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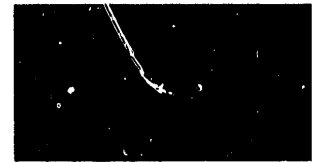
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TRANSLATIONS ON USSR MILITARY AFFAIRS
(FOUO 11/79)
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[Annotation, table of contents, introduction, excerpts of chapters 1-6 and text of Chapter 7 from the textbook edited by Lt Gen A.M. Popov, Izdatel'stvo DOSAAF SSSR, 1,300,000 copies, 303 pages]

Author collective [page 2]

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Annotation [page 303]

[Text] The textbook contains basic information on the Soviet Armed Forces, their nature and particular features, on the regulations of the Armed Forces, on tactical training, weapon training, drilling, military topography and civil defense.

The textbook is designed for the study of military affairs by students in secondary general educational schools, specialized secondary schools, vocational-technical schools and for youth employed at enterprises, institutions, sovkhoses and kolkhozes.

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INTRODUCTION [pages 3-4]

[Text] The defense of the socialist motherland against encroachments by its enemies has always been and presently is a sacred duty of the Soviet people. The history of the Soviet state is rich in examples of the heroic struggle against the imperialist aggressors.

During the years of the foreign intervention and the Civil War, the young Soviet republic and its valorous Red Army under the leadership of V. I. Lenin and the Communist Party were victorious over the sizable armies of the imperialists and White Guards, and defended the first worker and peasant state born by October.

During the Great Patriotic War against German fascism and Japanese militarism, the Soviet people and their Armed Forces led by the Communist Party defeated the shock forces of world imperialism, they defended the honor, liberty and independence of their motherland, and made a decisive contribution to saving the peoples of the world from fascist slavery.

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The Communist Party and the Soviet government, in carrying out Lenin's legacy, have consistently conducted a peace-loving policy aimed at a lessening of international tension and the prevention of war. At the same time they have shown constant concern for strengthening the defenses of the Soviet state, for increasing the combat might of its Armed Forces and for strengthening and developing the fraternal friendship and military cooperation among the peoples and armies of the socialist countries.

The Soviet state proceeds from the view that as long as imperialism exists, the danger of aggressive wars remains. The policy of imperialism in recent years has provided new proof of the permanency of its reactionary and predatory nature. The imperialists are continuing to prepare to start a new world war, and above all against the USSR and the other socialist countries. For this reason the Soviet people and their Armed Forces should be constantly ready for a decisive and complete defeat of any aggressor.

This is why the party has posed the valid demands of increasing the vigilance of the Soviet people, ensuring the security of the Soviet state, and preparing the population, particularly the youth, for the armed defense of the socialist fatherland.

Military service, states the USSR Constitution, is an honorable duty of the Soviet citizens. The defense of the socialist fatherland is a sacred duty of each Soviet citizen.

A future war, if the aggressive forces start it, will place exceptionally high demands upon the Soviet military. In modern combat victory will come to only that soldier who is totally loyal to the motherland, the Communist Party and his people, who possesses high political, moral-combat and psychological qualities, who is disciplined, profoundly convinced of the justness of his cause and in victory over the enemy, who has mastered the difficult weapons and military equipment, and who is physically strong.

It is a very complicated thing to master modern weapons and military equipment in a short period of time and to become a trained defender of the motherland. For this reason each young man, on the basis of the USSR Law Governing Universal Military Service, even before induction into the Armed Forces, must prepare himself for military service. In school during exercises for basic military training, the students gain high ideological, political and moral-psychological qualities and discipline, they acquire military and technical knowledge and skills and are physically strengthened in order in the crucial hour to come to the defense of their fatherland with weapons in hand.

The textbook worked out in accord with the requirements of the USSR Law Governing Universal Military Service and the program for basic military training provides an opportunity for the students to firmly assimilate the purpose of the Soviet Armed Forces, their nature and particular features, and the requirements of the USSR Law on Universal Military Service, the military oath and the general military regulations.

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The textbook examines the principles of military service, it gives basic data on tactical and weapons training, drilling, military typography and civil defense. The book helps to realize that military service is an honorable duty of each Soviet citizen and that each person is personally responsible for defending his motherland.

The textbook will help to indoctrinate in our youth Soviet patriotism and proletarian internationalism, a love for the motherland, for the Communist Party, the Soviet people and their Armed Forces, hate for the enemies of socialism and a readiness to defend their fatherland with weapons in hand.

CHAPTER 1: THE SOVIET ARMED FORCES ON GUARD FOR THE MOTHERLAND [pp 5-41]

§1. The Defense of the Fatherland and Service in the Soviet Armed Forces--
A High and Honorable Duty of the Soviet Citizen

V. I. Lenin and the CPSU on the Defense of the Socialist Fatherland

[Excerpt] We, the Soviet people, live in a socialist country. Our Soviet motherland is the world's first socialist state of all the people, and a country of true democracy. We are proud of the fact that the Soviet Union is called the fatherland of the workers by all oppressed peoples who see their bright future in the homeland of October.

With a special feeling we have read in the CPSU Program and the USSR Constitution that the defense of the socialist fatherland is among the most important functions of the Soviet state, and is a concern for all the people and a sacred duty for each citizen of the USSR.

What is the fatherland? A correct answer to this question was first given by the founders of scientific communism Karl Marx and Friedrich Engels. In examining this concept from a historical and class viewpoint, they repudiated the assertion of the bourgeoisie of a single fatherland of the suppressors and the suppressed. In the "Communist Manifesto," they proclaimed that under capitalism the working class has no fatherland, and proved that only by overthrowing the exploiters could the proletarians and all the workers achieve a real fatherland.

The founder and leader of our party and the Soviet state, Vladimir Il'ich Lenin, in developing Marxist ideas, profoundly analyzed the concept of the "fatherland" and its role in the life of society. "The fatherland, that is, the given political, cultural and social milieu," he wrote, "is the mightiest factor in the class struggle of the proletariat...."¹

The social and political milieu includes the population of the given country, the economic relations existing in it, the class structure and the state system of society.

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In a capitalist society, the class structure is based on the proletariat and the bourgeoisie, that is, the oppressed and ruling classes. The bourgeois state is a weapon of the exploiting classes for suppressing the working masses, for seizing foreign nations and enslaving other peoples.

A socialist society consists of friendly classes, the workers and peasants, and the intelligentsia which has developed out of the people. A socialist state serves as an implement for liberating the workers, for building a socialist and communist society and for defending it against external enemies.

The concept of a "fatherland" also includes the language of the people, the territory of the nation, its nature and all the riches created by the labor of the people.

Our great motherland, the USSR, is the true fatherland of the workers. It arose as a result of the victory of the Great Patriotic Socialist Revolution which freed the peoples of Russia from capitalist slavery, and opened the way to a free and happy life.

V. I. Lenin, in working out the program for implementing the proletarian revolution and building socialism, considered the organization of the armed defense of the socialist fatherland as an inseparable component part of this program. He said: "Any revolution will be worth something only when it can defend itself..."²

With the victory of the working class initially in one country, Russia, the overthrown exploiting classes, Lenin taught, with the aid of the imperialists from other states will do everything to suppress the revolution and to restore the rule of the capitalists and landowners. Under these conditions, the working class and the working masses will be forced to resort to arms in order to defend their revolutionary victories.

After the victory of Great October, Lenin's teachings on the defense of the socialist fatherland were further developed and practically worked out.

Lenin defined the most important conditions essential for organizing the repelling of the enemies of the revolution and for their defeat. The main condition and immediate concern were the creation of a strong-armed force of a new type, an army of workers and peasants.

Lenin and the Communist Party pointed out that this should be a completely new army which differs fundamentally from the bourgeois armies. It is called upon to protect the vital interests of the workers, and is created along strict class lines from representatives of the workers, peasants and other strata of the workers. Leadership by the Communist Party is the basic core in the organizational development of a socialist army. The immutable principles in the creation and development of the new army are its inseparable tie with the people and its international nature. The

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party and the homeland involve the workers of all the peoples and nationalities of the nation in the armed struggle against the enemies of the revolution. The new army is to be set up with a permanent, professional organization, centralized leadership, unity of command and strictest conscious discipline.

These were the basic principles elaborated by Lenin and the party for setting up the new army and organizing the defense of the socialist fatherland.

The Communist Party Headed by V. I. Lenin--The Organizer of the Soviet Armed Forces

As V. I. Lenin predicted, immediately after the victory of the Great October Socialist Revolution, the internal counterrevolution and international imperialism joined forces against the Soviet republic. Kaiser Germany and later England, France, Japan and the United States committed their troops to suppress Soviet power in Russia. They armed and fully supplied the armies of the White Guard generals Kolchak, Denikin, Drasnov, Yudenich, and others. The Soviet republic was in an exceptionally complex and difficult situation.

During the first days of Soviet power, the sole armed force of the revolution was the Red Guard, the armed detachments of workers which had been organized by the party upon the initiative of V. I. Lenin in 1917 and who had participated in the October armed insurrection. But they were few in number and weak. Under these conditions, it was particularly urgent to organize a strong, large, regular, strictly centralized and disciplined army.

Upon the appeal of V. I. Lenin and the party, the workers of our nation rose to fight for the liberty and independence of their motherland.

The beginning of the organizational development of our Armed Forces was the decrees of the Council of People's Commissars [Sovnarkom] on organizing the Worker-Peasant Red Army (28 January 1918) and the Worker-Peasant Red Navy (11 February 1918).

In January 1918, the German imperialists, having treacherously violated the truce conditions, began an offensive along the entire Russo-German Front. And the soldiers of the old Russian army, wearied by the imperialist war, threw down their weapons and headed for home. The front virtually ceased to exist. A mortal danger had developed for the young Soviet republic, and above all for revolutionary Petrograd. The Communist Party and the Soviet government urged the workers to repel the enemy advance with weapons in hand and to defend the cradle of the proletarian revolution, Petrograd. On 21 January 1918, the appeal-decree "The Socialist Fatherland in Danger!" which had been worked out by V. I. Lenin was published. Lenin's appeal resounded throughout the nation, it united the people, and raised them to the defense of the Soviet republic. In a number of cities, and above all in Petrograd and Moscow, mass volunteering of the workers

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for the ranks of the Red Army commenced. The communists were the unifying force of the young regiments. The formed units immediately set off for the front and fought unstintingly against the German army.

By 23 February 1918, the advance of the German troops against Petrograd had been stopped. The interventionists had sustained a crushing rebuff. In commemoration of the patriotic upsurge and the mass mobilization of the workers to defend the socialist fatherland and the first victories in the armed struggle against the enemies of the revolution, 23 February is celebrated as a national holiday, Soviet Army and Navy Day.

In Russia the Civil War was starting up and the imperialists commenced out-right intervention. Under these conditions, V. I. Lenin and the Communist Party took the most decisive measures to organize the Red Army and defeat the enemy. In April 1918, universal compulsory military instruction of the workers (Vsevobuch) was introduced in the nation, and on 29 May, a decree on universal military service was approved. Intense organization and training of the troops for the front were underway. While in the spring of 1918 there were 300,000 men in the ranks of the Red Army, by the spring of 1919, its size was 1.8 million, by the end of the same year, 3 million, and by the end of 1920 had reached 5.5 million men.

The infantry was the basic branch of troops in the Red Army. At that time the cavalry also played an important role. Artillery battalions and air detachments were also formed. The armored forces had armored trains, armored vehicles and later tanks. The revolutionary Baltic Fleet comprised the core of the Republic Navy.

The party Central Committee directed all the work of organizing the Red Army and the defense of the nation. Vladimir Il'ich Lenin carried out titanic work. He headed the party Central Committee, the Sovnarkom and the Defense Council, combining party, state and military leadership of the nation. Vladimir Il'ich worked out and signed hundreds of decrees, directives, letters and telegrams on the questions of organizing the defeat of the White Guards and interventionists.

In this period the central and local military organization was set up, a clear structure was defined, a unified organization of the troops was introduced, regulations and manuals were worked out, and the task of training command personnel was successfully implemented. Important measures for strengthening the ranks of the Red Army were the introduction of the institution³ of military commissars, and the creating of a broad network of party and Komsomol organizations in the Army and Navy. The party made a colossal effort so that industry, agriculture and transport were subordinate to the needs of defending the nation and supplied the front with weapons and food.

The Soviet Armed Forces which had been organized by the party and V. I. Lenin, in the fierce struggle, defended the victories of the revolution and defeated the hordes of interventionists and White Guards.

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The Fundamental Distinction of the Soviet Armed Forces from the Armies of Imperialist States

The Red Army is a new type of army, an army of the workers and an army of the socialist revolution. It differs fundamentally from the armies of the capitalist nations. The historic Decree on the Organization of the Worker-Peasant Red Army signed by V. I. Lenin stated: "The old army served as an implement of class suppression of the workers by the bourgeoisie. With the coming to power of the workers and the exploited classes, the need has arisen of creating a new army...." The decree emphasized that the Red Army is to be created from the most conscious and organized elements of the working masses, and it will "recruit every person who is ready to dedicate his forces and life for defending the victories of the October Revolution, the power of the soviets and socialism."⁴

In contrast to the bourgeois armies which are used by the exploiters for oppressing the workers, the Soviet Army is an army of the workers and peasants, a truly people's army. From the moment of its organization, it expressed and defended the interests of the absolute majority of the people. With the complete victory of socialism in the USSR and the construction of a developed socialist society, our army has become an army of all the Soviet people. One of the most important sources of the might of our Armed Forces is the inseparable tie with the people. As was pointed out by V. I. Lenin, "This force is not divorced from the people like the force of the old standing army, but is most closely linked to it; in military terms this force is incomparably stronger than before; in revolutionary terms it is unique."⁵

Antagonistic class contradictions are inherent to a bourgeois army, like all capitalist society. Its command personnel is recruited predominantly from the exploiting classes and the interests of the command differ from those of the soldiers and sailors who are compelled to serve goals that are alien to them. The ruling circles endeavor to conceal their revolutionary class goals from the soldiers, and to persuade them that service in an imperialist army and the aggressive wars waged by it are merely business or a profitable undertaking. National and racial contradictions are also inherent to the armed forces of imperialism. In a bourgeois army, the lack of rights of dark-skinned soldiers is particularly apparent.

The Soviet Armed Forces, on the contrary, are united by a strong class unity and an unshakable friendship of the peoples and nationalities of the USSR. Our commanders, soldiers and sailors serve the common interests and goals of defending the Soviet motherland and the cause of socialism and communism. The Soviet Army and Navy are characterized by an atmosphere of true equality of rights, fraternal unity, friendship and comradeship. The Soviet military is indoctrinated in a spirit of international solidarity, fraternal friendship and cooperation with the peoples and armies of the countries in the socialist commonwealth.

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A fundamental distinction of the Soviet Armed Forces from bourgeois armies is also that they serve to defend their motherland against aggression, and together with the armies of the fraternal nations, defend the security of the socialist commonwealth and the cause of universal peace.

The Soviet Army is a liberator army. V. I. Lenin repeatedly stressed the liberating and international nature of our army stemming from its very revolutionary essence and the missions which it was called upon to carry out.

"Our army," said Leonid Il'ich Brezhnev at the 25th CPSU Congress, "is indoctrinated in a spirit of profound loyalty to the socialist motherland, to the ideas of peace and internationalism, to the ideas of friendship among peoples. In precisely this the Soviet army differs from the bourgeois armies. For precisely this reason the Soviet people love their army and are proud of it."⁶

The Purpose and Nature of the USSR Armed Forces

Marxism-Leninism teaches that the army is an implement of the ruling classes, and its nature and purpose are determined by the political organization of society and by the class essence of the state.

In a bourgeois society, the army serves as an implement in the rule of the exploiting imperialists. Its purpose is to defend the bourgeois system, to suppress the masses of people and their liberation struggle, to seize foreign territories and to enslave other peoples.

The historic mission of the Soviet Army created by the socialist system, in the definition of V. I. Lenin, is: "...To defend the victories of the revolution and our people's power...."⁷

During the years of the Civil War, the Red Army was called upon to defend the victories of the October revolution and the young Soviet state against foreign intervention and domestic counterrevolution. In the battles against the enemies, the young Red Army won undying glory. In overcoming unbelievable difficulties and under conditions of hunger and chaos, it defeated the hordes of interventionists and White Guards and defended the motherland and the victories of October.

After the Civil War, the party directed the efforts of the Soviet people at rebuilding the destroyed national economy, creating the foundation of a socialist economy, and strengthening the military might of the Army and Navy.

During this period the Armed Forces were confronted with the mission of being ready to repel a possible attack by the imperialist aggressors and to ensure conditions for the building of socialism. The Red Army vigilantly guarded the Soviet frontiers. It dealt a crushing defeat to the attempts of the imperialists to disrupt the peaceful labor of the Soviet people in

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the Far East and on the approaches to Leningrad, and it helped the people of the western oblasts of Belorussia and the Ukraine and the Baltic republics to join the fraternal family of Soviet peoples.

The Great Patriotic War of 1941-1945, in which our people defended the liberty and independence of their socialist motherland, was the bloodiest and severest war in history. The material, political and military forces of the Soviet state underwent a crucial testing. In this war, the fate of the world's first socialist fatherland and all world civilization was determined.

The severe hardships could not break the fighting spirit of our people and their army, and could not shake the unlimited faith of the Soviet people in the triumph of communist ideals. During those days the song "A Holy War" resounded as a vow to the motherland and as a tocsin calling the people to fight the enemy:

Rise up, oh vast land,
Rise up to mortal battle
Against the dark fascist force,
Against the accursed horde!

The Leninist Communist Party was the inspirer and organizer of the struggle of the Soviet people for the freedom and independence of the motherland. Under its leadership the nation was turned into a single military camp.

In the Battle of Moscow in December 1941, the Red Army defeated the crack units of Nazi troops and thwarted Hitler's plan for a "blitzkrieg," and shattered the myth of the invincibility of the Nazi army. This was the first major defeat of the Nazis in the course of the entire World War II.

The heroic defense of Leningrad, Kiev, Sevastopol', Odessa, Tula, the Caucasus and the Soviet Arctic also played a major role in the achieving of victory over the enemy. The great Battle of Stalingrad continued for more than 200 days, and this ended with the encirclement and complete defeat of an army of more than 330,000 enemy troops. The victory at Stalingrad marked the beginning to a fundamental change in the course of the war, and was the start of the general defeat of the German invaders and the expulsion of them from Soviet land.

The battles at Kursk, Leningrad, Novorossiysk, on the Dnepr and in Belorussia, on the Vistula and Oder, in East Prussia in the Balkans and the other major engagements were the most important stages on the path of the Soviet people toward victory in the Great Patriotic War. On 8 May 1945, Hitler Germany surrendered unconditionally. In August 1945, the army of militarist Japan was defeated by Allied troops.

During the Great Patriotic War, as during the period of the Civil War, the truly popular nature of our Armed Forces was fully apparent as well as the ardent patriotism of the Soviet military, their total loyalty to the

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Communist Party and the motherland, and unprecedented courage and mass heroism. Reaffirmed were the fervent words of Vladimir Il'ich Lenin that in the struggle for freedom and for Soviet power "Russia is capable of providing not only isolated heroes...and that Russia can produce these heroes in hundreds and thousands."⁸

The book "Malaya Zemlya" [The Small Earth] describes with clarity and heartfelt warmth the mass heroism of the Soviet soldier. In the course of battle "the earth was set on fire, stones smoked, metal melted, concrete collapsed, but the people, loyal to their oath, did not retreat from this land."⁹

For military feats in the Great Patriotic War, more than 11,000 men received the title of Hero of the Soviet Union. Among them were the sons and daughters of all the peoples of our motherland. Some 104 soldiers became twice Heroes of the Soviet Union, while G. K. Zhukov, I. N. Kozhedub and A. I. Pokryshkin received this high title thrice. Among the Heroes of the Soviet Union, 74 percent were communists and 11 percent Komsomol members. For military feats for the sake of the motherland, more than 2,000 persons were awarded the Order of Glory of the three degrees.

The Great Patriotic War clearly manifested the international nature and the liberation mission of our armed forces. In the unstinting struggle against German fascism and Japanese militarism, they not only defended the honor, freedom and independence of our motherland, but also saved many peoples from fascist enslavement. More than a million Soviet soldiers gave up their lives in battles for the liberation of peoples in foreign countries. The Soviet Army liberated partly or completely the territories of 10 European nations and two Asian countries with a total area of 2.5 million km² and a population of over 180 million persons.

The victory of the Soviet Union in the Great Patriotic War contributed to the formation of the world socialist system and to the growth of the revolutionary movement and the national liberation struggle throughout the world. The sources of the world historical victory of our Armed Forces were the leadership of the Communist Party, the firm alliance of the working class and the kolkhoz peasantry, and the unshakable friendship of all the Soviet nationalities and peoples.

In the postwar period, our Armed Forces, under the leadership of the Communist Party, have continued their successful development and strengthening, and have honorably carried out their noble missions. Under present-day conditions, the historic mission of the Soviet Armed Forces consists in reliably defending the socialist fatherland, protecting the peaceful and creative labor of the Soviet people who are building communism, and being in constant combat readiness which would guarantee an immediate rebuff of any aggressor. Along with the armies of the fraternal socialist countries, they protect the security of the entire socialist commonwealth and are a reliable bulwark for universal peace and security.

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Quiz Questions

1. What is the socialist fatherland?
2. The legacy of V. I. Lenin on the defense of the socialist fatherland.
3. What is the fundamental difference of the USSR Armed Forces from the armies of the capitalist states?
4. What world historical victories did the Soviet Armed Forces win over the enemies of the motherland? What were the sources of these victories?
5. What are the sources of the strength and might of the Soviet Army and Navy?

§2. The USSR Armed Forces Today

Leninist Principles of Military Organizational Development

After the victory in the Great Patriotic War, the Communist Party and the Soviet government focused all the efforts of the people on rebuilding and further developing the national economy and on completing the construction of socialism. At the same time the party never forgot the advice of the great Lenin, to be always on guard, and to strengthen national defenses in every possible way.

During the postwar years, the party and the government have devoted unflagging attention to strengthening and improving the Soviet Armed Forces. Their development has proceeded on the basis of the Leninist principles of military organizational development.

What is the content of these principles?

The leadership of the Communist Party over the Armed Forces is the basic and main principle for Soviet military organizational development. V. I. Lenin felt that party leadership was the decisive source of might for the Red Army and all its victories. He taught that since the Communist Party is the leading and guiding force of all Soviet society, it should totally direct the Armed Forces and lead the question of military organizational development and the defense of the motherland.

The entire history of the Soviet state and its world historical victories won in battles against the enemies of socialism have demonstrated the vitality of this Leninist principle.

In speaking about the reasons for our victory in the Civil War, V. I. Lenin pointed out that "the authority of the party unified all the departments and institutions and scores, hundreds, thousands and ultimately millions followed under the slogan which was given by the Central Committee, as one man.... For this reason alone, regardless of the double, triple or four-fold campaign of the imperialists of the Entente and the imperialists of the entire world, we were in a state to win."¹⁰

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The same thing must be said about our victory in the Great Patriotic War.

The organizing and directing role of the Communist Party in strengthening the defense capability of the nation and in defending the motherland is manifested in the unity of the political, economic and military leadership. This is caused by the very nature of a socialist society, and by the scientific nature of its construction which is carried out on a basis of the knowledge and use of the objective laws of social development. The realization of this thesis makes it possible to utilize the advantages of socialism in a planned manner in the fight against the enemies of our state and in strengthening the defense might of the motherland.

The leading role of the CPSU in directing all Soviet society, including the Armed Forces, has been continuously growing. This is explained by the growth and complicating of tasks in all areas of communist construction, in organizing the defense of the motherland, and in the broadening of the international duties of the Soviet state and its Armed Forces.

One of the important principles is the *class principle* in the organizational development of the Armed Forces. This is inherent to the armies of all states. However, bourgeois theoreticians endeavor to conceal the class essence of imperialist armies, because this is profoundly antipopular. But we, on the contrary, proclaim this principle outright, thereby stressing the truly popular nature of the socialist army which defends the interests of the workers and the interests of peace and socialism.

The USSR Armed Forces from the day of their birth became a powerful weapon of the working class and the working peasantry in the struggle for the liberty and independence of our motherland.

One of the crucial sociopolitical principles of Soviet military organizational development is the *unity of the army and the people*. This is based upon the blood relationship of the Soviet Army and the masses of people. The close tie of the Soviet Armed Forces with the people is one of the most important sources of their might and invincibility. The Soviet people love their army and spare nothing to increase its battleworthiness.

Among the fundamental principles of Soviet military organizational development is the *principle of friendship among peoples and proletarian internationalism*. On the basis of Lenin's nationality policy, our Armed Forces have been developed, they have grown up and become stronger, as a unified multinational military organization of a socialist state. The indoctrination of the personnel in a spirit of friendship and fraternity among the Soviet peoples and total loyalty to the Soviet motherland is one of the decisive conditions for the strength of the Army and Navy.

The Leninist principle of proletarian internationalism under present-day conditions is also expressed in the solidarity of the socialist countries, in the commonness of social goals and tasks, in military cooperation among

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their armies, and in the solidarity with the workers of the entire world. In defending the class interests of their people, the Soviet Armed Forces at the same time defend the interests of the workers in the nations of the socialist commonwealth, and they carry out their international duty to the workers of the entire world.

An important organizational principle is the *principle of a regular army*. Prior to the October Revolution, there was the opinion that the victories of the revolution could be defended by an armed people or a people's militia. The experience of combating the united forces of international imperialism showed that the function of protecting the socialist victories of the people could be carried out only by a regular, well-equipped and strictly disciplined army. At present this principle underlies the entire military system of the Soviet state.

The *principle of centralized leadership* is determined by the very specific nature of the military organization and the missions carried out by the army. Its essence is that the military command, in being guided by the decisions of the Communist Party, its Central Committee and the Soviet government, unites the efforts of the subordinate troops, and directs them at constantly increasing the defense capability of the state, the combat readiness of the Army and Navy in peacetime, and at achieving victory in war.

The *principle of unity of command* is closely tied to the principle of centralized leadership. This is a most important organizational principle in Soviet military development. It is founded on a party base and means that the solely-responsible commander is the representative of the Communist Party and the Soviet state in the troops, their agent, the proponent of their political line and the strict guardian of the Soviet laws and military regulations. He bears full responsibility for the fighting efficiency of the subunit, unit, ship or formation, and for the successful fulfillment of their combat missions.

V. I. Lenin considered unity of command as "that system which most ensures the best use of human capabilities and a real and not verbal check on the work."¹¹

Unity of command ensures the greatest clarity, efficiency, and centralization of troop command; initiative, independence and freedom of the commander in taking a combat decision; the full responsibility of the commander for the military training and readiness of the subunit, unit or ship assigned to him, and for the indoctrination of the personnel.

The service activities of each serviceman, the standards of conduct and the entire procedure of army life are determined by the military regulations and the orders of chiefs.

The Soviet commander combines in himself the qualities of an exacting chief and a considerate indoctrinator. Both the officer and the soldier of the

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Soviet Army are subordinate to the same moral principles and to the requirements of the military oath and military regulations.

The order of a commander is a law for subordinates, and it should be carried out unflinchingly, precisely and on time. The inaccurate or delayed execution of a chief's order in peacetime causes great harm to military order, it weakens the combat readiness of the army, and in combat this is fatal.

M. I. Kalinin said: "The order or command of a commander under any conditions is the law for the soldier, and a law from which there should be no deviations."¹² If the men are not taught to carry out orders unswervingly, sparing neither their forces nor life itself, the subunit will be unable to carry out its missions of defending the motherland. In carrying out the order of a commander and in protecting him in combat, the Soviet soldiers show concern for maintaining the fighting efficiency of the subunit, unit or ship. The inviolable law of friendship and comradeship among the Soviet military and their glorious military tradition are manifested in a readiness to help the commander out of a disaster and to rescue him in combat.

Unity of command in the higher levels of the military organization is combined with forms of collective leadership. The military councils of the services of the Armed Forces, the military districts, troop groups, fleets and armies are collective military leadership bodies. They review and settle the most important questions in the life and activities of the Army and Navy.

The *principle of the constant readiness* of the nation and its Armed Forces to repel aggression and to defend the socialist victories of the workers is determined by the existence of a threat of war deriving from the imperialist states. V. I. Lenin repeatedly stressed that it was essential to keep a vigilant eye on the intrigues of the enemies, to maintain revolutionary vigilance, and to always be on guard and in constant readiness to repel the imperialist aggressors. The Communist Party, in carrying out Lenin's legacy, has done everything to maintain the Army and Navy in a state of high combat readiness.

High conscious military discipline, as a principle of military organizational development, is an inseparable quality of the Soviet Armed Forces. V. I. Lenin gave enormous significance to military discipline. He viewed it as a most important factor in the fighting efficiency of the troops.

Under present-day conditions, the role of conscious discipline, organization and firm order has grown significantly. The nature of a possible war and the complicating of all military affairs necessitate the strict and unswerving execution of the regulations and the orders of the commanders, great teamwork, and rapid and precise actions by the individual men and troop collectives.

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The most important principles in the organizational development of the Soviet Armed Forces are reflected in the activities of the Communist Party and its Central Committee in the area of military organizational development, in Soviet military doctrine and the military regulations.

Soviet Military Doctrine

Military doctrine is the system of views and concepts accepted in a state and dealing with military organizational development and the conduct of war. Two aspects--political and military-technical--can be distinguished in the content of Soviet military doctrine. Here the political aspect is the main and determining one. This discloses the sociopolitical essence of a future war which the imperialists can start, the nature of the political goals and strategic tasks of a state in a war, their impact on the organizational development of the Army and Navy, and the methods for preparing for and conducting a war.

The military-technical aspect of doctrine includes the questions of the organizational development, training and use of the Armed Forces in War, the most important areas of the combat use, technical equipping, and organizational structure of the Army and Navy, the development of military art, and the demands on the military training and combat readiness of the troops. Soviet military doctrine performs a progressive social role to the highest degree. It serves the cause of defending the most advanced social system, socialism, and ensures conditions for the construction of communism.

The presently occurring scientific and technical revolution has had a profound impact on military affairs and on the development of weapons and military equipment. Nuclear missiles have appeared and these possess enormous destructive force and unlimited range. Combat aviation has become jet-powered and supersonic. Atomic submarines have been developed. The Armed Forces are equipped with automated control systems for the weapons and military equipment. All of this has led to changes in the methods of conducting combat, and in the methods and forms for instructing and indoctrinating the personnel.

Fundamental qualitative changes have occurred in all the services of the Armed Forces. The Soviet Armed Forces include the Strategic Missile Forces, the Ground Forces, the National Air Defense Forces, the Air Force, the Navy, as well as the Border and Interior Troops.

The Strategic Missile Forces

The Strategic Missile Forces comprise the basis of the combat might of our Armed Forces and are designed to destroy enemy nuclear attack weapons, large groupings of enemy troops and military bases as well as for the destruction of military industrial installations. They are armed with inter-continental and medium-range missiles and dependable control systems.

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The Strategic Missile Forces are troops with a high degree of combat readiness. And in peacetime they also carry out a combat mission. Night and day the missile troops stand tours of duty and are ready in the event of an enemy attack to inflict inevitable retaliation on it.

Ground Forces

The Ground Forces have acquired new combat qualities. These are the most numerous service of the Armed Forces with diverse weapons and military equipment. At present their fire and strike power and their mobility have increased significantly, and they have acquired even greater independence in carrying out combat missions.

Operational and tactical *missile units* comprise the basis of the fire power of the ground forces. Their missiles can accurately and dependably deliver nuclear ammunition to any target within a range of from several score to many hundreds of kilometers.

The motorized rifle and tank forces and the artillery have also been substantially changed. The *motorized rifle units* are outfitted with first-rate transport and modern types of weapons. The infantry combat vehicles (BMP) are capable of destroying various targets with their weapons and rapidly covering significant distances. As a result of this, there has been a sharp rise in the mobility, maneuverability, fire power and striking power of the motorized rifle units and formations. Their personnel is capable of conducting extended combat, to advance rapidly, to pursue the enemy until its complete defeat, and to firmly hold occupied positions.

The *tank troops* are armed with modern tanks having powerful armor and first-rate weapons, they possess excellent cross-country capacity and great range. It is very important that the tanks and the BMP are adapted for actions under the conditions of the use of nuclear weapons. The tank troops are the basic striking force of the Ground Troops.

The *artillery and mortar* subunits and units are armed with the most advanced guns, mortars, recoilless guns, and rocket launchers which surpass the performance of the famous "Katyushas." The present-day artillery is marked by great mobility, maneuverability, range and accuracy of fire, and a more powerful shell. Along with the antitank conventional artillery there is also a new highly effective weapon used against armored targets, namely the antitank guided missiles (PTURS) which are capable of hitting any tanks at significant distances.

The Air Defense troops of the Ground Forces have undergone significant changes. The effectiveness of their use has risen greatly in protecting the troops against enemy air attack weapons. They are armed with mobile anti-aircraft missile complexes, anti-aircraft artillery, air target detection radar and automated fire control systems.

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The special branches of forces have also become qualitative different. Thus, the *engineer troops* have been equipped with modern road and earthmoving equipment, powerful equipment for throwing up crossings over large water obstacles, and various devices making it possible to erect shelters for personnel and military equipment within the shortest time. The *chemical troops* are armed with modern equipment including facilities and devices for conducting radiation reconnaissance, and protecting and decontaminating personnel, equipment, weapons and terrain.

The *signal troops* are supplied with modern radio and radio relay equipment. This makes it possible for the commanders and the staffs to continuously control the troops under any conditions of a rapidly changing combat situation.

The Soviet Union is the world's largest railroad power. The total length of the railroads in the USSR exceeds 135,000 km. The Armed Forces also have *railroad troops*. Organized during the years of the Civil War, they rebuilt and operated many thousands of kilometers of railroads and bridges. The railroad troops also honorably endured the severe hardships of the Great Patriotic War. During the postwar years, the railroad troops have developed and improved. At present they have new powerful and effective mechanisms and equipment, including earthmoving equipment, track layers, excavators, mechanized lifting cranes, and so forth. The railroad troops are also involved in the construction of the Baykal-Amur Mainline.

With the appearance of nuclear missiles, the role of the *airborne troops* has increased. They are rightly called the winged guard. In these troops all the units have the honorable title of guards. Both independently and in cooperation with the units and subunits of the other services and branches of forces in the Armed Forces, the paratroopers are capable of carrying out diverse combat missions in the enemy rear. The airborne troops are armed with airborne combat vehicles, assault guns, armored personnel carriers, effective antitank and antiaircraft weapons, conventional and rocket artillery systems, and powerful automatic weapons.

The National Air Defense Troops

Considering the enormous importance of the missions carried out by the National Air Defense Troops, the Communist Party and the Soviet government have taken measures to provide them with everything necessary for successfully repelling an air attack and for covering the air frontiers of the motherland.

The National Air Defense Troops include antiaircraft missile troops, missile-carrying fighter aviation, radar and special units and subunits. The antiaircraft missile units are armed with antiaircraft missile complexes.

The combat capabilities of the weapons of the National Air Defense Troops make it possible to repel modern air attack weapons of the imperialist aggressors at maximum ranges, at various altitudes and supersonic speeds.

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Modern interceptor fighters possess a speed which significantly surpasses the speed of sound, a great flight ceiling, good maneuverability and powerful missile weapons. They operate during the night and day, in any weather, and they successfully carry out missions of destroying enemy aircraft.

The combat capabilities of the radio engineering units of the National Air Defense Troops have increased. Their modern radioelectronic equipment makes it possible at any time and under the most difficult conditions to detect air attack weapons at a great distance and provide prompt target designation for the antiaircraft missile troops and the missile-carrying air defense fighter aviation.

The air frontiers of the Soviet fatherland stretch for scores of thousands of kilometers. They are vigilantly guarded by the air defense troops who stand continuous tours of duty and are in a state of constant readiness to repel an enemy attack.

The Air Force

Our Air Force is a mighty service of the Armed Forces. The fundamental scientific and technical achievements, particularly in the development of new jet engines and aerodynamic systems for airplanes and helicopters, as well as the broad use of more advanced materials and radio and radio electronic equipment in airframe construction have ensured the rapid development of military aviation.

Today's Air Force is termed all-weather. It is armed with missile-carrying aircraft which can make strikes with nuclear and conventional weapons against any target located on the ground or at sea, without entering the zone of the enemy air defense weapons. The Air Force also includes missile-carrying fighter aviation, military transport aviation and combat helicopters.

The combat aircraft used by the Air Force possesses supersonic speed and a stratospheric flight altitudes; the aircraft are equipped with powerful missile and cannon armaments and advanced radio electronic equipment. New aircraft have been developed with a variable wing configuration, as well as vertical takeoff and landing. These planes can take off and land on limited-sized airfields, they can operate successfully under difficult meteorological conditions and at night, and can make long-distance flights at supersonic speeds. The modern helicopters are primarily combat aircraft which are capable of carrying out a broad range of missions involved in the support of the Ground Forces on the battlefield, including operations in the enemy rear, the successful conducting of air reconnaissance, dropping troops, delivering cargo and providing liaison and command.

The Navy

The Navy has become a mighty force. The development of missile and atomic propulsion units have led to a sharp change in the direction of ship construction, and this has been expressed in an increase in the role of atomic

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submarines carrying nuclear missiles. At present the chief means capable of carrying out the basic missions of the Navy are the atomic submarines armed with various missiles and homing torpedoes and equipped with advanced navigation, control and communications facilities. They can attack from great distances both against sea targets and ground installations located on the shore or deep in enemy territory. The missile-carrying naval aviation is the chief means of hitting the enemy.

The Navy also possesses missile-carrying, antisubmarine, minesweeping, amphibious and other surface vessels, missile and artillery shore troops, and marines. The Navy has left the coastal waters and inland seas and has pushed out into the expanses of the world ocean. It has everything necessary for extended operations on the oceans and seas.

The changes in the technical equipping of all the services of the Armed Forces and the growth of their combat capabilities have caused a reorganization in all the elements of rear support for the Army and Navy. Complete motorization of the *Rear of the Armed Forces* and a reorganization in its structure have been carried out. This has increased its mobility and maneuverability.

The personnel of the *Border and Interior Troops* carry out responsible missions in defending the USSR state frontiers and major state installations.

The Border Troops during the entire history of the Soviet state have stood a difficult but honorable service, in vigilantly guarding the state frontier, and have fought enemy spies and saboteurs. They have repeatedly rebuffed armed provocations. During the years of the Great Patriotic War, the Soviet Border Troops were the first to engage the fascist hordes and set examples of tenaciousness and heroism. At present the Border Troops have the most advanced military equipment and weapons.

The USSR Armed Forces represent a mighty combat collective of ideologically strong, courageous and able defenders of the motherland who are totally dedicated to the party and the people and who are clearly aware and worthily carry out their patriotic and international duties. Closely rallied around the Communist Party and under its tried leadership, they are capable of carrying out any combat missions of defending their socialist fatherland.

Quiz Questions

1. What are the Leninist principles of military organizational development?
2. What is the significance of unity of command in the Army and Navy?
3. The services of the Armed Forces. What is their purpose?
4. How are the services of the Armed Forces developing under present-day conditions and what are their missions?

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§3. The CPSU on the Tasks of the Soviet Armed Forces During the Period of Building Communism

As a result of the enormous revolutionizing and creative activity of the workers, peasants and people's intelligentsia under the leadership of the Communist Party, a developed socialist society has been built in our nation, and socialism has been completely and finally victorious. At present a communist society is being successfully built.

Our achievements would have been even greater if it had been possible to utilize all the resources of the nation for developing the economy and for raising the standard of living of the people and improving culture. But since aggressive imperialist forces exist in the world, our state has been forced to allocate money for defense in order to maintain it on a modern level.

The Soviet Union, along with the fraternal socialist countries, is fighting steadily and consistently for peace and the security of peoples. But the experience of history teaches that when confronted with world imperialism it is always essential to be ready to repel any of its aggressive intrigues and to be always on guard.

Imperialism--The Source of Wars and the Evilest Enemy of Peace and Socialism

Imperialism in the 20th century has led mankind into the abyss of two devastating world wars, and has started up hundreds of local wars and military conflicts. In the course of these wars, entire nations have been devastated, thousands of cities and villages have been destroyed, and the results of the labor of many generations have been wiped out. Many millions of people have lost their lives in the wars.

Regardless of the defeats suffered by imperialism, at present it continues its aggressive policy and has not abandoned the rabid plans for winning world domination. "...World domination," wrote V. I. Lenin, "is to put it briefly, the content of imperialist policy, the continuation of which is imperialist war."¹³

In preparing for war against the world socialist system, the imperialist states headed by the United States have instigated an unprecedented arms race, they have increased military expenditures, they have created large armies and military bases, and have militarized the economy and all social life. As a result of militarization in the imperialist countries, there has been an intermingling of the monopolies and the military, and the so-called military industrial complex has formed. The monopolies are in favor of carrying out the most militant, aggressive policy against the USSR and the other socialist countries.

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Leonid Il'ich Brezhnev described the aggressive essence of modern imperialism in the Accountability Report of the CPSU Central Committee to the 25th Party Congress: "The experience of the revolutionary movement in recent years has clearly shown that if a real threat arises to the dominance of monopolistic capital and its political henchmen, imperialism knows no limits, discarding any appearance of democracy whatsoever. It is ready to violate the sovereignty of states and any legality, without mentioning humaneness. Slander, the stultification of public opinion, economic blockade, sabotage, the organization of hunger and chaos, bribery and threats, terror, organizing the murders of political figures, and pogroms in the fascist style--this is the arsenal of modern counterrevolution which always operates in alliance with the international imperialist reaction."¹⁴

The aggressive NATO military bloc¹⁵ represents a particular threat to peace and to the security of our motherland and the fraternal socialist countries. Its large armed forces equipped with nuclear weapons and a large quantity of modern tanks, aircraft and artillery pieces are in direct proximity to the Soviet frontiers, and in Europe oppose the armed forces of the Warsaw Pact countries. The NATO military depots in Europe store thousands of nuclear warheads, and the armed forces are combat ready.

The aggressive nature of U.S. imperialism was clearly manifested in the war against the Vietnamese people, in the active support for the aggression of Israeli military forces against the Arab peoples in the Near East and the fascist regime in Chile, and in the attempt to suppress the national liberation movement of the Angolan people and other peoples.

In Vietnam imperialism suffered a defeat in its most important effort since World War II to settle scores with a socialist state and stifle the national liberation revolution. "...The victory of Vietnam," said L. I. Brezhnev, "shows how restricted the possibilities of imperialism have become in our days. Now there are no means by which it could turn history back!"¹⁶

As a result of the consistent struggle which our party has carried out along with the other fraternal parties of the socialist countries to prevent a new world war, a certain lessening of tension can be noted in the world. However the successful development of detente is impeded by the efforts of the reactionary imperialist forces. They are continuing the arms race, they are developing new types of lethal weapons and are strengthening the aggressive blocs. The imperialists have endeavored to fan centers of tension in various regions of the world such as the Near East, in the region of the Indian Ocean, in Latin America, Africa and Asia.

The Communist Party considers that the present stage in world development is characterized by a complexity and contradictoriness. It is carefully following the state of affairs in the world, and is taking every measure to prevent a new world war.

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Marxism-Leninism on the Causes and Essence of Wars

War is an armed struggle between states or social classes. Marxism-Leninism teaches that wars in an exploiting society are not a random but completely natural phenomenon which does not depend upon the will of individuals. The main reason for wars lies in the economic and political system of this society.

Wars arose when private ownership of the means of production appeared and when society was split into antagonistic classes and a fierce struggle developed between them.

With the rise of capitalism, wars became its constant accomplice. War is one of the means which provides quick riches for the capitalists. The system of the exploitation of one class by another and the system of the eradication of man by man are two aspects of the capitalist system. Imperialism is an order of cruel oppression of the workers and the suppression of democracy, an order which has given rise to fascism, the extreme embodiment of reaction, obscurantism and terror.

The causes of imperialist wars were analyzed by V. I. Lenin with exhaustive thoroughness. He discovered the law of the uneven, abrupt economic and political development of the capitalist nations in the era of imperialism. This law is expressed in the continuous economic rivalry of the capitalist nations, in a struggle of the monopolies for raw material sources and markets, and in a desire of the progressing states to achieve world dominance by any means. The aggressiveness of imperialism was further heightened with the appearance of the Soviet state and then the other socialist countries.

In analyzing the essence of war, Vladimir Il'ich Lenin pointed out that war is the continuation of the policy of certain classes or states by other, violent means. "Any war," he wrote, "is inseparably linked with that political order from which it derives. That very policy which a certain power or a certain class within this power has carried out for an extended time prior to the war inevitably and inexorably is continued by the class itself during the war, merely having altered the form of its action."¹⁷

Depending upon this, wars may be just or unjust, reactionary, serving to reinforce class suppression, and progressive serving to overthrow this. For a Marxist these wars must not be confused.¹⁸

The sociopolitical nature of a war is determined by those political aims for the sake of which it is waged. If the policy of a state pursues liberating and just aims, then a war conducted by it is of a just nature; if the policy is predatory and unjust, then this war will be unjust.

In the present age, *just* wars are wars in the defense of the socialist fatherland and the states of the socialist commonwealth against imperialist aggression; civil wars of the proletariat against the bourgeoisie, as

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well as wars of the working classes for democracy against the rule of imperialism; national liberation wars of peoples in colonial and dependent nations, as well as wars of the liberated countries against neocolonialism; wars of the peoples in bourgeois states for defending the independence of their country against imperialist aggressors.

Thus, the Civil War of the Soviet people against the foreign interventionists and internal counterrevolution in the defense of the victories of the Great October Socialist Revolution was a just war. The USSR fought a just war against the Nazi invaders in the period of 1941-1945. The treacherous attack of Nazi Germany on the USSR was an attempt by international imperialism, with the aid of its most reactionary detachment, fascism, to destroy the world's first socialist state. The wars of the peoples of Vietnam, Korea, Laos, and Cambodia against the American interventionists and their allies in the aggression, the war of Angola and other peoples for liberty and independence were just, liberating wars.

Among the *unjust* wars are the wars in imperialism against the socialist states; the wars of the exploiting classes against the revolutionary movement of the working class and all workers; the wars of imperialism to maintain their dominance in the colonial and dependent nations or for the purpose of enslaving the liberated countries; wars among imperialist states for spheres of influence and markets.

The war of American imperialism against Vietnam as well as the wars of the Israeli aggressors against the Arab states can serve as an example of an unjust, predatory war.

War against the USSR and the other socialist countries, if it is started by imperialism, for the imperialist states in all instances will be an unjust, reactionary war and a continuation of their predatory policy. For the USSR and the other socialist states, it will be a just and progressive war, and it will be a continuation of their revolutionary policy of defending the liberty and independence of their motherland and ensuring the great cause of building socialism and communism.

Depending upon their scale, wars can be local, that is limited to the participation of two or several states, and world wars between systems of states which may involve a significant portion or even all nations of the world.

The Nature and Particular Features of a Possible Nuclear Missile War

If the imperialists, against the will of the peoples, succeed in unleashing a war and involve the nuclear powers in it, it will be a nuclear missile war, and hence the most destructive and fiercest of all the wars ever known in history. Nuclear weapons will be the main means of attack.

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The war on both sides will assume a coalition nature. The aggressive coalition of the imperialist states will be opposed by a coalition of the socialist countries which unites the might of the USSR and the other states in the socialist commonwealth.

In terms of its essence and political content, this war will be the decisive armed clash of the two opposing world systems. It will demand from the belligerents a colossal straining of all the forces and unprecedented, enormous sacrifices. The Soviet soldiers will need exceptionally high moral-political and military qualities, unflinching determination, self-sacrifice and a will for victory.

The imperialists will endeavor to achieve their partial aggressive goals by waging local wars. These wars are undertaken in the aim of suppressing the national liberation movement, for capturing or retaining colonies, as well as for weakening the world socialist system, and for maintaining a constant tension in the relations with the socialist states. The local wars of the imperialists against the peoples fighting for their liberty and independence at any time can grow into a world nuclear war.

The CPSU on the Necessity of Further Strengthening the Defense Capability of the Nation and Raising the Combat Readiness of the USSR Armed Forces

Proceeding from the international situation and the interests of communist construction, our party and government are doing everything necessary to further strengthen the defense capability of the motherland and the might of the Soviet Armed Forces.

Due to the concern of the party and to the heroic labor of the Soviet people, our Army and Navy at present represent a powerful, mighty and invincible force. They are always ready to repel any enemy attack.

For the purposes of strengthening the collective defense of the socialist states and in response to the creation of the aggressive NATO bloc by the imperialists in May 1955, a number of the socialist countries signed the defensive Warsaw Pact. This pact on friendship, cooperation and mutual aid has become an important instrument in the foreign policy cooperation and for ensuring the security of the socialist commonwealth. Bulgaria, Hungary, the GDR, Poland, Romania, the USSR and the CSSR--the member nations of this pact--are acting as a single front in the struggle for peace and are strengthening their defense capability.

The political, economic and military cooperation of the Warsaw Pact countries serves as a reliable guarantee for peace and security in Europe. All the relations between the Warsaw Pact states are based on a complete equality of rights. The USSR government has been continuously concerned with the further strengthening of the military alliance with the fraternal socialist countries. "...As long as the NATO bloc remains and as long as the militaristic circles keep up the arms race, our nation, along with the other Warsaw Pact members, will strengthen this military-political alliance."19

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One of the forms by which the Soviet Armed Forces fulfill their allied obligations and their international duty is the temporary stationing of Soviet troops on the territories of certain countries of the socialist commonwealth. Our military serving in the groups of Soviet forces carry high the honor and dignity of the internationalist soldiers. They strengthen the military cooperation with the fraternal armies, and along with them vigilantly and steadfastly defend the cause of peace and socialism.

The Soviet Armed Forces--A Reliable Guard for the Construction of Socialism and Communism, a Bulwark of Peace and Security for Peoples

The Soviet Armed Forces are equipped with modern weapons and military equipment. No matter how powerful military equipment and weapons may be, in a war, as before, man will play the main role. Only a soldier who has fully mastered this equipment, who is loyal to the cause of communism and possesses an unshakable faith in victory, is capable of successfully carrying out the combat mission and defeating the enemy. This is why the Communist Party pays constant attention to training the military personnel, to instructing and indoctrinating the personnel of the Armed Forces, and to the military patriotic indoctrination of the Soviet people.

The personnel of the Soviet Army and Navy are totally dedicated to the cause of communism and have fully mastered military skills.

To safely defend the security and peaceful creative labor of the Soviet people means to always be ready to carry out one's military duty to the fatherland, to learn what is necessary for victory in a modern war, and to be profoundly aware of the class, just nature of a war in defense of the socialist fatherland and the cause of communism, liberty and independence of the nations in the socialist community.

"...The Soviet people can be confident," stated Leonid Il'ich Brezhnev at the 25th CPSU Congress, "that the fruits of their creative labor are securely defended.

"No one should doubt that our party will do everything so that the glorious Armed Forces of the Soviet Union in the future will possess all of the necessary means for carrying out their responsible mission of guarding the peaceful labor of the Soviet people and being a bulwark of universal peace."²⁰

Quiz Questions

1. How does Marxism-Leninism define the causes and essence of war?
2. What wars are just and why, and what are unjust?
3. What distinguishes local wars from world ones, and what are their role and place in the plans of the imperialist powers?
4. How is the aggressiveness of modern imperialism manifested?
5. What do the documents of the 25th CPSU Congress state on the struggle of the Soviet Union and the fraternal socialist countries for the peace and security of peoples?

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§4. The Command, Political and Engineer-Technical Personnel. The Political Bodies, Party and Komsomol Organizations of the Soviet Armed Forces

The Concern of the Communist Party for the Training of Military Personnel

Command personnel are the basis and backbone of the Soviet Army and Navy. They cement the ranks of soldiers together, and indoctrinate them in a spirit of discipline, vigilance, organization and high ideological loyalty. In peacetime, the commanders train and indoctrinate their subordinates, and they thoroughly prepare them for the able and unstinting defense of the socialist fatherland. During the difficult years of a war, the commanders lead the soldiers and sailors into combat, and they direct the actions of the troops, directing their efforts at defeating the enemy.

The Communist Party and the Soviet government are constantly concerned with indoctrinating strong, well-trained command, political and engineer-technical personnel for the Armed Forces. The Soviet command personnel were created, grew up and tempered along with all the Armed Forces in the fight against the enemies of Soviet power on the fronts of the Civil War. "...In building a new army," said V. I. Lenin, "we should take the commanders only from the people. Only Red officers will have authority among the soldiers and be able to strengthen socialism in our army. Such an army will be invincible."²¹

In the nation, a broad network of military training institutions and courses was developed for training the commanders of the young Red Army.

The party repeatedly carried out party mobilizations. It sent its best representatives to the front, it kept track of their growth and provided complete support. At the heads of the units, ships and formations were the organizers of the fighting worker militias, detachments of the Red Guard as well as soldiers and sailors who had received battle experience during the period of World War I. Each day of the fierce struggle against the White Guards and foreign interventionists brought news of the heroic actions of the brigades, divisions and armies under the command of the people's military leaders M. V. Frunze, S. M. Budennyy, K. Ye. Voroshilov, V. K. Blyukher, S. S. Vostretsov, P. Ye. Dybenko, A. I. Yegorov, S. K. Timoshenko, M. N. Tukhachevskiy, I. P. Uborevich, Ya. F. Fabritsius, I. F. Fed'ko, and I. E. Yakir. Our people fondly remember the legendary heroes of the Civil War V. I. Chapayev, G. I. Kotovskiy, N. A. Shchorse, A. Ya. Parkhomenko, S. G. Lazo, A. G. Zheleznyakov and others. Books have been written about them and songs composed.

On the fronts of the Civil War, the military commissars, the glorious representatives of the Leninist party in the troops, prove themselves to be remarkable political leaders of the Red Army masses. The military commissars united the Red Army masses, they explained party policy, and maintained strict order and discipline in the units. Due to them, the party succeeded

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in most effectively utilizing in military service many of the old experienced military specialists who voluntarily came over to the side of Soviet power.

Among the hero commissars were Aleksandr Parkhomenko who subsequently became a famous division commander; Nikolay Markin, a sailor of the Baltic Fleet, and the organizer and commissar of the Volga Naval Flotilla; Dmitriy Furmanov, a talented and courageous fellow fighter of Chapayev; Ivan Gaza, a worker from the Putilovskiy Plant, and a commissar of the Putilovskiy Armored Train imeni V. I. Lenin; Ivan Konev, subsequently Marshal of the Soviet Union, a famous military leader of the Great Patriotic War, and many others.

In the interwar years, the party continued to give great attention to the training of command, political and engineer-technical personnel for the Army and Navy. The network of military schools was significantly enlarged. By the end of 1940, the military schools had 3.6-fold more officer candidates than in 1937. Over this same time, the number of students in the military academies rose by over 2-fold.

During the years of the Great Patriotic War, the scale of training for command, political and technical personnel in the Army and Navy rose significantly. During the time of the war, the military schools trained around 2 million officers who honorably justified the confidence of the party and the people. They withstood the severe testing on the battlefields of the Great Patriotic War.

In the course of this war, the Soviet Armed Forces surpassed the then strongest army of the capitalist world, the army of fascist Germany, not only in moral-political terms and weapons, but also in military art and in the organizational abilities of the command personnel.

During the Great Patriotic War, the party and the people developed remarkable commanders who mastered the art of conducting modern combat, and they brought forward a large group of military leaders who have become famous both among our people and among the peoples of other countries. Among them are G. K. Zhukov, A. M. Vasilevskiy, I. Kh. Bagramyan, N. F. Vatutin, L. A. Govorov, A. G. Golovko, A. I. Yerenenko, I. S. Konev, N. G. Kuznetsov, R. Ya. Malinovskiy, K. A. Meretskov, K. S. Moskalenko, F. S. Oktyabr'skiy, I. Ye. Petrov, K. K. Rokossovskiy, F. I. Tolbukhin, I. D. Chernyakhovskiy, V. I. Chuykov and many others.

The military councils and political bodies played a prominent role in the war. The members of the military councils for the fronts, fleets and armies and the chiefs of the political bodies included experienced political workers who had been in the army prior to the war as well as members of the party Central Committee, secretaries of the Union republic communist parties, the kraykoms and obkoms who were sent by the party for carrying out political work in the Armed Forces. Among them were: L. I. Brezhnev,

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I. I. Azarov, V. N. Bogatkin, M. A. Burmistenko, S. F. Galadzhev, K. S. Grushevoy, I. S. Grushetskiy, K. A. Gurov, A. A. Yepishev, P. I. Yefimov, A. S. Zhel'tov, A. I. Zaporozhets, K. A. Zykov, A. P. Kirilenko, M. A. Kozlov, K. V. Kraynyukov, A. A. Kuznetsov, N. M. Kulakov, I. I. Larin, D. S. Leonov, D. A. Lestev, V. Ye. Makarov, S. I. Mel'nikov, A. P. Pigurnov, A. M. Pronin, I. V. Rogov, M. V. Rudakov, A. G. Rytov, Z. T. Serdyuk, N. Ye. Subbotin, I. Z. Susaykov, A. N. Tevchenkov, K. F. Telegin, G. K. Tsinev, S. S. Shatilov, I. V. Shikin, T. F. Shtykov, A. S. Chuyanov and many others.

The people and party highly praised the military skill, courage, heroism and self-sacrifice of the generals, admirals, and officers. Hundreds of thousands of them were awarded orders and medals, and 6,437 men received the title of Hero of the Soviet Union. Many of them, for able leadership of the troops in combat, were awarded the Orders of Suvorov, Kutuzov, Aleksandr Nevskiy and Bodgan Khmel'nitskiy, and for naval leadership ability, the Orders of Ushakov and Nakhimov.

For particularly outstanding military leadership, the talented Soviet military leaders, Mrs SU L. A. Govorov, I. S. Konev, R. Ya. Malinovskiy, K. A. Meretskov, K. K. Rokossovskiy, S. K. Timoshenko, F. I. Tolbukhin and Gen Arm A. I. Antonov were awarded the Order of Victory, the highest military order of the USSR, and Mars SU A. M. Vasilevskiy and G. K. Zhukov received this high order twice. The Order of Victory was twice awarded to the Supreme Commander-in-Chief of the Soviet Armed Forces, Generalissimo SU I. V. Stalin.

The Order of Victory was awarded to the General Secretary of the CPSU Central Committee, the Chairman of the Presidium of the USSR Supreme Soviet, the Chairman of the USSR Defense Council, Mar SU L. I. Brezhnev, for a great contribution to the victory of the Soviet people and their Armed Forces in the Great Patriotic War, for outstanding achievements in strengthening the defense capability of the nation, for elaborating and consistently carrying out the peaceful foreign policy of the Soviet state which has safely ensured the development of the country under peacetime conditions.

The unbounded loyalty of the command, political and technical personnel in the Army and Navy to the party and their motherland, their high military training and exceptional organizing abilities were one of the most important conditions for the victory won by the Soviet people and their Armed Forces over fascist Germany and imperialist Japan.

Military Academies and Schools--The Forge of Officer Personnel

The commanders, political workers, military engineers and specialists are trained for the Soviet Armed Forces by the military academies, the higher military schools, the military institutes, the military faculties and chairs under civilian VUZes, and the training and retraining courses for officer personnel. We have superior military command, military political, military aviation, naval, military engineer and other schools. They all possess modern training and laboratory equipment and well developed field

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and sports facilities. The faculty of the military schools has high theoretical and practical training.

All the training of military personnel is aimed at developing their qualities which both fully correspond to the general demands of the party on the leadership personnel of the Soviet state as well as those needed in military affairs. These qualities are communist conviction, total loyalty to the party and the people, high discipline and efficiency, initiative and independence, command will and organizational capacities, high professional and physical training, general and military-technical culture, and the ability to train and indoctrinate subordinates.

In order to fully master these qualities and to be ready to carry out the responsible and difficult tasks of Army and Navy service, the Soviet officers sacredly carry out Lenin's admonishment of learning military affairs truly.

The Soviet state provides our youth with all opportunities to receive a military education and to become officers in the valorous Armed Forces. Each soldier and sailor, sergeant and petty officer who has a secondary education, and each young man who has successfully completed a secondary school, technical school or vocational-technical school can be admitted to a military school, and become an officer after completing it.

The combined-arms, tank, artillery, air defense, military-engineer, chemical defense and other higher military schools admit young men from the civilian youth and soldiers, sailors, sergeants, petty officers, and warrant officers ["praporshchik" and "michman"] of all the branches of forces who have a secondary education, in good health and who have successfully passed the competitive entrance exams. The age of those admitted is from 17 to 21 years as of 1 September of the year of admission to the school.

Komsomol members who are recommended for training by the Komsomol raykoms and gorkoms are given preference in admission among other candidates who have received the same grades on the exams.

Only Komsomol members and members and candidate members of the CPSU are admitted to the military political schools.

The entrance exams to the military schools are held for the curriculum of a secondary school.

In line with the specific nature of the higher military schools, entrance exams are held only for general education subjects. Candidates from among civilian youth, in addition, are tested for physical training on a level of the requirements for the individual standards of the GTO SSSR [Ready for Labor and Defense of the USSR] complex.

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Civilian youth desiring to be admitted to military schools should submit applications to the rayon (city) military commissariat at their residence or directly to the chief of the military school.

Those who complete military schools are awarded the rank of lieutenant and are presented with a chest insignia and a national diploma.

Soviet Commanders, Political Workers, Engineers and Technicians--
Loyal Sons of Their People

The Soviet officer corps is made up of worthy representatives of the working class, the kolkhoz peasantry and the people's intelligentsia, from all nations and nationalities of our country. They express the interests of the workers, they actively fight for carrying out the Leninist policy of the Communist Party and the Soviet government, and have won universal respect and honor.

The Communist Party has given great significance to the leadership of national defense and the Armed Forces. The General Secretary of the CPSU Central Committee, the Chairman of the Presidium of the USSR Supreme Soviet, Mar SU L. I. Brezhnev, is the chairman of the USSR Defense Council. Thus, he carries out party, state and military leadership of the nation.

Prominent party and state figures, and talented military leaders who have great practical and military experience have been promoted to the leading positions in the Armed Forces.

The USSR minister of defense is Mar SU Dmitriy Fedorovich Ustinov. He was born in 1908 in Samara (now the city of Kuybyshev) into a worker family. He has been a member of the CPSU since 1927. In 1927 he completed a vocational-technical school and worked as a machinist. After completing the Military Mechanical Institute in 1934, he worked as a design engineer in a scientific research institute, and later as the deputy chief designer and plant director. In 1941-1953, D. F. Ustinov was the people's commissar of ordnance and later the USSR minister of ordnance. In 1944, he was awarded the military rank of Colonel General Engineering-Technical Service. In 1953-1957, he was the USSR minister of the defense industry. From 1957 through 1965, he was the deputy and then the first deputy chairman of the USSR Council of Ministers and the chairman of the USSR Higher Council of the National Economy. In 1965-1976, he was the secretary of the CPSU Central Committee. In 1965-1966, he was a candidate member of the Presidium of the CPSU Central Committee. Since 1966, a candidate member of the Politburo of the CPSU Central Committee, and in March 1976, was elected a member of the Politburo of the CPSU Central Committee. He is a deputy of the USSR Supreme Soviet.

For outstanding achievements in organizing the production and development of new types of weaponry, D. F. Ustinov was twice awarded the title of Hero of Socialist Labor (in 1942 and 1961), and he is the winner of the State Prize.

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Mar SU N. V. Ogarkov is the chief of the General Staff of the USSR Armed Forces and the USSR first deputy minister of defense; Mar SU V. G. Kulikov is the USSR first deputy minister of defense; Mar SU S. L. Sokolov is the USSR first deputy minister of defense. The USSR deputy ministers of defense are Gen Arm V. F. Tolubko, commander-in-chief of the Strategic Missile Forces, Gen Arm I. G. Pavlovskiy, commander-in-chief of the Ground Forces, Mar Avn A. I. Koldunov, commander-in-chief of the National Air Defense Troops, Chief Mar Avn P. S. Kutakhov, commander-in-chief of the Air Force, Adm Flt SU S. G. Gorshkov, commander-in-chief of the Navy.

They are all experienced military leaders who distinguished themselves in battles for the honor, liberty and independence of our motherland, and they made a significant contribution to the organization and development of the Armed Forces.

The Soviet people are proud of the officer personnel of their Armed Forces, and see in them not only highly skilled military specialists, but also unflinching executors of the policy of the Communist Party and Soviet government in the Army and Navy.

V. I. Lenin pointed out that the party should fill command positions with people who are "more developed, more aware and with firmer spirit."²² The officer corps of our Army and Navy consists precisely of such people. Over 90 percent of the officer personnel at present is communists and Komsomol members. More than one-half the officers have a higher military and special military education, and in certain branches of forces virtually all do. Engineers and technicians fill up to 45 percent of the officer positions in the Army and Navy.

A distinguishing feature of the officer corps in the USSR Armed Forces is its youth. Our young officers possess such qualities as ebullient energy, combat daring, a great reserve of knowledge and physical endurance. They confidently train and indoctrinate their subordinates, and along with experienced personnel are that alloy which provides the necessary strength to the complex military organism.

As a whole the Soviet Armed Forces are a monolithic collective where the moral and political solidarity and the unity of goals and interests among the generals, admirals, officers, warrant officers, sergeants, petty officers, soldiers and sailors are indestructible.

A significant portion of the military personnel is made up of political workers including chiefs of political bodies, deputy regimental, ship and subunit commanders for political affairs, propagandists of the units and formations, and secretaries of the party and Komsomol organizations. They also have high political, military, general and technical training. "The present political worker in the army," wrote L. I. Brezhnev, "is a person around whom the people are grouped, he thoroughly knows their moods, needs, hopes and dreams, and he leads them to self-sacrifice and a feat. And if

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it is considered that the morale of the troops has always been considered the most important factor in the strength of the troops, then precisely the political worker has been entrusted with the sharpest weapon during war-time. He tempers hearts and souls, and without this neither tanks, cannons nor aircraft would bring us victory."²³

The Soviet commanders and chiefs are surrounded with affection and care from the party and the people. Many officers, generals, admirals and marshals have been elected deputies of the USSR Supreme Soviet, and the Union republic supreme soviets, and thousands of servicemen are deputies in the local soviets. The most meritorious and worthiest army communists have been elected to the CPSU Central Committee and the central committees of the Union republic communist parties, and to the local party bodies.

The immediate assistants of the officers, the warrant officers, play a major role in the Armed Forces. The institution of warrant officers was introduced by the Ukase of the Presidium of the USSR Supreme Soviet of 18 November 1971. This is a new detachment of professional commanders which closely complements the officer corps.

The rank of warrant officer existed in the old Russian army for junior officer personnel. It was introduced by Peter the First was initially presented to the unit standardbearers. The word "warrant officer" ["praporshchik"] derives from the Old Russian "prapor" or "standard." The naval warrant officer of "michman" was the first officer rank in the Russian Navy.

At present the warrant officers in the Soviet Armed Forces are highly skilled specialists and masters of their job. The rank of warrant officer can be presented to soldiers, sailors, sergeants and petty officers who have served their regular active service.

They command platoons and equal subunits, they perform the duties of technicians and supply and administrative specialists, they work in the military commissariats, and so forth.

The sergeants and petty officers are the largest group of Soviet commanders. During the years of the Great Patriotic War, the sergeants and petty officers, along with the soldiers and sailors, bravely endured the hardships and deprivations of life on the front, they led the squads, crews and teams into combat, and set an example of bravery, valor and military skill for their subordinates. The Soviet motherland has highly regarded their military service. Tens of thousands of sergeants and petty officers have received orders and medals of the USSR, and around 2,800 men received the title of Hero of the Soviet Union. These include Sgts M. Yegorov and M. Kantariya who raised the Victory Banner over Berlin. The squad commander Sr Sgt N. A. Zaletov, Pfc M. T. Pitenin and Sr Sgt K. K. Shevchenko were the first winners of the Order of Glory of all three degrees.

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The sergeants and petty officers are the immediate superiors of the soldiers and sailors, and they constantly instruct and indoctrinate their subordinates. The character of the young soldier is forged under their influence, and the qualities needed for victory in battle are developed.

In commanding squads, teams, crews and battle stations, the sergeants and petty officers maintain exemplary order and set an example of flawless service for their subordinates. For the exemplary fulfillment of military duty, the most outstanding sergeants and petty officers, like the officers, are awarded high governmental decorations in peacetime.

Political Bodies. Party and Komsomol Organizations of the Soviet Armed Forces

The CPSU devotes a great deal of attention to improving the political awareness of the soldiers, to their ideological tempering, and to developing their high combat moral qualities.

Party political work in the USSR Armed Forces is directed by the CPSU Central Committee through the Main Political Directorate of the Soviet Army and Navy. The prominent political worker, Gen Arm Aleksey Alekseyevich Yepishev, is the chief of the Main Political Directorate of the Soviet Army and Navy.

In the organization and execution of ideological and political indoctrination of the servicemen, a leading role is played by the political bodies and the Army and Navy party organizations. Created upon the instructions of V. I. Lenin, the political bodies of the Soviet Armed Forces have been and remain the militant party bodies in the Army and Navy. Together with the party organizations and in unity with the commanders, they steadfastly carry out the policy of the Communist Party in strengthening the combat might of the troops.

Party political work in the troops and fleets is organized and led by the political directorates of the services of the Armed Forces, the districts, troop groups and fleets. They direct the activities of the political departments of the formations, the party and Komsomol organizations as well as the deputy unit and ship commanders for political affairs.

As always, the communists and Komsomol members are the main support for the commanders and political workers in carrying out all the missions confronting the Army and Navy.

The *party organizations* of the Soviet Army and Navy represent a fighting detachment of the CPSU which is closely rallied around its Leninist Central Committee. The communists and Komsomol members comprise over 90 percent of the personnel in the Armed Forces. This is the strength of our Army and Navy, the basis for the high political and moral state of the troops, and a guarantee for successfully carrying out the missions of ensuring the security of the motherland.

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During the period of the foreign military intervention and the Civil War, the party Central Committee sent over 300,000 communists to the Red Army.

During the years of the Great Patriotic War, the communists were in the most crucial areas of battle and by their personal example led the soldiers to defeat the enemy. The soldiers who most distinguished themselves in combat endeavored to link their life to the party. Often party documents were presented to young communists by the chiefs of the political bodies directly on the battlefield.

By the end of the Great Patriotic War, the Army and Navy had some 3,325,000 communists, or 60 percent of the entire party membership. The communists were that great force which inspired the men to a heroic struggle against the Nazi invaders.

At present party organizations and party groups exist in companies and in the equivalent subunits.

The primary party organizations of the Army and Navy are created by the appropriate political departments in the regiments, detached units (battalions, companies, batteries, squadrons and equivalent subunits), and on ships.

Within the primary party organizations, in the battalions, squadrons, the departments of ships and detached subunits of units (ships), with three or more party members, party organizations can be set up which are the equivalent of shop organizations.

Within the party organizations of the subunits as well as within the primary party organizations, party groups can be set up for the companies, batteries, flights, detachments, on small ships, in platoons, in aircraft crews, groups and teams.

The army party organizations are confronted with great and responsible tasks. These include: Ensuring the execution of party policy, indoctrinating the men in a spirit of the ideas of Marxism-Leninism, a love for the motherland and a hate for the enemies of socialism, being concerned with strengthening military discipline, and mobilizing the personnel to successfully carry out the tasks of military and political training and to flawlessly perform one's military duty.

The party organizations direct the Komsomol organizations and are concerned with the political and military indoctrination of the Komsomol members. Party leadership over the Komsomol is the source of its strength and creative activeness.

The *Komsomol organizations* of the Army and Navy are a component part of the Komsomol. In the Armed Forces, the primary Komsomol organizations are set by the political departments.

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In their activities, the Army Komsomol organizations are led by the Komsomol By-Laws, and operate on the basis of the Instructions to the Komsomol organizations in the Soviet Army and Navy under the direct leadership of the political bodies, the deputy commanders for political affairs and the party organizations.

The primary Komsomol organizations in the Army and Navy are set up in the regiments, detached battalions, squadrons, companies, batteries and equivalent subunits.

Within a primary Komsomol organization, Komsomol groups may be organized in platoons, crews, air detachments, squads, teams and crews.

The Komsomol organizations of the Army and Navy have a great role to play in the ideological strengthening of the men, and in indoctrinating in them courage, tenacity, endurance, discipline and an improving of military skills.

Quiz Questions

1. How did our party and V. I. Lenin recruit and indoctrinate command personnel for the young Red Army?
2. What role did the command and political personnel of the Armed Forces play in the battles to defend the Soviet state?
3. What do the present command, political and engineer-technical personnel of the Soviet Army and Navy presently represent?
4. What work is carried out by the commanders and political workers to ensure the security of our socialist motherland?
5. What tasks are carried out by the political bodies, the party and Komsomol organizations of the Soviet Army and Navy?

FOOTNOTES

¹V. I. Lenin, "Poln. Sobr. Soch." [Complete Collected Works], Vol 17, p 190.

²Ibid., Vol 37, p 122.

³The word "institution" and "corps" here designate the aggregate of persons in a definite specialty or professional affiliation.

⁴"Dekrety Sovetskoy Vlasti" [Decrees of Soviet Power], Vol 1, Moscow, 1957, p 356.

⁵V. I. Lenin, "Poln. Sobr. Soch.," Vol 34, p 304.

⁶"Materialy XXV S'yezda KPSS" [Materials of the 25th CPSU Congress], Moscow, 1976, p 76.

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- ⁷V. I. Lenin, "Poln. Sobr. Soch.," Vol 35, p 216.
- ⁸Ibid., Vol 42, p 4.
- ⁹L. I. Brezhnev, "Malaya Zemlya" [The Small Earth], Moscow, Politizdat, 1978, p 22.
- ¹⁰V. I. Lenin, "Poln. Sobr. Soch.," Vol 40, p 240.
- ¹¹Ibid., p 76.
- ¹²M. I. Kalinin, "O Kommunisticheskom Vospitani i Voinskome Dolge" [On Communist Indoctrination and Military Duty], Moscow, 1967, p 529.
- ¹³V. I. Lenin, "Poln. Sobr. Soch.," Vol 30, p 85.
- ¹⁴"Materialy XXV S"yezda KPSS," p 30.
- ¹⁵NATO is the abbreviation for the North Atlantic Treaty Organization which was set up in 1949 by the imperialists. This is an aggressive military bloc directed against the USSR and the other socialist countries and against the world communist movement and the national liberation struggle of peoples.
- ¹⁶L. I. Brezhnev, "Leninskim Kursom" [By a Leninist Course], Vol 4, Moscow, 1975, p 107.
- ¹⁷V. I. Lenin, "Poln. Sobr. Soch.," Vol 32, p 79.
- ¹⁸Ibid., Vol 38, p 337.
- ¹⁹"Materialy XXV S"yezda KPSS," p 8.
- ²⁰Ibid., p 83.
- ²¹V. I. Lenin, "Poln. Sobr. Soch.," Vol 37, p 200.
- ²²Ibid., Vol 39, p 208.
- ²³L. I. Brezhnev, "Malaya Zemlya," p 24.

CHAPTER 2: GENERAL MILITARY REGULATIONS OF THE USSR ARMED FORCES [pp 61-62]

[Excerpt] The regulations of the USSR Armed Forces are a compendium of laws dealing with military service and the basis for the instruction and indoctrination of the personnel. They define the rights and duties of the servicemen and the relationships between them.

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The regulations strictly and precisely regulate all aspects of daily routine and life of the troops, and provide exhaustive instructions on the questions of maintaining firm military discipline, organization and proper order in the troops.

A start to the creation of Soviet military regulations was made by the introduction of the "Service Booklet of the Red Armyman" in the autumn of 1918. It contained questions of the RSFSR Constitution, the Decree on the Creation of the Red Army, the text of the Solemn Promise of the Red Armyman, and gave the concepts of military tactics and the basic obligations of the soldiers and commanders.

Considering the great role of the regulations in the organizational development of the Red Army, V. I. Lenin took a direct part in their elaboration.

The All-Russian Central Executive Committee on 29 November 1918 approved the Internal Service Regulations and the Garrison Service Regulations. In the beginning of 1919, the Field Manual (Part 1 "Maneuver Warfare") and the Drilling and Disciplinary Regulations were approved. Subsequently the contents of these regulations were amended and supplemented, and after the end of the Civil War they were significantly revised.

The old regulations were revised and new ones created with the development of the Soviet Armed Forces in keeping with the receiving of new types of weapons and military equipment in the troops, changes in the organizations, structure of the subunits, units and formations, the acquiring of experience in the training and indoctrination of personnel, and also the experience of conducting combat.

The current regulations consider and have creatively generalized the many years of experience in the organizational development of the Soviet Armed Forces and the experience of the Great Patriotic War. They reflect the present development level of military affairs achieved as a result of the military-technical revolution, as well as the changes which have occurred in military affairs in recent years.

The provisions of the regulations are closely linked to the moral principles of the moral code of a builder of communism.

The *general military regulations* include the Internal Service Regulations, the Disciplinary Regulations, the Garrison and Guard Service Regulations and the Drilling Regulations. Since the first three regulations deal with the principles of military order, military discipline and the service of the troops, they have been approved by ukases of the Presidium of the USSR Supreme Soviet. The Drilling Regulations of the USSR Armed Forces were put into effect by an order of the USSR minister of defense.

The provisions of the general military regulations are binding for all servicemen of the units, ships and subunits of the Soviet Army, the Navy and the Border and Interior Troops.

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CHAPTER 3: TACTICAL TRAINING [p 87]

§1. The Bases of the Combat and Organization of a Motorized Rifle Squad, Platoon and Company

The Essence of Tactics

[Excerpt] Tactics are the teachings about combat. They encompass the theory and practice of the preparations, organization and conduct of combat by the subunits and units of all the branches of forces and services of the Armed Forces. Tactics require high military skills from the men, the subunits and the units, the full utilization of the combat capabilities of personal weapons as well as the weapons and equipment in the subunits and units, and great diversity and creative use of the procedures and methods of combat.

Victory in combat is the criterion for the correctness of tactics. The higher the art of tactics and the more diverse the procedures and actions which the men, the subunits and the units have mastered, the greater the opportunities for victory. Any combat begins, is carried out and terminates with tactical procedures. Tactical training in the USSR Armed Forces is a most important subject in the training of the personnel and it brings together all the subjects of military training.

A profound knowledge of tactics and an ability to act in combat and make best use of one's weapons and equipment will make it possible for the soldiers to achieve victories over a strong enemy.

CHAPTER 4: WEAPON TRAINING [p 137]

[Excerpt] Weapon training is carried out for the purpose of instructing the personnel in the skillful use of their weapons under various combat conditions.

Weapon training for young persons undergoing basic military training includes the study of the following sections: Principles of shooting; the design of weapons; the procedures and rules of firing; throwing hand grenades; observation in combat and determining distances.

The principles of shooting deal with the phenomenon of a shot as well as the features of the bullet's flight through the air. This must be learned for mastering the firing rules and for the skillful use of weapons to hit the enemy in combat.

The design of weapons includes a study of the combat capabilities, purpose and design of the weapon. This is essential to know for correct handling of weapons, their safekeeping and ensuring dependable operation in firing under various conditions.

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A study of the procedures and rules of firing is essential in order to learn how to accurately hit mobile, bobbing and moving isolated and group targets at various distances from various positions, and with diverse conditions of terrain, weather, season and time of day.

A study of the throwing of hand grenades is aimed at learning to throw hand grenades from various positions at different targets under any conditions which develop in combat, particularly in a close engaging of the enemy.

A study of observation in combat and determining distances is carried out for developing skills in observing the enemy, detecting targets, accurately determining distances to them, correctly choosing the sight setting and the point of aim, as well as for correcting firing and carrying out a fire task in the shortest time.

CHAPTER 5: DRILL TRAINING [p 195]

[Excerpt] Drill training is one of the most important subjects for military instruction and indoctrination. It is aimed at developing the soldiers (sailors) military bearing, smartness, preciseness, discipline, and the able and rapid execution of individual drilling procedures and coordinated actions as part of a subunit. Drill training includes: Individual drill instruction without weapons and with weapons; drill work of the squads (crews and teams), platoons, companies (batteries), battalions and regiments during actions on foot and mounted; inspection parades of the subunits and units, as well as the methods for the movement of servicemen on the battlefield.

Drill training is carried out during training time provided by the schedule of exercises. This is also improved during exercises involving tactical, weapons and physical training, in all other exercises, in formations and movements and in daily life.

CHAPTER 6: MILITARY TOPOGRAPHY [p 217]

[Excerpt] *Military topography* is a special military discipline. It examines the methods for studying the terrain, position finding and other questions involved with evaluating the terrain in the interests of troop combat, and teaches the use of topographic maps and aerial photographs for carrying out various combat missions.

A study of military topography is of important significance in preparing the troops for practical actions in combat, and helps to develop such important qualities as watchfulness, accuracy, and the ability to analyze the results of an observation and draw conclusions on the influence of the terrain on carrying out the combat mission.

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The ability to find one's position and to move along set directions under any conditions and to freely use a topographic map is essential for servicemen in different specialties. This is essential for the paratrooper who is to carry out a combat mission in the enemy rear, a scout operating on enemy territory, a sapper who is blowing up bridges in enemy positions, an observer who is spotting enemy weapons, a motorized rifleman, artillery and tank troops, as well as men of other branches of forces in carrying out combat missions.

CHAPTER 7: CIVIL DEFENSE [pp 242-299]

§1. Civil Defense at a National Economic Installation (School)

[Text] The USSR Armed Forces are the chief defender of the victories of socialism. Along with the decisive actions of the Armed Forces to repel an attack and defeat the enemy, of enormous significance is the advance preparation of the entire population and the national economy to defend themselves against weapons of mass destruction. A special role is entrusted to the USSR Civil Defense [CD] in carrying out this mission.

The Missions of Civil Defense

Civil Defense is a component part of the system of statewide defense measures carried out in peacetime and wartime for the purposes of protecting the population and the national economy against weapons of mass destruction and other enemy means of attack, as well as for carrying out rescue and immediate emergency reconstruction work [SNAVR] in the strike areas.

The missions of CD are divided into three groups.

The first group includes the missions of protecting the population. These are solved by the carrying out of a series of measures, the basic ones being:

- a) Providing protection for the population in protective shelters; dispersal and evacuation of the population from the cities into the suburban zone;
- b) Supplying the population with individual protective devices and training the population in the methods and means of defense;
- c) Warning the population of the threat of an enemy attack and the use of weapons of mass destruction by the enemy.

The second group of tasks includes measures aimed at ensuring the stable operation of national economic installations under wartime conditions.

The third group of tasks includes the carrying out of SNAVR in the strike areas (areas of contamination).

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The Organization of Civil Defense at a National Economic Installation (School)

In cities and population points, CD is organized by the CD chief. The chairman of the city (rayon or settlement) executive committee of the soviets is the CD chief of the city (rayon or settlement).

The CD system of the city (rayon or settlement) includes the national economic installations (plants, factories, facilities, kolkhozes, sovkhozes and schools). The director of the enterprise, the leader of the kolkhoz, sovkhoz, institution or school is the CD chief of the national economic installation. He bears full responsibility for the organization, state and constant readiness of CD at the installation assigned to him.

For ensuring the fulfillment of the CD measures, a CD staff and services are organized at the installation, and these organize and execute their work on the basis of the decisions of the installation CD chief. In addition, an evacuation commission is created under the installation CD chief.

The work of the CD staff is headed by a chief of staff, he is the deputy CD chief at the installation and bears full responsibility for the carrying out of the tasks entrusted to the staff.

Usually at an installation, the following services are organized: Communications, shelters, radiation and chemical defense, medical, emergency-technical, firefighting, the maintaining of public order, and so forth.

For the direct implementation of the CD measures and for carrying out SNAVR, at all national economic installations, paramilitary CD formations are set up. The number and size of the installation formations depend upon the scale of production and the number of employees.

At industrial enterprises, general-purpose formations and formations of the CD services are set up. Among the former are the composite, rescue detachments (teams and groups); the latter includes the communications groups (units), the shelter servicing groups (units), the firefighting teams, the emergency technical teams (groups), the radiological decontamination teams (groups), the detachments of medical teams (medical teams), the teams (groups) for maintaining public order, and so forth.

The kolkhozes and sovkhozes can set up the same teams as the industrial enterprises, as well as teams for protecting animals and plants.

In the secondary schools, depending upon the specialty of instruction, the number of faculty and students, and also the availability of training facilities, it is possible to organize: Rescue teams or groups, reconnaissance groups and radiation and chemical observation posts, medical stations, groups for the protection of public order, communications units, firefighting units, and shelter servicing units. These are manned by the instructors, service personnel and the students.

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The rescue teams (groups) are the basic CD formations at an installation. They are designed for locating injured persons, removing them from under rubble and evacuation from the strike areas; clearing away rubble; digging out buried shelters; providing medical first aid to injured persons and evacuation of them to medical facilities.

The formations of the services carry out special measures (reconnaissance, radiological decontamination, providing of medical aid, the servicing of shelters, the protecting of public order and so forth) during rescue work, and they also reinforce and support the actions of the general purpose formations.

Quiz Questions

1. What is civil defense and what tasks does it carry out?
2. How is civil defense organized at a national economic installation (at a school)?
3. What formations are set up at an installation and what are their missions?

52. Characteristics of Weapons of Mass Destruction in the Armies of the Imperialist States

The modern weapons of mass destruction in the armies of the imperialist states include nuclear, chemical and bacteriological (biological) weapons. They are capable of causing injury to a large number of persons and animals over vast territories in a brief time. Nuclear weapons, in addition, cause the destruction of buildings, installations and other objects.

The Nature of the Destructive Factors of a Nuclear Explosion, the Strike Area and Zones of Radioactive Contamination

A nuclear weapon is one where the destructive action is based upon the use of the energy within the nucleus which is instantaneously released in a nuclear explosion. The power of the nuclear charges is usually expressed in a TNT equivalent, that is, the quantity of the conventional explosive, the detonating of which releases as much energy as would be released in detonating the given nuclear ammunition. This is measured in tens, hundreds, thousands (kilo) and millions (mega) of tons.

In the armies of the imperialist states, missiles (the basic means of making nuclear strikes), aviation and artillery are the basic means for delivering nuclear ammunition to targets. Moreover nuclear landmines can be used.

Nuclear explosions are carried out in the air at varying altitudes, at the earth's (water's) surface and underground (underwater). In accord with this, nuclear explosions are usually divided into high-altitude, air, ground-level

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(water-level) and underground (underwater). The point at which the explosion occurred is called the center, and its projection on the surface of the ground (water) is the epicenter of the nuclear explosion.

A nuclear explosion is capable of knocking out unprotected persons, exposed equipment, facilities and various materiel at a significant distance. The basic destructive factors are: The shock wave, light radiation, penetrating radiation and radioactive contamination.

The *shock wave* is the basic destructive factor of a nuclear explosion, since a majority of the destruction and damage to installations and buildings as well as human casualties are caused, as a rule, by it.

The source of the shock wave is the area of great compression formed in the center of the explosion, the pressure in which during the first instants reaches billions of atmospheres. The greatly compressed incandescent gases, in expanding rapidly, transmit the pressure to adjacent layers of the air, compressing and heating them, and they, in turn, effect the subsequent layers. As a result a high pressure zone spreads at a supersonic speed in all directions from the explosion center. The leading edge of the compressed layer of air is called the front of the shock wave.

The degree of damage caused by the shock wave to people and various objects depends primarily upon the power and type of explosion, as well as upon the distance at which the explosion occurred, the topography and the position of objects on it.

The destructive action of the shock wave is characterized by the overpressure value. The overpressure is the difference between the normal atmospheric pressure ahead of the wave's front and the maximum pressure in the front of the shock wave. This is measured in newtons per square meter (N/m^2). This unit of pressure is called a pascal (Pa). $1 N/m^2 = 1 Pa$.

With an overpressure of 20-40 kilopascals, unprotected people can sustain light injuries (light contusions and bruises); if unprotected persons are exposed to a shock wave with an overpressure of 40-60 kilopascals, then injuries of medium severity are observed, including: Loss of consciousness, impairment of the organs of hearing, severe dislocations of extremities, hemorrhaging from the nose and ears. Severe injuries occur with an overpressure above 60 kilopascals and are characterized by severe contusions of the entire organism, fractures of extremities, and injury to internal organs. Extremely severe injuries are observed with an overpressure of 100 kilopascals, and can often lead to death.

The speed of the shock wave's spread depends upon the air pressure in its front; with an increase in the distance from the place of the explosion, this drops rapidly. Thus, with the explosion of ammunition with a power of 20,000 tons, the shock wave travels 1 km in 2 seconds, 2 km in 5 seconds, and 3 km in 8 seconds. Over this time a person who has seen the explosion can take shelter and thereby reduce the probability of injury from the shock wave or completely escape it.

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Light radiation is the flux of radiant energy including ultraviolet, visible and infrared rays. Its source is the fireball which consists of incandescent products of the explosion and incandescent air. Light radiation lasts up to 20 seconds depending upon the power of the nuclear explosion. However its strength is such that, regardless of the briefness, it is capable of causing burns on exposed areas of the body, injuring eyes, charring or igniting various materials and causing fires. Its spread is virtually instantaneous.

Four degrees of burns are distinguished. First degree burns are characterized by the formation of redness, swelling and edema of the skin; second degree burns by the formation of blisters; third degree by the necrosis of the skin and the formation of ulcers; fourth degree by the necrosis of not only the skin, but also the deep-lying tissues as well as the carbonization of the exposed parts of the body.

Light radiation does not penetrate through nontransparent materials, and for this reason any obstacle capable of creating a shadow provides protection against direct exposure to light radiation and excludes burns. The light radiation is significantly attenuated in dusty (smoky) air, in fog, rain or a snowfall.

The third destructive factor is *penetrating radiation*. This is the flux of gamma rays and neutrons which spread out in all directions from the nuclear explosion. This radiation lasts 10-15 seconds.

In passing through any medium, the effect of penetrating radiation is reduced. The attenuating action of the material is usually characterized by the half-value thickness, that is, the thickness of a material which reduces the radiation by 2-fold in passing through it. For example, the intensity of gamma rays is attenuated by 2-fold by the following materials: Steel 2.8 cm thick, 10 cm of concrete, 14 cm of dirt, and 30 cm of wood.

Open and particularly covered slot trenches reduce the effect of penetrating radiation, while radiation shelters virtually provide complete protection against it.

In passing through living tissue, gamma radiation and neutrons ionize the atoms and molecules comprising the cells. Under the influence of ionization, biological processes occur in the organism and these lead to a disruption of the vital functions of individual organs and to the development of radiation sickness.

The fourth injurious factor is *radioactive contamination*. The basic sources of radioactive contamination are the fission products of the nuclear charge and the radioactive isotopes formed as a result of the effect of neutrons on materials from which the nuclear ammunition has been manufactured as well as on certain elements which make up the soil in the region of the explosion.

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With a ground-level nuclear explosion, the fireball touches the ground. Mounds of vaporized ground are drawn into it and are lifted upwards. In cooling off, the vapors of the fission products and the ground condense on solid particles. A radioactive cloud is formed. This rises many kilometers in altitude, and then at a speed of 15-100 km per hour travels in the direction of the wind.

The radioactive particles, in falling out of the cloud onto the ground, form a zone of radioactive contamination (the track), the length of which can reach several hundred kilometers. Here the terrain, buildings, structures, planted areas, bodies of water, and so forth as well as the air are contaminated.

Radioactive substances represent the greatest danger in the first hours after fallout, since at this moment their activeness is the highest. Then this declines, initially rapidly, and then ever more slowly, and finally reaches insignificant values after several days.

Persons and animals who have been trapped in contaminated regions are exposed to external radiation as well as internal, that is, with the ingestion of radioactive substances into the organism with food, water and air. This can lead, as with exposure to penetrating radiation, to radiation sickness.

Electromagnetic fields occur in a nuclear explosion. This phenomenon is termed an *electromagnetic pulse*. This leads to a change in the ionization of the atmosphere. As a result the operation of radio and radar equipment may be disrupted.

Protective structures are the most reliable means of defense against all the injurious factors of a nuclear explosion.

In the field it is essential to take shelter behind strong local objects, the back sides of elevations, and use terrain folds. Here it is recommended that if the explosion has caught one in an exposed area and there are no shelters nearby (2-3 meters), one should quickly lie face down on the ground with one's feet facing the explosion, raise the collar on one's clothing, with one's arms under oneself and remain immobile until the shock wave has passed.

In working in contaminated areas for protecting the respiratory organs, eyes and exposed areas of the body against radioactive substances, individual protective gear is used (gas masks, respirators, fabric dust masks and gauze and cotton bandages), as well as equipment for protecting the skin.

Characteristics of the Nuclear Strike Area

The nuclear strike area is the territory which has been directly subjected to all the injurious factors of a nuclear explosion. It is characterized by the mass destruction of buildings, installations, by rubble, by failures in the utility networks, by fires, radioactive contamination and significant casualties among the population.

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The size of the area is larger the stronger the nuclear explosion. The nature of the destruction in the area depends also upon the strength of the buildings and structures, the number of floors and the development density.

As the external limit of the nuclear strike area one uses a hypothetical line on the terrain drawn at a distance from the explosion epicenter (center) where the amount of the shock wave overpressure equals 10 kilopascals.

The nuclear strike area is conditionally divided into zones or areas with approximately the same type of destruction.

The zone of complete destruction includes the territory which is exposed to a shock wave with an overpressure (at the exterior boundary) of over 50 kilopascals. Here all civil and industrial buildings will be completely destroyed, as well as the fallout shelters and a portion of the other shelters, solid obstructions will be formed, and the utility networks damaged.

The zone of heavy destruction has an overpressure in the front of the shock wave from 50 to 30 kilopascals. In this zone, the above-ground buildings and structures will sustain heavy damage. Local obstructions will be formed and solid and mass fires will break out. A majority of the shelters will survive, but for individual shelters the entrances and exits will be buried. The people in them may be injured only due to destruction of the shelter airtightness, flooding or the leaking of gas into them.

The zone of medium destruction has an overpressure in the front of the shock wave from 30 to 20 kilopascals. In this zone the buildings and structures sustain moderate damage. The underground shelters will survive. Solid fires will break out caused by light radiation.

The zone of weak destruction is characterized by an overpressure from 20 to 10 kilopascals. In this zone the buildings will sustain slight damage. Individual fire areas can be caused by light radiation.

Characteristics of Fallout Areas

The fallout area is the name given to the territory which has been contaminated by radioactive substances as a result of their falling out after a ground-level (underground) nuclear explosion.

The injurious action of radioactive contamination is caused basically by gamma radiation. In passing through one or another medium, for example living tissue of the organism, this radiation ionizes it and this leads to the disruption of vital processes in the organism.

The ionizing capacity of gamma radiation and its destructive action are evaluated by the size of the gamma radiation dose or the radiation dose (D) measured in roentgens (R).

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A roentgen is that dose of gamma radiation which creates 2.083 trillion pairs of ions in 1 cm³ of dry air (at a temperature of 0° and a pressure of 760 mm Hg).

Usually the radiation dose is determined for a certain time interval called the time of irradiation (the time people remain on the contaminated terrain).

For evaluating the intensity of gamma radiation emitted by radioactive substances on contaminated terrain, the concept of the "radiation level" has been introduced. The radiation level is measured in roentgens per hour (R/h). Low radiation levels are measured in milliroentgens per hour (mR/h).

The radiation levels decline gradually. Thus, if the radiation level 1 hour after a ground-level nuclear explosion is taken as 100 percent, after 2 hours it will decline by 2-fold, 3 hours later by 4-fold, 7 hours later by 10-fold, and 49 hours later by 100-fold.

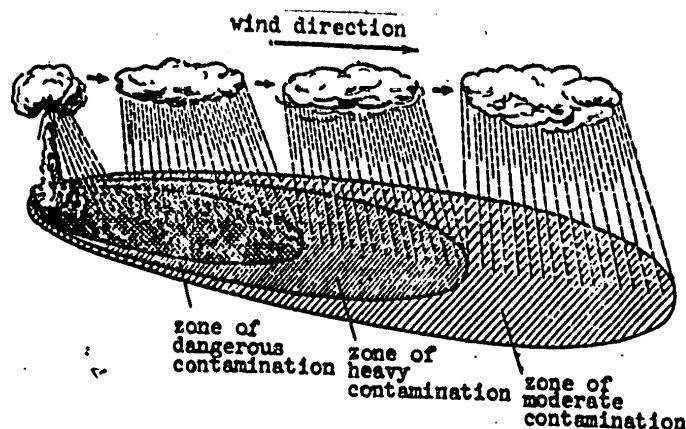


Fig. 113. The formation of fallout from a ground-level nuclear explosion.

The degree of radioactive contamination of the terrain and the size of the contaminated zone in a nuclear explosion depend upon the power and type of the explosion, the meteorological conditions, as well as upon the nature of the terrain and the ground. The contaminated area of terrain has come to be divided into zones (Fig. 113), as follows:

- 1) *The zone of moderate contamination.* On the exterior boundary of this zone, the radiation dose (from the moment of the fallout of radioactive substances from the cloud onto the terrain until their complete decay) will be 40R, and the radiation level 1 hour after the explosion will be 8 R/h;

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2) *The zone of heavy contamination.* On the exterior boundary of the zone, the radiation dose will be 400 R, and the radiation level 1 hour after the explosion will be 80 R/h;

3) *The zone of dangerous contamination.* On the exterior boundary of the zone, the radiation dose will be 1,200 R, and the radiation level 1 hour after the explosion will be 240 R/h.

As a result of the effect of ionizing radiation, as well as in exposure to penetrating radiation, radiation sickness occurs in people. A dose of 100-200 R causes a radiation sickness of the first degree in man, a dose of 200-300 R causes second degree radiation sickness, a dose of 300-500 R causes third degree radiation sickness, and a dose over 500 R causes fourth degree radiation sickness.

A single radiation dose up to 50 R over a 4-day period, as well as multiple irradiation up to 100 R in 10-30 days, does not cause external indications of the illness and is considered safe.

Various structures provide protection against penetrating radiation (radioactive radiation). Thus, a dirt roof 1 meter thick attenuates ionizing radiation by more than 100-fold.

Devices for protecting the respiratory organs must be used to prevent radioactive substances from penetrating into the organism.

Quiz Questions

1. What is called a nuclear weapon?
2. Name and describe the destructive factors of a nuclear explosion.
3. What is a nuclear strike area?
4. What protective equipment is used in working on terrain contaminated by radioactive substances?

Characteristics of Chemical Weapons in the Armies of Imperialist States

Chemical weapons are the name given to the toxins and the devices for their application. Toxins are chemical compounds which, in combat use, are capable of injuring people and animals over large areas, to penetrate into various structures and contaminate the terrain and bodies of water.

In the armies of the imperialist states, toxins have been used in missiles, bombs, artillery shells and mortars, special chemical landmines, as well as aircraft sprays (VAP).

At the moment of use, the toxins can be in a varying state: In a liquid-drop form, as a gas (vapor) and as an aerosol (fog or smoke). For this

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reason they can penetrate the human organism and affect it differently: Through the respiratory organs, the eyes, skin and digestive organs.

In terms of the action on the human organism, toxins in the armies of the imperialist states are divided into the following groups: Neuroparalytic, skin-blistering, suffocating, general poison, irritants and psychochemicals.

Toxins of a neuroparalytic action (V gases and sarin) affect the nervous system in acting on the organism through the respiratory organs, in penetrating in a vaporous or liquid-drop state through the skin, as well as in getting into the gastrointestinal tract along with food and water. In the summer they may last more than a day, and in the winter for several weeks or even months. These toxins are the most dangerous. A very small quantity of them is sufficient for injuring man.

The indications of exposure to these toxins are: Salivating, contracting of the pupils (miosis), difficulty in breathing, nausea, vomiting, convulsions and paralysis.

Gas masks and protective clothing are used as individual protective equipment. For providing first aid to a victim, a gas mask is put on him and the antitoxin is administered to him with a hypodermic. If the toxin falls on the skin or clothing, the exposed areas are treated with the liquid from the individual antichemical warfare kits.

Yperite is among the toxins with a skin-blistering action. This toxin possesses a multiple injurious action: In a liquid-drop and vaporous state it affects the skin and eyes, and in inhaling the vapors, the respiratory tracts and lungs, and if ingested with food and water, the digestive organs, causing a general intoxication.

A characteristic feature of yperite is the presence of a period of latent action, that is, the action is not immediately apparent, but rather after a certain time (4 hours and more).

The indications of an external exposure are a reddening of the skin and the formation of small blisters which then merge into large ones, and after 2-3 days these break, becoming difficult-to-heal ulcers. With any local exposure the toxin causes a general poisoning of the organism which is manifested in an increased temperature, a general bad feeling and an acute weight loss.

Under the conditions of using the skin-blistering toxins, it is essential to work in a gas mask and protective clothing.

With the falling of the toxin drops on the skin or clothing, the exposed areas are immediately treated with the liquid from the individual antichemical warfare kit or with aqua ammonia.

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Phosgene is among the toxins of suffocating action. The first indications of exposure are a sweetish unpleasant taste in the mouth, nausea, dizziness and general lability. After leaving the area of contamination, these symptoms pass, the victim feels normal for 4-6 hours, without suspecting he has been exposed. During this period (the latent period), edema of the lungs develops. Then respiration can deteriorate acutely, then coughing with abundant sputum appears along with headache, increased temperature, shortness of breath and palpitation.

With exposure a gas mask is put on the victim, he is evacuated from the contaminated area, he is kept warm and quiet. In no instance must artificial respiration be given!

Prussic acid and cyanogen chloride are among the group of toxins with a general toxic action. These toxins take effect only in inhaling air contaminated with their vapors (they do not act through the skin). A gas mask alone is sufficient for protection against them.

The symptoms of exposure are: A metallic taste in the mouth, irritation of the throat, dizziness, lability, nausea, acute convulsions and paralysis.

For aiding the victim, it is essential to crush the ampule with the antitoxin and introduce it under the facepiece of the gas mask. In difficult cases, artificial respiration is given, the victim is kept warm and he is sent to the medical aid station.

Toxins with an irritating action cause irritation of the eyes and respiratory organs. These include CS, adamsite and others. The gas mask is a reliable defense against these toxins.

The group of toxins with a psychochemical action includes the substances which specifically act on the central nervous system and cause mental (hallucinations, fear and suppression) or physical (blindness, deafness) disturbances. The BZ toxin is a representative of this group. The gas mask is a dependable means of protection. With exposure, the contaminated parts of the body should be washed with soapy water, the eyes and nose and throat should be carefully flushed with clean water, and clothing should be shaken out or brushed. The victims must be removed from the contaminated area and provided with medical aid.

Characteristics of an Area of Chemical Contamination

An area of chemical contamination is the name given to the territory which has been exposed to the toxins. The size of the area of chemical contamination depends upon the scale and method of employing the toxin, the type of toxin, meteorological conditions, terrain and other factors.

Particularly dangerous are the long-lasting neuroparalytic toxins the vapors of which are spread by the wind over rather great distances (15-25 km and more).

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For this reason people and animals can be affected not only in the region where the chemical ammunition is used, but also far beyond it.

The duration of the injurious action of the toxins is less the stronger the wind and ascending air currents. In forests, parks, ravines, and in narrow streets the toxins last longer than in open terrain.

In order to protect oneself against the toxins, it is essential to know their combat properties, the indications of use, the warning signals for chemical contamination, to be able quickly and correctly to use the protective equipment, to provide aid to oneself and mutual aid with exposure to the toxin, and carry out personal cleansing and gas decontamination.

The indications of the possible use of chemical weapons by the enemy are: A weak dull sound of the exploding ammunition on the ground and in the air and the appearance of bursts of smoke which is rapidly dispersed; dark strips which stretch behind an enemy aircraft, settling on the ground; oily spots on leaves, ground, buildings, as well as around the craters of exploded bombs and shells, a change in the natural color of vegetation (the turning brown of green leaves); irritation of the nose and throat, eyes, contraction of the pupils, and a sensation of heaviness in the chest.

With the appearance of any of these symptoms, without waiting for a signal, the gas mask and skin protective equipment must be put on immediately.

Characteristics of an Area of Bacteriological (Biological) Contamination

The bacteriological (biological) weapons in the armies of the imperialist states are a means of mass destruction of humans, agricultural animals and plants. Pathogenic microorganisms are the basis of their destruction action, and these include: Bacteria, Rickettsia, fungi, as well as the poisons (toxins) produced by certain bacteria.

The enemy can use the agents of various infectious diseases as bacterial (biological) weapons, and these include: Plague, anthrax, brucellosis, glanders, tularemia, cholera, Q fever, Russian tick-borne encephalitis, smallpox, yellow fever, and others. In affecting agricultural plants, it is possible to use the agents of grain rust, potato rot and other diseases.

Contamination of humans and animals can occur as a result of inhaling contaminated air, the falling of the microbes or toxins on mucous membranes or damaged skin, the consumption of contaminated food product and water, bites from contaminated insects and ticks, coming into contact with contaminated articles, wounding by fragments of shells carrying bacterial agents, as well as a result of direct contact with sick persons (animals).

The use of bacterial (biological) weapons by the enemy can be determined from the external symptoms as well as by laboratory research. The external symptoms of the bacteriological (biological) weapon used by the enemy

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include: The dull sound of the explosion of the shells and bombs which is unusual for regular ammunition; the presence of large fragments and individual parts of the ammunition at the site of the explosion; the appearance of drops of liquid or powdery substances on the terrain; an unusual accumulation of insects and ticks in the places where ammunition has exploded or the containers have fallen; mass illnesses of humans and animals.

Areas of bacteriological (biological) contamination are considered to be towns, population points and national economic installations which have been directly exposed to bacterial (biological) weapons. The duration of the action of bacteriological (biological) contamination is determined by the ability of certain pathogenic microbes to maintain viability for an extended time in the environment.

In detecting the indications of bacteriological (biological) contamination, one must resort to means of collective and individual protection and immediately inform the nearest CD staff, school principal, or the leaders of an enterprise, kolkhoz or sovkhos of this.

The limits of the area of bacteriological (biological) contamination are determined on the basis of the data of bacteriological (biological) reconnaissance, from laboratory research of samples from objects in the environment, as well as by detecting sick persons and the paths for the spread of infectious diseases which have broken out.

Among the basic means for protecting the public against bacteriological (biological) weapons are: Vaccines and sera, antibiotics, sulfanilimides and other medicines used for special and emergency prevention of infectious diseases, the collective and individual protective devices; chemicals used for decontamination.

In order to prevent infectious diseases among the population, a range of antiepidemic measures are carried out, including: Emergency prophylaxis; observation and quarantine; personal cleansing of the population; disinfection of various installations contaminated by bacterial (biological) agents. When necessary insects, ticks and rodents are eradicated (insect and rodent control).

By observation one understands specially organized medical observation of the population in an area of bacteriological (biological) contamination with a series of measures aimed at preventing the spread of epidemic diseases. This is done for the purpose of the prompt detection and isolating of sick persons. Simultaneously using antibiotics emergency prophylaxis against possible diseases is carried out, and the required inoculations are given. Observation over the strict fulfillment of the rules of personal and public hygiene is carried out, particularly in food preparation units and in public places. In order to exclude the possibility of the spread of the infection into neighboring areas, entrance to and exit from the area of contamination are maximally restricted. Food and water are used

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only after their proper decontamination. The period of observation is determined by the duration of the maximum incubation period for the given disease, and is calculated from the moment of isolating the last patient and the end of decontamination in the area of contamination.

In the event that the enemy employs the pathogens of particularly dangerous infections such as plague, cholera or smallpox, a quarantine is established. In contrast to observation, a quarantine is a system of the strictest isolation and restrictive antiepidemic measures.

Armed security is set up around the area, entrance and exiting are prohibited, as well as the transporting of supplies.

If the complex of antiepidemic and sanitation measures are carried out promptly in the area of bacteriological (biological) contamination, the outbreak of mass infectious diseases can be prevented.

Quiz Questions

1. What is a chemical weapon and an area of chemical contamination?
2. Give a description of the neuroparalytic and skin-blistering toxins.
3. What are bacteriological (biological) weapons and an area of bacteriological (biological) contamination?

§3. Defense Against Weapons of Mass Destruction

The protecting of the population against weapons of mass destruction is the main task of Civil Defense.

The methods of protection include: The sheltering of the population in protective structures, the use of individual protective equipment, dispersion and evacuation.

Collective Means of Protection

The sheltering of the population in protective structures is the basic method of protection against weapons of mass destruction.

All CD protective structures are divided into shelters and radiation shelters. The simple shelters are a separate group.

Shelters is the name given to special structures which protect the persons taking shelter in them against all the injurious factors of a nuclear explosion, toxins, bacterial agents, as well as high temperatures and harmful gases formed in fires.

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The protecting of shelters against the shock wave and fragments of collapsing buildings is ensured by the strong enclosing structures (walls and roofs) and entrances, as well as by the installing of special protective devices on the air intakes and exhaust vents.

The persons taking shelter are supplied with fresh air by a filter ventilating system. Moreover, electric power, water supply, sewage, heating and communications systems are provided in the shelter for ensuring the possibility of an extended stay of the people in the shelter.

Depending upon the location of the shelter, it can be built-in or separate standing.

Built-in shelters are set up in the buried (cellar) floors of buildings, and these are the most widely found type of shelter. Separate standing shelters are erected in the form of special structures which do not have a above-ground superstructure on the free territory near the buildings.

Radiation shelters (PRU) are specially built or adapted quarters which protect the people against ionizing radiation with radioactive contamination of the terrain.

The PRU provides protection also against fragments of collapsing buildings and structures and against the low shock wave pressures.

The covered slit trench (Fig. 114) is a narrow trench covered on top. The trench is dug in the form of several rectilinear sections placed at an angle to one another. It can hold 10-40 persons.

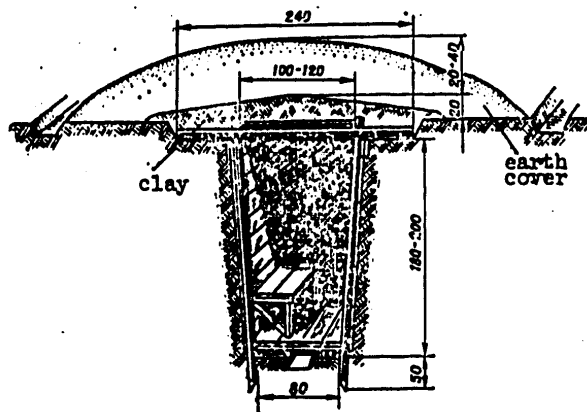


Fig. 114. Covered Slit Trench
(dimensions in cm)

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The places for the construction of the simple shelters are chosen on areas which would not be covered in rubble and which would not be flooded with thaw and rain waters. At the same time the shelters should be as close as possible to the places of work and residence of the people. In a rural locality, it has been recommended that the shelters be located on the sides of ravine hollows and in other terrain folds.

The shelters should be entered in an organized manner. First of all, children, women with children and elderly should be allowed in, and they should be kept in a separate area or in places assigned to them.

The persons taking shelter must have a 2-day supply of food in polyethylene packaging, toilet articles, documents, a minimum of personal effects and individual protective gear (gas masks, respirators, fabric dust masks or the cotton-gauze bandages).

It is prohibited to bring easily inflammable or strongly smelling substances, or cumbersome articles into the shelter, to bring in domesticated animals, to walk about the shelter without necessity, to light kerosene lamps, candles or self-made lights without permission. The persons in the shelter must carry out all the instructions and demands of the commandant and the personnel of the servicing team.

Persons in the shelter may come out upon the instructions of the commander of the servicing team after receiving the "All Clear" signal or in the event of an emergency condition in the structure threatening the life of people.

With the burying of the basic exists from the shelter, the persons inside may exit through the emergency exit, and if there is no emergency exit, measures are taken to independently open the doors and clear away the rubble on the entrance using the forces of the servicing team and the persons in the shelter.

Quiz Questions

1. What are collective means of defense?
2. Tell about the purpose and design of a radiation shelter.
3. What are the purpose and the design of a slit trench?
4. In what order are the shelters entered and what are the rules of conduct in them?

Individual Protective Gear

Individual protective gear is designed to provide protection against the penetration of radioactive substances, toxins and bacterial agents into the organism or on the skin and clothing. They include protective devices for the respiratory organs (gas masks, respirators, fabric dusk masks, and

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the cotton-gauze bandages) and devices for protecting the skin (protective clothing, as well as available devices for protecting the skin).

Gas masks are designed to provide protection against the penetration of poisons, radioactive substances and bacterial (biological) agents into the respiratory organs, the eyes or onto the face.

Gas masks for the adult civil population include: the GP-5 (civilian gas mask, fifth type), the GP-4u (civilian gas mask, fourth type, improved). For school children, the PDF-9h (children's filtering school gas mask) is recommended. They are all filtering, that is, they operate according to the principle of purifying (filtering) the inhaled external air against harmful impurities (toxins, radioactive substances, bacterial agents, smoke, dust and so forth) in the respirator filter canister.

The GP-4u filtering gas mask (Fig. 115) consists of the respirator filter canister and the facepiece. In addition, the set of the gas mask includes a gas mask bag and a special stick for preventing the fogging of the glasses.

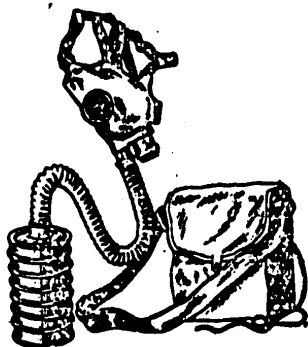


Fig. 115. The GP-4u filtering gas mask.

The metal container of the respirator filter canister contains special absorbants and a dust filter. Upon entry, the air going into the canister passes initially through the filter which picks up the particles of dust, smoke, and fog, and then through the absorbers where the toxic vapors are held. The facepiece of the gas mask is used for supplying the air purified in the canister to the respiratory organs, as well as for protecting the eyes and the skin of the face. It consists of a rubber mask with glasses and a valve holder and a connecting tube. There are straps with a backpiece for holding the mask on the head.

In the valve holder are one intake valve (pure air is supplied through it from the connecting hose to the mask) and to exhaust valves through which the air is removed from inside the mask in exhaling.

One end of the rubber connecting tube is firmly attached to the connector of the valve holder, while the other end is fastened by an union nut to the throat of the canister.

Before using the gas mask it is very important to correctly select the proper size and make sure it is in working order. For selecting the size of the mask, it is essential to measure the length of the face, that is, the

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distance from the bridge of the nose to the lower point of the chin, using a ruler or a sliding calipers. With a face 99-109 mm long, a mask of the first size is required; with 109-119 mm, a second size; with 119 mm and more, the third size. The size of the mask should conform precisely to the size of the face. If a larger mask is used, contaminated air will penetrate under it, and if a small one is used, it puts great pressure on the head and causes pain.

A new mask must be carefully wiped off with a clean moist rag or cotton, and the connecting tube blown out. If the mask has been used, it must be disinfected with cologne or a Formalin solution.

In order to make certain that the gas mask is in proper working order, it must first be inspected to make sure that there are no cracks or punctures in the mask and the connecting tube, that the packing ring and valves are in place, and the glasses have not been damaged. Then the gas mask must be assembled, put on, the opening in the bottom of the canister must be closed with a plug and then a deep breath taken. If air does not penetrate beneath the facepiece, the gas mask is in working order.

The gas mask must be carefully stored and protected against wetness and blows. Foreign objects must not be put in the gas mask bag as they may puncture the bottom of the canister and small pieces might fall into the intake valves.

A gas mask is worn in positions: "March" (if there is no immediate danger of an enemy attack); "on the ready" (if there is a threat and the "Air Alert" signal or the "Gas Mask Ready!" command has been given); and "combat" (upon the command "Gas," as well as with the first indications of chemical or bacteriological (biological) contamination).

In the "march" position, the gas mask is located on the left side, for moving into the "on the ready" position, the gas mask bag is brought forward, the flap is opened, the cord is removed and tied around one's waist and its end is fastened to the semicircle of the bag.

The gas mask must be put on (moved to a "combat" position) quickly and correctly. For this it is essential to hold one's breath and close one's eyes, take off any headgear and hold it between one's knees; pull the mask from the bag and take it by the straps with both hands in such a manner that the thumbs are facing inwards; having put the lower part of the mask to one's chin, draw it over the head and secure the side straps behind the ears. The free ends of the back straps should be tightened so that the edges of the mask fit snugly to the face. After this one must make a sharp exhale, resume breathing, open one's eyes and put on any headgear. The gas mask is removed upon the command "remove gas mask." For removing the gas mask, the valve holder is taken in one's free hand, the mask is pulled down slightly and with a movement of the hand the mask is removed forwards and upwards. Before replacing in the bag, the mask should be wiped off with a clean rag or handkerchief.

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The GP-5 filtering gas mask (Fig. 116) consists of a filter box and a facepiece (helmet). The set includes a bag and a box with nonfog films which are inserted in the eyepiece frames (with the sweating side facing the glass) and are fastened with snap rings.

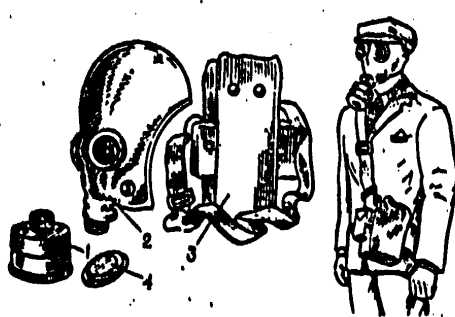


Fig. 116. GP-5 filtering gas mask: 1--filter box; 2--facepiece; 3--bag; 4--box with nonfog films.

For determining the size of the facepiece, using a tape measure the head should be measured around a line passing across the top of the head, the chin and the cheeks, and the necessary size established (Fig. 117). With a measurement up to 63 cm, a 0 size facepiece is required; a size 1 for 63.5-65.5 cm; size 2 for 66-68 cm; size 3 for 68.5-70.5 cm; size 4 for 70.5 cm and more.

The GP-5 gas mask in a "march" position is carried on the left side, and here the facepiece and the box are put in a bag.

In order to bring the GP-5 gas mask to a "combat" position, one should close one's eyes, hold one's breath, remove the gas mask from the bag, take the facepiece in such a manner that the thumbs are on its inside (Fig. 118), and draw it over the head. After this exhale and open one's eyes. The GP-5 gas mask is removed in the same sequence as the GP-4u gas mask.



Fig. 117. Measuring the head for fitting the facepiece of the GP-5 gas mask.



Fig. 118. Procedure for putting on GP-5 gas mask.

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The set of the PDF-5h for students in senior grades includes: The GP-5 filter box, a facepiece of sizes 0, 1, 2 and 3, the GP-5 bag, nonfog films, and warming sleeves.

The facepiece is selected in the same manner as for the GP-5 gas mask. Here it is essential to measure the length along a line running across the chin, the cheeks and across the top of the head. With a measurement of up to 63.5 cm, a 0-size facepiece is used; size 1 for 63.5-65.5 cm; size 2 for 66-68 cm; size 3 for 68.5-70.5 cm. If the vertical length of the school child's head is over 70.5 cm, a size 4 facepiece of the GP-5 gas mask must be used.

Procedures for using a damaged gas mask. If the mask is ripped, the ripped portion must be firmly held or pressed to one's face with the palm of one's hand. With severe damage to the mask (damage to the eyepieces or breathing valves), hold your breath and close your eyes. Then remove the mask, unscrew the connecting tube from the box, put the collar of the box into your mouth, hold your nose with your fingers and breath through the box (without opening your eyes). Punctures (holes) in the filter box can be smeared with modeling clay, paste, clay or plaster.

In order to put a GP-4u gas mask on an injured person (if he is lying down), one should kneel down by his head and rest his head on one of your knees. Then remove any headgear from the injured person and take the gas mask out of the bag. Grasping the forehead and back straps, take the mask by the edges in such a manner that the thumbs are on the outside and the other fingers inside the mask. After this, having applied the lower part of the mask to the chin of the victim, draw the mask on the face and bring the back straps behind the ears. After this carefully adjust the mask.

The GP-5 mask is put on in the same manner. Here the headpiece must be drawn on over the head so that there are no folds.

In a number of instances the public will be issued the regulation military filtering gas masks (Fig. 119). These are used according to the same rules as the gas masks described above.

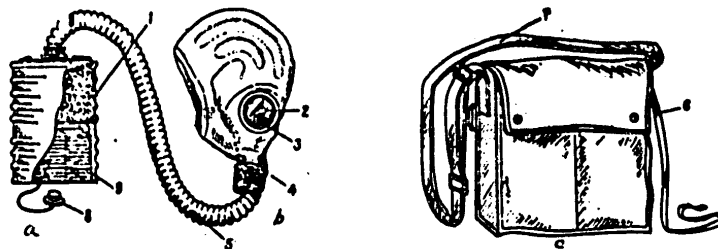


Fig. 119. Regulation military filtering gas mask: a--canister; b--facepiece; c--bag; l--absorber; 2--eyepieces; 3--cap; 4--valve holder; 5--connecting tube; 6--strap; 7--shoulder strap; 8--rubber plug; 9--filter.

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Respirators can be used for protecting the respiratory bodies against radioactive substances and bacterial agents.

The R-2 respirator is simple and dependable (Fig. 120); it is a filtering half-mask with a head strap and nosepiece. It is produced in three sizes (they are shown on the inside of the mask). For selecting the proper size, the length of the face is measured between the bridge of the nose and the lower point of the chin. With a face from 99 to 109 mm long, the first respirator size is required, the second from 109 to 119 mm, and the third for 119 and over.

The respirator should be placed on the face in such a manner that the chin and nose are well inside the mask and then the ends of the nosepiece are pressed against the nose.

Among the *simple protective devices* for the respiratory organs are the fabric dust masks and the cotton gauze bandages or bindings.



Fig. 120. R-2 respirator: a--overall view; b--worn.



Fig. 121. The PTM-1 fabric dust mask on: 1--body; 2--cross strap; 3--rubber band; 4--strengthening; 5--straps.

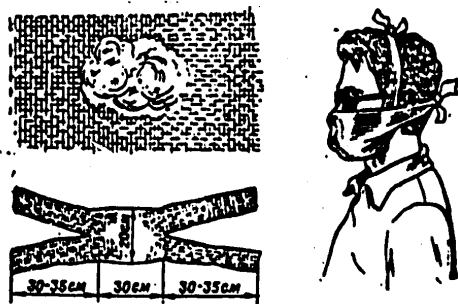


Fig. 122. Making of cotton gauze bandage

These articles can be made from available materials by oneself (canvas, fustian, baize, gauze and so forth).

The body of the PTM-1 fabric dust mask (Fig. 121) is made from fabric folded into four or five layers. At eye level, openings are made in it and goggles are inserted. For holding the mask to the head, pieces of fabric are used and these are sewn to the side edges of the body, as well as rubber straps.

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For making the cotton gauze bandage (Fig. 122), a piece of gauze 100 x 50 cm in size is used. On it is placed a layer of cotton 1-2 cm thick. The edges of the gauze are folded over on both sides and laid over the cotton, while cuts are made from the ends to a depth of 30-35 cm from each side. The bandage should cover the chin, mouth and nose. The eyes are protected by goggles.

Equipment for Protecting the Skin

In actions in regions of radioactive, chemical or bacteriological (biological) contamination, it is essential to protect not only the respiratory organs but also the entire human body. For this various protective devices for the skin are used. In terms of their purpose they are divided into two groups: special and available.

The population not involved in working in the strike area (area of contamination) can use *available skin protecting devices*. These include daily and industrial clothing and footwear which can be adapted for defense against radioactive fallout and bacterial agents, and in certain instances also against toxins.

Thus, cloaks and raincoats made from rubberized fabric and synthetic film provide protection against contamination by radioactive dust, bacterial aerosols and for a certain time also against toxins.

Ordinary sports, working and school suits, quilted jackets and other clothing can be used for protection against radioactive substances after it has been made airtight. Airtightness of a chest opening can be provided by using a bib made from heavy fabric while on sleeves and trousers caps should be attached (Fig. 123). The neck and exposed parts of the head are protected by a simple hood or an ordinary kerchief. Feet are protected by ordinary rubber or leather boots, and rubber gloves can be worn.

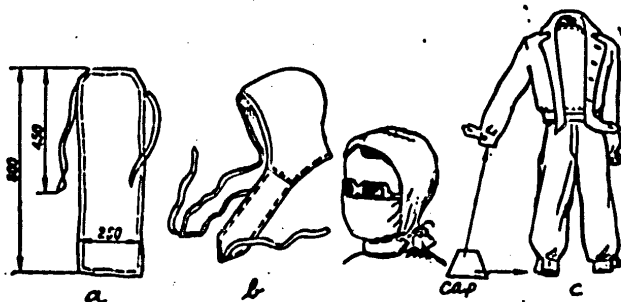


Fig. 123. Adaptation of daily clothing:
a--pattern of bib; b--hood and its use; c--sealing caps sewn to cut-off ends of jacket and trousers (dimensions given in mm).

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In order to make adapted protective gear (ordinary or industrial clothing) provide protection against toxic vapors, they are saturated with a special paste (K-4) or a soap-oil emulsion.

The soap-oil emulsion is prepared using a formula of 250-300 gm of pulverized household soap and 0.5 liter of mineral or vegetable oil in 2 liters of water which is heated to 60-70° C. The oil is added after the soap has completely dissolved, and this is then energetically mixed. The suit is placed in the basin (bucket) with the solution, then lightly squeezed out and dried in the open air.

Special protective clothing is provided for the CD formations. This includes the light protective suit (L-1), the protective filtering clothing (ZFO), the regulation protective set and the protective coveralls.

The *L-1 light protective suit* is made from rubberized fabric and consists of a shirt with a hood, trousers with boots, two-finger gloves and a helmet liner (Fig. 124); there is also a bag for carrying the suit.



Fig. 124. The L-1 light protective suit:
1--trousers with boots; 2--shoulder straps; 3--helmet liner; 4--shirt with hood; 5--neck flap; 6--crotch band; 7--bag; 8--two-finger glove; 9--straps.

The suits are made in three sizes: size 1 up to 165 cm tall, size 2 from 165 to 172 cm, and size 3 for over 172 cm.

The set of the ZFO-58 protective filtering clothing is among the filtering type gear for protecting the skin. This provides reliable protection of the skin against radioactive substances and bacterial agents. When it is saturated with a water solution of a special paste it also provides protection against toxic vapors.

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The set consists of a cotton overall of a special design (Fig. 125), underwear and two pairs of cotton footcloths. The overalls are made in three sizes: size 1 for persons up to 160 cm tall, size 2 from 160 to 170 cm, and size 3 over 170 cm.

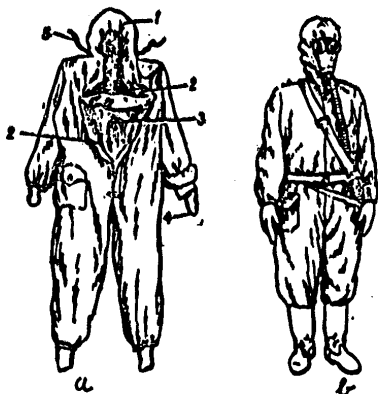


Fig. 125. The overalls of protective filtering clothing (ZFO): a--general view; b--ZFO in "combat" position; 1--hood; 2--chest flap of overall; 3--throat flap; 4--hand bands; 5--strings.

There are a regulation military protective set (Fig. 126) and a protective overalls (Fig. 127) for protecting people in working under conditions of heavy radioactive and toxic substances and bacterial (biological) agents and which can be issued to the CD formations.

As a rule, the special protective clothing is put on in uncontaminated terrain (in shelters, inside buildings and so forth) directly before work. Under conditions of contaminated air, this is done wearing the gas mask.

The protective clothing is removed on uncontaminated terrain. Here it is essential to make certain that the unprotected parts of the body do not come into contact with the exterior of the protective clothing. After removing the protective clothing, one must move away to windward and remove the gas mask, removing the facepiece with one's thumb from the back of the head.



Fig. 126. Regulation army protective set: a--in the form of cloak; b--raincoat; c--as overalls

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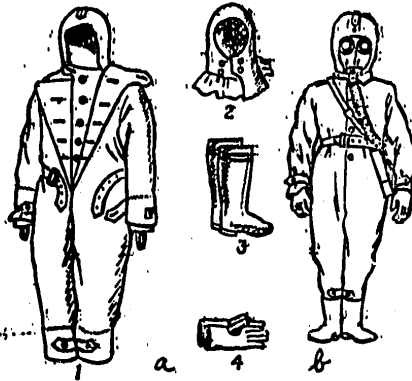


Fig. 127. Protective overalls in set with boots, gloves and hood: a--overall appearance; b--in "combat" position; 1--overall; 2--hood; 3--rubber boots; 4--rubber gloves.

Among the medical protective and preventive devices are the individual first aid kit (AI) and the individual antichemical warfare kit (IPP-8).

The *individual first aid kit* (Fig. 128) is designed for providing aid to oneself and others for the purpose of preventing severe consequences from exposure to weapons of mass destruction, as well as for preventing and weakening the course of infectious diseases. The kit contains radioprotective, antichemical, antibacterial and other preventive and first aid agents. Instructions come with the kit.

The *individual chemical warfare kit* (IPP) (Fig. 129) is designed for deactivating liquid drop-toxins which have fallen on exposed areas of the skin and clothing.

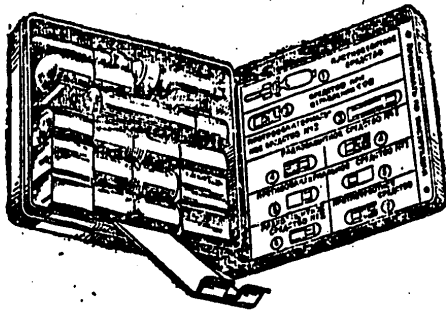


Fig. 128. Individual first aid kit (AI)

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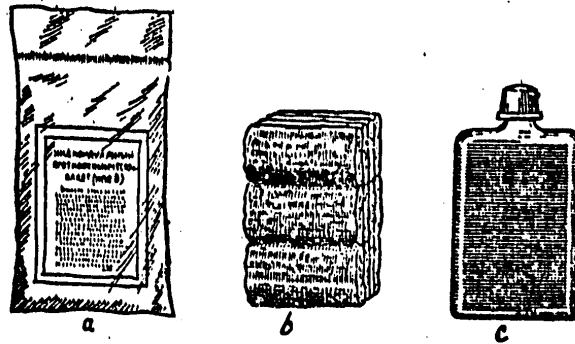


Fig. 129. The individual antichemical warfare kit (IPP-8):
a--overall view of kit; b--cotton gauze tampons; c--flask with fluid

The kit consists of a glass flask with a screw-on top and it contains a gas decontamination solution and four cotton-gauze tampons. The flask and the tampons are sealed in a bag. In using the IPP, the tampons are moistened with the fluid from the flask and then the contaminated areas of the skin and clothing are wiped with them. It is essential to know that the fluid from the individual antichemical warfare kit is poisonous and is dangerous if it gets into the eyes.

Quiz Questions

1. What is individual protective gear?
2. What is the design of the GP-4u filtering gas mask and what does it provide protection against?
3. How is the size of the GP-4u (GP-5) fitted for size?
4. How is the gas mask put on correctly?
5. How is a cotton-gauze bandage made?
6. List the skin protecting gear.

Dispersion and Evacuation of the Urban Population

One of the methods for protecting people against weapons of mass destruction is the dispersion of the enterprise employee and the evacuation of the remaining population of cities into the suburban zone a safe distance away from the possible objectives of enemy nuclear strikes.

Dispersion is the organized transporting (carrying) of the employees from national economic installations out of the cities and their quartering in the suburban zone.

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Evacuation is the organized carrying (transporting) of the population not employed in production, including students, from the cities into the suburban zone.

The purpose of dispersion and evacuation is to exclude or minimize losses among the population in the event that the enemy employs nuclear weapons or other modern weapons against the cities and national economic installations.

All levels of CD staffs direct the dispersion of employees and the evacuation of the remaining population. The CD staffs notify the population of evacuation using mass information media including the radio, television, press, and so forth, as well as through the ZhEK [housing operations office] (housing administrations).

Each enterprise, institution, school, ZhEK or housing administration should draw evacuation lists ahead of time for all the employees and members of their families. The lists and passports (identification cards) of the evacuees are the basic documents for accounting, quartering and support in the dispersion areas.

With the announcement of a decision to evacuate the population, the citizens must quickly ready their individual protective gear, personal effects and documents, and then prepare the apartment to be turned over for guarding by the housing administration. They should take only essential things with them, including: Individual protective gear, clothing, footwear, bedding, a supply of medicines and 2 or 3 days worth of food products. Of one's documents, it is essential to take along the passport, military service record, educational diploma, and birth certificates of children. All personal effects are put into a suitcase, sack or bag. On each piece of luggage, a tag is attached giving the last name, first name and patronymic, permanent address and where they are being evacuated. A label of white fabric giving the last name, name and patronymic, birthdate, the address of the parents and the final destination of evacuation should be sewn to the clothing of preschool age children.

In the apartment it is essential to shut off the gas, electrical appliances and remove curtains from the windows. All highly inflammable effects and articles should not be placed in front of windows, and transoms and small ventilating windows should be closed. After this the door is locked and the apartment is turned over to the housing administration for guarding. Having done this work, one should proceed by the designated time to the evacuation assembly point and undergo registration.

School children are ordinarily to be evacuated with their parents.

In the cities evacuation assembly points (SEP) are set up for promptly and precisely carrying out the dispersion of the employees and the evacuation of the remaining population. As a rule, the SEP are located in clubs,

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movie theaters, palaces of culture, schools and other public buildings, nearby railroad stations, railroad platforms, ports and piers to which they are assigned. Each SEP is given an ordinal number and the employees of nearby enterprises, organizations, schools and the members of their families as well as the population living in the housing of the ZHEK (housing administrations) located in this area are assigned to it.

Organization and discipline, prompt and unfailing fulfillment of all the requirements and instructions of the administration at the SEP are the basic rule of conduct for the population in carrying out dispersion and evacuation. Calmness and patience must be maintained in any situation.

For the purpose of evacuating the population in a short period of time, the basic portion of the population can be sent out of the cities on foot. The remaining population is transported to their assigned places in the suburban zone or to intermediate evacuation points from whence they can depart by various types of transport to their ultimate destinations. Such a method of evacuation is termed combined and is the basic one.

The receiving and quartering of the arriving population in the suburban zone are carried out by the local Soviet bodies together with the CD staffs of the rural regions. For this, under the executive committees of the rural soviets, evacuation receiving points are organized, and greeting points are formed in the disembarking stations.

The dispersed and evacuated population in their assigned areas are provided with food and industrial vital necessities by the local authorities through the existing trade network.

Quiz Questions

1. What are dispersion and evacuation?
2. What is the combined method of dispersion and evacuation?
3. What must be taken along in leaving for the suburban zone?
4. What is the procedure for receiving, quartering and supplying the arriving population in the suburban zone?

Rules of Conduct and Actions of Persons in Centers of Radioactive, Chemical and Bacteriological Contamination

With a threat of enemy attack, the bodies of Soviet power and the CD staffs notify the population of this and establish the rules of conduct in terms of the specific conditions.

Having received the appropriate message, the population should prepare for defense against weapons of mass destruction.

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For receiving messages and signals transmitted by the CD staffs, the loud speakers must be constantly connected to the radio broadcasting system at the national economic installations, in the residential buildings and apartments.

All citizens should acquire (receive at their place of work or study) individual protective devices for respiratory organs or make for themselves and the members of their families simple protective devices (the fabric dust mask or the cotton gauze bandage), and prepare daily clothing for defense against radioactive substances. Each family must prepare a home first aid kit with a supply of medicines.

The adult members of the family should learn the location of the shelters; if there is none nearby, then an active effort must be made to build them quickly. During this period it is very important to take measures to prevent possible contamination of food supplies and water, to carry out fire-fighting and blackout measures in the apartment, and to improve the protective properties of the apartments (housing) against radioactive substances.

Uniform nationwide CD signals have been established for promptly warning the population of the threat or use of weapons of mass destruction by the enemy, as well as the danger of flooding. These are: "Air Alert," "All Clear," "Radiation Danger," and "Chemical Alert."

Actions of the Population Upon the "Air Alert" Signal

The "Air Alert" signal warns of a direct threat of an enemy attack. The signal is given over the radio and television, as follows: "Attention! Attention! This is the CD staff speaking. Citizens! Air Alert! Air Alert" and this is duplicated by the extended sounding of electric and manual sirens and by the intermittent sounding of plant and transport whistles for 2-3 minutes.

If the signal comes when you are at home, you should quickly get dressed, dress the children, take the individual protective gear, the prepared personal effects, food supplies and water, close the windows, shut off the gas and immediately proceed to the nearest protective structure.

If you are in the street (in a public place or on municipal transport) when the signal comes, you should head to the nearest shelter.

In schools, upon the "Air Alert" signal, exercises are stopped and the students in an organized manner proceed to the shelter.

Citizens who have been unable to reach protective structures by the moment of the explosion should take protective measures in using nearby underground passageways, ditches, pits, stone walls, or lie face down on the ground on territory that would not be covered in rubble.

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After the "Air Alert" signal, the "All Clear" signal can be given to notify the population that the threat of an enemy attack is over. This signal is given by radio and television: "Attention! Attention! This is the CD staff speaking. Citizens! All Clear." Upon this signal the population may leave the shelters. In leaving the shelter, the population should observe the rules established for the period of the threat of an attack.

Actions of the Population Upon the "Radiation Danger" Signal and in Areas of Radioactive Contamination

The "Radiation Danger" signal is given in detecting fallout. This signal is also transmitted over the broadcasting network. On the spot the signal is duplicated by rapid blows on ringing articles (a bell, a piece of rail, and so forth).

On this signal, you must put on the individual protective gear, take your documents, prepared personal effects, food supply and water, and leave for the shelter. In leaving the apartment, the water and gas should be shut off, the lights turned off, and the windows and doors closed.

The procedures for remaining in the shelters are set by the CD staffs depending upon the degree of contamination in the area.

In a zone of moderate contamination the population takes shelter, as a rule, for several hours, after which it can leave the shelter and return to its customary quarters. During the first 24 hours one should not leave the house for more than 4 hours.

In a zone of strong contamination, the people should remain in shelters up to 3 days, leaving them in extreme necessity for 3-4 hours. Here devices for protecting the respiratory organs and skin must be put on.

In a zone of dangerous contamination, the people should remain in the shelters for 3 days and more, after which they can move to their usual quarters and remain in it for at least 4 days. Here they may go outside for only a brief period (for not more than 4 hours a day).

In all instances individual protective gear should be worn when outside the shelters and buildings.

The radioprotective tablets from the individual first aid kit (in compartment No 1) are used as a prophylactic agent which reduces the harmful affect of radioactive radiation. Up to six tablets at a time may be taken. Another six tablets must be taken 4-5 hours later with a continuing radiation or a new threat of radiation.

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Actions of the Population Upon the "Chemical Alert" Signal and in Areas of Chemical Contamination

If the enemy uses chemical weapons, the signal "Chemical Alert" is given. This signal is transmitted over the broadcasting network: "Attention! Attention! This is the CD staff speaking. Citizens! Chemical Alert!," and this is duplicated everywhere by rapidly striking ringing objects.

Upon this signal, the gas mask must be immediately put on and one's clothing must be adapted so that no area of the skin remains unprotected.

Persons who at the moment the "Chemical Alert" signal is given are in shelters should remain in them until permission is obtained to leave. The protective equipment should be kept in the shelter and everyone should be ready to put them on upon the command (instruction) of the person on duty for the shelter.

Persons who are in fallout shelters should immediately put on gas masks and the available skin protective equipment.

The direction for leaving the area of contamination is designated by indicators, and if these are absent one must leave in a direction perpendicular to the direction of the wind.

One must move quickly over contaminated terrain, but one must not run or raise dust, one must not touch surrounding objects or walk on visible drops of poisons.

In an area of contamination, one must not enter houses, take anything from the contaminated terrain, smoke, eat, sit down or lie down on the ground. Even with great fatigue one must not remove the protective gear.

With an individual first aid kit, it is essential to take one tablet from the round red container located in compartment No 2 of the first aid kit for preventing injury by the neuroparalytic toxins.

If in an enemy chemical attack poisonous drops have fallen on exposed areas of the skin or clothing, these must be immediately treated using the individual antichemical warfare kit (IPP). If there is no IPP, treatment may be carried out with aqua ammonia.

Once outside the contaminated area, the surface of clothing, footwear and protective gear can still be contaminated with toxins. For this reason the protective gear and particularly the gas mask must not be taken off without permission.

Persons who have been exposed are immediately given medical first aid, including: The administering of an antitoxin (antidote), the treating of exposed areas of the skin using the contents of the individual antichemical

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warfare kit, and artificial respiration is given in the event of the stopping or weakening of breathing (on contaminated territory the gas mask must not be taken off).

All persons affected by the toxins are brought (transported) out of the area of chemical contamination and are delivered to the medical aid station.

Persons who have come out of a contaminated area without fail undergo full personal cleansing and decontamination of clothing at the special decontamination washing stations.

Actions of the Population in an Area of Bacteriological Contamination

In detecting the indications of the use of bacterial (biological) agents, all citizens should immediately put on individual protective gear and take shelter in the shelters. If there are no shelters, remain in the apartments having closed the windows and doors securely.

The length of the stay in the shelters and the procedure of actions for the population in an area of bacteriological contamination are determined by the CD bodies.

On contaminated territory one must not take off the individual protective gear, raise dust, touch various objects, smoke or eat or drink. The population in an area of bacteriological contamination must strictly observe the requirements of the CD medical service. It is particularly important to observe eating conditions. Only those products which have been kept in refrigerators or in covered packaging may be consumed. In addition, both food as well as drinking water must be heated or boiled without fail.

Under these conditions it is extremely important to keep the housing, courtyards and public places constantly clean. The requirements of personal hygiene must be carefully observed. A bath with soap must be taken once a week, underwear and bed linen must be changed, hands and hair must be kept clean, and so forth.

In detecting diseases in any area, a quarantine or observation is established (depending upon the nature of the disease).

In all instances, in being in an area of bacteriological (biological) contamination, the population must show calmness and discipline, it must strictly observe the established rules of conduct, it must carry out the orders of the CD bodies and the instructions of the medical workers.

Quiz Questions

1. List the CD signals and tell who gives them and in what order.
2. What are the actions of the public upon the "Air Alert" signal?

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3. What are the actions of the public upon the "Chemical Alert" signal?
4. What are the actions of the public upon the "Radiation Danger" signal?

Personal Cleansing, Deactivation, Gas Decontamination and Disinfection of Clothing, Footwear, Protective Gear, Weapons and Equipment

Personal cleansing is the name given to the removal of radioactive substances, decontamination or removal of toxins and bacterial (biological) agents from the skin of persons as well as from worn individual protective gear and footwear. Cleansing can be partial and complete. Partial personal cleansing consists in the removal and decontamination of radioactive substances, toxins and bacterial (biological) agents which have fallen on exposed areas of the skin, on clothing, footwear, individual protective gear and firearms.

Partial personal cleansing in contamination by radioactive substances is carried out directly in the zone of radioactive contamination or immediately after leaving it.

With contamination by liquid-drop toxins, partial personal cleansing is conducted immediately.

With simultaneous contamination by radioactive, poisonous and bacterial (biological) agents, the toxins should be decontaminated first, followed by the bacterial (biological) agents and the radioactive substances.

With contamination by poisons, the population should use the individual antichemical warfare kits for partial personal cleansing, and various available means with contamination by radioactive substances.

With contamination by radioactive dust, partial personal cleansing is carried out in the following manner. The outer clothing is removed, and with one's back toward the wind, the clothing is shaken out. After this the clothing is hung up on a line (or crosspiece), and is cleaned with a broom (brush or cluster of grass) or beaten with a stick. Footwear should be washed off with pure water or wiped with a wet rag. Then the exposed areas of the hands and neck and the facepiece of the gas mask are washed off in clean water, the gas mask is removed, the face is washed carefully with water, and the mouth and throat rinsed out. If there is little water, the exposed skin and the facepiece of the gas mask may be wiped with wet pads. In the winter the clothing and footwear can be wiped with clean snow.

In conducting partial personal cleansing with contamination by toxins, it is essential, without removing the gas mask, to immediately treat the exposed skin, the contaminated areas of clothing, and the facepiece of the gas mask using the solution from the individual antichemical warfare kit.

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Complete personal cleansing is carried out at the decontamination washing stations which are set up by the CD formations. This consists in washing the entire body with soap and water, as well as providing special medical aid to the affected. Here underwear, clothing and footwear are changed or processed.

The decontamination washing stations are set up on the basis of the medical checkpoints, the shower pavilions, bathhouses and other service facilities or on the spot using tents (awnings, and so forth).

In warm weather complete personal cleansing can be carried out in bodies of water which are not contaminated.

As a result of working (staying) in a contaminated area, clothing, footwear, protective equipment, transport and equipment can be contaminated by radioactive substances, toxins and bacterial (biological) agents. For decontaminating them and for preventing the injury to personnel, the following are carried out: Radioactive decontamination or the removal of radioactive substances from contaminated surfaces to acceptable levels; gas decontamination or the deactivation of toxins or their removal from contaminated objects; disinfection or the removal of pathogenic microbes and toxins on contaminated surfaces:

Radioactive decontamination (gas decontamination and disinfection) can be partial or complete.

Partial radiological decontamination is carried out for the purposes of reducing the degree of contamination, and consists in removing the radioactive substances by brushing (wiping) the entire surface of the objects to be treated.

Partial radiological decontamination and disinfection consists in the neutralization (removal) of the toxins and bacterial (biological) agents on those sections of the surface of the treated objects with which the personnel of the formation is in contact in the course of work; here the surface of a tool or device is fully treated.

Complete radiological and gas decontamination and disinfection of clothing, footwear, supplies, transport and tools consist in treating the entire surface of the contaminated objects to safe levels. This is carried out at the special cleansing stations (PuSO) by the CD formations.

For radiological decontamination, special deactivating solutions are used as well as aqueous solutions of laundry powders such as "Don," "Era," and "Lotos" as well as other detergents, and in addition ordinary water and solvents (gasoline, kerosene and diesel fuel).

For partial gas decontamination, the fluid from the individual antichemical warfare kit is used, as well as various solvents (kerosene or gasoline).

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For disinfection, special disinfectants are used such as phenol, kerosene, lysol and others, as well as the gas decontamination solutions.

Radiological decontamination of clothing, footwear and individual protective equipment is carried out by shaking and beating, by washing or wiping (on rubberized or leather articles) with aqueous solutions of detergents or with water, and by washing with radioactive decontamination agents.

Gas decontamination of clothing, footwear and individual protective equipment is carried out by boiling, washing or airing (natural gas decontamination).

Disinfection of clothing, footwear and individual protective equipment is carried out by treating with a steam mixture, by boiling, and by wetting in disinfectant solutions (or wiping with them), and by washing.

All these jobs are carried out at the clothing decontamination stations (SOO).

For decontamination equipment, structures and territories, various national economic equipment can be used including: Street washing and sweeping equipment, sanders and snow removal equipment, fertilizer spreaders, sprayers, bulldozers, graders, and so forth.

The basic procedures for complete radioactive decontamination of equipment and transport include: The washing off of radioactive substances using decontamination solutions and solvents with the simultaneous brushing of the contaminated surface; washing off the radio active substances with a jet of pressurized water; removal of the radioactive substances by wiping down the contaminated surface with pads of rags moistened with the decontaminating solutions, water or solvents; brushing (wiping) off the radioactive dust with brooms, brushes, rags and other available means.

Gas decontamination and disinfection are carried out by wiping the contaminated surfaces of the equipment and transport with gas decontaminating (disinfecting) solutions, and in their absence, by using solvents.

Quiz Questions

1. What is personal cleansing?
2. In what sequence is partial personal cleansing carried out?
3. What are radioactive decontamination, gas decontamination and disinfection?

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§4. Radiation and Chemical Reconnaissance Instruments

The Purpose, Tactical and Technical Data, Design and Operating Principle of Radiation Reconnaissance Instruments

These instruments (they are also called dosimetric) are designed for detecting radioactive contamination, for measuring the radiation level and the degree of contamination of various objects, as well as the radiation doses. A majority of them uses the radiation method of detecting and metering the radioactive radiation.

The method is based upon the use of one of the properties of radioactive radiation, that is, its ability to ionize the medium in which it spreads (that is, to split neutral molecules or atoms into pairs which are positive (ions) and negative (electrons)). If an enclosed volume of a gas is taken and an electric voltage is applied to it, then the electrons and ions formed in it will move in an ordered manner, with the electrons moving toward the anode and the ions toward the cathode. As a result, between the electrodes (the anode and the cathode), a so-called ionization current arises, and the amount of this is directly proportional to the power of the radiation dose. From the force of the radiation current it is possible to judge the intensity of radioactive radiation.

The sensing devices of dosimetric instruments are ionization chambers and gas discharge counters.

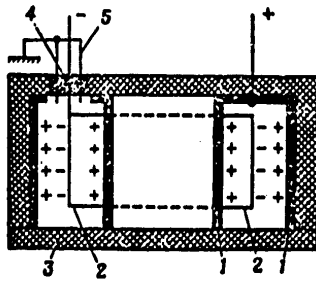


Fig. 130. Diagram of ionization chamber:
1--inner surface and core of chamber (positive electrode); 2--metal ring (negative electrode); 3--bottom of chamber; 4--amber insulator; 5--safety.

A diagram of an ionization chamber is shown in Fig. 130. A current conducting layer is used as its anode, and a metal core as the cathode. The voltage from the power source is delivered to the electrodes; this voltage creates an electric field in the chamber. The chamber is filled with air. If there is no radioactive radiation, then the air in the chamber is not ionized and no electric current passes. Under the effect of radiation, the air is ionized, the circuit closes and an ionization current is passed through it. This arrives at the electric circuit of the instrument (Fig. 131), it is amplified, converted and measured by the microammeter, the scale of which is graduated in roentgens per hour or milliroentgens per hour. Such ionization chambers are used in instruments which measure radiation levels on the terrain.

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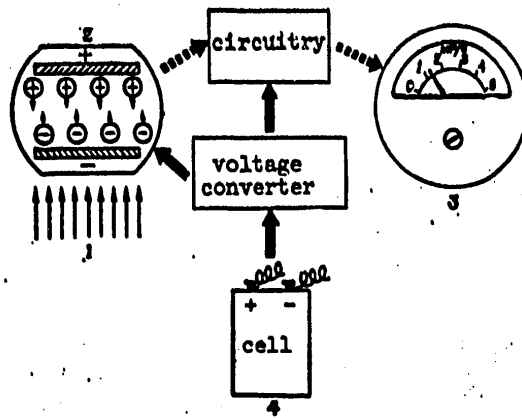


Fig. 131. Schematic diagram of design of dosimetric instruments: 1--ionizing radiation; 2--radiation detector; 3--microammeter; 4--power source.

The gas discharge counters operate under the condition of gas amplification which occurs because of secondary (impact) ionization. The current which passes through the circuit of such a counter is significantly greater than in an ionization chamber and the counter itself is more sensitive. The gas discharge counters are used in instruments designed for detecting and metering the degree of contamination of various surfaces by radioactive substances. They can also be used for measuring the power of a gamma radiation dose.

A diagram of a gas discharge counter is shown in Fig. 132. The counter is a metal (or glass) cylinder filled with a discharged mixture of inert gases with slight additives to improve its work. Here the anode is a thin metal thread stretched inside the housing which is at the same time the cathode (in glass counters the cathode is a thin layer of metal applied on the inner surface of the housing).

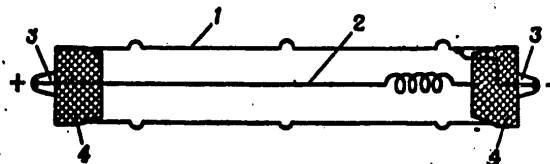


Fig. 132. Gas discharge counter with metal housing: 1--housing of counter (cathode); 2--filament of counter (anode); 3--leads; 4--insulators.

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In accord with their purpose, dosimetric instruments are divided into radiac indicators, roentgenometers, radiometer-roentgenometer, radiometers and dosimeters.

The DP-63-A radiac indicator (Fig. 133) is designed for detecting radioactive contamination of the terrain by beta- and gamma-active substances and for an approximate evaluation of the radiation levels. These can be used to measure the power of a gamma radiation dose from 0.1 up to 50 R/h (in the first subrange from 0.1 up to 1.5 R/h, and in the second from 1.5 up to 50 R/h).

The indicator has two gas discharge counters, a semiconductor voltage converter with power sources (two 1.6-2PMTs-U-1.05 cells which provide continuous operation for 50 hours) and an integrating circuit with a microammeter. The instrument weighs 1.2 kg.

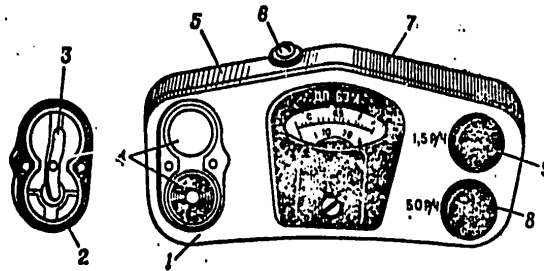


Fig. 133. The DP-63-A radiac indicator with the removed lid of power compartment:
 1--front panel; 2--lid of power compartment; 3--contact spring; 4--1.6-2PMTs-U-1.05 (1.5-SNMTs-0.6) cells; 5--housing of instrument; 6--lid catch; 7--colored marker indicating centers of counters; 8--second subrange button; 9--first subrange button.

For preparing the indicator for work, the cells should be inserted in the power compartment, the lid screwed down and the voltage of the power sources tested by simultaneously depressing the buttons "1.5 R/h" and "50 R/h." Here the arrow of the instrument should be to the right of the figure 5 on the lower scale. For testing the proper working order of the indicator, the button "1.5 R/h" is depressed. The arrow of the instrument should stop on the "0" mark of the upper scale.

In reading radiation levels, the instrument should be placed at a height of 70-100 cm from the surface of the ground. In pressing the "50 R/h" button, the radiation level is read on the lower scale. If the arrow does not move or moves insignificantly, then, having released the "50 R/h" button, press the "1.5 R/h" button and read the upper scale of the instrument.

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The detection and metering of beta radiation are carried out only on the first subrange of the indicator at a distance of 20-30 cm from the contaminated surface. Here two measurements are made: the first as was described above, and the second with the simultaneous depression of the "1.5 R/h" button and the button located on the side of the instrument. An increase in the readings of the microammeter in the second measurement shows the presence of beta radiation.

The DP-2 roentgenometer (Fig. 134) is designed to measure radiation levels from 0 to 200 R/h in conducting radiation reconnaissance. The instrument operates on three subranges (0-2, 0-20 and 0-200 R/h), and has, correspondingly, three changeable scales which are switched in moving from one subrange to another.

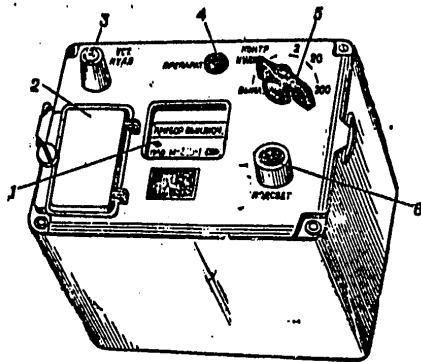


Fig. 134. The DP-2 roentgenometer: 1--microammeter, 2--power compartment; 3--zero-setting knob; 4--"Preparation" button; 5--subrange switch; 6--microammeter scale light button.

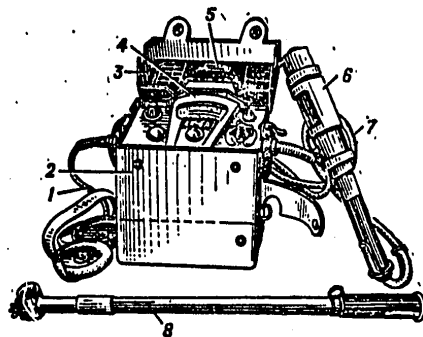


Fig. 135. DP-5A radiometer-roentgenometer: 1--earphone cable; 2--case; 3--case lid; 4--metering panel; 5--test preparation; 6--probe; 7--probe cable; 8--extension rod.

The basic parts of the instrument are: Ionization chamber, DC amplifier, microammeter, an power source (one 1.6-PMTs-U-8 cell which provides continuous operation for 60 hours). The instrument weighs around 3.5 kg.

In order to ready the DP-2 roentgenometer for work, the subrange switch is put in the "Off" position, the lid of the power compartment is opened, a battery is inserted and connected to the terminals, the lid is closed and screwed down. Then the subrange switch is put in the "zero test" position, and with the "zero-setting" knob the arrow of the microammeter is lined up with the zero division on the scale. The subrange switch is put in the position "2 R/h" and the "Preparation" button is depressed. If the arrow of the microammeter moves to the control division indicated in the specifications, the instrument is ready for work.

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The measurements are started from the first subrange (the instrument is held at a height of 0.7-1 m from the ground). When the microammeter arrow crosses the scale, the roentgenometer is switched to the next subrange. Using the instrument it is possible to monitor radiation levels on the terrain while in a vehicle. However, in this instance the readings must be multiplied by a radiation attenuation factor for the body of the vehicle (for a motor vehicle this equals 2, and for an armored personnel carrier, 4).

With the aid of the *DP-5A radiometer-roentgenometer* (Fig. 135), it is possible to measure the gamma radiation levels on the terrain and the degree of radioactive contamination of various objects.

The range of measurements for the instrument has been divided into six subranges (see Table 4).

Table 4

Subrange	Position of switch button	Scale	Unit of measurement	Measurement limit
I	200	0-200	R/h	5-200
II	× 1,000	0-5	mR/h	500-5,000
III	× 100	0-5	mR/h	50-500
IV	× 10	0-5	mR/h	5-50
V	× 1	0-5	mR/h	0.5-5
VI	× 0.1	0-5	mR/h	0.05-0.5

The basic parts of the instrument are the metering panel and the probe connected to the panel by a flexible cable 1.2 m long. In addition, the set of the radiometer-roentgenometer includes: Earphones, an extension rod, a battery connector for connecting the instrument to an external DC source, a case with straps and a test radioactive source, and spare parts.

On the front of the metering panel are (Fig. 136): The microammeter, the subrange switch, the adjustment potentiometer, the "reset" button, the scale light switch, and the headset plug.

The probe (Fig. 137) is sealed. In it are two gas discharge counters and other electric circuitry elements, there is a window for the indicating of beta radiation which is covered with a waterproof film, as well as a rotating screen which can be put in two positions "B" and "G."

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The instrument is powered by three 1.6-PMTs-U-1.05 cells which provide its continuous operation for 40 hours, or from outside DC sources with a voltage of 3, 6 or 12 volts.

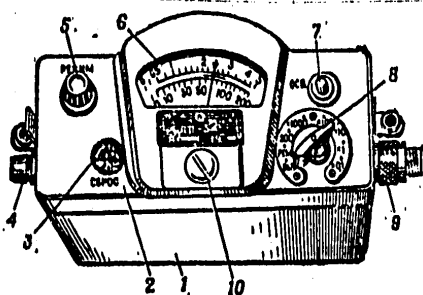


Fig. 136. Metering panel of DP-5A radiometer-roentgenometer:
 1--housing; 2--panel; 3--"reset" button; 4--headset plug; 5--knob for adjustment potentiometer; 6--microammeter; 7--scale light switch; 8--subrange switch; 9--plug for connecting probe cable; 10--plug of mechanical zero-setting corrector.

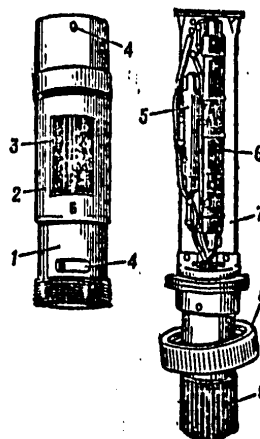


Fig. 137. Probe with removed housing:
 1--steel housing; 2--rotating screen; 3--window; 4--support lugs; 5--SI-3BG gas discharge counter; 6--STS-5 gas discharge counter; 7--plate; 8--union nut; 9--handle.

The instrument weighs 2.1 kg and the weight of the total set with the box is 7.6 kg.

In preparing the instrument to work, the arrow of the microammeter should be put on "0"; the "Mode" button must be turned counterclockwise to the stop; the subband switch knob should be put in the "Off" position, the power compartment should be opened and the dry cells connected, in making sure of proper polarity. Then the instrument should be turned off, having put the switch in the "Mode" position, and in gently turning the "Mode" knob in a clockwise direction, place the microammeter arrow on the triangular marker on the scale.

After this the proper working order of the instrument must be tested from the test device by putting the screen of the probe ahead in the "B" position and bringing it up to the radioactive source, having first opened it, in turning the protective plate around its axis and having connected the headset. Then in sequence put the switch in the following positions: "x 1,000," "x 100," "x 10," "x 1," and "x 0.1." Here in the earphones one

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should hear clicks, and in addition, on the subrange "x 10" the arrow should move approximately to the middle of the scale, and on the subranges "x 1" and "x 0.1" beyond the scale.

Radiation levels are measured on the terrain from the "0-5" scale (with radiation levels up to 5 R/h), with the switch in the "x 1,000" position; with higher levels, from the scale "0-200" with the switch in the "200" position. The panel of the instrument with the probe should be at chest height, and the probe should be in its case.

The degree of contamination of the skin of persons, clothing, equipment, transport, food, water and other articles is determined on the subranges "x 1,000," "x 100," "x 10," "x 1," and "x 0.1," in reading off the upper scale of the instrument ("0-5") and multiplying these by the coefficient corresponding to the position of the subrange switch.

Thus, for example, if in measuring the degree of contamination of human skin the readings on the upper scale of the instrument are 2.5 mR/h, and the subrange switch is in the "x 10" position, the degree of contamination will be 25 mR/h.

Before measuring the degree of contamination, the gamma background value is determined, and for this purpose the radiation levels are measured a distance of 15-20 m away from the contaminated object. Then the probe of the instrument is brought up to the surface of the contaminated object and moved over it locating the most contaminated area from the frequency of the clicks in the earphones. The probe is put 1-1.5 cm above the place of maximum contamination, and the switch is put in a position whereby the instrument's arrow provides readings within the scale, and the readings are taken. From the obtained readings the value of the gamma background is subtracted. For example, if in the measurement the amount of the gamma background was 200 mR/h and the amount of the total contamination of the object was 250 mR/h, then the value of the contamination of the object will be 50 mR/h.

The *DP-12 radiometer* (Fig. 138) is designed to determine and measure the degree of contamination of various objects for beta and gamma radiation.

Due to the fact that at present the contamination of various objects is measured by gamma radiation, let us examine the procedure for measuring the contamination of various objects using the DP-12 instrument for just gamma radiation. The range of measurements for gamma radiation is from 1 to 125 mR/h.

The instrument consists of a panel and a probe connected by a flexible cable, earphones and a rod for the probe. In addition, the set includes a strap for carrying the instrument, a case, a test radioactive sample, spare supplies and tools. Without the case the instrument weighs about 5 kg. The radiometer is powered by two 1.6-FMTs-U-8 cells which provide its continuous operation for 75 hours.

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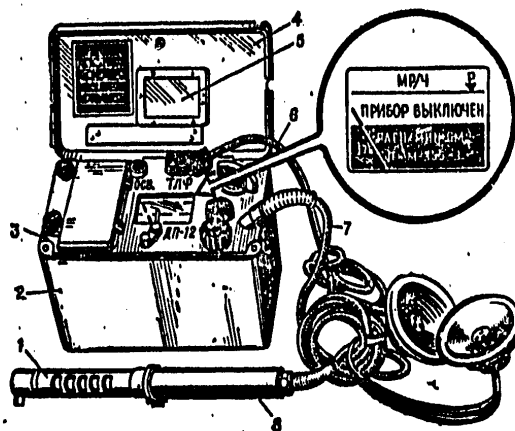


Fig. 138. The DP-12 radiometer:

1--outside housing (screen) of probe head; 2--housing of meter; 3--front of meter; 4--lid; 5--viewing aperture; 6--earphone cable; 7--probe cable; 8--probe handle.

On the front of the instrument are: The microammeter, the subrange switch, the knob for adjusting the filament voltage ("Incan."), the knob for adjusting the anode voltage ("Anode"), a headset plug ("TLF"), a "Illum." button for the scale light, a movable arrow for recording the instrument readings and the lid of the power compartment.

For carrying out measurements using the instrument there are five subranges which have five colored scales. For measuring gamma radiation, three subranges are used (the blue, green and white scales). Moving from one subrange to another is carried out by turning the subrange switch. The outside casing of the probe head is put in the "G" position.

In preparing the instrument for use, first of all the power is connected. For this, having prepared the cells for connecting, the subrange switch is put in the "Off" position, the "Incan." and "Anode" knobs are turned as far as possible in a counterclockwise direction, the lid of the power compartment is removed and the switch is put in the "Paral." position, the cells are inserted in the power compartment, they are connected to the corresponding terminals and the lid is closed. Then the subband switch is moved to a position in which the measurement will be made, the "Incan." knob is depressed and, in turning it clockwise, the arrow of the meter is put on the "R" line. Then the "Anode" knob is depressed and in turning it also clockwise, the arrow is lined up with the same "R" line.

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The clicks in the earphones and a slight high sound from the voltage converter show the normal operation of the instrument.

In measuring the degree of radioactive contamination for gamma radiation, the probe screen is put in the "G" position, and the measurement is made in the subrange corresponding to the blue scale, and then the probe is brought up to the examined surface and from the greatest frequency of the clicks in the earphones or from an increase in the microammeter readings, the place of maximum contamination is determined.

Having put the probe above the place of maximum contamination, the reading is taken from the upper microammeter scale.

If there are no readings on the subrange of the blue scale, then the switch is moved to the next subrange (green and white scales).

Dosimetric instruments should be stored in areas the air temperature of which is kept from +10 to +25° C with a relative humidity of from 50 to 65 percent. They are kept on shelves in cabinets.

If the instruments are to be stored for more than 10 days, the power sources must be disconnected, they must be removed from the instruments and stored separately in a dry, cool (an air temperature from +5 to -6° C) and dark area. The leads of the power sources should be carefully insulated.

In using the instruments, they must be handled carefully and they must be stored and used correctly. For example, the instruments must not be exposed for extended times to direct sun rays, heavy rain or snow, and they must be protected from mud and dust. The instruments must be protected from blows and shaking, and in being transported in motor vehicles they must not be put on the floor. The insides of the meters must not be opened nor must their surface be touched with a bare hand.

Quiz Questions

1. What is the essence of the ionization method of detecting and metering radioactive radiation?
2. Sketch the schematic diagram of a dosimetric instrument.
3. List the basic types of dosimetric instruments.
4. How are the DP-65A, DP-2, and DP-5A instruments readied for use?

Purpose, Tactical and Technical Specifications and Operating Principle of a Chemical Reconnaissance Instrument

Modern toxins possess high toxicity. Many of them have neither aroma nor color. For this reason it is possible to reliably determine their presence in the air, on the terrain and on various objects only by using instruments.

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The operating principle of such instruments (chemical reconnaissance) is based on a change in the color of specially selected substances (they are called indicators) in interacting with toxins.

The field chemical detection device or VPKhR (Fig. 139) is designed for determining toxins in the air, on the ground and on various objects.

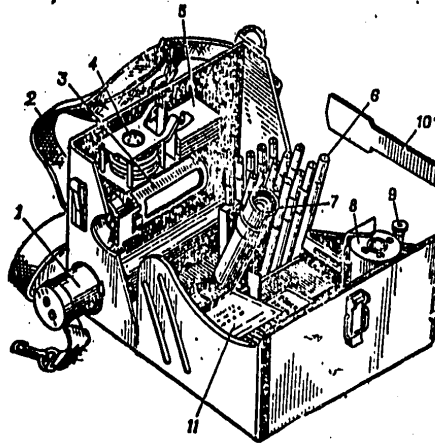


Fig. 139. Field chemical detection device (VPKhR):

1--hand pump; 2--shoulder strap; 3--nozzle for pump; 4--protective covers for nozzle; 5--smoke filters; 6--burner cartridge; 7--flashlight; 8--burner; 9--probe; 10--blade; 11--detector tubes in holders.

The instrument consists of a case with a lid and a hand pump, paper holders with detector tubes, dust filters, a pump nozzle, protective covers, a flashlight, a burner and cartridges for it. In addition, the set includes a blade and instructions for using the instrument. The instrument weighs around 2.3 kg.

The detector tubes which comprise the set (Fig. 140) are of three types: One with a red ring and a red dot (for identifying sarin and V gases); with three green rings (for identifying phosgene, prussic acid and cyanogen chloride); with one yellow ring (for identifying yperite).

The burner is used to warm the detector tubes in operating under low air temperature conditions (from -40 to $+15^{\circ}$ C).

Toxins in the air are identified by using the VPKhR in the following order. The lid of the instrument is opened, the catch is released and the pump taken out. Two tubes with a red ring and a red dot are removed from the

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holder, their ends are cut off and opened. Using the ampule breaker with a marking corresponding to the marking on the detector tubes, the upper ampules of both tubes are broken and they are energetically shaken two or three times (holding them by the marked rings). Then the unmarked end of one of the tubes is inserted into the pump and it is activated five or six times (the second tube is the control, and air is not pumped through it). Using the same ampule breaker, crush the lower ampules of both tubes, shake them and watch for a change in the color of their fillers. The turning of the upper layer of the filler in the experimental tube to a red color (at the moment of the appearance of a yellow color in the control tube) shows the presence of sarin and V gases in the air. If the color of the filler in both tubes changes color simultaneously, then there are no dangerous concentrations of the given toxins in the air.

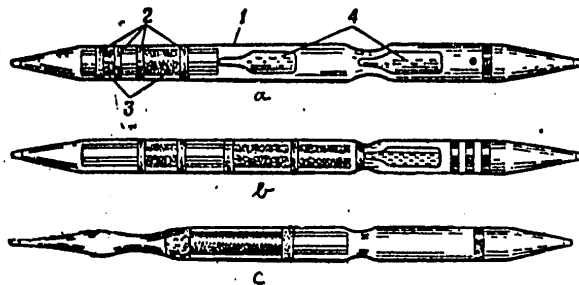


Fig. 140. Detector tubes for identifying toxins:
 a--sarin and V gases; b--phosgene, prussic acid and cyanogen chloride;
 c--yperite; 1--tube body; 2--cotton pads; 3--filling; 4--ampules with agents.

Depending upon what the tube with the red ring and the red dot shows, it is essential to continue identifying toxins using the remaining tubes, initially with the three green rings and then with one yellow ring.

The tube with the three green rings (for identifying phosgene, cyanogen chloride and prussic acid) is used in the following sequence. The tube must be opened, the ampule in it broken, inserted in the pump and then the pump operated 10-15 times. Then the tube is removed from the pump and the color of the tube filler is compared with the scale printed on the holder.

After this, the presence of yperite vapors is determined (using the tube with one yellow ring). For this the tube is opened, inserted in the pump, the pump is worked 60 times, the tube is removed from the pump and held 1 minute. After this the color of the filler is compared with the color shown on the holder.

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In identifying toxins on the terrain, equipment and various objects, initially the detector tubes with the red ring and the red dot are used, and then the one with a yellow ring. They are prepared (in the same sequence as in determining a toxin in the air) and inserted in the pump. Then the nozzle is put on the pump and on the nozzle there should be a protective cover. The nozzle is held to the ground (or contaminated article) and the necessary number of pumps is made.

One then proceeds as in identifying toxins in the air.

In order that the chemical detection devices operate dependably, they must be properly stored and used. In subunits they are stored in cabinets and on shelves, in field conditions on shelves, and in regiments on wooden flooring or padding.

Before leaving for reconnaissance, it is essential to make certain that the set of instruments is complete, that the ampules in the detector tubes are not broken and that the pump is working.

In operating on contaminated terrain, the instruments must be protected against contamination with toxins and radioactive substances, and in the event of contamination gas and radioactive decontamination must be carried out carefully on them.

The chemical detection devices should be protected against extended exposure to direct sunbeams. Particular attention must be given to the guaranteed storage life of the detector tubes, in replacing them with good ones.

Quiz Questions

1. What is the operating principle of the chemical detection device?
2. How is the VPKhR chemical detection device designed?
3. What is the procedure for using the VPKhR, in determining toxins in the air, on the terrain and on various objects?

§5. Reconnaissance of Strike (Contaminated) Areas

Principles for Organizing and Conducting Reconnaissance at an Installation in an Area of a Strike (Contamination)

Reconnaissance is one of the types of support for successful actions of the CD forces. This is carried out continuously and actively, and the data should be reliable.

The continuity of reconnaissance is achieved by using all types of it according to a unified plan and by coordinating actions in terms of place and time in any weather, during the day and at night, and under any conditions.

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The activeness of reconnaissance consists in the desire of the commanders and chiefs by all methods and means to secure the necessary data on the situation by the established time.

The reliability of reconnaissance data is established by a careful study, generalization and comparison with data obtained from other sources.

In obtaining contradictory data, a recheck and additional reconnaissance are organized, primarily in regions with the most complicated radiation, chemical, fire, engineer and medical situation.

Depending upon the nature of the missions carried out, reconnaissance is divided into general and special.

General reconnaissance is conducted by: Reconnaissance subunits of troop units, observation and laboratory control stations, reconnaissance aircraft and helicopters, reconnaissance units of river (naval) reconnaissance, rail transport, the reconnaissance groups of cities, rayons and national economic installations.

Special reconnaissance is carried out by groups for radiation, chemical, engineer, fire, medical and epidemiological reconnaissance.

Depending upon the method of securing the data, reconnaissance is divided into air, river (naval) and ground.

Air reconnaissance is carried out by trained crews of reconnaissance airplanes and helicopters which are equipped with radiation reconnaissance instruments. This is capable of detecting a radiation, fire and engineer situation over large areas in a comparatively short time.

River (naval) reconnaissance is carried out by trained teams of specialists from the river (maritime) fleet on high-speed launches, diesel vessels, motor boats and other vessels which are equipped with radiation and chemical detection devices.

Ground reconnaissance is carried out by reconnaissance units of troop units, by the observation and laboratory control stations, by reconnaissance teams on rail transport, by the reconnaissance groups of cities, rayons and national economic installations, by radiation and chemical observation posts and by other special reconnaissance groups (teams).

This type of reconnaissance can establish with the greatest completeness the nature of contamination, destruction and fires, the state of protective structures and the people in them, the conditions for providing them with medical aid, that is, with the greatest completeness and reliability it solves the entire range of reconnaissance problems on the routes of advance and in the strike areas (areas of contamination).

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The basic missions of reconnaissance are:

- 1) Determining the rayons, cities and objects which have been exposed both to weapons of mass destruction as well as conventional weapons, natural disasters, and the consequences of emergencies and catastrophies;
- 2) Disclosing the degree of destruction, the nature of fires and contamination in the areas of mass destruction and the adjacent rayons;
- 3) Determining the state of the routes of advance, the national economic installations, the protective structures and the conditions for providing medical aid to victims in the strike areas (areas of contamination);
- 4) Conducting observation and laboratory control over the contamination of the air, water, soil, livestock and plant products and other environmental objects with radioactive substances, toxins and bacterial agents.

The reconnaissance formations perform their tasks by observation and direct inspection of the objects of reconnaissance using instruments.

Reconnaissance groups and radiation and chemical observation posts are set up for carrying out missions for national economic installations at industrial enterprises, on kolkhozes and sovkhozes. These comprise the reconnaissance formations of an installation.

A *reconnaissance group* is used for conducting reconnaissance in the location of the installation's formations in the suburban zone, on the route of advance and at their installation in the strike area (area of contamination). It also may be used for monitoring the contamination of people, equipment, property, food and water by radioactive substances and toxins.

A reconnaissance team in a reconnaissance group consists of a commander, a dosimetric scout and a chemical scout. This is supplied with filtering and oxygen-breathing gas masks, individual protective equipment, radiation and chemical detection instruments, dosimetric monitoring devices, transport, communications, devices for designating contaminated areas, for partial special processing and other required supplies.

The *radiation and chemical observation posts* is used for observing changes in the air and ground situation on the territory of the installation and in adjacent areas, as well as in the quarters of the installation's employees in the suburban zone.

In addition, the posts are given missions of observing changes in the situation in areas of natural disasters and in places of major production accidents and catastrophies.

A post consists of three persons, the post chief, the dosimetric scout and the chemical scout. The post is equipped with filtering gas masks,

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individual protective equipment, radiation and chemical detection instruments, a dosimetric monitor, a compass and watches.

Moreover the post should have: An observation log, a diagram of landmarks, a table of warning signals, binoculars, equipment for giving warning signals, wire (or wireless) communications, and other necessary supplies.

Quiz Questions

1. What demands are made on reconnaissance?
2. Name the types of reconnaissance and the methods of carrying it out. What are the basic missions of reconnaissance?
3. Tell about the purpose and missions of a reconnaissance team, its composition and equipment.
4. Tell about the purpose of a radiation and chemical observation post, its composition, missions and equipment.

The Actions of a Scout as Part of a Radiation and Chemical Observation Post

The post is equipped with a place for the observer and a shelter for the personnel. The place for the observer is chosen in such a manner that a good view of the installation's territory be provided (the terrain in the quarters of the employees in the suburban zone).

The CD chief of staff of the installation gives the mission to the radiation and chemical observation post. In giving the mission he indicates: The composition of the post; location; the zone (sector) of observation; what should be particularly watched for; the procedure for reporting on the results of the observation; the time to be ready to carry out the missions.

Having received the mission, the chief of the post assembles the personnel, he issues equipment, he gives the mission to subordinates, he determines the procedure for observation and equipping the post, he makes certain the equipment is in proper working order, he organizes communications with the installation command post and directs the actions of the observers. The chief of the post also performs the obligations of a duty observer.

The duty observer is obliged to remain continuously at the designated place and continuously observe the changes in the air and ground situation. He is to report all changes in the situation immediately to the chief of the post and to follow his instructions.

The duty observer carries out his tasks wearing the individual protective equipment, and has his gas mask in an "on the ready" position. The radiation and chemical detection instruments should be ready for use.

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Upon the "Air Alert" signal, the personnel of the post takes to the shelter and the duty observer continues his watching. From external indications he determines the type of nuclear explosion, and from the diagram of landmarks, the direction (azimuth) to the explosion, he reports these data to the chief of the post and continues to observe the direction of the radioactive cloud's movement and changes in the situation in the adjacent terrain.

The observer keeps the radiation detection instrument on and watches its readings. With fallout, from the readings of the instrument he determines the radiation level, he reports to the chief of the post and upon his command gives a sound or light signal for warning of radioactive contamination. He puts on the gas mask and protective equipment and continues to monitor the readings of the instrument without a break.

With a rise in the radiation level, the observer reports this to the chief of the post, and with his permission takes shelter.

Monitoring the changes in the radiation levels is carried out from the shelter, and here consideration is given to the attenuation factor of the ionizing radiation. The factor is determined by two measurements with the instrument, outside the shelter and inside. The ratio of the former to the latter is the attenuation factor. In measuring the radiation level in the shelter and in multiplying its value by the attenuation factor, the radiation level on the terrain can be determined.

The observer, in measuring the radiation level, establishes their rise and fall. With a decline in the radiation level, the observer can periodically leave the shelter and investigate a portion of the installation's territory (the location of the installation's formations in the suburban zone).

If the enemy has used chemical weapons or the indications of toxic (poisonous) substances have been detected in the air, the duty observer puts on the gas mask and protective equipment, he gives the sound or light warning signal, he reports to the chief of the post and follows his instructions. In investigating the territory, the observer using the chemical detection instrument determines the type of poisonous (toxic) substance, places of stagnant contaminated air, and the concentration of toxins in it. The contaminated area is marked off by signs. He continuously monitors the changes in the chemical situation on the territory of the installation and in adjacent regions, and reports the results of the observation to the chief of the post.

The basic mission of observation in areas of natural disasters, production accidents and catastrophes is to promptly warn the formations carrying out rescue and emergency reconstruction work of any sharp change in the situation in the areas or work sections.

In regions of natural disasters (earthquakes, flooding, hurricanes, catastrophic flooding, slides and so forth), observation is carried out over

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regions (sections) of possible collapses of destroyed buildings, structures and ground, the water level in bodies of water, the direction and speed of the wind in the ground-level air layer, the condition of levees, dams and other water-retaining structures, and so forth.

In areas of fires, observation is carried out over changes in the situation on the spot and in the regions of their outbreak. First of all the nature of the fire and the direction of its spread are determined. Observation is also established over areas in which fires have been eliminated or localized.

Quiz Questions

1. How is the place selected for a radiation and chemical observation post and what is the procedure for equipping it?
2. What are the actions of an observer upon the "Air Alert" signal with a nuclear explosion, in detecting radioactive contamination and with the appearance of indications of toxic (poisonous) substances in the air?
3. Describe the conducting of observation in regions of natural disasters, major production accidents and catastrophes.

Actions of a Scout as Part of a Reconnaissance Team in Conducting Reconnaissance at an Installation in a Hit Area (Area of Contamination)

A reconnaissance group (team) moves to the assembly area of the suburban zone along with the other installation formations.

The mission of conducting reconnaissance is given to the commander of a reconnaissance team by the commander of the reconnaissance group (the CD chief of staff at the installation). In giving the mission he indicates: The time of passing the starting point; the areas (sections of the route) of possible radioactive and chemical contamination; what specially should be looked for in approaching the strike area, in the strike area and on the territory of the installation; the procedure for maintaining communications and submitting reports; the maximum tolerable dose of radiation.

The commander of a reconnaissance team gives the mission to the personnel of the team, he gives the command to put on individual protective equipment, and to ready the detection instruments, the communications and transport. Having done this, the team carries out the given mission.

In advancing over the route, the scouts, in watching the readings of the instruments, establish the presence of contamination of the terrain with radioactive and poisonous substances.

Having detected radioactive contamination, the scout reports to the commander and the personnel dons gas masks. Then the scout determines the

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radiation level and marks the forward edge of the contaminated area (0.5 R/h). The sign is put up on the shoulder of the righthand side of the road; on an insert to the sign the radiation level is given as well as the date and the time of the measurement.

In the same manner the scout marks the boundaries of zones with higher radiation levels. With high radiation levels the scouts seek out (from the readings of the radiation detection instruments) the direction where radiation levels make it possible to carry out the mission.

The scout marks the direction of a detour with indicators. On leaving the zone of radioactive contamination, the scout marks its rear limit (0.5 R/h). In detecting a toxin, the scout using the chemical detection device determines the type and concentration. The boundaries of contamination (front and rear) as well as the direction of the passage through (detour) are marked by the scout with signs. On the insert of the sign he indicates the type of toxin, the date and the time of detection.

In detecting destroyed areas of the route, rubble, fires in population points and other obstacles, the scout clarifies the nature of the encountered obstacle and its affect on the actions of the installation's formations and seeks out routes for overcoming them (a detour).

The commander of the team reports the situation data on the route to the commander of the reconnaissance group (to the CD chief of staff of the installation), and marks them on the route (the boundaries of areas of radioactive and chemical contamination, radiation levels, the type of toxins, the date and time of their detection, the places of obstacles which have arisen on the route, their nature, the direction of the detour and other particular features).

Having arrived at the territory of the installation, the team works in the area assigned to it for reconnoitering (a shop, a separate standing shelter, building shelter, warehouses, and so forth).

First of all the scouts should determine the radiation level, and the presence and type of toxin (poison). Then they seek out the shelters, they ascertain their state, and the most convenient and safest approaches to them. If the entrances to the shelters are buried, the scouts should locate the heads of the air intake, make certain they are in proper working order, establish contact with the people inside the shelters, establish their condition and determine the conditions for providing help.

The commander of the reconnaissance team marks the situation on a map of the installation (radiation levels, the nature of destruction or fires, the state of the protective structures, the most convenient approaches to the areas of rescue work, places of rubble, damaged pipelines, electric lines, and so forth), and he reports the results of reconnaissance to the commander of the reconnaissance group (to the CD chief of staff of the installation).

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Having carried out its missions, the reconnaissance team can be used for conducting observation on the territory of the installation in the course of carrying out SNAVR or it can be recalled to the assembly point.

Quiz Questions

1. Tell about the preparations of the reconnaissance group for conducting reconnaissance in the assembly area of the suburban zone.
2. What are the actions of scouts in detecting radioactive and chemical contamination on the route?
3. What are the actions of the reconnaissance group in conducting reconnaissance in a strike area (area of contamination)?

§6. Rescue and Immediate Emergency Reconstruction in Strike Areas and Disaster Regions

Principles for Carrying Out Rescue Work in a Nuclear Strike Area

The carrying out of SNAVR is one of the important CD tasks. This work is carried out in strike areas for the purposes of rescuing people, providing aid to victims, preventing an increase in casualties and material losses from the secondary destructive factors (fires, accidents, collapses, poisoning with industrial gases and poisons, and so forth), and creating conditions for carrying out subsequent reconstruction work.

Rescue work includes: Reconnoitering the approach route and the work area; localization and extinguishing of fires on the routes and work areas; locating injured persons and freeing them from rubble, damaged and burning buildings, smoke- or gas-filled areas; opening buried protective structures, supplying air to them and rescuing the people inside; providing medical first aid and physician first aid to victims and their evacuation; the evacuating of the population to safe areas; personal cleansing of injured persons and decontamination of their clothing, decontamination of the territory, transport and equipment.

Immediate emergency reconstruction work includes: Laying column tracks and building passageways in rubble for equipment and transport, shoring up or demolishing structures which threaten to collapse; localizing emergencies on utility networks; temporary restoration of damaged and destroyed communications lines and utility networks for the purposes of carrying out rescue work.

The general units and paramilitary CD formations, as well as the formations of the various services (medical, firefighting, engineer, maintenance of public order, material and technical supply, and others) are involved for carrying out SNAVR.

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Military and national economic equipment available for the CD units and formations are used to mechanize the work. This includes: Earthmoving, road and materials handling machines and equipment, mechanized tools, street spraying equipment, special machines for radioactive decontamination and sanitation processing, firefighting equipment, pumps and motor pumps, mobile electric generators, public and special motor vehicles, and so forth.

Prior to the arrival of the rescue teams (groups), reconnaissance determines the level of radioactive contamination in the area (at the installation), it locates the entrances to the protective structures and emergency exits from them, and establishes the nature of destruction to the structures and the state of the people inside.

The containing and extinguishing of fires are carried out first directly at the sites of rescue work by the firefighting formations with the help of the engineer and rescue formations equipped with mechanized devices.

Small fires are eliminated by the rescue formations using the regulation firefighting equipment and engineer vehicles.

The locating and rescuing of persons from the rubble of destroyed buildings are started immediately as the formations reach the strike area.

In looking for victims, a detailed examination is made of all places where persons may possibly be, above all basements, various depressions and road structures (culverts and pipes), exterior window and stair areaways, and areas near walls in the lower floors and buildings.

The rescuers should periodically make loud signals by shouting or by hitting the elements of rubble or surviving parts of the building. When it has been established that there are people under the rubble, an effort is made to establish contact with them by talking or knocking in code to determine their number and state.

As a rule, the victims are dug out and removed from under the rubble by hand in clearing away the rubble off the top. A victim is first freed from large fragments and rubble and then smaller pieces are removed.

The personnel of the teams digging out the victims is supplied with portable tools convenient for use under close conditions, including: wrecking bars and axes, small sapper shovels, metal and wood cutters, trowels, hammers and drills.

The rescuing of people from destroyed burning buildings is carried out by firefighting formations working together with engineer formations, in extinguishing the fires simultaneously.

In the event of the destruction of stairwells or their individual sections, victims may be evacuated down surviving stairs, down fire ladders, through

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Windows using a mechanical fire ladder, sectional and rope ladders, and truck cherry pickers. Persons may be lowered from the upper floors down an inclined cable using special belts.

In locating persons in smoke-filled areas, the rescuers should work in oxygen-breathing gas masks and carefully examine the rooms, as the victims, particularly children, can be unconscious and be in the most unexpected places. For protecting the victims against smoke, wet clothes or simply pieces of thin fabric may be used, in placing these over the respiratory organs of the victim.

The general formations dig out and open the buried protective structures with the subsequent removal of the persons inside and the carrying out of injured. They may be assisted by firefighting, engineer, and technical emergency formations with aid from the medical service formations.

The locating of protective structures among rubble is carried out according to previously compiled plans and from characteristic signs (emergency exits, air intake, the heads of entrances and so forth). After locating the protective structure, it is essential first of all to establish contact with the persons inside, to ascertain their condition, the degree of damage to the structure and its internal equipment (chiefly the air supply system). At the same time the location and condition of the main entrances and emergency exits are determined, and the place and method for digging out and opening the shelter are chosen. If damage to a gas or water line has been detected close to the protective structure, it is essential to immediately shut off the gas (water) to prevent the structure from filling with gas or water.

If there is no emergency exit, for opening up the shelter, the rubble is cleared away in front of the safety door in the stairwell or in the outside entrance.

If the entrance has been covered by large fragments with twisted reinforcing and this would be difficult to clear away, the shelter may be reached by drilling an opening in the roof or in the wall.

In protective structures with a damaged filter ventilating system, measures should be taken to supply fresh air simultaneously with the digging out of the shelter.

Medical aid for the victims is organized by the formations and facilities of the medical service.

Medical first aid is provided directly at the site of the rescue work by the personnel of the medical teams or other CD formations.

The ability of the population to provide medical self-aid and mutual aid will be of great importance.

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Victims requiring physician aid are carried to loading areas (stations) and transported to the medical first aid detachments or to the medical stations set up in surviving medical facilities of the city.

Quiz Questions

1. Who carries out SNAVR and for what purpose is this done?
2. In what order is rescue work carried out?
3. How are victims rescued from rubble, and from the upper stories of destroyed and burning buildings?

END

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