward and down, releasing the autotrigger sear from the autotrigger hammer sear. Under the action of the firing pin spring, the hammer is freed from the hammer retarder catch and is put in the cocked position. The last process (movement of hammer from autotrigger sear to cocked position) should be especially stressed.

4. The sergeant then points out that unless immediate firing is required, the selector lever must be put on safety

In this operation the selector lever closes the stepped notch of the receiver plate, blocking the backward movement of the cocking handle; the selector lever sector turns forward and locks the trigger, being placed above the right rectangular trigger notch

On his submachine gun the sergeant puts the selector lever on safety and shows that in this position the bolt carrier does not go back and the trigger is locked He orders the soldiers to perform the same operations and to check the position of the bolt carrier and trigger on their guns.

Study of the third training problem of the session (operation of the parts and mechanisms during firing) should be started from the demonstration of the procedure for opening fire on the loaded weapon. The sergeant shows that in order to open fire, one should remove the safety and press the trigger

When the demonstration is finished, the sergeant, using the same method as during the study of the previous problem, explains and shows on the weapon the functions of the parts and mechanisms during firing: first, at the moment of the shot when the striker pin breaks the percussion cap of the cartridge, and then during the movement of the moving parts all the way back and then forward.

In many aspects, the operation of the parts and mechanisms during firing is similar to that during loading; therefore, the sergeant should use the discussion method during this session,

ask the soldiers to describe the operations of the separate parts and mechanisms. When studying the submachine gun and light machine gun, it is expedient to first discuss the operations of their parts and mechanisms during automatic fire, which is somewhat simpler, and only after that the single-shot firing.

When studying the third problem, the soldiers should already have mastered the content of the first problem, which merely acquainted the soldiers with the operations of the parts and mechanisms of their weapons.

The sergeant should try to achieve in the soldiers a conscious understanding of the basis of automatic action of the weapon and the procedure of locking (unlocking) the bolt.

The automatic action of all types of small arms (submachine guns, light machine guns, PK machine guns, sniper's rifle) is based on the use of the energy of powder gases which are led from the bore through the gas-escape port toward the gas piston. (The automatic action for a sniper rifle is, more correctly, reloading). Locking of the bolt for all these types of weapons is based on rotating the bolt about its longitudinal axis to the right (for submachine guns, light machine guns, PK machine guns) and to the left for the sniper rifle, and on engagement of their cocking notches in the bolt locks (notches) of the receiver.

The automatic operation of the pistol is based on the principle of using the energy of the free bolt recoil. Reliability of locking of the pistol bore during the shot is ensured by the significant mass of the block and by the force of the recoil spring

Let us demonstrate the methods for mastering the third question of the topic in an example of the study of the operations of the parts and mechanisms of the submachine gun, first during automatic fire, and then during single-shot fire.

The sergeant takes a submachine gun, already loaded and on safety, separates the receiver plate, and orders the soldiers to do the same with their weapons He then shows and explains that in order to perform automatic firing, one should set the selector lever on automatic fire and press the trigger. The sergeant orders the soldiers to put the selector levers of their submachine guns on automatic fire; he asks one of the soldiers to explain the operations performed by the parts of the trigger-and-firing mechanism (this question was previously mastered during the study of the second problem of the topic).

Then the sergeant places the submachine gun, with its magazine, on the table, holds it by the small of the stock in his left hand, leaving his right hand free for further demonstration.

With his left forefinger the sergeant presses the trigger In so doing, he must keep in mind that one cannot free the

pressed trigger of an assembled weapon (stand with assembled parts and mechanisms) prematurely because it will result in distortion of the operational cycle of the parts and mechanisms during the firing The sergeant should specially point this out and ask the soldiers to follow this requirement.

When the sergeant demonstrates the operations of the separate parts of the stripped weapon, he frees the trigger and later repeats his actions when explaining on the assembled weapon

The sergeant presses the trigger and explains what kinds of actions take place:

- trigger stud is disengaged from the cocked position; under the action of the firing pin spring, the hammer pivots around its axis and energetically strikes the firing pin;

- firing pin breaks percussion cap:

- explosive and fuze of percussion cap ignite; through the cartridge vent in the base of the case, the flame reaches the propellant charge and ignites it - the shot occurs;

- under the action of the powder gases, the bullet moves along the bore; as soon as it passes the gas-outlet, a portion of the gas is forced through this port into the gas cylinder, pressing the gas piston and throwing back the bolt carrier.

Then the sergeant takes the cocking handle in his right hand and gradually pulls it all the way back He orders the soldiers to do the same Since the operations of the parts

mechanisms during this operation were already studied, it is expedient to ask the soldiers to explain it

If the soldiers have trouble, the sergeant should repeat the explanations, paying special attention to the following concepts:

- necessity of free movement of the bolt carrier;
- process of unlocking the bolt and opening the bore;
- process of ejection of spent case from chamber;
- compression of the recoil spring.

The operations of the parts of the trigger-and-firing mechanism require the special attention of the sergeant He should point out that when the moving parts of the submachine gun go back:

- under the action of the bolt carrier, the hammer pivots around its axis; its sear cam notch is engaged with the trigger stud, under the catch of the hammer retarder, and is then put on autotrigger sear;
- the firing pin spring is pressed;
- the lever of the autotrigger goes up and blocks the movement of the bolt carrier lug.

Then the sergeant gradually releases the moving parts forward, orders the soldiers to do the same, and explains that when the bolt carrier together with the bolt, under the action of the compressed recoil spring, returns to the initial forward position:

- the bolt pushes the upper cartridge from the magazine, rams it into the chamber, and closes the bore;

- when the bolt approaches the breech face of the barrel, the extractor hook is engaged in the cannelure of the case;

- under the action of the slope of the left cocking notch of the bolt and then of the cam slot of the bolt carrier on the leading lug of the bolt, the latter pivots to the right around its axis (this process should be demonstrated separately on the disassembled bolt and bolt carrier); cocking notches of the bolt are engaged in the bolt lock of the receiver - the bolt is locked;

- moving forward, the bolt carrier pivots the autotrigger lever forward and down, releasing the autotrigger sear from under the autotrigger hammer sear;

- under the action of the firing pin spring, the hammer pivots and strikes the hammer retarder catch;

- the retarder pivots back, exposing its front lug for the hammer strike; as a result, the forward movement of the hammer is somewhat slowed. This makes it possible for the barrel to regain the position held prior to the strike of the bolt carrier with bolt, resulting in improvement of the accuracy of fire;

- after the hammer strikes the front lug of the retarder, it strikes the firing pin - the shot occurs

The operations of the parts and mechanisms of the submachine gun in subsequent shots will be repeated Automatic fire will continue as long as the trigger is pressed and cartridges are present in the magazine.

The sergeant explains that in order to stop the firing, one should release the trigger He performs this operation, orders the soldiers to do the same, and goes on explaining that under the action of the firing pin spring, the trigger will turn and the trigger stud will block the hammer sear, i.e the hammer stops in the cocked position.

Firing is stopped but the submachine gun remains loaded, ready to fire.

When the actions of the parts and mechanisms of the submachine gun during automatic fire are studied and the soldiers' questions are answered, the sergeant begins the study of the operations of the parts and mechanisms during single-shot firing.

This subsection is studied using the same methods as the previous one; the points already mastered should not be repeated

First, the sergeant shows and explains that for single-shot firing one should set the selector lever on single shot firing (OD) and press the trigger. He asks the soldiers to repeat his actions.

The sergeant then shows and explains that when the selector lever is set from the safety position to the single-shot position (OD), the sector of the selector lever frees the rectangular lug of the trigger (unlocks the trigger) and is completely disengaged from the single-fire sear notch.

When the trigger is pressed, all parts and mechanisms will operate during the first single shot in the same manner as during the first shot in automatic fire; however, the second shot will not follow since, together with the trigger, the single-shot sear will turn forward and its cocking stud will block the movement of the sear cam notch of the trigger The sear cam notch of the trigger will be engaged by the single-shot sear, and the trigger will be stopped in the back position (this should be shown on an assembled sub-machine gun as well as on a model of the trigger-and-firing mechanism). To perform the next shot, one should release the trigger and press it again. When the trigger is released, under the action of the firing pin spring it turns back, together with the single-shot sear, the latter will be disengaged from the sear cam notch, and free the trigger.

Under the action of the firing pin spring, the trigger pivots around, strikes first the retarder catch, then the front part of the retarder, and is engaged in the cocked position (this process should be shown on the model of the trigger-and-firing mechanism).

When the trigger is pressed again, the operations of the parts and mechanisms of the submachine gun will be repeated - the next shot will occur.

Having completed his demonstration and explanations, the sergeant answers the soldiers' questions and by selective questioning consolidates the studied material.

If time permits the sergeant carries out brief questioning on the first problem of the session - the positions of the parts and mechanisms of the weapon before loading.

At the end of the session the sergeant makes an analysis and gives assignments for independent work.

7. Study of Jamming in Firing and Means of Its Elimination

When developing this topic, the soldiers should study the causes and character of malfunctions which cause jamming during firing, and should learn how to eliminate them in practice.

Soldiers' skills in elimination of malfunctions during firing should be continuously perfected in field practice and firing

For the initial study of malfunctions that arise during the firing of any type of small arms approximately one hour of training is required.

The class should be provided with everything needed to create in the weapons almost all kinds of malfunctions which arise during firing. Besides the training (combat) weapons, there should be provided dummy cartridges, cases, and for PK machine guns, broken mouths of cases. To demonstrate the cause of malfunctions the instructor should have, if possible, in addition to an assembled sample of the seapon, one sample stripped; also a cut-away model of the weapon.

Successful mastery of the given topic is not possible without firm knowledge of the operations of the parts and mechanisms of the weapon Therefore, this knowledge must be checked during the control quiz. If it has been insufficiently mastered it should be studied again; only then should the new topic be started

At the beginning of the session it should be explained that with proper treatment and careful handling our combat weapons are reliable and dependable. However, during prolonged combat usage, careless handling, contamination of parts and mechanisms, and during malfunctions or contamination of live cartridges, malfunctions may arise during firing.

Then, it should be pointed out that every soldier must know the following general rules to prevent jamming:

- maintain the weapon in complete serviceability;

- strictly follow the rules for storage, stripping, assembly, cleaning and lubrication, checking and preparation of weapon for firing;

- thoroughly inspect the cartridges before firing; do not use defective or dirty cartridges;

- protect weapons from shock, dirt when firing and moving; especially protect the bore from contamination;

- in combat observe the rate of fire, not allowing the bore to overheat.

The sergeant should stress that the main method for elimination of jamming is reloading the weapon. If the jamming is not eliminated after this is done, then one should determine the character of the malfunction, its causes, and only after that start to eliminate it

The sergeant asks several questions on the material and then begins a description of the malfunctions

In order that the soldiers might more effectively memorize the kinds of malfunctions which occur during firing of any type of weapon, the malfunctions should be divided into three groups:

- malfunctions arising during loading of the weapon (when the moving system goes forward);

- malfunctions arising when producing the shot (during firing);

- malfunctions arising during unloading and reloading (when moving system goes back).

Following is a table of classifications of jamming for various types of weapons.

Table

1) Вид оружия	2) Задержки, возникающие			Общее число задержек
	3) при заряжании	4) при стрельбе	при разряжании	
7) Автомат, ручной пулемет	11) Неподача патрона; утыкание патрона	14) Осечка	17) Неизвлечение гильзы; прихват или неотражение гильзы	5
8) Пулемет ПК	12) Недоход затворной рамы в переднее положение; незахват или потеря патрона защепами извлекателя	15) Осечка; непроизвольная стрельба	18) Неполный отход затворной рамы назад; неизвлечение гильзы; прихват гильзы; поперечный разрыв гильзы	8
9) Снайперская винтовка	11) Неподача патрона; утыкание патрона	14) Осечка	17) Неизвлечение гильзы; прихват или неотражение гильзы	5
Пистолет	13) Неподача или непродвижение патрона из магазина в патронник; недокрытие патрона затвором	16) Осечка; автоматическая стрельба	Прихват (ущемление) гильзы затвором	5

Key:
1) Type of weapon
2) Malfunctions arising:
3) During loading
4) During firing
5) During unloading
6) Total number of malfunctions
7) Submachine gun, light machine gun
8) PK machine gun
9) Sniper rifle
10) Pistol
11) Failure to feed; cartridge stuck
12) Bolt carrier not reaching proper forward position; extractor hook did not catch or lost cartridge

(Key to Table, continued)

13) Failure to feed or to move cartridge from magazine into chamber; bolt fails to lock cartridge

14) Misfire

15) Misfire; involuntary fire

16) Misfire; automatic fire

17) Failure to extract case; holding of or failure to release case

18) Incomplete movement of the bolt carrier back; holding of case; cross rupture of cartridge

19) Holding (jamming) of cartridge by bolt

Methods for studying any kind of malfunction arising during the firing of any type of weapon might be as follows:

The sergeant creates on his own weapon or on the weapons of a few soldiers some given type of malfunction, names and describes it Obviously, the sergeant should not intentionally damage or deform parts of the weapon.

The soldiers are given an opportunity to thoroughly examine the weapon and understand the character (nature) of the shown malfunction Then, without explaining, the sergeant asks the soldiers what could cause this malfunction. Several soldiers should be asked. It is possible that the soldiers will not name all the reasons or even name the wrong ones; what is most important here is to activate the soldiers, force them to think and to analyze. Then the sergeant lists all the reasons named by the soldiers and points out the actual one

The sergeant then should explain and show practical ways for elimination of the malfunctions, not leaving out the principal method - reloading.

In the process of studying the malfunctions one should write their names on the blackboard; this makes memorization easier.

In conclusion, the sergeant should point out the total number of malfunctions arising during the firing of any given type of weapon (submachine gun, light machine gun, sniper rifle, pistol - 5; PK machine gun - 8).

Knowledge of the studied malfunctions should be consolidated in practice in order to establish skills in their elimination. To do this, the sergeant creates any of the malfunctions in the weapon of one of the soldiers and orders him to present the complete characteristics of it: name, causes, and means of elimination. Other soldiers observe the actions, add to them, or correct mistakes. Special attention should be given to elimination of cross rupture of the cartridge case. This type of jamming is first eliminated through reloading; if this does not work, an extractor is used.

At the end of the session the sergeant conducts a review and gives assignments

As an illustration, let us show the technique of artificially creating malfunctions for the submachine gun and how to describe them. The receiver plate of the

submachine gun is removed for convenient demonstration and observation:

1. Failure to feed

Take magazine, load it with several dummy cartridges, and connect it to the submachine gun so that it cannot completely reach the upper position and the floor plate catch sill not engage in its supporting notch. Hold the magazine in the left hand so that it will not drop. Disengage submachine gun from safety with the right hand, pull bolt carrier all the way back, and release it. Explain that the submachine gun is loaded and ready to fire. Press the trigger; point out that firing (shot) does not occur. Carry out reloading; cartridge will not be extracted. Show the breech chamber - there is no cartridge visible. Conclude that jamming has occurred, i.e. failure to feed; bolt is in the forward position but there was no shot since chamber contained no cartridge.

2. Cartridge stuck

Connect magazine to submachine gun. Press magazine plate against table. Take cocking handle in right hand and pull it slightly back. Take dummy cartridge with left hand and place it between the bolt and barrel so that its bullet is pressed against the breech face of the barrel. Release cocking handle. Point out that

jamming has taken place, i.e. stopping of cartridge. The cartridge is pressed by the bullet against the breech face of the barrel. Moving parts will remain in the middle position.

3. Misfire

Load the submachine gun. Press the trigger. Show that firing (shot) does not occur. Moving parts are all the way forward. Conclusion - misfire occurs when cartridge is in the chamber and trigger is pressed but no shot occurs.

4. Failure to extract case

Press submachine gun against the table by its magazine plate. Take cocking handle in right hand, pull it back so that the front part of the bolt passes the magazine. Take cartridge case with left hand and insert it into the chamber. Release cocking handle; the bolt will ram the next cartridge forward and the latter will be pressed against the base of the cartridge case. Point out that jamming has occurred - failure to extract cartridge case. When the bolt carrier was pulled back, the case remained in the chamber ; next cartridge was pressed against the case; moving parts are in the middle.

5 Holding or failure to eject case

Press submachine gun by magazine plate against the table. Pull cocking handle slightly back with right hand. Take cartridge case with left hand, place it in front of the bolt so that its base is inside the receiver. Releasing the cocking handle, obtain jamming of the case between the front slope of the bolt and front side of the receiver or breech face of the barrel. Point out that jamming has occurred - holding of or failure to eject the case. There is no cartridge in the chamber. Moving parts did not reach all the way forward.

8. Training Soldiers in Weapon Inspection

The purpose of this topic is to train the soldiers in how to conduct daily inspection of the weapon, inspection prior to fatigue detail, prior to the training sessions, in combat situations, and during cleaning.

As during the study of the previous topics, only the basic rules of inspection are formulated in the study of the present topic In the course of daily service and study the soldiers' skills are improving and solid practical habits in weapon inspection are being formed

Knowledge of previously studied problems should be tested in a control quiz; to connect this material with the new topic one should partially strip and assemble the weapon

and recall the rules and procedures for cleaning and lubricating it.

Study of the given topic should be conducted on the regulation combat weapon. In addition, accessories and all material needed for cleaning and lubricating should be provided.

The following training questions may be outlined for the session:

1) general regulations for weapon inspection;

2) procedure for conducting daily inspection;

3) procedure for weapon inspection prior to fatigue detail, training sessions, or in combat situations;

4) procedure for weapon inspection during cleaning

When developing the first question, the sergeant explains that soldiers conduct systematic inspection of their weapons in order to check the weapon's serviceability, cleaness, quality of lubrication, and readiness for firing. At the same time one checks the serviceability of accessories, presence and condition of spare magazines, belts, boxes, covers, and spare barrels

The sergeant then says that all malfunctions detected should be reported to the unit commander and eliminated immediately within the unit. Otherwise the weapons are sent to the repair shop

In conclusion, the sergeant specifies that the soldiers conduct three main types of weapon inspection: daily; prior to fatigue duty, training session, in combat situations; during cleaning.

During the first two types of inspection the weapon is inspected in an assembled state; during the cleaning - stripped.

The sergeant consolidates the material by questioning several soldiers; then he begins study of the second question.

The sergeant first says that daily weapon inspection is conducted when the weapons have been in the rack without use. He takes the weapon and orders the soldiers to do the same; then he shows and explains the procedure for daily weapon inspection

First, check the presence of all parts and mechanisms, accessories, spare magazines, belt boxes, spare barrels. Starting from the chase, the sergeant checks the exterior parts. To check interior parts and mechanisms without stripping the weapon, disengage the safety, pull the moving system all the way back (for the submachine gun and light machine gun), and, lightly holding the cocking handle, release it all the way forward, disengage trigger from sear cam notch, and reengage the safety. For the PK machine guns, in addition check the mount aiming mechanism.

Second, check the outside condition of exterior parts Starting again from the chase, check if there is any dirt, dust, rust, nicks, or burrs on the metal parts or any splitting, ruptures, or breakage on the wooden parts.

Third, check quality of lubrication of the interior parts There should be a thin layer of lubricant on all metal parts.

Wooden parts should be rubbed dry. When inspecting the submachine guns, light machine guns and PK machine guns, additionally check the reliability of the cleaning rod fastening.

In the course of the sergeant's presentation the soldiers conduct inspection of their weapons, reporting the results to the sergeant If one of them discovers incorrect lubrication or the presence of dirt, dust, or rust on the weapon, the sergeant orders him to eliminate these defects on the spot

At the end of the study of the second question, the sergeant orders one or two soldiers to repeat the procedure for daily weapon inspection.

When starting the third question, the sergeant states that before a training session or fatigue duty, or in a combat situation, the soldier should inspect his weapon. The sergeant stresses that in these three cases the procedure for weapon inspection is the same. He then adds that inspection in these cases, in comparison with the daily inspection, is conducted in more detail, since practical use of the weapon (firing) will take place immediately afterwards

After this introduction, the sergeant takes the weapon and shows and briefly explains the procedure for conducting this type of inspection. In the course of the presentation, all soldiers observe his actions and perform one or another operation at the request of the sergeant. He carefully monitors their actions.

As in daily inspection, in the course of this type of inspection all parts and mechanisms, their condition, and the quality of lubrication are checked.

Further inspection proceeds as follows:

- check serviceability of sighting device;

- check for extraneous material in bore that may cause inflation or even rupture of bore;

- check accuracy of operations of moving system, trigger (trigger-and-firing)mechanism, and safety

To check the serviceability of the sighting mechanism, the sergeant moves the rear sight slide several times along the sight leaf and sees if it moves smoothly and is reliably clamped in the necessary position, checks whether spring holds rear sight leaf reliably; checks front sight. The latter should not have any dents, bends, and one should not be able to move it by hand For submachine guns and light machine guns, the guide key mark should coincide with the mark on the base of the front sight

Let us illustrate on the example of training submachine gunners the procedure for inspecting the bore and proper operation of parts and mechanisms.

To check whether the bore of the submachine gun contains extraneous material, the sergeant separates the magazine from the submachine gun, places it by its pistol grip on the table, holding the hand guard and fore end of stock with his left hand. With his right hand he pulls the cocking handle

slightly back and changes hands; with his right hand he places a small sheet of white paper into the bore in front of the breech block. Still holding the submachine gun and bolt carrier with his left hand, he takes it with his right hand by the muzzle end, turns it around, and raises it to eye level. He looks through the muzzle, inspecting the bore Then he lowers the weapon , extracts the paper, releases the bolt carrier, disengages the trigger, and puts the weapon on safety.

To check the correctness of the operations of parts and mechanisms of the submachine gun, the sergeant performs the following actions:

- he puts selector lever on automatic fire (AV), pulls the bolt carrier all the way back, and releases it (bolt carrier should reach all the way forward); he again pulls the bolt carrier back and holds it in this position, presses the trigger, and slowly releases the bolt carrier - when the bolt carrier reaches all the way forward, a click should be heard (trigger hits firing pin); then he releases the trigger;

- puts selector lever on single-shot fire (OD), presses the trigger, pulls the bolt carrier all the way back, and, without releasing the trigger, releases the bolt carrier and trigger; a click should be heard - hammer is disengaged from the single-shot sear nose and engaged in the cocked position;

- activates the safety lock, presses the trigger; the tail of the trigger should not go back and the hammer should remain in the cocked position;

- disengages the safety and presses the trigger; the latter should freely go back and a click should be heard - the trigger hits the firing pin.

When changing the positions of the safety lock, the sergeant should check whether it hold reliably in each position.

For submachine guns with a folding stock, the condition of the stock is checked. The sergeant checks how the stops are working in both positions, and also the conditions and stop in the folding position for the shoulder support.

After the demonstration and practice by the soldiers, the sergeant should once more recall the procedure for weapon inspection during the studied cases and ask several soldiers to repeat the studied material. If time permits, it is useful to again repeat the weapon inspection procedure with the soldiers.

Before starting the study of the procedure of weapon inspection during cleaning, the sergeant orders all soldiers to partially strip their weapons. He then explains that during this type of inspection, each part and mechanism is checked separately. Metal parts are inspected for pits, dents, roughness, stripping, bends, rust, and dirt; wooden parts for splits, break-offs, and wear.

After the explanation, the sergeant sequentially demonstrates the procedure for inspection of each part The soldiers first observe and then, under the sergeant's supervision, perform the inspection and report the results.

The sergeant explains that in this type of inspection special attention should be given to the condition of the bore To perform this inspection, the sergeant first orders each soldier to inspect the accessories, assemble then, and dry out the bore and chamber with oakum as was done during cleaning Then the sergeant names the types of defects in chromed and non-chromed bores and briefly describes each of them. If there are on hand samples with typical bore defects, the sergeant shows them.

Chromed bores can have the following defects: burn-grid, pits (shearing off of chrome), wear-off of ribs, barrel inflation

The burn-grid consists of fine intersecting lines in the bore, more often in the bore breech end Later, cracks are formed in these sites, then the chrome layer begins to crumble, first in the form of fine flakes; then the process speeds up and is transformed into chrome shear-off. It should be stressed that unless properly and thoroughly cleaned, corrosion can appear in these sites.

Pits are significant depressions in the metal which develop from the burn-grid as a result either of prolonged

firing or of corrosion. Bore having such defects should be thoroughly cleaned after firing.

Wear-off of ribs is formed as a result of prolonged use of the weapon and also when the bore cleaning procedure (cleaning of bore without front handguard) is not followed.

The last type of bore damage, inflation, should be described in great detail. Inflation is the enlargement of the weapon bore in a given area of the barrel. Barrel inflation may be observed as a cross-wise dark (shadow) solid ring (half-ring). It may even be obserbed from the outside of the barrel as a bulge of the metal at the site. The sergeant should explain that barrel inflation occurs if during firing extraneous material or dirt is present in the bore. Therefore, one should fire only with a clean bore; do not plug the bore with oakum.

Possible defects in non-chromed barrels are as follows: eruption, traces from rust, rust, pits, rib wear-off, barrel inflation, coppering, scratches, dents.

Eruption is the primary contamination of the metal by corrosion It appears in the form of points and spots, either at certain places or along the whole surface of the bore.

Traces from rust are shallow spots which are left when rust is removed

Rust is a dark brown coating on the metal. Even small amounts of it might be found when the bore is dried with a clean patch on which it will leave yellowish spots.

Coppering appears as a fine copper coating on the walls of the bore. It is a result of firing with tombac-plated bullets The sergeant should make it clean that coppering is removed only in the repair shop

Scratches are marks, sometimes having a noticeable raising of the metal. Dents are more or less significant depressions, sometimes with raising of the metal Scratches and dents appear during the cleaning of the bore with contaminated cleaning material

Other possible shortcomings of non-chromed bores are the same as those of chromed ones and were noted above.

The sergeant then points out that any of the mentioned defects is usually as a result of violation of the rules for storing, maintaining, cleaning, and lubrication of the weapon and leads to reduction of its firing abilities; defects such as barrel inflation can completely remove the weapon from service. The sergeant calls for careful, conscious treatment of the weapon.

The sergeant demonstrates the procedure for inspecting the bore He takes the weapon barrel in both hands, raises it to eye level, and arranges it in such a way that light from the light source strikes the barrel walls but not the eye Rotating the barrel, he checks the chase, the middle

part of the barrel, and the breech end. When checking the chase and the breech end, one should somewhat move the barrel away from the eye; when checking the middle part, bring it nearer to the eye.

After the sergeant accomplishes the demonstration he asks the soldiers to inspect the bores of their weapons and report the results

Each soldier must know the condition of the bore of his weapon, write it down in the qualitative condition record of the submachine gun or light machine gun log, and preserve these conditions.

The sergeant demonstrates the procedure for inspecting the chamber (which is performed from the breech end) and trains the soldiers to carry out this process.

In conclusion, the sergeant orders the soldiers to lubricate their weapons, assemble them, and check the operations of all parts and mechanisms of the assembled weapon.

When reviewing the training session, the sergeant once more points out the importance of the material studied and the necessity of remembering the procedures for all types of weapon inspection.

9. Training in Preparation of Weapon for Firing

The purpose of this topic is to train soldiers in the correct preparation of their weapons for firing. The class should be equipped with the regulation weapon, accessories, cleaning and lubricating materials, and dummy cartridges.

The session on preparation of the weapon for firing is a direct continuation of the session on weapon inspection. Therefore, during the control quiz one should check how well the soldiers are able to perform daily inspection and inspection prior to the session fatigue duty, and in a combat situation. It is not recommended that the weapon be inspected in a disassembled condition (during cleaning), since this requires too much time; on the other hand, inspection of the stripped weapon is a part of the topic on preparation of the weapon for firing and will be discussed in the body of the session.

After the quiz, the sergeant announces the topic and purpose of the session and begins explaining the new material.

The weapon should be prepared for firing as follows:

- strip the weapon (partial);
- clean all parts and mechanisms;
- inspect stripped weapon;
- lubricate parts and mechanisms and assemble them;
- inspect weapon assembled;
- inspect magazines of submachine gun (light machine gun, pistol, sniper rifle), belt box and spare barrel for PK machine gun.

Immediately before firing the following operations must be carried out:

- wipe the bore clean (rifled portion and chamber);
- inspect live cartridges;
- load magazines or belts; put loaded magazines in pouches and belts in boxes.

The sergeant then demonstrates in practice the procedure for weapon preparation and orders the soldiers to prepare their weapons.

Since many elements are already known to the soldiers (stripping and assembly, cleaning and lubricating, types of weapon inspections, loading of magazines and belts), it is expedient to merely name them and order the soldiers to perform them.

When developing the procedure for weapon inspection in stripped condition during preparation for firing, it should be stressed that this type of inspection is carried out in the same sequence as during cleaning, except the serviceability of each part and mechanism is checked more thoroughly.

As an example, we will analyze the procedure for inspection of parts and mechanisms of the PK machine gun in disassembled state The sergeant first shows and explains how to inspect the barrel. He takes it in his hands, asks the soldiers to do the same, and carries out exterior inspection of the barrel; he then checks the condition of the bore.

In the exterior inspection the sergeant looks for:

- various kinds of defects (dents, pits, etc.);

- barrel inflation (inflation appears as an expansion at a given site on the barrel);

- whether the flash hider is reliably fixed;

- how stop operates; it must smoothly go down to the base of the front sight when pushed with the finger, and return when released;

- whether gas cylinder is in good condition;

- whether regulator is in good condition; how accurately is it set and how reliably fastened

Inspection of the condition of the bore and its possible defects were already discussed in the previous section. After checking the rifled part of the bore, the sergeant inspects the chamber from the breech end, paying special attention to its cleaness.

He then orders the soldiers to do the same and report their results.

When inspecting the receiver, the sergeant checks:

- condition of ejector point;

- presence of bends or dents on foldings;

- tightness of stock and pistol grip;

- whether gas cylinder fuze is fixed properly;

- operation of spring of ejection port shield and magazine follower shield ;

- whether retracting handle is held reliably.

As the sergeant demonstrates and explains, the machine gunners carry out inspection of the receivers of their weapons and report all defects found to the sergeant.

During inspection of bolt carrier with gas piston, the following points are checked:

- presence of dents in cam slot, in slots on the side walls, and on gas piston;

- condition of cocked position;

- presence of bends on parts of extractor (checked with the aid of dummy cartridge);

- whether gas piston is properly connected to the bolt carrier and whether it pivots freely vertically.

The bolt is inspected:

- are there any cracks around the opening for the firing pin exit;

- whether firing pin and extractor are in good condition;

To inspect the firing pin, the sergeant puts the bolt in a vertical position; when he rotates the bolt 180°, the firing pin should freely move in the channel under its own weight; when he displaces the firing pin all the way forward it should protrude from the opening of the cylinder notch and should not have traces of splits or burning.

To inspect the extractor, the sergeant pulls it aside with his finger and then releases it - the extractor should return immediately under the action of the spring. Engage

a dummy cartridge into the bolt by the edge of the base of the cartridge case with the extractor hook - the latter should firmly hold the cartridge Check whether the hook is in good condition.

When inspecting the feed block, the sergeant checks:

- presence of dents and bends on the base of the feed block and on the receiver plate;

- do top pawls, belt feed lever, shields plate catch, magazine follower feed pawl operate properly;

- whether base of feed block and cover are fixed properly when open.

When inspecting the recoil spring with guide rod, the sergeant checks:

- presence of defects or bends in recoil spring;

- whether guide rod is bend;

- whether parts of guide rod are firmly joined to each other and whether they pivot around their junction point.

Inspecting the trigger mechanism, the sergeant checks:

- whether trigger cam is in good condition;

- whether safety device and securing pin operate properly.

When developing the procedure for weapon inspection in the assembled state, the sergeant should point out that this type of inspection is similar to that done before a session, except that in addition, using dummy cartridges, one checks cartridge feeding into the chamber, extraction and ejection of cases (cartridges), and also thoroughly inspects the condition of all parts and weapons from the outside.

To check cartridge feeding to the chamber, extraction, and ejection of cases (cartridges), load the magazine of the submachine gun (light machine gun, pistol, sniper rifle), or the belt of the PK machine gun with three to six dummy cartridges and load the weapon; press the trigger, pull bolt carrier (bolt) all the way back, release it, and again press the trigger. Repeat until there are no cartridges left in the magazine (belt). Cartridges should be freely fed to the chamber, extracted, and ejected from the receiver. The floor plate catch should firmly hold the magazine, and the belt of the PK machine gun should not slip from the feed block.

When teaching the procedure for inspecting live cartridges the sergeant should state that this operation includes:

- whether cases have rust or bends hampering free insertion of the cartridge into the chamber;

- whether bullet is loose in mouth of case;

- whether percussion cap has green coating or cracks, and whether percussion cap projects higher than the surface of the base of the case.

All defective cartridges are collected and sent to the ammunition distribution point and later to the depot. If there is dust or dirt on the cartridges they should be wiped with a clean, dry patch. Here, it should be pointed out that if dummy cartridges are used, they are inspected in the same manner. One should never use defective dummy

cartridges, since this will result in weapon damage.

At the end of the preparation of the weapon for firing, the sergeant orders the soldiers to load the magazines of the submachine gun (light machine gun, sniper rifle, pistol), or belts of the PK machine gun with dummy cartridges and place the belts in the boxes. Then the sergeant shows them how to extract cartridges from magazines and belts.

To extract the cartridges from the magazine, he takes the latter with his left hand with its throat up and support stud toward himself. He tilts the magazine slightly downward; using one cartridge, he pushes the cartridges one by one from the magazine.

The sergeant demonstrates this operation and then orders the soldiers to extract the dummy cartridges from the magazines (belts).

Further training should be done during field exercises.

The sergeant then analyzes typical errors made by the soldiers during preparation of the weapon for firing and gives assignments.

10. Study of Malfunctions, Affecting Normal Action of Weapon (Zero)

It is expedient to study these malfunctions during a special session, not when studying the types of weapon inspection. This material is of great importance for firing.

The session should be conducted after the soldiers briefly study the basics of firing; one hour is sufficient for the session.

The purpose of this session is study of the typical malfunctions of the weapon which affect its action. It is conducted in the classroom or at the firing site.

Knowledge of the content of this session will make it possible for the soldiers to analyze the results of firing, discover errors made during the firing, and by so doing create an independent, concious submachine gunner or light machine gunner.

In addition to the weapon, the class should be provided with a device for demonstrating the various possible placements of the aiming accessories (rear sight leaf and front sight) and targer, and also demonstrational front sights.

The session is conducted by the discussion method, actively involving the soldiers.

Starting the new material, the sergeant should stress that the results of firing depend completely on the person performing the firing, his skill in performing the firing techniques, preparation of the weapon for firing, his knowledge of the firing rules, and how well he follows the rules for storing and protecting his weapon. When the weapon is treated carelessly, malfunctions might arise affecting its action.

The sergeant describes these malfunctions. He first points out that the front sight can be displaced to the right or left, up or down To demonstrate, the sergeant uses the demonstrational front sight and a device on which the front sight, rear sight, and target can be displaced in both vertical and horizontal directions (Fig. 15).

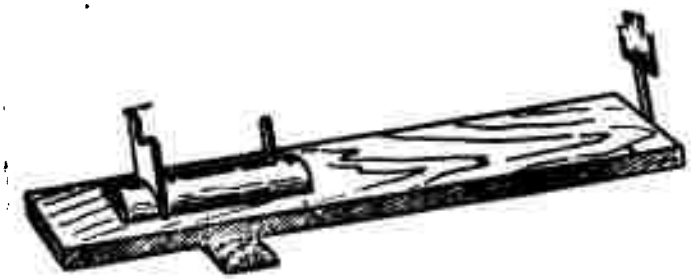

Fig. 15. Device for demonstrating displacements of weapon aiming devices and target.

The sergeant orders one of the soldiers to set the centered front sight on the demonstrational front sight and place it under the lower center cut of some target. He checks the correctness of the setting and shows the demonstrational front sight to all the soldiers. He then sets the device on the table, places the centered front sight of the device under the center lower edge of the target, and asks each soldier to observe the orientation. He then orders another soldier to set the front sight misalined to the right on the

demonstrational front sight, while he does the same on the device The sergeant has all the soldiers observe the front sight aligned to the right on the demonstrational front sight and on the device and asks them: "When the weapon has its front sight alined to the right, what direction will the bullets take?" He analyzes the answers and then explains that under these conditions, the bullets will deviate to the left He demonstrates this on the device.

In the same manner the sergeant explains how other possible displacements of the front sight (to the left, up, down) affect the firing. The soldiers should be warned that they must distinguish between whether the front sight is alined in one direction or another or whether the person firing has made an error when aiming (i.e., has held the front sight to one side or another). In the latter case the bullets deviate in the same direction.

The sergeant also explains that as a result of shocks, the sight leaf may be bent to the right or left. Using the same device (Fig. 15) and method as during the demonstration of the front sight displacement, the sergeant shows possible bendings of the sight leaf and explains how they will affect the path of the bullets. They will deviate to the side of displacement of the sight leaf notch: if it is to the right, the bullets will go to the right.

Having questioned a few soldiers, the sergeant describes the next possible weapon malfunction - bending of the barrel. Its effect on the action of the weapon is obvious; therefore, it is sufficient if the sergeant points out that in this case the bullets will deviate to the bending side of the chase

The sergeant then describes other possible weapon malfunctions:

- dents on muzzle face of barrel, bore wear-off, grinding of ribs, and pits inside the bore result in greater bullet dispersion;

- rocking of sight leaf, front sight, stock, and shaking of bipod of light machine gun mount also lead to greater bullet dispersion.

Having finished the discription of all possible malfunctions, the sergeant checks how well the soldiers have mastered the material; then he stresses once more that all the mentioned malfunctions arise from errors made by the soldier. To avoid these errors, each soldier should protect his weapon as the apple of his eye and it will never fail him: all bullets will surely strike their target.

At the end of the session the sergeant makes a general analysis and gives assighments.

11. Training in Checking Action of Weapon and Zeroing It

The purpose of this session is to acquaint the submachine gunners, and light and PK machine gunners with the rules for checking the action of small arms and zeroing them, as well as a practical demonstration of the procedure for checking the action and zeroing the weapons assigned to them. For manual anti-tank rocket launcher personnel, the purpose is mastery of the procedure for inspecting the sighting mechanisms of the rocket launchers.

The session is set up within the company or unit and is conducted on the firing range with firing of live cartridges. If the session is organized within the company, it should be conducted by company groups (specialties): submachine gunners, light machine gunners, rocket launcher personnel, and PK machine gunners. The unit commanders are the instructors of the separate company groups; squad commanders assist them.

If the session is conducted within the platoon, then the squad commanders lead the training of the submachine gunners and light machine gunners, while the rocket launcher personnel form a separate platoon group and are supervised either by the platoon commander or one of the squad commanders or a well-prepared, experienced rocket launcher operator.

The session should be supplied with:

- a combat weapon for each soldier;
- live cartridges;

- verification targets for each weapon;

- supports (for firing submachine gun from prone position);

- diagrams (15 and 20 cm in diameter) for determination of the accuracy of fire;

- sighting devices for each rocket launcher;

- special devices and targets for verification of rocket launcher sighting mechanisms (for each);

- qualitative condition records for submachine gun and light machine gun log;

- rulers, colored pencils and chalk.

An armorer with a set of instruments and device for moving the front sight must always be present at the session.

The introductory part of the session is conducted by the general instructor (company or unit commander); the units (groups) are then assigned separate sites Here, the sergeants begin the session by describing the general rules and requirements for checking the action of the weapon and zeroing it.

The description could be done according to the following plan:

- the necessity of zeroing all combat weapons of the unit (a zeroed weapon insures reliable destruction of the target);

- four cases in which the action of the weapon is checked: when the weapon arrives in the unit's armaments; after replacement or repair of parts which could affect the weapon's action;

when abnormal bullet deviation is discovered during firing; under combat conditions - periodically, as the situation permits;

- general preparation for checking action of weapon and zeroing it;

- conditions favorable for conducting checking of weapon's action;

- rules for checking action of weapon: firing range, description of verification target (Fig. 16), adjustment of sight; number of cartridges; use of cartridges with ordinary bullets from the same lot; firing position;

- rules for zeroing

Fig. 16. Verification Target

To explain all the designations for checking the action of and zeroing small arms, one may use a table prepared in advance:

1. Вид оружия	2. Расстояние, м	3. Прицел	4. Превышение контрольной точки над точкой прицеливания, см	5. Количество патронов, шт.	6. Габарит кучности боя (диаметр круга), см	7. Допустимое отклонение СТП от контрольной точки, см	8. Смещение СТП, см: при перемещении мушки (целика) в сторону на 1 мм	8. Смещение СТП, см: при ввинчивании (вывинчивании) мушки на 1 оборот
11. Модернизированный автомат Калашникова (АКМ)	100	3	25	1	15	5	26	20
12. Ручной пулемет Калашникова (РПК)	100	3	25	4+8	15/20	5	18	14
13. Пулемет Калашникова (ПК)	100	3	15	4+10	15/20	5	15	12
14. Снайперская винтовка Драгунова (СВД)	100	3	16	4	8	3	16	16
15. Пистолет Макарова (ПМ)	25	—	12,5	4	15	5	19	—

Key: 1. Type of weapon
2. Distance, m
3. Sighting device
4. Excess of control point over aiming point, cm
5. Number of cartridges
6. Accuracy of fire diagram (diameter of circle), cm
7. Permissible deviation of STP from control point, cm
8. STP displacement, cm
9. With displacement of front sight (rear sight) 1 mm to the side
10. Screwing (unscrewing) front sight one revolution
11. Modernized Kalashnikov submachine gun (AKM)

12 Kalashnikov light machine gun (RPK)
13 Kalashnikov machine gun (PK)
14. Dragunov sniper rifle (SVD)
15. Makarov pistol (PM)

After the explanation is completed, practical training in the procedure for checking the action of the weapon and zeroing it is begun.

The firing and checking of the targets are conducted according to the general directives given by the general instructor of the session (firing)

We will discuss the methodology of further conduction of the session in an example of the training of submachine gunners and light machine gunners by the unit commander.

First, under the guidance of the sergeant, verification targets are prepared for each inspected weapon type; the targets are then placed at a distance of 100 m from the firing line.

The sergeant then points out that when the weapon is checked for action or zeroing, the firing is conducted not by the owner of the weapon, but by specially selected riflemen. The latter are excellent marksmen having no specific individual peculiarities in firing. Having finished the explanation, the sergeant calls out the riflemen from the unit.

Following the general directives of the session (firing) instructor, the riflemen take their places on the firing line,

prepare for firing (submachine gunners from prone position with rifle rest, light machine gunners from prone position using the bipod), and perform four single shots using cartridges with ordinary bullets taken from a sealed package.

After the cease fire signal, the unit commander takes a ruler,diagrams, colored pencils, and chalk, and leads the unit to the verification targets The riflemen remain in their initial positions, since these positions are important during later firings

Having approached the targets, the sergeant forms the unit into one or two ranks at a distance of two steps from the target and starts target inspection. First, using the diagram, he checks the accuracy of fire. The latter is considered standard if all four holes or the best three are within the 15 cm circle. If the accuracy is considered non-standard, the weapon is inspected and the firing repeated.

If the accuracy is standard, the sergeant, using the ruler and colored pencil (chalk), determines the center of impact (STP) with respect to the four or best three holes and measures the deviation of the STP from the control point. When the weapon is zeroed, the STP should coincide with the control point or deviate from it by no more then 5 cm in any direction. If the weapon's action is nonstandard with respect to height or lateral direction, the sergeant determines the deviation of the STP from the control point with respect to one vertical line, one horizontal line, or both and

determines how the front sight position should be changed relative to the height, to the side, or in both directions.

Let us discuss the deviation of the STP from the control point by 15 cm to the left and 8 cm down.

Assuming that for the given type of weapon displacement of the front sight to the side by 1 mm displaces the STP during firing at 100 m by 26 cm, and that one revolution of the front sight displaces it by 20 cm, the sergeant determines:

a) relative to the lateral direction

1 mm - 26 cm

X_1 - 15 cm

$$X_1 = \frac{1 \times 15}{26} \approx 0.6 \text{ mm}$$

b) relative to height

1 front sight revolution - 20 cm

X_2 " " " - 8 cm

$$X_2 = \frac{1 \times 8}{20} \quad 0.4 \text{ rev.}$$

Since the bullets deviated to the left by 15 cm and down by 8 cm, to correctly zero the submachine gun one should displace the front sight in the same direction as the STP deviation from the control point, i.e., to the left by 0.6 mm and rotate it by 0.4 revolution.

Having finished the inspection of targets and the calculation, and having decided what to do with the front sight of each type of weapon, the sergeant leads the unit to the initial position. Here he himself or the armorer appropriately corrects the front sight position; then the single-shot firing is repeated

Then the unit again approaches the targets; this time it is expedient to assign the target inspection to the soldiers, monitoring their actions and giving assistance as necessary.

If during the single-shot firing the weapon demonstrates standard features it is considered to be zeroed; for the light machine gun, additional checking by automatic firing is done To do this the rifleman performs firing by bursts, using eight cartridges. Again, the unit is taken to the target and the sergeant inspects it. Light machine gun action during automatic fire is considered standard relative to accuracy of fire if no less than six out of the eight holes are within the 20 cm diameter diagram, and with respect to direction - if the STP deviates from the control point by no more than 5 cm in any direction.

If the action of the light machine gun during automatic fire is not standard, then appropriate changes in the position of the front sight are made and the firing is repeated. If after repeated firing the action is still not standard, the weapon is sent to the repair shop.

Having finished inspection of the weapon's action, the sergeant points out that the front sight position of a zeroed weapon is fixed The armorer eliminates the old gradation mark on the guide key of the front sight of the submachine gun and light machine gun and replaces it with a new one

Final results of checking the action of the weapon are written in the qualitative condition records of the submachine guns and in the logs of the light machine guns.

In conclusion, the sergeant states that each soldier should remember the position of the front sight of his zeroed weapon.

During the session with the PK machine gunners, having zeroed the main barrel, zeroing of the spare barrel is done in the same way (first, by four single-shot firings, then by firing in bursts using 10 cartridges). The results are also written into the log. In addition, for the PK machine guns, after zeroing from the bipod, the action is checked from the mount by automatic firing only (10 cartridges). Firing is done from the prone position; the action is considered standard if eight out of the ten holes are within the 20 cm diameter diagram and the STP deviates in any direction from the control point by no more than 5 cm

When training the rocket launcher personnel, the sergeant (unit commander) reminds them that during checking of the action of the rocket launchers and their zeroing, live or inert grenades are not used. Instead, only their sighting mechanisms are inspected. The inspection is done for the same reasons as checking the action of small arms; in addition it is done after the first firing and after each 3-5 subsequent firings. This is due to the fact that the sighting mechanisms of the rocket launchers, unlike those of small arms, are to

a grater degree subject to various mechanical shocks

To check the sighting mechanism of the rocket launchers, a special device and target are used; the sergeant demonstrates and describes them to the soldiers. Then he orders them to fix the rocket launchers to the sighting devices, expose the targets, and practically check the sighting mechanism of the rocket launchers He then makes final conclusion about the condition of the sighting mechanism of the checked rocket launchers

At the end of the session, the unit commanders (squad commanders) conduct a brief analysis, and the instructor - the platoon commander (company commander) - makes a general analysis and gives assignments.

12. Training in Partial Decontamination of Weapon

The session on this topic is conducted only after study of the combat characteristics of nuclear and chemical weapons, ways and means of protection against them, designation and composition of an individual gas casualty first-aid kit and of decontamination kit, purpose and nature of partial decontamination.

The goel of this session is to train soldiers in conducting decontamination and disactivation of his own weapon.

Session should be conducted on open air, preferably within a specially eqhipped area.

The training should be conducted with training weapon. In addition, the instructor should have individual protective means (gas mask and combined-arms protective kit, individual gas casualty first-aid kit and decontamination kit), patches (oakum), water, solvents (gasoline, kerosene), liquid rifle lubricant.

The sergeant conducts weapon inspection, announces the topic and purpose of the session and conducts a control quiz. The following problems should be outlined :

- meaning of weapon decontamination (disactivation);

- purpose and composition of individual decontamination kit (IDP).

Having finished the quiz, the sergeant reminds the soldiers that, depending on the situation, decontamination and disactivation of the weapon may be complete or partial.

Partial decontamination is conducted at the decision of the unit commander directly within the combat formations, without interruption of the performance of the given mission.

Complete decontamination is carried out either after the combat mission has been accomplished , at the order of the superior commanders, or directly within the combat zone (unit placement) which has been subject to contamination , or within decontamination stations organized by the chemical protection units.

Partial decontamination and disactivation of a weapon is carried out immediately after chemical or nuclear attack by the enemy in the course of combat

During radioactive contamination, partial disactivation of the personal weapon is first done and then partial sanitary processing of personnel; in chemical contamination, sanitary procession of personnel is carried out immediately and after than - partial decontamination of the weapon.

It should be especially stressed that in the course of the partial decontamination, the weapon should be ready to fire at any moment, since the given combat mission must be

accomplished. Therefore, all types of partial decontamination are carried out on the assembled weapon.

For decontamination of a weapon one uses decontaminating solutions from the individual decontamination or gas casualty first aid kit, while for disactivation - disactivating solutions (water, solvents - gasoline, kerosene) or, in an emergency, decontaminating solutions from the individual kits.

All exterior parts of the weapon are treated when conducting partial disactivation.

When conducting partial decontamination, only those parts with which the soldier will come in contact during firing are treated.

Such parts include:

- for submachine guns and light machine guns (Fig 17): sighting device, cocking handle, right side of receiver, selector lever, stock, pistol grip, trigger, fore end of stock, hand guard, magazine, and sling;

- for PK machine gun (Fig 18): retracting handle, stock, pistol grip, trigger, sighting device, receiver plate, spade handle, sling, flash hider, belt box, bipod legs, and parts of tripod mount (leg clamps, operating lever of aiming mechanisms).

When naming these parts, the sergeant shows each of them on the weapon Then he starts the practical demonstration and training in conducting the partial decontamination of the studied weapon in the following order:

Fig. 17. Parts of light machine gun treated during partial decontamination (disinfection).

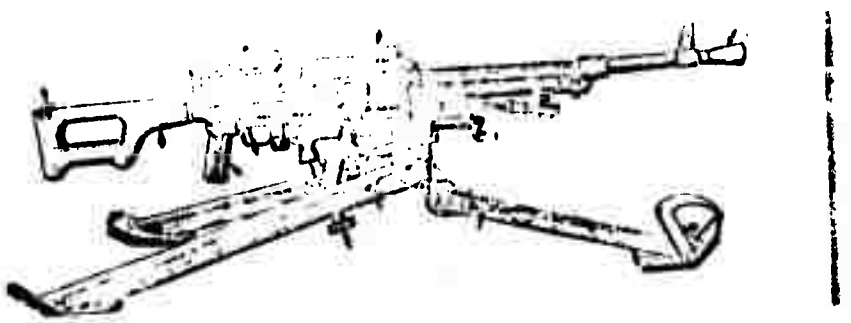

Fig. 18. Parts of PK machine gun treated during partial decontamination (disinfection).

1. He orders, "Unit, on guard!"

Following this, the soldiers occupy trench positions (firing positions) or prepare for firing from prone position. Having checked the position of each soldier, the sergeant gives the command, "Gas", following which the soldiers don their gas masks; he then delivers the command,"Put on gloves, stockings".

2. The sergeant orders them to dig small holes for burying used tampons.

3. He puts aside his weapon, opens the individual decontamination kit (IDP), and takes tampons from it; then he has the soldiers do the same

4. He pours any type of liquid (preferably liquid rifle lubricant) on one tampon and applies it to his weapon and to the soldiers' weapons in the form of droplets

5. He places the weapon (submachine gun, sniper rifle, rocket launcher) vertically or at an angle and the light machine guns on the bipod; using a dry tampon he removes the visible droplets (Fig. 19) of the previously applied liquid (liquid rifle lubricant), which in this case is used to represent a liquid toxic substance. He orders the soldiers to do the same and to place the used tampons in the holes.

Fig. 19. Partial decontamination of submachine gun.

6 He breaks open the tip of the glass ampoule (red colored), pours decontamination solution No. 1 onto a clean tampon, and wipes all parts of the weapon with which he will come in contact. He drops the used tampon into the hole, and orders the soldiers to repeat his actions.

7. He breaks open the tip of the glass ampoule (black colored), pours liquid from it onto a third tampon, and again wipes the same parts He has the soldiers do the same.

8 With a fourth tampon, he wipes the weapon dry, and with a fifth he lubricates it with liquid rifle lubricant; he has the soldiers repeat.

9. He orders the soldiers to remove the protective stockings and gloves, washes hands with decontamination liquid and drys them; he has the soldiers repeat his actions.

10. He orders them to remove their gas masks and cover the hole containing the "contaminated" tampons.

Partial disactivation is conducted in the following sequence:

1. The sergeant orders the soldiers to put on their individual protective aids (gas masks, stockings, gloves).

2. Prepare a few (3-5) tampons from patches (oakum).

3 Set weapon vertically or in an inclined position, machine guns on bipod

4. Wetting tampons copiously with the liquid (water, kerosene, gasoline), thoroughly wipe all exterior parts from top to bottom 2-3 times, starting from the muzzle end; when a tampon becomes dirty, replace it. Wipe slots and grooves of weapon with a wet patch placed on a wooden rod.

5. Wipe the weapon dry and lubricate it.

As the weapon disactivation is completed, partial sanitary processing is conducted.

To help the soldiers memorize the material more easily, at the end of the session on the procedure for partial decontamination, the sergeant has them describe the procedure. Then he conducts his critique.

Having finished training the soldiers in decontamination, the sergeant orders them to wipe their weapons dry and lubricate them.

Appendix 1

Example of Plan-Synopsis for Conducting Training Session on Technical Aspects of Weapon

Approved by
Commander of the second
motorized rifle unit of
first motorized rifle
company, Lt. Petrov
Date.....

Plan-Synopsis

for Conducting Training Session on Technical Aspects of Weapon with Soldiers - Submachine Gunners,and Light Machine Gunners of 1st. Squad of 2nd Motorized Rifle Unit Jan 20, 197...

Topic. Jamming during firing of submachine and light machine guns and means for their elimination

Goal. Train soldiers to detect and eliminate jamming arising during firing of submachine and light machine guns

Method. Demonstration with explanation and exercises.

Training problems: 1 means of preventing jamming. 2 description of malfunctions. Their causes and means of elimination

Time. One hour (50 min)

Place. Classroom

Manuals. Small Arms Manual "7 62 mm Modernized Kalashnikov Submachine Gun (AKM and AKMS)", sections 36 and 37. Small Arms Manual "7.62 mm Kalashnikov Light Machine Gun (RPK and

RPKS)", sections 33 and 34.

Material supply. Submachine gun for each soldier and for myself; light machine gun for each operator; dummy cartridges, cases.

Session Procedure

I. Introduction - 10 min.

1. Inspect weapon, dummy cartridges, cases

2 Check appearance of soldiers and their arrangement

3. Conduct control quiz:

- operation of parts and mechanisms of submachine gun during loading;

- operation of parts and mechanisms of submachine gun during automatic fire

4. Announce topic and goal of present session.

II. Body - 35 min

1. Means of preventing jamming - 7 min.

a) Reliability and dependability of operation of submachine and light machine guns

b) Ways to prevent jamming

c) Main method for eliminating jamming - reloading

After finishing the explanation, question one or two soldiers.

2. Description of jamming. Its causes and methods for its elimination - 28 min.

Five types of malfunctions may arise when firing

submachine and light machine guns:

a) Failure to feed

Reasons: dirt or defects in magazine; defects in floor plate catch.

Method of elimination: reload weapon; replace magazine; send weapon to repair shop (when floor plate catch has defect).

b) Cartridge stuck

Reasons: bending of magazine folds.

Method of elimination: remove stuck cartridge; replace magazine.

c) Misfire

Reasons: cartridge defects; defects of firing pin or trigger-and-firing mechanism.

Method of elimination: reload weapon; clean firing pin and trigger-and-firing mechanism; send weapon to repair shop (when firing pin or trigger-and-firing mechanism is broken)

d) Failure to extract spent case

Reasons: dirty matazine; dirt in chamber; dirt or defect in extractor

Method of elimination: Separate magazine and reload weapon; extract case using cleaning rod; send weapon to repair shop (when extractor has defect).

e) Holding or failure to eject case.

Reasons: contamination in joining parts, gas routes, or chamber; dirt or defect in extractor

Methods of elimination: reload weapon; clean gas routes, moving parts, and chamber; send weapon to repair shop (when extractor has defect).

When studying each malfunction, first create this type in the weapon, find out the reasons for the jamming by questioning the soldiers; give the complete characteristics of the malfunction and show methods of its elimination

At the end, consolidate the knowledge of the studied malfunctions by conducting a control quiz.

III Conclusion - 5 min

1. Recall goal of session and show how it has been met.
2. Evaluate the discipline during the session
3 Mention soldiers who have mastered the material well and those who have done poorly.
4 Point out errors made by the soldiers during the session.
5. Give assignments.

Sergeant Sidorov

Appendix 2

An Example of a Plan for Conducting Training Session on Technical Aspects of Weapon

Approved by
Commander of motorized
rifle company, Capt. Osetrov
Date.. ..

Plan
For Conducting Training Session in Technical Aspects of PK Machine Gun with Machine Gun Squad of 4th Motorized Rifle Company, July 4, 197 ..

Topic. Stripping and Assembly of PK machine gun.

Goal. Train soldiers to conduct partial stripping and assembly of machine gun

Method Demonstration, with explanation and practice

Time. One hour (50 min)

Place. Classroom

Manuals Small Arms Manual "7.62 mm PK Machine Gun (PK, PKS, PKB, and PKT)", sections 8-10.

Material supply. Unit machine guns with accessories.

Method for Conducting Session.

1. Weapon inspection - 2 min
2. Announcement of topic and goal - 1 min

3 Control quiz - 7 min

- purpose of PK machine gun
- combat characteristics of PK machine gun
- its main parts.

4. Purpose of partial and complete stripping of weapon - 2 min

5 Main rules for stripping and assembly of weapon - 3 min

6. Conducting partial stripping of machine gun - 15 min

- place it on bipod
- separate belt box and inspect chamber
- remove accessory case
- separate units of cleaning rod;
- separate guide rod with recoil spring;
- separate bolt carrier with bolt;
- separate bolt from bolt carrier;
- separate firing pin from bolt;
- separate barrel

7 Assemble machine gun (conducted in reverse order) - 18 min

8 Analysis of session - 2 min.

Sergeant Rybak

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