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1. Attached is the Soviet Handbook for Soldiers and Sergeants on Defense against Atomic Weapons, published in Moscow in 1954 by the Military Publishing House, Ministry of Defense, USSR. This translation is being disseminated as received in the interest of speed, although the technical terminology employed may not agree entirely with accepted U.S. terminology.

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INFORMATION REPORT INFORMATION REPORT

Ministry of Defense, Union of the SSR

HANDBOOK FOR SOLDIERS AND SERGEANTS ON DEFENSE AGAINST ATOMIC WEAPONS

Military Publishing House, Ministry of Defense, Union SSR,
Moscow, 1954

An atomic weapon by its destructive action is considerably more powerful than conventional types of weapons, but in spite of this there are simple and reliable means of defense against it.

Troops who are well-trained for action under conditions where an atomic weapon is used can still successfully complete their combat tasks.

This pamphlet gives the main characteristics of an atomic weapon and the methods and means of defense against it, and also shows how to act under conditions where an atomic weapon is used.

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[Note: Figures given in brackets are the numbers of pages in the original.]

I - SOME NOTES ON THE ATOMIC WEAPON

1. What is the Atomic Weapon

All matter which surrounds us is composed of very small particles called atoms. The atom is extremely small. It cannot be seen, even with a powerful microscope. The atom, however, in turn consists of still smaller particles: protons, neutrons, and electrons. Protons are charged with positive electricity; electrons with negative; and neutrons are neutral, carrying no electrical charge.

Protons and neutrons form the nucleus of the atom, around which revolve electrons (in the same way as planets revolve around the sun). Figure 1 is a diagrammatic drawing showing the construction of an atom of one chemical element - helium.

Between the composite particles of the nucleus (protons and neutrons) there exists a great force of mutual attraction known as nuclear forces. These forces are considerably greater than the forces of repulsion, exerted between the protons' electrical charges of like polarity. For this reason the nucleus of atoms of the majority of substances (to be more exact, of chemical elements) is very difficult to split.

There are also some substances the nucleus of whose atoms undergoes automatic internal changes.

These are called radioactive substances.

(Figure 1 here)

On splitting the nucleus of radioactive substances, energy is given off. It is carried away by radioactive rays which accompany the splitting.

The nuclei of atoms of each radioactive substance are not all instantly split, but splitting is spread over a specific period. For this reason, the quantity of energy which is released during a unit of time is comparatively small. Under certain conditions created artificially, the nuclei of the atoms of certain radioactive substances (uranium and plutonium) are split almost instantaneously. In such circumstances a vast quantity of energy is released, and produces an explosion.

The energy which is released by its own accord or brought about by artificially created changes in the nucleus is called atomic energy, and weapons based on the use of atomic energy are known as atomic weapons.

There are two kinds of atomic weapons: those of explosive action, and "Combat Radioactive Substances" (BRV).

The atomic weapon of explosive action is based on the use of atomic energy which is suddenly released as a result of a reaction of an explosive character. This weapon is designed for the destruction of objectives, for damaging combat equipment, and for killing people.

Nowadays the exploding variety of atomic weapons are known in the form of atom bombs. This type of weapon may also be used in the form of artillery shells, torpedoes, rockets, and guided missiles.

Specially prepared substances containing radioactive atoms, are known as combat radioactive substances (BRV).

They are based on the principles of the harmful effects of radioactive radiation on living organisms, and are designed for the contamination of ground and air with the object of killing people.

Aerial bombs, rockets, artillery shells, and mines may be charged with combat radioactive substances.

2. The Destructive Effect of an Atomic Explosion

Characteristics of the Atomic Explosion

An atomic explosion may be produced in the air at a height of a few hundred meters, on the surface of the ground (or water), or under the ground (or water).

At the moment of explosion, a blinding bright flash illuminates the sky and the ground for tens of kilometers from the point of explosion. Following the flash of an aerial explosion, a fireball is formed (hemispherical in the case of a ground-burst), which may be seen at a great distance. This fireball quickly increases in size, rises into the air, and on cooling turns into a cloud column.

At the same time there rises from the ground a column of dust and smoke which assumes a mushroom-like shape (see Figure 2). It reaches a great height, is carried away by the wind, and gradually disperses. The dust carried up from the ground in the area of an atomic explosion is retained in the air for a period of 10 to 20 minutes.

The sound of an atomic explosion is considerably stronger than that of the largest high explosive aerial bomb.

(Figure 2 here)

As a result of the release of a vast quantity of energy during an atomic explosion, the temperature in the area of the explosion reaches millions of degrees. It is this extremely high temperature which forms the fireball and is the source of the strong light radiation, and also the reason for the sharp increase in pressure.

The sharp increase in pressure causes a powerful shock-wave.

Besides the light radiation and shock-wave, an atomic explosion is accompanied by an invisible radioactive radiation which is called penetrative radiation.

In the area of the atomic explosion and in the path of the cloud which is formed during the explosion, there is a fall-out of radioactive substances which contaminate the air and the ground.

Thus, an atomic explosion is accompanied by a simultaneous powerful shock-wave, light and penetrative radiation, as well as radioactive contamination of the area.

The Shock-Wave

The shock-wave of an atomic explosion, like that of conventional explosions, is a field of highly compressed air which spreads with great speed in all directions from the center. It travels:

In 2 seconds - 1,000 meters;

In 5 seconds - 2,000 meters; and

In 8 seconds - 3,000 meters (see Figure 3).

Having seen the flash, it is thus possible to lie down on the ground or occupy the nearest cover, and in this way lessen the degree of effectiveness of the shock-wave, or even avoid it altogether.

The shock-wave may kill people, destroy buildings, and also damage combat equipment and stores. In addition to the damage caused by the shock-wave itself, damage may be caused by flying debris of buildings, stones, and clods of earth.

(Figure 3 here)

The effectiveness of the shock-wave against people and its destructive power against buildings and combat equipment depends chiefly on their distance from the center of the explosion: the further away from the center of explosion, the less the effect of the shock-wave. The degree of destructiveness against people and its damaging effect on combat equipment depends also on their positions at the moment the shock-wave strikes and on the character of the ground and the presence of cover. Defensive constructions lessen the effect of the atomic explosion by one and one-half to three times.

In populated areas the shock-wave may cause fires, as a result of the destruction and damage to domestic fires and electrical and gas installations. The fires in their turn may cause injury to people and damage and destruction to equipment.

Light Radiation (Flash)

Light radiation during an atomic explosion lasts only for a few seconds. It is many times brighter than the sun. For this reason, light radiation, in spite of its short duration, may cause burns on exposed parts of the body facing the direction of the explosion, and might also cause temporary blindness to those people not under cover. The degree of burn depends on the length of a person's exposure to this light radiation and on his distance from the point of explosion.

Light radiation may set fire to uncovered military equipments; as well as scorching paints, coverings of seats, tarpaulins, tents, and outer covers of combat equipment; and burning or carbonizing the wooden parts of weapons, equipment, and constructions. At short distances from the center of the explosion, metals may melt.

Woods, steppes, and populated areas may be fired by light radiation.

In fog, rain, and during a snowfall, the action of light radiation is reduced.

Any cover (walls, dead ground, and covers to structures, armor, etc.) which affords protection from the direct action of light radiation gives complete protection from burns. One's uniform also affords protection from light radiation.

Penetrative Radiation

Radioactive radiation which accompanies an atomic explosion, like X-ray radiation, has great penetrative powers. Such radiation is called penetrative radiation.

The action of penetrative radiation in an atomic explosion lasts 10 to 15 seconds.

Penetrative radiation has a harmful effect on the organisms of unprotected persons. From the action of penetrative radiation, one may fall a victim to what is known as radiation sickness. Radiation sickness develops gradually, and does not follow the same course in every person.

The degree of radiation sickness depends chiefly on the dose of radiation received. This dose is measured in Roentgens. A dose of between 100 and 200 Roentgens may cause only light illness. As a rule, radiation sickness is followed by complete recovery. The dosage of radiation sharply diminishes the further away one is from the point of explosion.

Penetrative radiation has no harmful effect on combat equipment. Optical instruments (binoculars, panoramic sights and gunsights, etc.), however are affected by the action of penetrative radiation and darken. Photographic film and paper "lighten up" even with the smallest dose (2-3 Roentgens).

The effect of radiation is considerably weakened by various protective thicknesses. For example, 14 cm of earth reduces the dosage of radiation by two times; six cm of armor - by five times; 60 cm of concrete or one meter of earth - by 100 times; and 40 cm of wood or one meter of snow - by approximately four times.

Thus, the breastworks of trenches, the covering of walls and various defensive constructions, and also the armor of tanks and self-propelled guns sharply reduce the action of radiation.

Radioactive Contamination

The air and the ground in the area of an atomic explosion and the path taken by the cloud formed at the explosion will be contaminated by radioactive substances, as also will people and equipment not under cover.

Radioactive substances are the product of the explosion of an atomic bomb (shell).

One of the characteristics of radioactive substances is their lack of specific smell, color, or any other external signs peculiar to other combat toxic substances. Radioactive contamination is located with the aid of special instruments called dosometers.

During an aerial explosion, radioactive contamination is usually insignificant, as radioactive particles are carried away by the cloud and are dissipated over a wide area. For this reason, it is possible to enter the area of the burst a few minutes after without fear of being affected.

With a surface explosion or an explosion underground radioactive contamination is considerable, especially within a radius of 400 to 500 meters from the point of explosion, because the radioactive particles mix with the earth and quickly settle.

The peculiarity of radioactive substances formed after an atomic explosion is the quick fall in the degree of their radioactivity. Thus, even strongly contaminated areas become safe within a few days.

On contaminated ground, persons may be subjected to radioactive radiation and to radioactive contamination of the skin. It is also possible that radioactive substances will be taken into the body (from water and from food).

When large doses of radiation have been received, and when radioactive substances have been taken internally, it is possible that persons so affected will suffer from radiation sickness.

Radioactive substances on the skin and those which have found their way into the mucous membranes of the eyes, nose, and mouth, and which are not removed, may cause ulcers and inflammation.

Radioactive substances do not damage to combat equipment. However, in order to avoid contamination of personnel handling these equipments, it is necessary to cleanse radioactive substances from surfaces.

3. The Destructive Effect of Combat Radioactive Substances (BRV)

Combat radioactive substances may be used in the form of liquids, powders, and smokes. The possibility of their use mixed with toxic substances also must not be excluded.

As a result of the use of combat radioactive substances, radioactive contamination of the ground and air may be caused in the same way as during an atomic explosion.

The destructive effect of combat radioactive substances in no way differs from the effect of radioactive substances released during an atomic explosion.

II - METHODS AND MEANS OF ANTI-ATOMIC DEFENSE

In spite of the fact that the atomic weapon compared with other weapons is very much more powerful, there are nevertheless simple and reliable means and methods of defense against its effects.

The protection of personnel from the atomic weapon is achieved by using, as cover, defensive constructions, combat machines, and folds in the ground, and by using improvised materials, as well as the individual anti-chemical protective equipment.

For the protection of weapons, combat equipment, and stores, trenches, cover and folds in the ground are used.

Besides this, protection from the atomic weapon may be achieved:

-By skillful action under conditions where the atomic weapon is used;

-By the conduct of reconnaissance with the object of discovering, in good time, areas of radioactive contamination;

-By medical treatment of personnel and the deactivation (decontamination) of uniforms, equipment, weapons, stores, and positions, when contaminated by radioactive substances.

1. Defensive Constructions

Defensive constructions are the chief means of protection for men, combat equipment, weapons, and stores from the effects of the atomic weapon.

Under battle conditions, where it is known that the atomic weapon is to be used, all defensive constructions must be made very much stronger.

(Figure 4 here)

Trenches and communication trenches (at lengths of 10 to 12 m) are covered with logs and earth (see Figure 4), in order to increase their protection. The thickness of cover (together with the logs) must not be less that 50 cm. One covered length is constructed for each rifle section.

(Figure 5 here)

In winter, these covers for trenches and communications trenches may be made from snow. To do this, brushwood or plywood is placed over a section of the trench in the form of an arch (see Fighre 5). Water is then poured over the top, to form a layer of ice. The ice is then covered with snow, which is well tramped down.

So that these covers should be less affected by shock-waves, they are made as flat as possible to the ground.

Trenches and communication trenches must be of full depth, while the covered lengths and those places containing dug-outs and shelters must have a depth of 1.8 to 2 m.

The sides of trenches and communication trenches dug in soft ground are strengthened with poles, boards, nettings, reed mats, and also standard shields made from dry branches.

Sub-breastwork covers (see Figure 6), niches, and various types of cover are made with strong walls and coverings. Over these covers and niches there should be no less that 50 cm of earth.

(Figure 6 here)

Special attention must be paid to the strengthening of walls during the building of sub-breastwork covers and niches built in soft or medium earth. The entrances to these covers are fitted with strong doors (shields).

Slit trenches (shcheli) are strengthened by revetting, and as a rule are covered. The entrances to these trenches are fitted with strong shields (doors).

(Figure 7 here)

For the protection of weapons, tanks, automobiles, and other equipment, trenches and covers are built (see Figure 3, 9, and 10). The sides of trenches and shelters built in soft ground are strengthened by poles, boards, and brushwood. Deep-type shelters are made for light artillery pieces and machine guns. Frames made from boards or logs are used in their construction. The entrances to these shelters are covered by strong shields, which can quickly be thrown aside.

(Figures 8 and 9 here)

For the protection of tank crews and the crews of self-propelled artillery and other artillery weapons, sub-breastwork covers are made in the sides of pits. The armor also serves as a reliable protection for the crews of tanks and self-propelled guns.

(Figure 10 here)

For the protection of optical instruments, covers made for personnel are used.

Ammunition, fuel and lubricating oil, food and forage are protected in slit trenches, small ditches, or in niches.

The carried reserve ration (NZ) is wrapped in two to three layers of thick paper or fabric.

In mountainous country, caves and unused workings may be used as cover.

In populated areas, the cellars of strong buildings, underground stores, and tunnels may also be used for protection.

All exposed woodwork of defensive constructions is smeared with clay (earth) for protection against light radiation (flash). Defensive constructions situated in woods must be cleared of dry branches, conifer needles and dry grass, and in populated areas light wooden structures and fences are removed.

2. Individual Means of Anti-Chemical Defense

For protection against radioactive substances, the issued individual anti-chemical equipment is used in the first instance: i.e. the gasmask, protective suit, cape, stockings, and gloves.

The gasmask affords complete protection against taking radioactive substances into the body, as well as protecting the skin of the face and head.

The protective suit, cape (or cape-tent), stockings, and gloves protect the exposed parts of the body, uniform, footwear, and equipment from radioactive contamination.

The individual anti-chemical equipment also affords protection from light radiation (flash).

If for any reason the issue of individual anti-chemical protective clothing is not available, then improvised materials are used:

For the protection of breathing organs - a towel, handkerchief, cotton wool, gauze;

For protection from contamination of footwear - sacking, rags, and matting;
For the protection of uniform (when lying down) - mats made of straw, rushes, and twigs.

3. Radioactivity Reconnaissance

Reconnaissance of contaminated areas is carried out in order to warn troops of the presence and degree of radioactive contamination of the ground and air in the area of operation. When a contaminated area is discovered, the gas alarm is given.

Checks are carried out with dosometers after the contaminated area has been cleared (by troops) in order to measure the dose of radiation received by personnel while in the contaminated area, and also to define the degree of contamination of personnel, combat equipment, weapons, and stores. These reconnaissances and checks are carried out with the use of dosometer equipment.

Dosometer equipment enables one quickly to detect the presence and degree of radioactive contamination of persons, the ground, air, water, foodstuffs, uniform, weapons and equipment, as well as to establish their dose of radiation.

(Figure 11 here)

In reconnaissance, areas of contamination and routes through and around them are marked with warning signs (see Figure 11). The boundaries of contaminated areas with a degree of radiation greater than 0.1 Roentgens, 5 Roentgens, and 100 Roentgens per hour are all marked.

4. Medical Treatment (Sanitarnaya Obrabotka) and Deactivation (Decontamination)

In order to protect personnel from radioactive substances, medical treatment of personnel and decontamination of arms, equipment, stores, and positions is carried out.

So that the combat task should not be retarded, medical treatment and decontamination is carried out only with the permission of the commander.

Medical Treatment (Sanitarnaya Obrabotka)

Medical treatment consists of clearing radioactive substances from the skin and from the mucous membranes of the eyes, mouth, and nose. Depending on the situation, either full or partial medical treatment is carried out.

Partial medical treatment may be carried out while in the area of contamination or after emerging from the area.

Partial medical treatment consists of washing the exposed parts of the body (face, neck, hands), and in washing out the mouth with uncontaminated water. Where there is little water, exposed parts of the body may be rubbed with tampons (swabs) or towels and handkerchiefs which have been well soaked in water. Where there is no water at all, tampons may be soaked with the liquid from the anti-chemical pack with the permission of the commander.

During partial medical treatment in a contaminated area, anti-chemical protective clothing must not be removed. Because of this, radioactive substances are only removed from the unprotected parts of the body, and this is done, as

a rule, only after the decontamination of the position, combat equipment, weapon, and protective clothing.

Those caught in a contaminated area without their protective clothing on should wash or rub the exposed parts of the body and then put on their protective clothing before decontaminating the position and the weapon. After decontaminating the position and weapons, it is necessary to decontaminate the protective clothing and once again wash the exposed parts of the body.

Water from a source situated in a contaminated area may only be used with the permission of the commander.

Outside a contaminated area (if the situation permits) partial medical treatment must be carried out in the following order:-

-Remove the protective cape, shake and beat the uniform (at the same time bearing in mind the wind direction so as not to shake the particles either on oneself or on those around), and remove the stockings.

-Remove the gasmask and protective gloves and wash the exposed parts of the body two or three times with clean water, taking good care that the head is well cleaned and that dirt from under the finger nails is removed. Where there is not enough water, the exposed parts of the body are wiped two or three times with tampons (towel or handkerchief) which have been soaked in uncontaminated water.

-Carefully rinse the mouth with uncontaminated water.

-Clear the nose and clean with a tampon.

When carrying out medical treatment, it is necessary to help one another.

Full medical treatment is carried out as a rule after the combat task has been completed and outside the contaminated area at decontamination centers (obmyvochno-dezaktivatsionnye punkty).

Full medical treatment consists of washing (with soap and scrubber) under a shower or in a tub of uncontaminated water, in order to remove radioactive substances from the body and from the mucous membranes of the eyes, nose, and mouth.

Dosometer personnel check whether full medical treatment has been carried out properly.

Deactivation (Decontamination)

Decontamination of weapons, heavy equipment, uniform, and equipment consists of removing radioactive substances from their surfaces. As in the medical treatment of personnel, decontamination may be partial or full.

Decontamination may be carried out while in the contaminated area or after troops are clear of it.

In a contaminated area, weapons, heavy equipment, uniforms, as well as equipment, are deactivated only after the position has been deactivated (decontaminated).

The following is the order of partial deactivation (decontamination):

-Without removing individual protective clothing, prepare three to five tampons from uncontaminated cotton waste or rags.

-Having soaked the tampons (swabs) in uncontaminated water (in the absence of water, in kerosene or gasoline), carefully rub personal weapons (carbine, submachine gun) or those parts of the machine gun, gun, tank, or automobile

with which constant contact is unavoidable. The rubbing should be in one direction (from top to bottom), each time turning the tampon around so that its uncontaminated surface is used.

Surfaces must be thus worked two or three times, and each time the used rag must be changed for a clean one. Used tampons must not be dipped into uncontaminated water (gasoline, kerosene).

-Rub all oiled parts of weapons and equipment with tampons soaked in gasoline or kerosene. If there is no gasoline or kerosene, rub them with dry tampons. Materials thus used in cleaning must be buried in a previously prepared ditch which, after decontamination, is filled in.

After decontamination of weapons and equipment, it is necessary to wipe down once again with dry rags and to oil where necessary.

Where there is no water, gasoline, or kerosene for decontamination, rubbing down is carried out three or four times with dry rags or waste.

In uncontaminated areas, the sequence of decontamination of weapons and equipment is the same, but rubbing and brushing with tufts of grass, branches, and straw also is permitted in these cases.

In contaminated areas, uniform, protective clothing, and equipment may be deactivated by shaking and rubbing them but without removing them.

Outside contaminated areas, uniform and protective clothing are removed for decontamination. Uniform and individual protective clothing are then decontaminated by beating, shaking, rubbing, and brushing.

Trenches and communication trenches with revetted sides are decontaminated without destroying the camouflage in the following sequence:-

-Remove 3 to 4 cm of earth from the bottom of the trench and place it in a specially prepared open siding. Trenches with sides that are not revetted must be cleaned by removing a layer of earth to a thickness of 3 to 4 cm.

Coverings, walls, and floors of covered constructions must be carefully brushed with damp brooms, brushes, or rags.

Full decontamination of weapons and equipment is carried out under the supervision and control of persons who have had special training.

Full decontamination of weapons and combat heavy equipment is carried out in the following way: washing off radioactive substances with a jet of water; washing away radioactive substances with water and at the same time rubbing the surfaces with brush, rags, or cotton waste; rubbing with brushes and rags which have been soaked in water; and washing of spare parts in gasoline and kerosene.

During the winter, full decontamination of weapons and combat equipment may be carried out by rubbing with rags soaked in gasoline or kerosene, or in a solution of water and anti-freeze (nezamerzayushchey vodoy).

Full decontamination of uniform consists of beating and cleaning with a brush, or washing.

5. Self-help and Cooperation

If in an atomic explosion clothes start to burn, it is necessary to extinguish the fire immediately. One should bandage burns and wounds, using the individual first-aid pack (first-aid packs are not contaminated if the cover is intact). Clothing that has stuck to burnt skin should not be pulled off. Bandages in these cases should be placed over the stuck clothing.

Washing of burnt surfaces (wounds) must not be done.

When bandaging, do not allow dirt to enter burns or wounds.

Bleeding is stopped by using a tourniquet (made from a bandage or from the belt). Broken limbs are bandaged - the arm in a half-bent position to the chest and a broken leg to the undamaged one.

If a person loses consciousness or if his breathing is not noticeable, it is necessary to give him artificial respiration even in a contaminated area.

In rendering first-aid to a comrade in a contaminated area, it is essential to wash the exposed parts of his body and to put on his gasmask for him.

III - ACTION UNDER CONDITIONS WHERE THE ATOMIC WEAPON IS USED

1. General Duties of the Soldier and Sergeant

Completion of the combat task is the primary and basic duty of the soldier and sergeant. In conditions where the atomic weapon is used and for the successful completion of the battle task, the soldier is bound:

-Constantly to display reasoned initiative and common sense, will power, endurance, and doggedness in battle, remembering his duty to his country.

-To know thoroughly both the atomic and gas alarms and what to do when they are sounded.

-To be able to use his weapon and defensive equipment skillfully for his own protection and constantly to improve his knowledge, and skillfully to use the protection offered by ground cover.

-To use the individual anti-chemical protective clothing issued and to maintain it in constant combat readiness; to report all disrepair to the commander, and to carry out his own repairs when he can. Where the issued clothing is not available, he should make skillful use of improvised materials.

-To know how to extinguish fires and to render first-aid to those who are stricken; to renew defensive positions quickly, and to carry out medical treatment and decontamination.

-To act with skill in contaminated areas.

-To pay constant attention to the preservation of his weapon and equipment, the iron ration, water and personal belongings from radioactive substances; remembering that it is easier to protect weapons and equipment from radioactive substances than it is to decontaminate them.

-Constantly to improve his knowledge and skill in anti-atomic protection.

2. What to do When the Atomic Alarm is Given

Personnel are warned of the threat of atomic attack by their commanders.

When there is imminent danger of an atomic attack, the atomic alarm is given.

On the sounding of the atomic alarm the fulfillment of the combat task does not stop.

Having heard (seen) the signal of the atomic alarm, continue to fulfill the combat task and at the same time prepare individual anti-chemical equipment "at the ready" (and, where individual equipment does not exist, prepare improvised materials). Be attentive. The commander will indicate to you the most expedient methods of action. Observe calm and order and be firm.

In the Attack

The best form of action when the alarm is given is to strive to close with the enemy.

In Defense, or when on the Jump-off Position for Attack: If you are an observer or on duty, then, having heard (seen) the signal, continue to fulfill your task.

If, at the moment the signal is given, you are free from the immediate fulfillment of your battle task, then, with your individual protective clothing "at the ready", occupy a prepared dugout, niche, or cover; extinguish kerosene lamps and fires; cover all smoke exits and ventilators. On entering the dugout last, tightly close the door or cover the entrance with a shield. If in an open ditch, communication or slit trench, lie on the bottom (see Figure 12). This position considerably reduces the effectiveness of shock waves and the dose of penetrative radiation, and excludes light radiation.

In the absence of prepared cover, use folds in the ground or local objects for your protection.

On the March: When the atomic alarm is give, the march continues.

If you are a driver, close down (hatches, visors) and continue to keep your place in the column.

If your are an observer, continue to observe in the sector given to you.

If your are an AA gunner, be prepared to occupy your fire position and to fire on enemy aircraft.

(Figure 12 here)

If the alarm signal is given at a halt, be prepared, on the order of the commaner, either to continue the march or to occupy cover situated nearby.

If in a train, close the doors and windows of the railroad car.

3. What to do in an Atomic Explosion

On seeing the flash of an atomic explosion, immediately occupy the nearest (within two or three paces) cover. (Figure 13 here) If there is no cover nearby, then on no account run for it, but lie down on the ground face downwards with your feet towards the flash (see Figure 13). Hide your hands under your body (Figure 14 here). By observing these rules the effect of the shock wave is reduced and the exposed parts of the body are protected from light radiation.

If in a tank, close down the hatch and visor when your see the flash.

Some protection from an atomic explosion may be derived from shellholes, bomb craters, mine craters, (see Figure 14), ditches, (see Figure 15), banks, and various other local objects, such as buildings, mounds, stumps of trees, etc. (see Figure 16).

Protection may also be had behind tanks or self-propelled artillery.

(Figure 17 here)

Remember that after the atomic attack, as a rule, the enemy attacks. Because of this, prepare for battle immediately after the explosion, and keep a continued watch on the enemy. After the shock wave has passed, don the individual anti-chemical protective clothing. If the gasmask is unserviceable then, in order to prevent radioactive substances from being inhaled, breathe through a gauze bandage, a towel, the flap of the half-coat (polushinel), or any other fabric, which should cover both nose and mouth. Thin fabrics are folded in two or three layers and lightly dampened with water from the canteen.

It is forbidden to remove protective clothing without the order of the commander. If the battle situation allows, then:

-Render assistance to your stricken comrades.

-Examine your weapon and equipment and report to the commander any damage found, and take measures to rectify it.

-Occupy your fire position.

4. What to do in a Contaminated Area

Areas contaminated by radioactive substances as a result of an atomic explosion or as a result of combat radioactive substances may be traversed by troops. However, in order to protect oneself from radioactive substances, strict observance of the following rules is necessary:

-Quickly traverse the contaminated area, wearing the gas mask and individual protective clothing and, if lying down, use your cape ground sheet/tent-cape as protection beneath you.

-Do not sit or lie on the ground when it is not necessary.

(Figure 18 here)

-'Dig in' in a contaminated area, lying on the ground sheet; to dig, first remove the top layer of contaminated earth and carefully throw it leeward, taking care not to cover yourself or your comrades with the dust. Then, having removed the earth, build a parapet from the uncontaminated soil.

-Do not touch or pick up objects around you.

-Do not drink or eat, and do not smoke.

-Do not enter without necessity any contaminated area which is marked with warning signs.

-Remove radioactive substances from the uniform and skin and from the surface of arms, equipment, and defensive constructions.

In tanks and self-propelled artillery guns, contaminated areas are traversed with personnel wearing gasmasks and with the hatches and visors closed, as well as with ventilators (blowers) in the battle compartments switched off.

When crossing contaminated areas in armored personnel carriers, tanks, self-propelled artillery, or in vehicles, the gasmask and cape are worn.

After traversing a contaminated area, remove protective clothing only when ordered to do so by the commander. To do this, stand facing the wind and, holding the inside of the cape, throw it from you, and then remove the protective stockings. After this, without removing the gasmask, carefully shake the cape, stockings and uniform and then remove gasmask and gloves. Decontamination medical treatment is then carried out on the commander's orders.

A sound knowledge of one's duty and skillful action where the atomic weapon is used helps the successful fulfillment of the combat task and preserves life.