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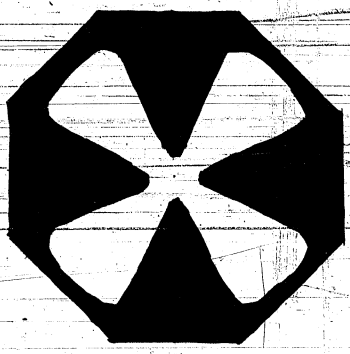
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MONOGRAPH

Enemy Tactics



Headquarters

EIGHTH UNITED STATES ARMY KOREA

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Washington 25, D. C.
ATTENTION: HIS

Reference your letter, subj: History of the Korean War, dated 3 August 1951. Forwarded herewith in duplicate is monograph entitled "Enemy Tactics" to be part 12 of Volume III of the histories of the Korean Campaign.

FOR THE COMMANDER-IN-CHIEF:

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HEADQUARTERS
EIGHTH UNITED STATES ARMY KOREA (EUSAK)
APO 301

26 December 1951

VOLUME III, PART 12

ENEMY TACTICS, TO INCLUDE GUERRILLA METHODS AND ACTIVITIES, INFILTRATION METHODS, AND COUNTER-MEASURES

This monograph was compiled by personnel of the Historical Section, EUSAK and the Eighth Army Historical Service Detachment (Prov). Principal research and preparation of the original draft of the manuscript was the work of 1st Lt John Mewha. Information was secured both from interviews with pertinent personnel and from official documents of GHQ, FEC; EUSAK; and EUSAK subordinate units. The classification of this document is SECRET; handling and regrading will be accomplished in accordance with the provisions of AR 380-5.

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INTRODUCTION

The Communist armies opposing United Nations forces in Korea employed the following principles of war: mass, movement, offensive, surprise, security, simplicity, coordination, and economy of force. In the tactical execution of these principles they agreed in some aspects with western tactical doctrine and differed in others.[1]

Basically the Communist forces, particularly the CCF, followed the military doctrine outlined by Mao Tze Tung on 25 December 1947 as the "ten principles of war by which the CCF fight":[2]

1. "First strike scattered and isolated armies; later strike concentrated powerful enemy forces.

2. "First take the small and middle-sized towns, cities and countryside; later capture the big cities.

3. "Regard the annihilation of the enemy's fighting strength, and not the holding and taking cities, as the major objective. The holding or taking of cities is the result of the destruction of the enemy's strength, and this often has to be repeated before they can be finally held or taken.

4. "In every battle, concentrate superior forces (double, triple, quadruple, even five or six times that of the enemy) to encircle the enemy on all sides, and strive to annihilate the enemy. Destroy part of the enemy forces and move the same troops to wipe out other portions of the enemy strength. Avoid battles of attrition in which gains are not sufficient to compensate for losses, or in which gains merely balance losses. We (Communists) are numerically inferior, but we must secure local superiority in every section and every campaign.

5. "Fight no unprepared engagements. Fight no engagements wherein there is no assurance of victory. Endeavor to secure victory by preparation and staff work.

6. "Promote the valiant characteristics of no fear of sacrifice and fatigue, of continuous action or successive combat actions.

7. "Destroy the enemy while he is in movement. At the same time, emphasize the tactics of attacking positions.

8. "In respect to assault of cities, wrest from the enemy all cities and strongpoints which are weakly defended. When opportunity favors, take similar points which are defended to a medium degree. Strongly held cities and installations can be attacked after conditions mature.

9. "Replenish our army by capturing enemy personnel and material. The source of men and arms of our army is mainly at the front.

10. "Utilize the periods between combat operations to rest, regroup, and train the troops. This interval of rest should not be too long, however. Insofar as possible, do not permit the enemy to have a breathing space."

The CCF used certain armies offensively and others defensively. None was restricted, however, to one type of warfare, because the enemy had to employ all committed armies to fit the immediate tactical situation.[3]

The Chinese Communists developed these principles in war against the Japanese and successfully used them against the Chinese Nationalist Government. Since a large portion of the cadre of the North Korean People's Army served with the Chinese Communist Forces in battle against the Japanese, North Korean tactics employed against United Nations Forces were similar to CCF and Soviet Russian tactics. At the outbreak of hostilities on 25 June 1950, three of the North Korean People's Army divisions committed to action, the 5th, 6th, and 12th, were composed of approximately 60% Chinese Communist trained North Koreans. All Commanding Generals and other key officers of all North Korean People's Army divisions were Chinese Communist Forces and/or Soviet trained. Many North Korean People's Army noncommissioned officers also had undergone extensive Chinese Communist Forces training.[4]

The contents of this monograph is an attempt to show the pattern or trend of enemy tactics successfully employed in Korea. Source materials were obtained from files of the Eighth United States Army in Korea and its component corps; interviews with various staff members; G2 Research

and Analysis files, GHQ, FEC; documents from the Army Translation and Intelligence Section, GHQ, FEC, and translations of captured enemy documents by the 164th Military Intelligence Detachment. Special mention is made of the excellent G2 reports, US IX Corps, entitled, "Enemy Tactics, Techniques, and Doctrine."

CHAPTER ONE

OFFENSIVE TACTICS

SECTION A

Offensive Indications as Determined by United Nations Forces.

Every enemy offensive showed evidence of being a well-prepared, [illegible] attack. [illegible] of surprise was vital to the Communist attack, and the enemy went to great effort to utilize every ruse, in addition to superior camouflage discipline, to prevent his intended action from being revealed. However, certain indications were prevalent before all major attacks on United Nations positions in Korea. Yet no one indication in itself warranted the belief of an impending attack.

1. Enemy regrouping and reequipping.

The receipt of replacements connoted a strengthening of enemy units, and was considered a part of the enemy regrouping activity. This did not always indicate an immediate offensive action, as the replacements were often intended for badly depleted enemy units. Small groups moving to various sections of the front, coupled with other offensive indications, usually pointed to a pending offensive. Units were shifted in accordance with the enemy practice of designating units for offensive or defensive employment. It was necessary to move the offensive units forward prior to the implementation of the offensive. This action usually took place 5 to 36 hours prior to the attack. Withdrawal of the defensive units, thereby breaking contact with UN forces, generally presaged an enemy attack. This proved true in operations since the NAKTONG perimeter period.

5

2. Sensitivity in the direction of known or suspected troop concentrations.

Initially preceding an offensive operation, Communist forces attempted to avoid all contact with United Nations patrols, apparently as an effort to disguise their main intention. Late in the campaign, the enemy used strong screening and delaying forces to shield his rear area activity. After holding for a certain predetermined time, the delaying forces withdrew to new defensive positions. The sensitivity

of the enemy in the direction of his supply bases or troop concentrations was ably illustrated by his resistance to a United Nations drive toward the CHORWON-KUMHWA-PYONGGANG triangle in April 1951. The enemy used a delaying-screening force and then suddenly launched an attack against UN forces.[6]

~~2. Army reserves close to the front rather than in depth.~~

Reserves, within overnight marching distance of the front as contrasted with a deep displacement of reserves for defensive purposes, was an offensive indication. Actual observation of enemy movement was difficult during periods of inclement weather, due to his utilization of darkness, and by his adeptness at camouflage. An increase of troop sightings in a particular area was generally conclusive evidence of an increase in troop strength in that vicinity.[7]

4. Stockpiling of supplies in forward areas.

Until June 1951 the enemy utilized large supply dumps at division and Army (corps) level. Subsequent to that time, the enemy reduced the size of his supply installations and dispersed them widely to minimize the effect of UN air and artillery.[8]

5. The increase in deserters and stragglers apprehended from units not in contact.

Night marches in the rear encouraged straggling and desertion. During the summer of 1951 it was possible to trace the shifting of the North Korean VI Corps from the west to the east front by the capture of stragglers and deserters. The enemy usually informed his soldiers of a future offensive, and some deserted to avoid conflict.[9]

6. Increased guerrilla activity behind friendly forces.

Early in the Korean conflict, guerrilla forces successfully hampered the United Nations supply lines. Prior to an enemy offensive, such activity increased sharply with the primary targets being communications, bridges, and supply routes. Due to the successful screening of all high ground, plus the use of ROK National Police, guerrilla activity was later reduced to a minimum.[10]

7. PW statements of impending operations.

Enemy soldiers were well informed about tactical plans of their units and the overall plan as a result of the Communist political indoctrination method of building up the individual's sense of duty in the operation. Readiness dates were probably given to the enemy soldier rather than the actual attack date.[11]

8. Increased enemy reconnaissance on the front and from rear areas.

Enemy probing attacks and infiltration methods were used to find out troop dispositions, artillery positions, command posts, boundaries between friendly units, and the disposition of ROK units. Enemy agents returned to their lines approximately five days before an offensive, and the probing attacks took place two or three days prior to the attack. When the enemy had the opportunity to reconnoiter an area at will, he attacked advancing UN forces without immediate prior reconnaissance.[12]

9. Use of smoke screens to hide large-scale daylight movements.

The enemy's use of chemical smoke generators was limited, but the desired effect of screening troop movements was obtained by burning dry natural vegetation and debris during periods of extended clear visibility. During 11 to 15 May 1951 the enemy established a smoke screen across his entire front to screen the movement of his forces to the eastern sector of the Eighth Army's front prior to launching his 16 May offensive.[13]

10. Increased propaganda effort to include the release of friendly PWs.

UN capture of enemy PWs who made fantastic claims of a coming offensive coincided with the enemy release of captured United Nations personnel. This was an attempt to undermine the morale of other UN troops.[14]

11. Forward displacement of artillery.

In the past, the movement of artillery into forward areas tended to indicate a strong defense, but the enemy did not support his later attacks with any notable amount of artillery fire. He relied chiefly on mortars and automatic weapons. However, the forward displacement of artillery had to be considered as a potential offensive indication.[15]

12. PW statements as to being issued extra combat rations (up to fifteen-twenty days per man).

The enemy soldier was instructed not to eat his combat rations until a given date which usually was the starting date of the offensive. The number of days' rations issued was indicative of the proposed duration of the attack. Prior to the 22 April 1951 offensive, PWs stated they were issued a six-day combat ration. This attack continued for five days. Prior to the May 1951 offensive, PWs captured in the US I and IX Corps sectors stated they were issued an average of fifteen days' combat rations on or about 10 May. This was prior to their departure from assembly areas for their march to the east. This offensive was launched against X Corps on 16 May, which would have left each soldier with nine days of combat rations if no resupply had been received. The CCF attack was broken up after seven days by a United Nations counterattack.[16]

13. Repair and Construction of roads in forward areas by the enemy.

Besides being an offensive indication, this also pointed out the avenue of approach of the pending enemy offensive. To protect assembly areas and on withdrawals, the enemy made extensive roadblocks and barriers by ditching and cratering roads and destroying bridges. Shortly before launching his attack, the road and bridge damage was repaired. If extensive repairs were necessary, the enemy performed this work at night. At times, Communist Forces had to improve existing roads or construct new roads in order to move artillery and other heavy equipment forward.[17]

14. Sharp increase in refugee travel followed by a drop in this travel.

This indicated a strengthening of an enemy potential in one area. As new enemy units moved forward into position, civilians in the area fled to avoid being caught in the center of any future conflict. As the enemy tightened his security, the flow of refugees fell sharply.[18]

15. The imposition of radio silence by the enemy.

Radio silence was resorted to by the enemy, 24 to 48 hours preceding each offensive.[19]

Steps Taken by Friendly Forces to Counteract Enemy Offensive Indications.

When such enemy offensive indications pointed to an attack at an early date, United Nations forces took certain counter measures to hinder his preparations.

Air attacks were increased on known enemy supply and troop concentrations. An extended aerial effort was made to cut his lines of supply and reinforcements. Night attacks by radar guided aircraft and attacks in adverse weather were made on enemy positions and suspected routes of advance. Evidences of the success of our air offensive was indicated by the enemy's use of secondary roads and trails, his extensive use of camouflage, and his dispersal of troops.

Limited objective attacks and probing attacks by friendly armor in November 1950 and April 1951 kept the enemy off balance and forced him to commit his reserves and attack prematurely.* Undoubtedly this had an adverse affect on the morale of the enemy soldier by forcing him to engage in a defensive action rather than an offensive one. These attacks also made the enemy delve into his stockpiles of ammunition and supplies needed for a sustained offensive.

To determine the enemy's movement and offensive potential, increased intelligence effort was made by United Nations Forces. Agent reports, PWs interrogation reports, air observers' reports and other means were screened carefully. Increased patrol activity was stepped up with many patrols having the primary mission of capturing prisoners. Small probing attacks were conducted to determine the areas in which the enemy was most sensitive.

When the direction of the anticipated enemy attack was determined, friendly forces were shifted to meet the offensive. This in turn enabled United Nations Forces to contain the enemy offensive and, as in the case of the Communist May offensive, mount a counter offensive. 20

*In January and May 1951, UN forces awaited the enemy attack.

SECTION B

Preparation for the Attack*

Prior to launching a major offensive, the enemy carefully planned his every movement. Of utmost importance was his problem of supply. Hampered by persistent United Nations air strikes, the enemy became a master of movement and camouflage due to the constant harassment by bombing and strafing. Supply dumps were destroyed, which placed a strain on preparations for offensive or defensive actions.

The CCF supply system began at the China-Korea border and led to the lower echelons. To expedite the transporting of supplies to forward dumps, North Korea was divided into sections, each with Branch Unit control points. Specific drivers were assigned to each section and drove only routes in that area. This enabled the driver to become familiar with the routes and available concealment, and facilitated the transporting of supplies during the hours of darkness.

The CCF Northeast Military Area Rear Service Department was charged with the transportation of supplies. Supplies were moved into North Korea from China by rail to trucking points where vehicles picked them up and delivered them to dumps located along main and secondary roads. Air sightings revealed that these dumps, on secondary roads branching from principal routes, were clustered at the southern extremities of the roads. This indicated supply routes for the forward units. It also indicated these routes were probably utilized for the flow of troops into various sectors of the front or for the withdrawal of units in forward areas.

All vehicles in a Communist army were organized into four units to facilitate supply. Cart units were organized in each enemy division to supply division, regiments, and sometimes Army units. All carts available within regiments were utilized in these units, supplementing vehicular transportation. Each cart was supposed to travel about 23 miles a day. Also within each regiment were two transportation groups--a wheelbarrow group and a "coolie" or pack laborer group. These were charged with the responsibility of supplying forward dumps. Each unit, company through

where explained ?

*An excellent study, "CCF--NKPA Supply and Transport" was prepared jointly by the G2, 8th Army and the A2, 5th Air Force in September 1951. Reference should be made to this study.

division, sent personnel to the next higher echelon to draw necessary supplies for their organizations.[21]

Constant bombing and harassing by air raids forced the enemy to use vehicular travel extensively at night or in overcast weather and to employ camouflage of tree branches and foliage. To deceive United Nations aircraft, the last vehicle in a convoy sometimes used its headlights to make the pilot of the aircraft think it was the lead vehicle. This caused the pilots to overshoot the convoy. During the day, vehicles hid under bridges, in woods, and in tunnels. Rail travel was also restricted to night movement.[22]

All available bypasses around destroyed bridges and roads were utilized, and squads of enemy soldiers were stationed at bridges to begin repairs immediately after hostile air raids.

Submerged bridges were used effectively by the enemy. Logs were cut and held under the water by rocks and sandbags. However, this method was effective only where the water was relatively shallow and slow-moving. Antiaircraft squads were stationed at key bridges and aerial targets to defend them against attack. These squads remained at the site of the installation even if it had been slightly damaged. If it were destroyed completely, the antiaircraft unit moved to another prime location.[23]

On bridges and trestles along railroad routes, air sightings reported several bypasses and alternate routes constructed. Bridges which were blown were repaired overnight. It was reported the enemy laid his rails on top of the wreckage, permitting travel to continue, although dangerous.

Each enemy company and regiment was required to have seven days' combat rations on hand; each division, ten days'; and an army from one half month to one month. Storage shelters were dispersed, and each shelter was supposed to contain no more than ten thousand catties (approximately thirteen thousand pounds) of food. Each dump was located in a place easily camouflaged, readily accessible to vehicles, and so located that troops were able to draw supplies at any time. A few prisoners of war stated that in some cases there was a system of night truck delivery from division dumps to regimental and, in some instances, battalion dumps. This type of supply system was the exception rather than the rule.[24]

As a direct result of rapid advance and constant harassment by United Nations air and artillery, the enemy had to procure foodstuffs locally. Some was obtained from Korean farmers by kindness, coercion, or outright business transactions. Political instructions emphasized the necessity for cordial relations.[25]

SECTION C

Movement to the Assembly Area

The smallest enemy unit to be assembled for an offensive was usually of corps strength. Sub-units in outlying bivouacs one night's march away (15-25 miles distance) were ordered to assembly areas, which were normally favorable points near United Nations positions. During the approach, two divisions moved forward with the third in reserve. When the main line of the United Nations resistance, or when formidable hostile resistance was encountered, one division spread out to assume the responsibility for the entire front. The second division withdrew to the area of the reserve division to prepare for the pending attack.[26]

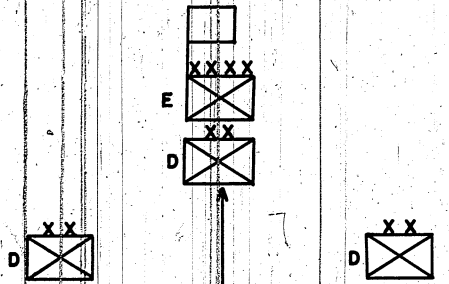
In the movement to the assembly area, multiple columns--each of battalion strength--were used. Prior to movement, reconnaissance elements scouted out the routes of approach and any suspected hostile positions. A point, three to fifteen men, was sometimes used at the head of a regimental column followed by an advance guard. The point preceeded the main column 1000 to 1500 yards. Very little emphasis was placed on flank security; although during tactical marches, a part of an antitank company, armed with 37 millimeter guns, was attached to the advance guard or divisional main columns. In open terrain, the antitank company was employed on parallel roads as flank security. If a small United Nations group was encountered, a small force was sent to engage it while the main body endeavored to bypass the resistance.[27]

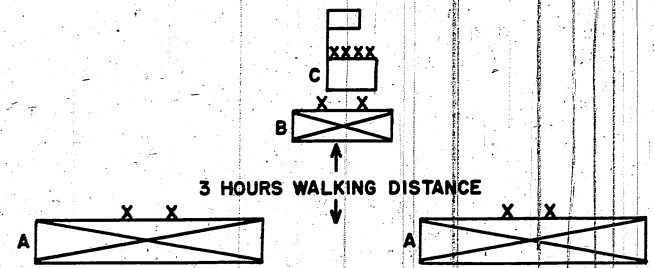
In rear areas, most units marched in a column of twos or a column of files on both sides of the road. In forward areas, the men in the battalions marched in single file on one side of the road to minimize casualties from air strikes and possible artillery fire. This also facilitated control. The standard distance between enemy soldiers during the march was three to five paces; between platoons, eight to ten yards; and between companies, ten to fifteen yards. The distances were dependent upon the amount of illumination, since most moves were made at night. Marches usually started about 1630 hours and continued until daybreak with brief five-to ten-minute rest periods given to the men every hour.

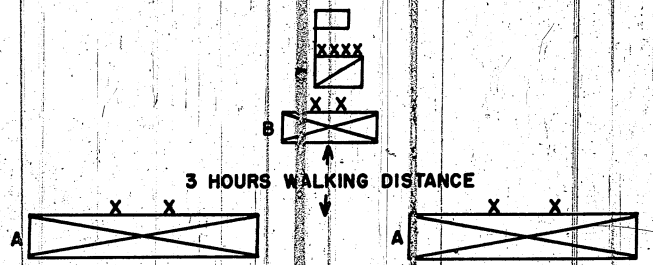
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SYMBOLS

A- DIVISION IN ATTACK
B- RESERVE DIVISION OF ATTACKING ARMY
C- ARMY HQ OF ATTACKING ARMY
D- DIVISIONS OF RESERVE ARMY
E- ARMY HQS OF RESERVE ARMY







POSITION IN THE ATTACK

SECURITY INFORMATION

SECRET

While the troops were resting, guards were not employed for local security because of the prior reconnaissance.[28]

During night movements, the enemy generally utilized secondary roads and trails. Villagers provided the enemy with information regarding locations of United Nations troops, and sometimes native guides were employed. Routes of approach were marked with blazed trees, rocks, and sign markers. Some captured PWs reported the use of a luminous substance, easily discernible at night, to mark trails.[29]

During the march, strict discipline was exercised by enemy troops. The men were cautioned about loud noises, smoking, talking, and the display of lights. Communications during the march were conducted either orally or by written messages delivered by runners or horse-mounted messengers. At higher echelons, radios were used. Often at night, the individual soldier wore a white armband to facilitate control.[30]

Air observers, posted on high ridge lines during the march, fired warning shots when a hostile plane was sighted. A soldier on the next hill, hearing the shot relayed the warning by firing another shot; thus the entire column of marching troops was alerted for an anticipated air raid.[31]

Only under the most trying circumstances were vehicles used to transport troops, and even then it was generally limited to transportation of the wounded. In spite of this, enemy units advanced from rear areas to the battle zone at the rate of 25 miles a day. United Nations air strikes did not seriously impede their movement at night.[32]

Some daylight moves were made during adverse weather conditions or under the cover of smoke. The enemy, lacking smoke producing materials and equipment, created smoke hazes by resorting to widespread forest fires and the firing of villages during periods of relatively little wind velocity. To insure against a possible wind shift, enemy infiltrators set fires behind enemy lines to assure a continuous smoke haze. However, during the Communist May offensive, daylight moves were made in good weather. The enemy troops marched in a single continuous column with 25 to 40 yards between men. Strafing attacks were ineffective as the enemy soldiers squatted in ditches during the attack and then moved

on. This indicated a high state of discipline.[33]

Two assembly areas were used. The first was an area approximately 25 miles from the front lines where battalion-size units assembled and received orders from a divisional staff officer, through the Regimental CP, to march to a designated area. Escaped American soldiers reported a large orange light, about five feet square, on the top of a hill facing in the direction of the enemy's rear lines.* Large troop concentrations with pack horses were gathered in the vicinity of the light, indicating that the light might have designated an assembly area.[34]

Before launching a large-scale attack, the enemy attempted to evacuate all civilians in and around his area, and prohibited the entrance of civilians into the sector. This was done to counter United Nations espionage activities. The evacuation of civilians took place one month prior to the launching of the attack or for security reasons.[35]

A second assembly area, the regimental area, was generally the bivouac area. The distance of this area from the front lines varied from 7 miles to 1½-1⅔ miles. Attack battalions were later sent to a point from which the attack was launched, and they may have accounted for the recorded closeness of United Nations lines. Some units, however, designated areas other than the bivouac areas, and the subordinate units moved to them in separate columns. This indicated an amount of flexibility on the part of the regimental or divisional commander in selecting his own area prior to an attack. These areas were selected out of the range of United Nations artillery, where air spottings were impossible, and beyond the normal distance of United Nations patrols. However, prior to the 1 January 1951 attack, enemy troops moved into trenches within artillery range and remained undetected all day.[36]

During the early phases of the Korean conflict, the most heavily vegetated portions of a hill or mountain were selected as the bivouac site. This was done to minimize the effectiveness of United Nations air attacks. Fox holes were dug and camouflaged, and about ten to twenty guards per regiment were posted on the high ground around the area. With the increased effectiveness of United Nations air power, the enemy resorted to digging his bivouac positions in valleys and around bombed or burned-out

* Such light was only reported once.

villages. PWs stated UN planes usually bombed and strafed mountain tops rather than valleys and previously bombed villages.

The enemy also used the reverse slopes of hills and draws along the routes of advance as assembly points. Closely bunched, shallow fox holes were dug commencing at the line of foliage, but these extended only a short distance toward the crest. These emplacements were for protection against air and artillery fire. Beyond a few hundred feet, observers found these positions difficult to detect.[37]

Countermeasures Taken by United Nations Forces to Prevent Enemy Movement

United Nations Forces used various methods to detect and prevent enemy movement to the front. The use of night bombers and interdictory artillery fire on suspected enemy routes of advance were the chief means.

By the use of radar, night bombers were guided to enemy troop concentrations and supply points. Captured PWs testified to the accuracy of these raids, and pilots reported secondary explosions in some sectors. Flare ships were used to illuminate areas so that fighter-bombers could more effectively strafe and bomb enemy troops.

Interdictory artillery fire was used by United Nations Forces on all likely routes of advance and on suspected enemy assembly areas. However, enemy prisoners indicated that they had been able to march into attack positions through artillery fire simply by studying its pattern. Usually enemy assembly areas were selected outside the range of friendly artillery, so too much importance could not be placed on this countermeasure.

Night patrols were used to note enemy movement. Patrols consisting of American and Republic of Korea soldiers were dispatched behind the enemy lines to note enemy troop movements and assembly points. These patrols, equipped with radios, were successful in calling down artillery and airstrikes on enemy troop concentrations.

Artillery and 81mm mortar illuminating flares were used to reveal enemy troop movements in close proximity to United Nations lines. Searchlight companies were also used. On dark nights, searchlights reflected against low-hanging clouds gave the effect of a moonlit night, but it did not prove too effective for aerial observation.[38]

SECTION D

Reconnaissance

The enemy division or Army which made initial contact with United Nations forces and assumed responsibility of the front conducted extensive reconnaissance missions and light probing attacks. There were many similarities between Chinese and North Korean reconnaissance; however, because of some basic differences, an attempt has been made to treat each separately. A captured Chinese manual translated into Korean revealed basically the same objectives to be reconnoitered and the same methods of reconnaissance. Movement of hostile troops, hostile positions, engineering works, and fire power were all of primary concern. In addition, the units selected the break-through point, point of attack, unit cover, routes of march, and the attack commencement point. Reconnaissance in force was used to learn the hostile strength and deployment of firepower. Observation posts were used to note enemy movement, and all officers were required to conduct reconnaissance and to know the terrain and the hostile situation.[39]

CCF Units

Reconnaissance units were organic in the Chinese Communist Forces from Army group through regiment. The size of these units ranged from a platoon at regimental level to a battalion at army group. Reconnaissance elements were triangular in structure and were built up from a basic unit of two officers, and three ten-man squads. One-third of each reconnaissance unit was issued civilian clothing and performed missions in a semi-agent capacity behind hostile lines.

The primary responsibilities of Chinese Communist Forces reconnaissance units other than those issued civilian clothing were to make terrain reconnaissance, obtain road guides, and guide units to positions. They reconnoitered to within a few thousand yards of the United Nations positions but rarely made contact or engaged in combat patrolling. It must be taken into consideration, however, that the enemy's preliminary tactical reconnaissance prior to an engagement in the past was effective and persistent. The reconnaissance of positions of the US 2nd Infantry Division at KUNURI before the main attack was made by three to five

detached groups of five or six men advancing in an upright position in single file or sometimes bunched until hostile fire was encountered. They approached as close as 20 yards before being recognized as enemy. After drawing fire, the enemy then withdrew and moved along the front lines to the next suspected United Nations positions. At no time did the enemy reply to United Nations fire, and at times they appeared to be unarmed.[40]

The reconnaissance group with civilian clothing was also given this mission which was performed by three or four men at night. The enemy squad fired indiscriminately at suspected hostile positions in an attempt to have United Nations forces disclose their positions by returning fire. This procedure was repeated along different sections of the front. As a result of these probes, the group attempted to infiltrate and reconnoiter behind United Nations lines. Some of these agents wore ROKA, US or civilian clothes. In some instances, these small patrols marked the location of United Nations mortar and artillery targets with bursts of automatic fire into the target areas. These locations were passed back by outguards and observation posts.[41]

As an advance patrol or while acting as guides, three-man reconnaissance teams preceded the main body by a distance of about 3000 yards and reported back each hour. If the patrol failed to report back, the main body halted and another three-man patrol was dispatched. If hostile units were sighted, the reconnaissance groups were ordered to return to the main body.

It was common practice to send one reconnaissance squad to accomplish a mission, although on some occasions a unit larger than a squad was dispatched. As few as one or two men were sent to make a terrain reconnaissance. In hostile territory, enemy patrols split up and each man reconnoitered a certain section. Upon completion of the mission, the patrol reassembled at some predesignated spot and returned to its parent organization. Reconnaissance elements also established liaison with other units in the area.[42]

North Korean Peoples Army Reconnaissance

Reconnaissance units of the North Korean Peoples' Army were organized within the structure of every echelon from corps to company level.* The North Korean Peoples' Army corps and divisions had a reconnaissance battalion; the regiment had a reconnaissance company; the battalion, a platoon; and the company, a reconnaissance squad. All such units were attached to the headquarters of each echelon and were employed by their respective commander.

Three common types of missions were performed by North Korean reconnaissance units. First, a political reconnaissance was made to determine the trends, political thoughts, and the caste system of villagers in the area of proposed attack. The local Korean Labor Party and its sympathizers were contacted, and the political tendencies of the area were analyzed. The members of reconnaissance units were usually Korean Labor Party members or known Communist sympathizers of proletarian origin. The members were thoroughly oriented before each mission of this type with the Communist doctrine so that they were capable of indoctrinating local citizens and gaining their support. Political officers led political reconnaissance groups.

A second type of mission was intelligence reconnaissance. The primary concern was to capture United Nations classified documents and to collect order of battle information. This mission was accomplished by infiltrating United Nations positions, using local Korean Labor Party members and sympathizers as scouts. In combat, local citizens, classified as low level espionage or tactical information agents, were utilized because of their knowledge of the surrounding terrain and language. Political and military officers led the intelligence reconnaissance missions.

The third type of mission was similar to that of Chinese Communist Forces reconnaissance units. It was armed reconnaissance to determine hostile firing positions. Weapons were fired indiscriminately in the direction of suspected UN positions, and return fire was carefully noted. This type of mission was led by military officers.

* In the CCF, the organization of reconnaissance units extended to regimental level only.

When a unit commander was given an objective, he called upon his respective reconnaissance unit to determine the political trends of civilians in the area and any hostile positions. Before the mission, the group was given a map orientation on terrain features in the objective area, and every member familiarized himself with the conditions of the approach. A rigid physical inspection was made of each unit member to eliminate anyone who might hinder the assignment. Each man was issued three to five rations depending upon the length of the mission. Men on the patrols were taught simple English or Korean phrases to use on infiltration missions to deceive United Nation guards. Before leaving on the mission, a last minute Communist indoctrination talk was given by the political officer, and each group was made to repeat its mission and general orders.[43]

The most advanced echelon was a patrol consisting of three to seven persons led by a squad leader. The patrol was about 300 yards ahead of the squad, which in turn was about 600 yards ahead of the platoon. Some advance units had a supporting group to cover the advance of the reconnaissance patrol, and an obstacle clearing group to remove any obstructions, such as barbed wire and mines, in the way.

An intelligence patrol consisted of a confiscation group and a raider group. The confiscation group had the mission of capturing enemy documents or obtaining order of battle information by infiltrating enemy lines. The raider group had the mission of protecting the confiscation group within UN lines. Passwords used among members of the reconnaissance units were normally names of trees, rivers, towns, areas, etc., depending on the unit to which it was attached. On three-to five-man patrols, each member was numbered according to the rank held by him in the patrol.

Passwords were also used among local citizens who acted as temporary or low level agents. Often small patrols held the family of a temporary informant as hostages until the assigned mission of the informant was completed. Upon detection by hostile forces, the members of the reconnaissance unit would discard all weapons and act as refugees.[44]

Engineer Reconnaissance

In a normal situation, the engineer combat battalion in support of a North Korean division was habitually allocated to subordinate regiments and functioned under the control of the regimental commanders within the general limits of the division field order. The mission of the engineers in regard to reconnaissance was summed up in an excerpt from a captured enemy document:

The engineers...will discharge all duties (engineer reconnaissance, fortifications, road building, crossing rivers, building bridges, camouflaging, reconnaissance for drinking water...) pertinent to activities of the other arms.

North Korean engineer reconnaissance patrols normally operated at night and penetrated as far as six miles into hostile territory or to a distance that permitted return to the assembly point within eight hours after departure. The mission was generally to secure information of engineer interest. The location, nature, and extent of hostile obstacles and mine fields; the existence of signal devices and booby traps and feasible methods of breaching such obstacles; the type and nature of hostile weapons emplacements; potential routes of attack, conditions of roads, and the location of river-crossing sites; water points and their location; and similar data of engineer importance were gathered. During the reconnaissance, North Korean engineers performed simple road and bridge repairs along future routes of advance but more extensive repairs were left to regular pioneer teams of the divisional engineer battalion.

In addition to the reconnaissance missions stated above, enemy engineers were also called upon to conduct special reconnaissance operations having limited and specific objectives. Road reconnaissance, bridge reconnaissance, reconnaissance for a stream-crossing point, and reconnaissance of hostile obstacles all fell into this category.

When reconnoitering a road prior to an advance, engineer patrols determined the roads load capacity, the condition of the road and the

necessary repairs, whether such needed repair materials were available, the location of roadblocks and mines and how they could be detoured. Bridges and possible fords were reconnoitered, and the availability of materials needed to repair the bridge or to construct ferries was noted. Upon completion of the mission, a reconnaissance sketch was submitted to the division engineer officer.[45]

Miscellaneous

Observation Posts

Both Chinese Communist Forces and North Korean Forces utilized observation posts. Several observation posts were prepared on high ground in one definite sector. Each was selected with the enemy's operation and strength in mind and was well-camouflaged. Each observation post consisted of three members, two reconnaissance personnel and one staff officer. The method of observation was determined by high ranking officers only, and the mission of the observation posts was to obtain intelligence pertaining to both communication and the mission of United Nations Forces. When available, compasses, telescopes, and Very pistols were used in making observations.[46]

At night, the enemy used ruses to locate United Nations artillery positions. Friendly artillery fire was adjusted on what appeared to be lights of enemy vehicles. The next morning, a thorough reconnaissance of the area produced negative results. Because of the close proximity of the lights to the front lines, it was believed that the enemy simulated the vehicle lights to draw United Nations artillery fire and thus, by sound and flash, locate the gun positions.[47]

Patrols

The Chinese Communist Forces and North Korean Peoples' Army placed more weight on information gathered from civilians and reconnaissance patrols than on the results of their probing attacks. Another important source of information to the enemy was captured United Nations personnel. The enemy selected the time of arrival of United Nations forces at a new place as the opportune time to capture prisoners. United Nations personnel away from their unit, stragglers, and wire men were desired prisoners.

Patrols were instructed to cut telephone lines and wait to capture the linemen.

Prior to departing on a mission to capture prisoners, the patrol determined the weak point in the United Nations defense line and selected routes of approach and withdrawal. A rendezvous point was also selected.[48]

A captured prisoner from the Reconnaissance Company, 15th North Korean Division, stated that reconnaissance units employed a capturing team which consisted of three groups with one leader. A support group of three men chose a location from which it could support the other two groups. Its primary mission was to engage United Nations Forces, if necessary, to allow the group which was to take the prisoners to go as far as possible. A capture group of three men, led by the team leader, had the mission of capturing one enemy soldier while the other groups covered. When the leader spotted hostile soldiers, he gave a signal by whistling or using a pass word.

The capture group never attempted to capture more than three enemy soldiers because this increased the possibility of failure. When two or more United Nations soldiers were captured, one was kept and the others killed. After the capture group started to withdraw, the attack group of three men, which always worked with the capture group, remained in position to protect the capture group from a possible United Nations attack.[49]

Daylight patrols consisted of approximately eighteen men, half of whom were dressed in civilian clothes.* These were either unarmed or armed with pistols. The members of the patrols dressed in civilian clothes were usually North Koreans, and these attempted to infiltrate United Nations lines. The remainder of the patrol waited for their return and furnished supporting fire if needed.[50]

Enemy patrol formations seemingly always assumed a column formation with the squad leader at the head of the column. If a three-column formation was employed, he assumed a position at the head of the center column. Chinese Communist Forces patrols appeared always to take the shortest route to their objective regardless of cover and concealment, and

* More men were used on night patrols.

returned the same way. The selection of routes differed with various units. Security guards were not employed as such, and a point or rear guard was rarely used.

Avoiding defiles and crests of ridges was a characteristic of enemy patrols when moving through mountainous terrain. Usually two parallel files were used to move forward just below the ridgelines of the mountains forming the defile. At night, each member of the patrol kept a three- to five-pace interval from the man in front, and in daylight, from ten to twenty paces. [illegible] of the parallel files with [illegible] between the squad leader and his assistant. Each led a file. Prearranged signals controlled the patrol—lighting of matches, blinking a flashlight, clapping hands, or whistling.

If the patrol was forced to move through a defile, a three-man point was sent fifteen to twenty meters ahead of the main body. If it received fire from the surrounding hills, the main body rushed through or withdrew. This action depended on the importance of the mission and the amount of fire received.

When the patrol squad moved across flat open terrain, it split into three columns. The squad leader led the three-man center column. The two flanking columns, consisting of three men each, moved slightly ahead of the center column. The assistant squad leader either led one of the flank columns or followed at the rear. Distance between the men and columns depended on the distance from the center column and the ability to hear the squad leader's signals. Audible signals were used in the open rather than visual means. Similar formations were used by enemy patrols while moving through wooded areas. Control was maintained by whistling and lighted matches.

When a reconnaissance unit reconnoitered a ridgeline or high hill, a squad was normally sent out. When it reached the foothills, two patrol members took up posts at the base of the mountain and observed both sides of it. The remainder of the patrol gradually moved up the side in a single file. When the enemy reached a point near the center of the crest and just below, the patrol turned ninety degrees and moved

in a single file straight up the crest. If the mountain was clear of hostile troops, the two outposts at the base were signaled to join the patrol. If a further reconnaissance was needed, the patrol proceeded. If not, it returned by the same route.

Unit control appeared to dictate the formation used by reconnaissance patrols. If a fairly wide area to reconnoiter was given a patrol, three or four members, with the assistant squad leader, were dispatched to reconnoiter the prominent terrain feature. The remainder of the patrol remained in a defiladed position to the rear. If the area was clear, a message or signal was sent back to the squad leader. If United Nations forces were sighted, a member of the first group was sent to warn the remainder of the patrol while the rest continued to observe. Usually enemy reconnaissance patrols withdrew if they saw hostile forces in any strength. Rarely were members left to continue observation.

If hostile forces were not sighted, another three-man team was dispatched to another area on the flank, and the squad leader took two men and reconnoitered an objective in the middle. Each team was given a time limit to check its area, after which it awaited a signal, either visual or audible, from the squad leader. When the signal was received, the two teams proceeded to where the squad leader was--the point of rendezvous. The entire patrol then returned to its unit by using the same route of approach.[51]

Probing Attacks

Enemy probing attacks were used to locate United Nations strong points and weapons; to determine United Nations strength; to create diversions; to throw the opponent off balance prior to the main attack; and to determine the junction of units. Enemy probing attacks were ordered to determine the junction point of ROKA units and other United Nations forces. In the past, ROKA units habitually assumed perimeter defenses at night without contact with other units on line or with its reserves. Lack of physical contact or close liaison had been caused by wide frontages and difficult terrain. Because of this, a series of strong points with wide gaps existed between units.

Probing attacks were made anywhere from two weeks prior to an attack to immediately preceding a main offensive. The size of the probing unit varied from a platoon to a company depending upon the judgement of the enemy division commander. Later in the campaign, enemy attacks increased in size, using larger units than those employed by United Nations Forces. An enemy regiment attacked a UN Battalion, and a battalion attacked a company. Strong probing attacks took place about 1/2 hour to 1 hour after an intense preplanned supporting fire. Close liaison was maintained by messenger with the main body, located from 30 to 300 yards to the rear.

From the enemy unit, small groups were organized and a triangular formation employed. These groups tried to avoid the front of a strong point and circled to the flanks or rear using the base of a hill as an avenue of approach. Hills and woods were avoided to prevent any possible noise. When contact was made with United Nations troops, action was swift and the enemy adopted a scattered formation. If United Nations forces withdrew, the probing force occupied the position until relieved by the enemy's main force. If it were unsuccessful, it attempted to capture prisoners and return, unless the opportunity for encirclement occurred.

52

Countermeasures Employed Against Enemy Reconnaissance

United Nations Forces employed air observation using flares to detect enemy reconnaissance patrols. Harassing artillery fire on likely enemy approaches and suspected enemy OPs aided in counteracting the effectiveness of enemy reconnaissance. Counter-reconnaissance screens, sufficiently in advance of friendly lines to intercept enemy patrols, prevented the enemy from gaining information regarding United Nations positions.

Because of the enemy's stereotyped way of using the approach of shortest distance and his lack of all-around security, ambush patrols were easily employed.

Friendly defense perimeters in depth, with physical contact between

units and prearranged fields of fire, prevented enemy patrols from determining friendly boundaries. Rigid control of fire also denied the enemy this information. Only troops immediately to the front of the enemy's probing action fired on him. Friendly flank elements held fire except in the face of a sizeable enemy attack. 53

SECTION E

Enemy Movement to the Attack Point

After the screening army or division which had assumed responsibility of the front had completed its reconnaissance, the two reorganised armies or divisions in the rear moved to an attack point. One of the two divisions was committed to a thrust on a maximum frontage of about three miles, usually through a weak point in the United Nations line. This point was preferably at the boundary of two units or a portion of the front defended by ROKA troops. 54

The attack point was usually near the juncture of two United Nations forces where it was difficult for one to support the other by fire, or it was near a point of shallow depth in United Nations strength. Salients were also selected as a departure point as it aided enemy supporting fire and hindered United Nations observation. Routes of communication were usually avoided. 55

Prior to the movement to an attack point, enemy troops were issued from five to seven days' combat rations and were warned not to eat them until needed. Battalion commanders were given their zones of attack at the assembly area. In movement from the assembly area to the attack point, multiple columns were again used, each in battalion strength. The columns showed no increase of emphasis on flank security, however, the rate of advance was reduced to about 2500 yards per hour. At 2000 hours, three squads were sent out within audible distance of the advance squad and about 200 to 300 yards from the center of the column. The route of advance avoided highways and flat terrain. 56

About 2000 meters from hostile line, the enemy troops were given a short rest period and were allowed to eat one combat ration. At this point, company commanders were given their orders and took over from the battalion commanders. Method of attack and the time element were controlled by the division commander. No flexibility was permitted the battalion and company commander in this respect. Platoons maintained liaison with company headquarters by runner and deployed by squad columns to the left or right with intervals of fifty to one hundred yards between squads according to the terrain. The first squad used a

line formation, the second squad a triangular formation, and the third squad echeloned to the left. Supporting weapons were set up, and individual squads crawled as close as 800 yards to United Nations lines where they awaited the signal for attack.[57]

SECTION F

The Attack

Frontages in the attack

In the attack, a Communist Army had a front of not less than twelve miles. The maximum division front was usually six miles, although on occasions, an enemy division conducted a thrust on a maximum three mile front. An enemy infantry battalion usually attacked on a 400 to 600 yard front, but in one instance a battalion attacked on a 300-yard front. This battalion was also approximately 400 yards in depth. An enemy company area varied in width from 100 to 600 yards depending on the terrain and the strength of the enemy. At night, troops were deployed over a large front, causing United Nations forces to distribute their fire. 58

During an offensive action, the enemy battalion commander usually took a position to the rear of his observation post about 100 yards from the attack point. Similar to our tactics, the regimental commander was found anywhere from the regimental CP to the battalion CP or from 200 to 2000 yards from the front. The division commander was located anywhere from the division rear area to the regimental CP during the attack or from 1000 to 8000 yards from the front. The regimental observation post was usually located about 200 yards from the front lines, whereas the division observation post varied from 800 to 2000 yards from the front. Movement of command and observation posts was conducted only by orders of the next higher commander. 59

The Assault Force

Multiple penetrations of United Nations line in a given sector were attempted by enemy forces. These were normally followed by an envelopment of the hostile flank. The attack formations were organized in great depth and continued their assaults by the passage of reserve units through the troops in contact. The depth allowed for a degree of flexibility in exploiting a penetration at will.

CCF units attacked frontally, employing a skirmish line varying from twenty to sixty men. Ineffective marching fire was used. During the day, the skirmish line approached to within 300 yards of United Nations positions before opening fire; but at night, it approached as close

as 20 yards to friendly positions. In many cases, the initial assault wave was not armed with individual weapons but just carried grenades. Rifle fire, mortars, and machine guns engaged and fixed United Nations elements in support of the assault force.

In the frontal attack, the skirmish line was not always used. For example, in several instances CCF columns moved down the ridgelines toward friendly lines in columns of twos and fours. In another action, an enemy platoon charged United Nations positions in a single file.

When the enemy skirmish line was fired upon, it halted and the men took cover by laying prone on the ground. When the hostile fire lifted, the skirmish line moved forward again until it received fire. When some enemy soldiers were wounded, others took their places from defiladed positions.

In some attacks, the assault force utilized a wide-front and a shallow-depth formation. The first echelon deployed two-thirds of its strength. For example, the first line of a division deployed two regiments, and the first line of the regiment deployed two battalions. This continued down to smaller units. The mission of the second echelon was to mop up, capture prisoners, and observe disorganized United Nations forces. In the main line of attack, strength of the enemy units was distributed in depth. Only a few men with automatic weapons were used in the initial assault.

The battalion secondary echelon stayed in line as much as possible with the main direction of the attack. Regimental and divisional secondary echelons also attempted to keep in line with the main direction of assault carried out by battalions and regiments. When the penetration was accomplished, battalions through platoons continued to search for weak points so the attack could be continued successfully.

Another method of assault on United Nations positions revealed that a twelve-man enemy squad, each armed with a submachine gun, deployed to a base of a hill defended by friendly troops. A base of fire was placed on United Nations defensive positions by the squad while the remainder of the attacking company moved up the face of the hill in nine columns of three-man assault teams. These columns were distributed

across the front.

When an assault failed, enemy troops withdrew by leapfrogging. If the assault troops were forced to disperse, they reported to the rear of the enemy lines for reorganization. 60

Mass Wave Tactics

When mass wave tactics were mentioned, one pictured a human sea of bodies overwhelming friendly positions. This was far from correct.

In the initial phases of the Korean conflict, North Korean Forces utilized a tactic which might easily be thought a human wave tactic. Attacks on United Nations positions were made in waves. The first wave was composed of young Koreans with very little training in the art of warfare. Each enemy soldier had a rifle but did not fire it. These were easily mowed down, but a costly ammunition expenditure resulted. A second wave of slightly more experienced Koreans who fired but seldom aimed their rifles took their place. These, too, were easily stopped but more friendly ammunition was expended. The third and fourth waves were still slightly trained troops. When United Nations firepower slackened due to the lack of ammunition, seasoned North Korean troops overran the positions. These frontal attacks were usually accompanied by flanking attacks.

In the latter phases of the conflict, the enemy deployed in depth and employed numerous waves of troops depending on the formation of the United Nations defensive positions. As a rule, too much strength was not concentrated in the spearhead of the attack. The terrain determined the number of men used. If the leading element failed to break through United Nations lines, a second and third wave were used until a breakthrough was established. The distance between these echelons was so determined that United Nations artillery fire could never cover more than one echelon.

In one Chinese assault, small groups of enemy grenadiers, armed with bags of 20 to 30 potato-masher type hand grenades, attacked United Nations strong points and main positions. Enemy troops armed with

submachine guns supported their attack. Heavier automatic weapons supported the attack from the flanks. The grenadiers and the troops with the submachine guns advanced at a walk using marching fire. As some were killed, others took their places from defiladed positions. Chinese Communist Forces accepted heavy casualties until the defending forces ran out of ammunition and were forced to withdraw. When enemy troops approached close to United Nations positions, they seldom used bayonet charges. In the attack pattern infantry assaults followed an artillery or mortar barrage.

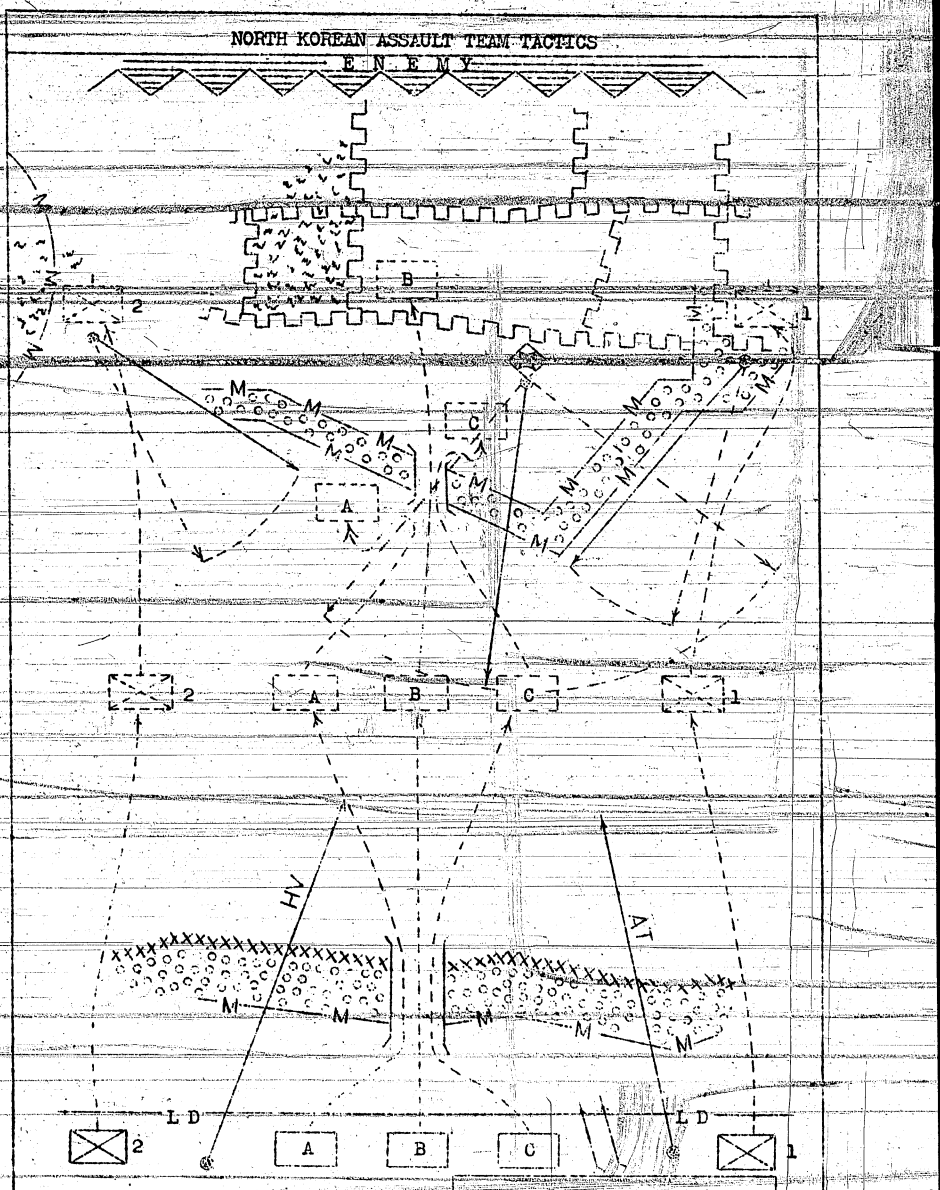
Prior to May 1951, the Chinese Communist Forces had the objective of overcoming United Nations forces of division size. One PW from the 26th CCF Army remarked: "The objective of the CCF will be to destroy US manpower....Previously the CCF used large units such as three CCF divisions to one US division. In this manner the CCF expected to overcome the US with a sea of men. However, when the CCF concentrated such large numbers of men in a small area, it made them vulnerable to the US 'sea of fire' (artillery).... the CCF will now concentrate on the destruction of units, attacking one US company with three CCF companies or one US battalion with three CCF battalions. The main emphasis will be on destroying small US infantry units, and to avoid concentrating large numbers of CCF troops where the US can bring its superiority of artillery into effect."

Massed manpower was used after May 1951 by the Communist forces to destroy individual small United Nations units.[61]

Penetration of Mine Fields

The Communist engineer doctrine held the engineer staff responsible for breaching obstacles, neutralizing hostile field fortifications, and preparing a route of advance for the attacking infantry. Because of the shortage of engineer personnel, each combat unit was required to clear obstacles and mine fields in its own sector. Enemy engineers applied their efforts only in the sector of the main advance. If time permitted, minefields and obstacles were removed over a broad front, but usually, only a sufficient number of paths were cleared for passage of the assault troops.[62]

NORTH KOREAN ASSAULT TEAM TACTICS



SKETCH PREPARED BY ATIS - GHQ, FEC
FROM MATERIAL OBTAINED FROM ENEMY DOCUMENTS
REF: ENEMY DOC #29 P8

SKETCH 1

Both Chinese and North Korean units sacrificed small details by sending them through suspected and known minefields to explode mines by stepping on them. Mine fields were determined by the enemy from interrogation of prisoners of war, local inhabitants of the area, observation of United Nations movement, and by estimating and evaluating the terrain and material found. In the early part of the conflict, the enemy also rounded up thousands of civilians and drove them through minefields to detonate any trip flares, anti-personnel, and land mines.[63]

Another method of clearing mine fields by enemy troops was the use of wire nets to which a powder charge was attached. The wire net was laid over the mines and then the powder bag was exploded. The downward pressure of the net exploded mines in the minefield. The enemy also probed minefields using reconnaissance by fire. When a firefight took place between United Nations and enemy forces, enemy infantry units fired machine guns, tossed grenades, and fired 60mm mortar shells into the minefield in an effort to detonate the mines. Bangalore torpedoes, long pipes filled with explosives, were also used once a minefield pattern was determined. When one was slid into the mine field and exploded, it caused all mines within 1.5 yards to detonate. When hand probing was done, the enemy soldiers kept a sufficient interval in case one man detonated a mine. When this happened, the other men closely checked the area for other explosive charges. Hooks on long poles were also used for tripping cords attached to UN booby traps.[64]

Enemy skirmish lines in attack were proceeded by small units, which had the primary purpose of clearing obstacles and destroying United Nations firepower.

North Korean divisions organized assault units comprised of engineers, infantry, and supporting arms. These units had four elements: an obstacle clearing team, consisting of an engineer squad, which cleared and marked paths through hostile obstacles; a demolition team, consisting of an engineer squad with two flame throwers, which neutralized pillboxes; a capturing team, consisting of a rifle platoon, which attacked United Nations infantry in an effort to isolate a strong point and prevent

reinforcements; and a firing team which supported the rest of the assaulting force with a base of fire.

Under the cover of supporting machine gun fire, the obstacle clearing team marked a path through mine fields and obstacles. When it had completed its mission, it signaled the demolition team, which, utilizing all available cover and dead space, advanced by leaps and bounds. Reaching the objective, the latter attacked fortified positions with grenades, demolition charges, and flame throwers. The capturing team advanced with the demolition team and destroyed United Nations weapon emplacements and isolated the objective from its supporting infantry. It also supported by fire the assault force and prepared for any United Nations counterattack. During this operation, the firing team supported the demolition and capturing team by directing its fire at hostile fortifications and weapon emplacements.

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Two types of assault teams were organized by North Korean forces. The first aided the assaulting enemy troops by removing obstacles in their approach and securing strong points. This type team was organized in each battalion by order of the regimental commander. It also had the mission of destroying United Nations artillery positions. The second type was assigned to a unit to destroy hostile command posts, signal centers, military warehouses, airfields, and to penetrate deeply into United Nations territory.

The commanding officer of the forward echelon regiment of a division organized two or three assault teams in each battalion. One or two were also organized as a reserve and attached directly to the regiment to secure its advance.

The assault team CP was composed of one team leader, a messenger, and a medical aid man. The team was divided into an assault sub-team, which consisted of one infantry squad with two engineers attached; a security sub-team, which consisted of four engineers with wire cutters and one heavy machine gun squad; two 60mm mortars; and one anti-tank squad. A reserve sub-team acted with the security sub-team until assigned as an assault sub-team. The entire assault team consisted of approximately 50 men and was commanded either by a platoon leader or a

company commander. The assault team which penetrated United Nations lines was equipped with enough firepower to withstand a counterattack.

Each man on the assault team carried one day's cooked rice and one day's raw food. Light dress was generally worn, and sometimes uniforms similar to United Nations were utilized.

The penetrating assault team cooperated closely with local guerrilla leaders, obtaining from them supplies and equipment. Each team had two alternate commanders; and the political sub-team leader, security sub-team leader, or reserve sub-team leader was appointed as the first alternate.

The assault team usually infiltrated friendly lines one by one and reorganized at a designated spot. If larger groups were used and hostile fire was received, the assault team sent a small group to engage and destroy the friendly strong point while the main body changed directions. The team rarely passed through a populated area; however, if it were necessary, it divided into small groups and passed through without attracting attention. Often native guides were employed.

When an objective was to be taken, the assault sub-team attacked frontally under the covering fire of the machine guns. If United Nations forces discovered the attack, the assault sub-team approached on the run. In the meanwhile, the reserve assault sub-team attempted to envelope the resistance and strike the flank or rear. In an attack on a United Nations CP, fire was distributed among the tents or buildings, communication centers, and the various weapon emplacements. At a pre-arranged signal all fired at once. In order to fire on various weapon emplacements, the assault team was divided into several small groups--each group taking a specific target. If the buildings or tents were entered, the men were divided into groups, including one group of look-out men equal to the number of entrances. The enemy entered the buildings or tents at the same time. All actions were swift, and the assault teams quickly withdrew. If heavy resistance was encountered, the assault teams withdrew to prearranged assembly points.

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Bayonet Companies and Penetration Unit

Chinese Communist Forces employed Bayonet Companies--"Chien Tao Lien"--and penetration units as assault units.

Bayonet companies were used to assault and breach United Nations positions. The first platoon had the mission of clearing the path for the remainder of the company. One squad, equipped with four PPsh submachine guns, 56 grenades, and seven rifles, acted as a spearhead. Two squads, equipped with bangalore torpedos, RPG-3 grenades, and rifles, acted as demolition squads, with the view of demolishing triple United Nations defensive fortifications--barbed wire, mines, and roadblocks. One squad, equipped with two light machine guns, in coordination with a 60mm mortar squad, covered the spearhead and demolition squads with fire.

The second platoon acted as the assault platoon and took action after the first platoon had completed its mission. The third platoon acted as the support platoon and reinforced the second platoon. If the bayonet company encountered heavy hostile fire, 82mm mortars and heavy machine guns from the regimental heavy weapons company were used for support.

Bayonet companies had the mission of removing obstacles in front of the second wave of troops and also had the objective of seizing United Nations CPs and artillery positions. Each regiment had one or two of these companies.

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Penetration units were organized within individual enemy infantry companies. Their mission was similar to that of the bayonet company and the North Korean assault team--being that of clearing mines and obstacles hindering the enemy infantry advance.

The penetration unit was composed of an assault team, a demolition team, and a support team. The assault team was equipped with two 60mm mortars, two to three light machine guns, one heavy machine gun, plus three or four submachine guns. This team actually attacked United Nations positions. A demolition team, including demolition squads and [illegible] equipped with at least fifteen bangalore torpedoes and Molotov Cocktails, cleared wire entanglements, abattis, mines, and demolished hostile tanks. A support team of six to eight men carried and transported ammunition for the other two teams. The company commander led the penetration unit.

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Exploitation of Weak Points in United Nations Lines

When the juncture between two United Nations units was noted by the enemy, or when he determined hostile forces were shallow in depth, he was quick to exploit. Reconnaissance companies and other units were sent through the weak point, mainly by infiltrating, to United Nations rear areas where road blocks were established and harassing attacks made.

In the early stages of the Korean conflict, the enemy demonstrated his ability of attaining supposedly inaccessible high ground and bridging over so-called natural obstacles. In one [illegible], a North Korean unit succeeded in infiltrating United Nations lines by scaling practically vertical cliffs. To accomplish this, the enemy shot a form of harpoon or anchor, with a rope attached, to the high ground. When it was secured, enemy troops climbed the rope and attacked United Nations positions from the rear. In one other case, United Nations troops depended upon a river as a natural obstacle against the enemy. The enemy troops swam the river and ferried individual equipment over on logs. Temporary bridges were quickly constructed capable of supporting light vehicles, oxcarts, and foot troops.[69]

The Envelopment Support Force

Great stress was placed on envelopment tactics by the Communist forces in Korea. This is evident from the tactics employed and from captured enemy documents:

> Suprounding tactics are a great threat to the enemy (UN) and it is easy to succeed with such measures. The enemy has no great strength, their morale is low, and fighting ability is not good. Not only is their rear unguarded, a strict watch not kept, but the enemy are careless of their guard to the front. Thus we can easily succeed in breaking through their lines and going around them.

The fundamental tactical doctrine of all Communist Forces combat echelons was that of "double envelopment" tactics, or attacking a weak point from two directions. One unit attacked the front as two others hit the rear from different directions.[70]

The mission of the enveloping force was three-fold: first, it was to arrive undetected at a given location as quickly as possible. Second,

it was to attack the United Nations line of retreat. Thirdly, it was to blockade the line of retreat. A point for a break-through of the enveloping force was generally selected about three miles from the point where the frontal assault of the United Nations Force was taking place. This was to avoid any possible United Nations cross fire. The depth of flanking penetrations and the distance between penetrations varied, depending upon the situation, terrain, and mission. All units moved as quietly as possible to avoid detection.

If small enemy units were engaged while thrusting towards the rear of United Nations lines, a small force was used to disperse them while the main body continued toward its objective. Other small groups such as assault teams and bayonet companies, were given the mission of attacking United Nations command posts and artillery positions. Encirclements were accomplished in great depth behind UN lines.

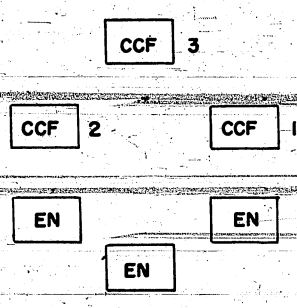
If United Nations Forces counterattacked the Communist frontal assault, two regiments of an enemy division would attack the United Nations forces from the flanks. If United Nations forces did not attack, the two regiments would then advance to the flanks and attack to envelope the position. Enemy soldiers advanced slowly from any direction to avoid hostile artillery fire. They were taught to continue to advance without reference to their flanks.

Once behind United Nations lines, Communist forces established road blocks to cut off fleeing forces. The road block was usually started by ambushing the lead vehicle of a convoy and disabling it. Any vehicle that then attempted to by-pass was also disabled. This process was continued until the road was completely blocked with disabled vehicles. Machine gun fire and mortar fire were used extensively in road blocks along the normal small arms and automatic weapons fire. During the United Nations withdrawal north of HOENGSONG in February 1951, the enemy lighted fires near the road at night to silhouette the vehicles as they passed. When friendly troops passed the fire, they were subjected to intense automatic weapons and mortar fire.[71]

ATTACK MANEUVER SKETCH

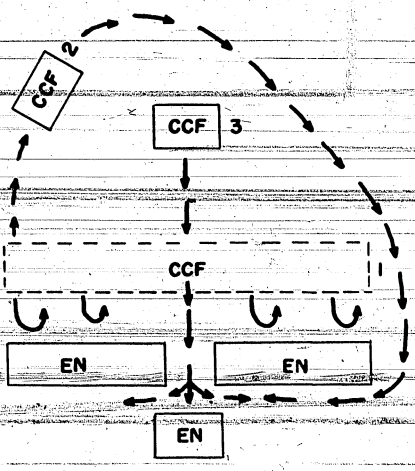
(A)

PRIOR TO ATTACK



(B)

DEVELOPMENT OF ATTACK



SYMBOLS

EN - ENEMY FORCES
1 - DEFENSIVE CCF DIV
2 - FLANKING CCF DIV
3 - RESERVE CCF DIV
→→ - ROUTES TAKEN BY DIVS

AREA INDICATES FANNING OUT OF DEFENSIVE DIV

PROBING ATTACK

Commitment of Reserves

When a Communist division penetrated United Nations lines and was well to the rear of the hostile line units, approximately two battalions continued to engage United Nations reserves. The reserve enemy division, in the meantime, executed a single envelopment around one flank and joined one of the penetrating forces moving out to the left or right. The remaining Communist division, which was about one night's march to the rear when the attack commenced, moved up to act as an active reserve for the attacking division.

Attack formations were organized in great depth, and the enemy's continual attacks were maintained by the consecutive passage of reserve units through units which were in contact. After the objective was secured, the enemy reestablished his "two-up, one-back" formation. This tactic was basic to the Communist forces and was employed down to company level.

The reserve (or defense) army was generally located about 23 miles to the rear of the attacking armies, out of the range of United Nations artillery fire. It was close enough, however, to be available to any area upon demand.[72]

Isolating Units

In a Communist attack, certain units of various sizes, depending on the situation, were designated as "isolating units." These were designated before the attack and usually accompanied the enveloping force. An islating unit was assigned two missions: first, to attack reinforcements; and second, to destroy fleeing isolated United Nations units.

When the unit arrived at its destination, it divided into two segments. Each one dealt with one specific mission. Defensive positions were built in depth in rugged areas which provided excellent coverage of escape routes and easy camouflage. Strong shelters were built and all spoil was removed. Two different type positions were constructed--one to prevent United Nations reinforcements, and the other to deal with remnants of United Nations troops trying to break out of the encirclement. The two positions were constructed close enough to

provide easy control, yet wide enough apart to afford maneuverability. A portion of the isolating unit was held for reserve, and anti-tank positions were set up at ambush points and spots where tanks might appear. All neighboring terrain features which dominated the position were seized to guarantee the security of the position and prevent the withdrawal of United Nations troops.

When United Nations forces counterattacked to relieve surrounded troops, a small enemy unit, with reinforced fire power, remained in position and engaged the assaulting troops. The main force deployed to the flanks and took cover. When the United Nations force drew close enough, the enemy counterattacked both flanks and the rear of the approaching troops.[73]

Pursuit and Reorganization

When an enemy attack succeeded in surrounding United Nations forces, a major effort was made by the Communist units to separate and annihilate United Nations units. However, pursuit was carried out only when the Communist commanders saw the opportunity of encircling the hostile units. Generally, an enemy company, if supported by other units, pursued United Nations forces until contact was broken. When enemy troops pursued fleeing United Nations soldiers, they used shouting as a psychological weapon to add to the resulting confusion. In the early stages of the conflict, the enemy buried caches of ammunition and weapons to insure supply during a pursuit.

When the enemy maintained sound logistical support, his advance generally conformed to the following table:

TERRAIN	TYPE OF RESISTANCE	RATE OF ADVANCE (miles per day)
1. Relatively flat	a. light	9.5
	b. moderate	4.5
	c. heavy	less than 3
2. Rugged	a. light	5.5
	b. moderate	3
	c. heavy	less than 2
3. Extremely rugged	a. light	4
	b. moderate	less than 3
	c. heavy	less than 1

When extensive and rapid withdrawals were made by United Nations forces, the enemy normally allowed contact to be broken due to his difficulty in maintaining adequate logistical support. When an objective was seized by Communist forces, the enemy organized temporary defensive positions and issued orders for the next movement if one was contemplated. The second echelon of the attacking force mopped up the objective and consolidated the position.[74]

The mopping-up method used by the enemy was a well-coordinated plan. Blockades were set up at key points on routes of communication to prevent enemy vehicular traffic from withdrawing. Special units, lightly equipped and wearing disguises, carried out systematic searches during daylight hours of all likely places which offered concealment for United Nations troops. Chinese Communist forces endeavored to capture small isolated groups of UN soldiers. Special emphasis was placed on the capture of the leaders of United Nations units.

All mopping-up operations were conducted with a company or platoon front, with the search parties using a squad wedge formation. Reserve units were stationed at commanding key positions along mountain ridges to support the search andto provide for any emergency. Enemy troops moved quietly and under cover and executed small envelopments around isolated United Nations units. Ambushes were established before the searches began.[75]

Countermeasures Taken by UN Forces Against Enemy Attack

Probably the most effective measure taken by United Nations Forces against Chinese Communist attacks was the effective use of artillery. Artillery fire was placed on all suspected routes into United Nations positions and was registered in on areas adjoining friendly units. Artillery and mortar concentrations were placed on vacated United Nations positions within a few minutes after the withdrawal of friendly troops.

During the April enemy offensive against the US I Corps, Communist troops came down valleys towards United Nations positions in massed columns of four, five, and six hundred at a time. In five days, the I Corps Artillery, including the artillery organic to divisions, fired

186,000 rounds of ammunition of all types, inflicting heavy casualties on the enemy.[76]

During the May Communist offensive, the artillery was unable to fire fast enough to suit General James Van Fleet, Commanding General, Eighth United States Army Korea. A basic load of ammunition for an artillery gun prior to May was 50 rounds per 105mm howitzer per day. However, during the May offensive, the "Van Fleet" day of fire was instituted. Each gun fired five ordinary days' supply in one day. One battalion of 105mm howitzers in the US 2nd Infantry Division fired 270 rounds per gun per day for three days; the battalion fired 14,580 rounds during the three day period.[77]

Friendly mine fields and obstacles were booby-trapped and covered by fields of fire to prevent enemy mine reconnaissance and removal.

To prevent the enemy from using supposedly inaccessible terrain for his approach, UN Forces utilized a defense of all key terrain features with an all-around defensive perimeter. Units, although surrounded, preserved their tactical integrity until relieved by counterattacking United Nations Forces.*

Air sorties against advancing enemy troops proved to be very effective. During night attacks by the enemy in April and May 1951, B26 and B29 bombers were guided to enemy formations by the use of the MPQ-2 radar system. An effective bomb ratio for four VT to one HE was used with very effective results against enemy troops. In isolated instances, patrols reported finding 800 to 900 enemy dead in the areas of the drops. Some B29 bombers used 100-lb bombs in six quick opening clusters and 500-lb general-purpose bombs with VT fuses on Chinese troops during the enemy's April offensive. Results were excellent.[78]

To prevent attacks by infiltrating and enveloping Communist columns, rear CPs and artillery positions adopted all-around security measures. Strong outposts to detect, report, and delay the enemy were set up, and an interior main battle line which could be quickly manned in strength and held at all costs was established. Trip flares and illumination shells revealed enemy movement, and all obstacles, natural and improvised, were covered by fire. Defensive positions were organized into tight

* This was amply illustrated by the 23rd Infantry Regiment, US 2nd Infantry Division, at CHIPYONG-NI in February 1951.

perimeters at night; and during the day, patrols in strength were dispatched within the different units' zones of responsibility. UN units laid tactical wire (two aprons) and mines across the entire front of the defensive positions regardless of the rugged terrain. An alert wire, strung with tin cans and other noise devices, was placed about 200-300 yards in front of the UN outpost line of resistance. To strengthen boundaries between friendly units, extensive use was made of trip flares, mines, barb wire, and booby traps. Adjacent units coordinated their fields of fire in the area, and the outposts bordering the boundary were as amply supplied with ammunition as the strong point was in the middle of the defensive line.

UN Forces exercised fire control so as not to expose friendly positions, and all United Nations troops were oriented to the fact that the enemy attacked the flanks as well as the front. Alternate and dummy positions were employed to deceive the enemy, as his reconnaissance usually took place a few days ahead of the attack. Patrols with radios were dispatched one to two thousand yards in front of outposts to warn friendly troops of the advancing enemy.

Plans for an organized withdrawal were provided in case the need arose. Valuable lessons, learned during the retrograde movements made by United Nations forces early in the conflict, were utilized. Tanks were employed at the head of columns to push disabled vehicles off the roads and allow columns to withdraw. At the same time, infantry forces screened key terrain features during withdrawals to eliminate enemy roadblocks. This high firepower of mobile antiaircraft weapons was also utilized.

Tank companies were used to great advantage in fighting delaying actions and permitting the withdrawal of friendly units.

Alternate defensive positions, manned by fresh reserves, aided United Nations forces in withdrawing and forced the enemy to fight a "war of attrition" rather than one of encircling and annihilating friendly units.

Counterattacks were planned before the enemy attacks to force a debouchment and proved very successful. United Nations counterattacks after the enemy May offensive regained all lost ground and forced the enemy to withdraw beyond his original attack point. By successfully exploiting the counterattack, UN forces established a new defensive line north of the 38° Parallel.[79]

SECTION G

Support in Attack

Armor

Only during the early months of the Korean conflict did the enemy employ armor to any great extent. At the outbreak of hostilities, the North Korean People's Army had one armored component, the 105th Armored Division. This division had approximately 123 T34 medium tanks in its three regiments, 22 T34s and 11 T70s in a training regiment, making a total of 156 tanks.

Ordinarily Communist tank divisions and tank regiments were organized as independent units. The 105th Armored Division's component tank regiments were not under the control of the division but were used in support of other infantry divisions. Tactical control was exercised by the unit to which they were attached.[80]

Tank assembly areas were usually ten to fifteen thousand yards from hostile positions, the line of departure for an attack about one to four thousand yards from the front. In one instance, a US Regimental Combat Team reported hearing enemy tanks racing their engines for several hours before they attacked. Tank speeds depended upon the terrain and the situation. Approximately ten to twenty miles per hour was achieved on roads, whereas a speed of only five to ten miles per hour was accomplished in open country.[81]

As a rule, North Korean tanks were supported by infantry in an attack. The tank regimental commander received orders from the infantry commander and relayed them to lower echelons. A small advance infantry party, equipped with mine detectors, checkedin front of the lead tank for mines. This party also sought out hostile troop dispositions and located any warning devices andobstacles. The main body of infantry advanced abreast about 300 to 500 yards to the rear of the tanks. The tanks attempted to pin down United Nations forces while the infantry maneuvered to the sides and attacked the flanks of the hostile position. During the attack, enemy tank crews drove buttoned up.[82]

In other attacks, the infantry moved out about 1000 yards, and the tanks then came on line and took defensive positions. From these positions, the tanks shelled United Nations positions. North Korean tank fire was moderately accurate; however, attempts by the enemy to silence UN artillery fire with tank fire proved ineffective due to the flat trajectory of the tank guns and the position defilade tactics employed by United Nations artillery.

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Early in the conflict, the enemy employed his tanks by twos and often singly because of the nature of the terrain which canalized movement. At other times, the tanks operated in groups of three to five. One of the primary missions of enemy tank crews was to seek and destroy hostile 3.5 rocket launcher teams.

By November 1950, the North Korean 105th Armored Division was destroyed as a potential fighting force by the accuracy of United Nations air power and infantry ground units.* The superiority of UN air strength forced North Korean tanks to move at night and use secondary roads and trails. Because of this, the tanks became roadbound and herded close together, moving one at a time. Enemy tanks moved without lights at night.

The enemy adopted many camouflage measures in order to deceive United Nations airmen. When UN aircraft approached, the enemy tank crews lit smudge pots or oily rags near the tanks to give the impression that the tanks were burning. Other tanks used United States markings. Still others crashed into houses or used thatched roofs as concealment. Others parked beside destroyed trucks or tanks.

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North Korean Artillery

North Korean artillery was initially superior to that of any other oriental nation; however, it was rendered impotent by United Nations air power and its over-extended supply lines.** North Korean artillery, in its battle doctrine, relied on a modified version of the battle-tested Soviet doctrine which called for the utilization of all available artillery to meet the requirements of each phase of a projected operation.

* The NK 105th Armored Division was reconstituted by late summer 1951.

** By fall 1951, NK Artillery became much stronger.

Each North Korean Artillery regiment consisted of two battalions (24) of 76mm guns, and one battalion (12) 122mm howitzers. In addition, each regiment had one antiaircraft battalion and one battalion of self-propelled artillery. Each infantry regiment had one battery (4) 76mm howitzers; one antitank company which consisted of six 45mm AT guns; and one mortar company composed of six 120mm mortars.

In an offensive action, the artillery commander determined the artillery requirements. This was done by personal reconnaissance, by intelligence information, and by an analysis of United Nations capabilities. From this study, he determined the amount of artillery, including the artillery and mortars of subordinate units, needed to support the attack.

Each attack operation was divided into three phases--the preparatory fire phase, the assault support fire phase, and firing phase during penetration and consolidation. The objectives of the enemy's preparatory fire were to break up the hostile command and observation system, to neutralize hostile supporting weapons, to open gaps through hostile defenses, and to soften up the opponent's defending forces. Preparatory concentrations varied from ten to thirty minutes according to the amount of available ammunition. It was SOP for the enemy to open artillery preparations at known firing positions in the United Nations main line of resistance. The enemy also executed one or more false transfers of fire to mask his impending assault. A final intense concentration of fire, accompanied by the fire of infantry automatic weapons, sometimes preceded the actual attack. For application of the preparatory fire, the artillery was emplaced after dark in well forward camouflaged positions. Flat trajectory weapons were emplaced 500 to 1000 yards from United Nations lines for direct laying; and the enemy's 82mm and 120mm mortars, which he classified as artillery, were placed in defilade. The mission of the mortars was to attack personnel and weapons in the United Nations line of defense by observed fire.

With the start of the enemy assault, general and direct support artillery transfered its fire to appropriate targets in depth and on the flanks of the United Nations' position. This was executed either at the signal of the division commander or automatically as directed in

the operations plan. The missions of this assault fire were to continue the neutralization of UN firepower, to engage the opponent's reserves in order to prevent a counterattack, to isolate UN defenders from reinforcements and supply, and to deny the use of any withdrawal routes.

The artillery continued to support an enemy breakthrough in depth by prompt displacement. The enemy's 45mm or 76mm guns, by direct laying from the flanks or through intervals between platoons, fired on targets of opportunity. Occupation of the United Nations first line of defense signaled the forward displacement of direct support artillery. The sequence of displacement and routes selected were preplanned before the attack, and the movement was controlled by the assault regimental commander. Usually, the artillery displaced by echelon in a leapfrog manner. One-third displaced forward while two-thirds remained in position. 85

CCF Artillery

A Chinese artillery company* consisted of three platoons, each platoon having two 105mm howitzer guns and one sub-squad of four men assigned as observers. The company had one squad of twelve men assigned as observers in addition to those in the platoons. An artillery battalion consisted of three companies, each with six guns, and the battalion had an additional forward observer squad of twelve men.

The company's twelve-man observer group maintained an OP forward of the artillery company. The assistant company commander was in charge of the group, and the distance in front of the company varied according to the tactical situation. Telephone communication was maintained by the OP with the artillery company commander. The principal function of the OP was to observe deployment of United Nations troops and the emplacement of their fortifications. This information was relayed to the company commander who in turn notified the regimental headquarters. This unit was responsible for the preparation of the night fire plan. Missions were usually fired between 2000 hours and 0300 hours in support of infantry assaults. This was done to avoid detection by United Nations aircraft.

* In a CCF artillery division. Most CCF infantry division organic artillery had 75-76mm guns.

There was no apparent liaison between the CCF artillery forward observer andthe infantry unit to which the artillery battery was attached. The infantry requested fire through the infantry battalion commander, who, in turn, relayed the request to the battery commander. The battery commander they relayed the message to the observer team.*

Only one fire plan was prepared by the regimental staff. No secondary or auxilliary plans were made. If, during the night, the enemy withdrew or shifted his position from left to right, no further plans were made until the following day.

In preparation for an attack, the artillery company was deployed approximately 200 yards from the United Nations line of defense. The first wave of enemy infantry deployed immediately to the artillery company's front. Successive waves of infantry were echeloned to the rear. No preparatory fires were laid, and the initial barrage occurred when the assault wave reached a point approximately 100 yards from the UN MLR. Fire was continued until the objective was neutralized. During the attack, the forward OP was responsible for maintaining artillery fire ahead of the attacking units. This was done by relaying the message to the company commanders, who in turn, by the use of messengers, informed gun crews to shift fire or lift it. The observer sub-squad assigned to each platoon computed the necessary corrections.

Artillery company weapons fired as a unit on one section of the assigned target and shifted as a unit to other sections of the target. Control fire was oral for those weapons nearest the company commander, and written to the guns beyond the range of voice. As a consequence, firing was irregular although concentrated. Fire power of the artillery company was massed. Interdictory and harassing types of fire were not employed by the CCF.*

For night operations, the divisional artillery battalion was assigned to the regiment having the most difficult mission. The regiment assumed operational control and prepared the fire plan, although the division commander reserved the right to divert the artillery battalion to support another regiment. No flexibility was permitted

* CCF artillery improved vastly since the spring of 1951. It became more intense and more accurate.

once a fire plan was made. It was either adhered to or abandoned until the next day, when a new one was formulated. The artillery battalion forward observation post was charged with shifting the fire within the target area and controlling it.

During the night operations, the divisional artillery battalion was no closer than 600 yards from United Nations lines. The eighteen guns in the battalion were normally assigned a general target area approximately 200 feet in diameter. If it exceeded that, the battalion awaited specific requests from the infantry battalions, through regiment. Fire power of the battalion was concentrated upon one section of the target.

It was the doctrine of the CCF that mortars had the primary mission of destroying personnel; and artillery, of destroying hostile fortifications.

During daylight assault, artillery pieces on the right and left flanks of the regimental artillery company were spaced approximately 400-500 feet apart and had a depth of 300 feet. The guns remained relatively immobile and were well camouflaged. At night, it was the general practice for each weapon to fire five rounds and move 100-200 yards to avoid detection.

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Mortars

Mortars were habitually emplaced on the reverse slope of a hill about 10 yards from the crest. This afforded the enemy several advantages; the forward observer was within speaking distance of the gun crew, and by placing himself on the gun-target axis, made computations for deflections unnecessary when obtaining initial fire data. This position afforded the gun crew protection from United Nations flat trajectory fire.

Mortars were infrequently used in batteries but were mostly employed singly. Except for his light mortars, the enemy used previously prepared concentrations which were called down by infantry units as needed. This indicated a poor communications network which limited the use of observation posts and forward observers. The enemy adapted the policy of

firing five to ten rounds rapidly and then deploying. Light mortars were zeroed in on a target and heavier mortars were brought in as needed.

The main mortar firing positions was circular in shape with the forward edge about 1 yard deep and the rear edge 1/2 yard deep. Very little effort was made to camouflage this position as it was only occupied during the actual firing. At all other times, the gun was taken out of position and concealed in smaller well-camouflaged holes about 5 to 10 yards from the firing position. [87]

Miscellaneous

Captured enemy documents indicated that each Communist unit making an assault in strength had a supporting fire power unit or team, equipped with battalion (82mm) mortars, recoilless guns, and type 92 infantry guns. This unit was supposedly commanded by a battalion cadre member.

The supporting regimental fire unit was equipped with heavy mortars, mountain guns attached from the division, and field guns and howitzers attached from a CCF army. In addition, artillery pieces, were set up by artillery units themselves.

The mission of the field guns and howitzers was to make breaches in hostile positions for infantry units to penetrate; to neutralize United Nations artillery positions; and to carry out a creeping barrage. Two batteries were used to neutralize UN artillery and to furnish a creeping barrage. Mountain guns fired at all obstacles in front of the attacking enemy infantry units. [88]

During the latter part of the conflict, CCF artillery used high angle fire on a main objective. Neutralizing fire was also placed on adjacent strategic points. CCF mortars were set up on forward slopes for firing, and artillery was brought well forward in daylight. [89]

In the US 24th Infantry division's sector, positions were found which indicated artillery was left in position for a protracted length of time.* No roads were in evidence, and deep emplacements with connecting ammunition pits and roof shelters were found. Because of the overhead protection against UN aircraft, the pieces were believed placed to fire on preselected targets because of the narrowness of the field of fire,

* This was probably a regimental 70mm infantry gun often used for direct fire. This gun was usually employed singly.

which varied from 200 to 500 miles.[90]

In other instances, artillery was echeloned in depth and was well dispersed to combat UN patrols. Frequent displacements were made by enemy artillery to avoid UN observation and counterbattery fire.[91]

Countermeasures Taken to Counteract Enemy Artillery and Armor

Perhaps the two most effective countermeasures employed against enemy artillery and armor were the use of counterbattery artillery fire and air strikes.

To overcome the fortified positions of enemy artillery, friendly artillery employed intense concentrations of accurately adjusted fire using a preponderance of fuze delay. Area fire, using approximately 100 rounds of 155mm or 105mm with mixed fuzed delay and VT, was also effective. Tanks were engaged with VT fuze and fuze quick, forcing the enemy armor to button up and also immobilizing some by damaging a tract. Once the tanks were immobilized, UN artillery used WP sheaf area fire to set the vehicles on fire. High angle fire, using a combination of fuze quick, VT, and fuze delay, was employed against mortars on reverse slopes.[92]

The effectiveness of air strikes destroyed the North Korean armor potential by November 1950. The enemy's extensive use of camouflage measures demonstrated his respect of United Nations air power.

United Nations armor was also effective against enemy tanks during the early days of the Korean conflict. The US 70th Tank (Heavy) Battalion destroyed two enemy T34 tanks with one round of 76mm HVAP each. During the period prior to 2 November 1950, 3.5 rocket launcher teams were used in conjunction with friendly tanks. The system employed had friendly tanks drive the enemy tanks off the road into covered positions away from accompanying North Korean infantry. The US rocket team gunners then advanced under cover and destroyed the enemy tanks.[93]

SECTION H

Miscellaneous Factors Affecting Enemy Offensive Operations

The Daylight Attack

In rare instances, the Communist Forces employed daylight attacks. The feasibility of such an attack depended upon several factors; first, and most important, the battle success outweighed the casualties in the opinion of the enemy commander. Second, the weather shielded his movement from observation and attack by United Nations air power.

In one attack, the enemy took advantage of the fact that United Nations forces were disorganized and could not differentiate between friend or foe. In the preponderance of enemy attacks, the night attack was the favored assault.[94]

The Night Attack

Communist Forces relied on night warfare because of the overwhelming force of United Nations artillery and air power. Lieutenant General Ma Chang, Commanding General, 4th CCF Army (Corps)* stated:

> Daylight warfare had become disastrous for the CCF because of a lack of air power, consequently night envelopment must be employed.

The tactics employed at night were the same as employed during the day. An envelopment followed the initial engagement.[95]

The enemy selected the cover of darkness as advantageous for attack because it minimized the effectiveness of United Nations air, artillery, and tank support. The attacks were designed to secure an objective prior to daylight. Junior officers were trained to estimate the situation during daylight, and to determine whether an attack should be pressed at night.

The enemy exercised control at night by the use of white banners, armbands, and placards. Ropes, lime, trumpets, and whistles were used to indicate directions and transmit messages. In one instance, the enemy used a series of rice straw doughnuts about 24" in diameter to guide troops into position.

At night in an assault, small North Korean units, in single file,

* The 4th CCF Army (Corps) was never in Korea.

approached United Nations positions through defiles, valleys and along trails, keeping a ten-yard interval between men. About 100-200 yards from the hostile position, the attacking force deployed. When each man was in position, the leader fired a shot whereupon all rushed the United Nations defensive positions. If a withdrawal was necessary, the enemy troops were supported by heavy and light machine guns.[96]

In one instance after attacking enemy troops had pentrated defensive positions of the 38th Infantry Regiment, 2nd US Infantry Division, they placed illuminating grenades on both flanks of the area. This enabled enemy troops slightly to the rear to coordinate their movements and to increase pressure on the penetrated areas.[97]

Chinese favored the time of the full moon to launch major offensives, evidently assuming that the advantage of tactical control offset the danger of United Nations bombing and strafing. North Koreans preferred to attack on dark nights.[98]

The enemy employed various ruses at night to gain entrance into United Nations positions. Most typical was the favorite trick of pretending to be ROK troops. On one instance, enemy soldiers gained entrance into the Netherlands Battalion perimeter by calling out, "O-kay, we're ROKs." In a resulting firefight, Netherland soldiers noticed the enemy wearing ROK insignia. On other occasions, North Koreans used wooden clappers for deceptive purposes to simulate gun fire. Shortly after the Communist Chinese Forces entered the conflict, they conducted a preliminary reconnaissance of UN positions by a ruse. Four flutists deployed around a base of a hill about fifty yards apart in the open and under a full moon and played tunes. For five minutes they played while skirmishers kept shuttling up to them and withdrawing. They succeeded in drawing fire which disclosed the outline of the perimeter.[99]

Communications

Lack of communications hampered Communist Forces considerably in battle, especially at night. This statement was borne out by a captured enemy document entitled "A Collection of Combat Experience," Headquarters,

XIX Army Group:

> Difficulty of maintaining signal communications at night after the deployment of troops resulted in difficulties of command control....

Because of poor communications, the enemy had difficulty in either controlling his units or halting an attack. For this reason, the enemy often had to continue his attack even under adverse conditions.

Both the Chinese Communist Forces and the North Korean People's Army utilized the same modes of communication--radios, bugles, flares, whistles, flags, and messengers.

Radio

Radio communications were used on regimental level and higher. On rare occasions, units smaller than a regiment had American SCR 300 radios. Wire nets extended down to and included battalions and fire support companies. All messages transmitted by radio were coded. Transmissions in the clear were made only to direct artillery fire, to avoid disaster in battle, and by enemy armored units in actual combat. The principal axis of communication ran from the forward CP to the commander's CP. The nerve center of the entire North Korean signal system was the base message center at the forward CP.

During the early part of the conflict, North Korean forces established radio relay stations forward of the advance message center on the flank from which an envelopment of United Nations forces was to take place. The enemy found radios not too reliable in Korea because of the difficulty in keeping wire in and the failure of batteries in cold weather. American and Chinese Communist Forces telephones were used by the enemy.

100

Bugles--Bugles were used at company and battalion levels for signals primarily, and as a fear weapon. All signals were short and prearranged for withdrawals, attacks, or consolidation of positions. During the attack of some enemy regiments, bugle calls preceded the main assault. However, this varied from regiment to regiment. An extensive number of calls was used during an attack.

As a fear weapon, the bugle was employed in two ways: first, it was

used as a means to draw fire and disclose the outline of a United Nations unit's defense perimeter; second, buglers were deployed around the perimeter to create the impression of an enemy envelopment in great strength. Finally, when a United Nations position was taken, enemy buglers sounded "Taps" to demoralize retreating UN soldiers.[101]

Whistles--Whistles were used only during close engagement as a method of group control. It was apparently used only at platoon and squad level, and its primary use was to urge troops forward. When an enemy attack faltered, the whistle signaled a resumption of fire. Whistle messages were prearranged before an attack.

Flares--Flares were one of the principal types of visual signals used. Different colors signified short prearranged messages. These were changed frequently. The North Koreans used three flares to request supporting fire to commence and five flares to halt it. An electric torch was used to rally troops on a position.[102]

Flags--Flags were used for communications in combat, primarily to direct battalion-size and smaller units under tactical conditions. Various movements meant orders to attack, withdraw, commence firing, or drop to the ground. All prearranged orders were tactically controlled. These orders were used until an engagement was finished, and then new orders were issued.

The commander of a unit regulated the usage of flags, and only battalion, company, and platoon leaders waved them. When a blue flag was used, it was handled by a squad leader to indicate a particular prearranged squad signal. The location of other signal flags indicated the presence of the commander or the location of a command post.[103]

Messengers--Messengers, both mounted and dismounted, were used on all levels--each unit from platoon size and up had a group of messengers. These messengers carried both oral and written messages. Runners were used for communications between patrols and parent units.[104]

SECTION I

Weakness in Enemy Offensive Tactics

1. The Communist attack doctrine, as observed in all major enemy attacks in Korea, was inflexible. Subordinate units were not permitted to make adjustments which terrain, friendly defenses, or other factors might have indicated as being desirable. Alternate or secondary missions were not assigned to assaulting units. Enemy patrols always utilized the routes of shortest approach and return. Enemy patrol formations were standard and made no allowance for differences in terrain or friendly disposition. Preparations for an attack followed an inflexible and unvarying pattern which soon became apparent to friendly forces. And finally, enemy insistence, due to inflexibility , on mass employment tactics proved costly in the face of United Nations air and artillery fire.

2. The enemy lacked sufficient logistical support to sustain an extended offensive.

3. The enemy lacked communications facilities. This hampered control of units in the attack, and may have been the basic cause for the inflexibility of enemy tactics.

4. Enemy units employed little flank support or security during a tactical march.

CHAPTER TWO

DEFENSIVE TACTICS

SECTION A

Defensive Indications as Determined by Friendly Forces

1. Elaborate Bunkers, covered artillery positions, and troop shelters.

During periods of defensive operations, either when preparing for a new offensive or denying certain terrain features to UN forces, the Communist forces prepared elaborate fortifications which successfully withstood UN air and artillery attacks. These positions were placed on commanding terrain features and hindered UN advances.

2. Appearance of barb wire entanglements in front of enemy positions.

Barb wire entanglements were first reported in the North Korean sector of the eastern front in June 1951, although some use of wire by the enemy in defensive positions was encountered in the central front as early as March.*

3. Extensive AT obstacles (mines, ditches, barricades) on routes of advance.

The appearance of numerous obstacles to hinder United Nations vehicular and tank traffic indicated a defensive phase in the enemy's operation. Barricades and ditches of various types were used, not only on routes of advance, but also in other sectors to channelize UN troops into enemy fields of fire.

4. Lack of PW statements of an impending offense.

Enemy PWs were well informed of their offensive operations, and United Nations officers were able to fix the approximate date of attack from their statements. Lack of information of such attacks indicated an enemy defense.

5. Stockpiling of supplies.

This was an indication of either offensive or defensive action.

6. A stubborn defense line instead of an elastic defense.

The use of a stubborn defense line immediately after an enemy offensive indicated a lack of counteroffensive potential and a need of time for regrouping and reequipping. The enemy also displayed a stubborn defensive attitude when his supply bases were threatened. It was also probable that, during the latter stages of the Korean conflict, North

* Afteraction Interviews, "Breaking the HONGCHON Defense Line," 3rd Historical Detachment, March 1951.

Korean troops realized they were fighting for their homeland and would not trade space for time. The armistice talks no doubt influenced the Communist armies to resort to a stubborn defense line.

7. The use of an active defense (numerous counterattacks).

Communist Forces used numerous counterattacks to restore lost positions and to hinder United Nations advances. Units from squad to battalion size were used in these attacks.

SECTION B

"The Elastic Defense

It was apparent that two types of defensive tactics were employed by the enemy during the Korean conflict. The North Korean People's Army employed a modified type position defense, although some provision was made for an elastic type defense, and the Chinese Communist Forces used a mobile defense.

Chinese Communist Forces

The Chinese Communist Forces did not employ the principle of a main line of resistance nor a position defense.* When the enemy expected to be in one place for three or four weeks, he employed a defensive army which occupied the sector of two offensive armies. In a defensive phase, the CCF employed a tactical formation of "one up, and two back." When a defensive army of division was in a delaying position, one division or regiment was placed on line as a screening and delaying force. Small forces from the defending unit launched limited attacks to confuse and delay United Nations Forces. In the meantime, the other two divisions of the army, approximately three hours' walking distance to the rear, rested and reorganized. 105

When United Nations Forces attacked, the unit on line offered moderate to stiff resistance but withdrew slowly when forced to do so. When it withdrew as far back as the two reserve units, a counterattack was launched to restore the lost ground. If the reserve units were unable to launch a counterattack, the enemy slowly withdrew to the offensive armies in reserve. A major counteroffensive was then launched by the CCF.

In an elastic defense, the holding of terrain was of minor importance. The enemy's major desire was to create weaknesses in the United Nations offensive which could be exploited by countereffort. The countereffort was an important part of the elastic defense employed by the enemy, and it was mainly directed toward an exposed United Nations flank. 106

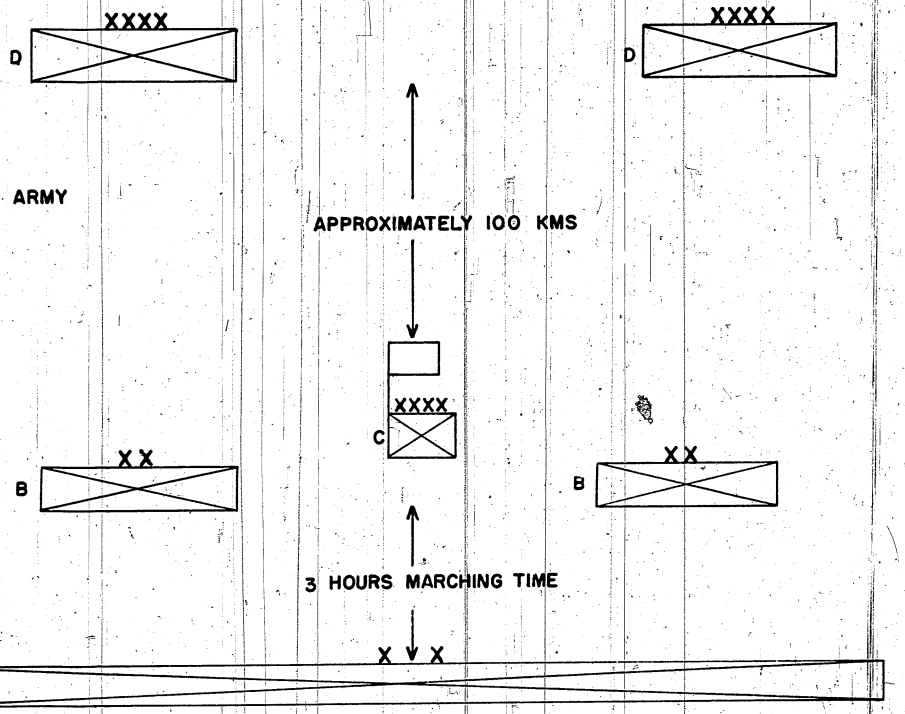
Perusual of enemy documents leads this writer to believe that the

* Since June 1951, the CCF definitely employed a position defense.

SECURITY INFORMATION
SECRET

SYMBOLS:

A – DIVISION ON DEFENSE
B – RESERVE DIVISIONS OF DEFENSIVE ARMY
C – DEFENSIVE ARMY HQ
D – OFFENSIVE ARMY ASSEMBLY AREA
(REORGANIZATION & REGROUPING



POSITION IN THE DEFENSE

SECRET

enemy propagandized his soldiers about the importance of the elastic defense tactic. Evidently this was done to bolster morale after withdrawing from hard-won positions. The enemy referred to this tactic as two-fold; "hard work"--construction of emplacements and field works in every place to which they moved, and "roving motion"--employments of troops in attack or defense to delay a United Nations offensive. "Strong defense, deplete the enemy, find the chance, and destroy the enemy" was the theme of the Chinese Communist Forces high command.[107]

CCF regiments usually deployed in three lines. Two-thirds of each unit was supposedly disposed on the front line with one-third kept on both flanks for a possible counterattack. Deployment was along a narrow front and in great depth. Command and observation posts were set up on favorable terrain, and telephone communications were established between the OP and the CP. The first and second defensive lines consisted of well-constructed fortifications connected by communications trenches. Dummy camouflaged positions were built to draw United Nations fire. All hill positions were defended by small units adequately equipped with automatic weapons, and all fields of fire appeared to be well-coordinated.

Most defensive works for the first line were constructed on the forward slope of hills facing the direction of United Nations approach. The second line of defense was usually set up on the reverse slope of the hills, or where its fire power could readily support the first line. All-around defensive positions were built to guard against United Nations surprise attacks. Fields of fire covering as large an area as possible were selected, with the front line having the preponderance of machine guns and automatic weapons.

To counteract United Nations daylight gains, CCF troops sent small groups to counterattack at night to regain lost ground. Sometimes, two or three such attacks a night were employed.[108]

North Korean People's Army

The North Korean elastic defense, or in their terminology "mobile defense," was characterized by the counterattack and withdrawal to successive lines of defense. It was designed to allow an inferior force

to trade space for time against a superior force. The general execution of this maneuver was not greatly different from the tactics of the United Nations Forces; however, no flexibility was permitted the subordinate commanders. All withdrawals and disengagements had to be made on the order of the senior commander.

Each regiment occupied two lines of defense at the same time; but the bulk of the North Korean force was concentrated in the forward position. The enemy's defensive doctrine specified the distance between the two positions had to be great enough to cause an attacker to displace his artillery and mortars after occupying one of the sectors. One third of the effective strength of the unit on defense was deployed as a reserve well to the rear of the second line of defense.

The forward unit opened fire at extreme ranges in an attempt to force United Nations forces to deploy and make time-consuming preparations for the assault. However, before the forward line could be pinned down by UN fire, it withdrew to rear positions under cover of supporting weapons. Concurrently with the withdrawal to the second line, counter-attacks were immediately launched to throw UN forces off balance and inflict casualties. If the forward line was unable to disengage, a counterattack was launched against the attacker's flank by the troops in the rear position. This was done only on the order of the senior commander. 109

Withdrawals

Inverted-V Formation

During the early phases of the Korean conflict when UN forces restricted their offensive warfare to the low ground and valleys, the Communist forces used an inverted-V formation in conjunction with a mobile force. By withdrawing to the high ground, they permitted United Nations troops to enter the V, at which time a superior numerical force encircled the attacking column and closed the V. As one North Korean PW stated:

> Our troops make strategic withdrawals when the enemy (UN) attacks; our troops then attack from the flanks and encircle the enemy with superior numerical strength. In most cases the enemy (UN) had no additional forces on their own flanks to assist them....

Enemy groups occupied the forward slopes of ridges paralleling low ground and placed fire on the United Nations columns. An attempt was made to destroy the first and last vehicle of a column to canalize and halt movement on the narrow roads. A sizeable enemy force deployed to the rear to prevent retreat of friendly units and the arrival of UN reinforcements.[110]

Tactical traps were employed by the enemy to lure United Nations troops into an area. Withdrawals were made by some enemy troops to entice UN forces into a hasty exploitation. Other enemy troops positioned themselves to strike the flank or flanks of the attacking force, in an attempt to destroy small UN units. In selecting such an ambush site, the number of riflemen on the first line was decreased, but an increase of automatic weapons was provided. The bulk of the enemy troops deployed under cover to afford a quick attack.[111]

Delaying Parties

The covering force or delaying party which covered an enemy withdrawal was usually selected from the last unit to break contact with United Nations Forces. These delaying parties were placed at strategic points where the land was least favorable to attack, where the roads were poor and natural approaches few. Thus, a small number of men armed with automatic weapons were able to hinder a United Nations attack.[112]

The covering forces ranged in size from a 3-man group to a platoon, although a squad was normally employed. The variation in size of the group depended on the size of the withdrawing unit and the pressure exerted by United Nations Forces. A platoon usually covered the withdrawal of a battalion. The mission of the delaying party was to divert a possible United Nations attack by increasing their volume of fire on UN positions. Radios were not used to control the delaying action.

A marked change took place in the delaying action of CCF covering forces after their May 1951 offensive. Usually, the Chinese, in their withdrawal tactics, moved out after dark leaving no delaying parties. Close contact with United Nations units was avoided. A marked departure from this tactic was noted when CCF units defended tenaciously, even to

death. A covering force was forbidden to withdraw until ordered to do so by higher authority; rarely was such an order issued.

Withdrawal Tactics

The regiment was the lowest echelon of command authorized to order a withdrawal. Assembly areas were not predesignated, and the units withdrew as far as possible during the hours of darkness under the protection of the delaying force. In a battalion withdrawal, all companies moved as one column in single file along the same route. Regiments used the same procedure. Variations of column movement were dictated by the terrain and enemy situation. One or more battalions also moved in parallel, single-file columns. Contact between battalions was maintained by radio communications and runner.

Enemy artillery and heavy weapons deployed before the withdrawal of the main body of troops. This was due to their lack of mobility. As far as could be determined, no artillery or mortar fire supported a withdrawal. Counterattacks were rarely made in conjunction with a withdrawal, although the last units to disengage, together with the delaying party, increased their volume of fire.

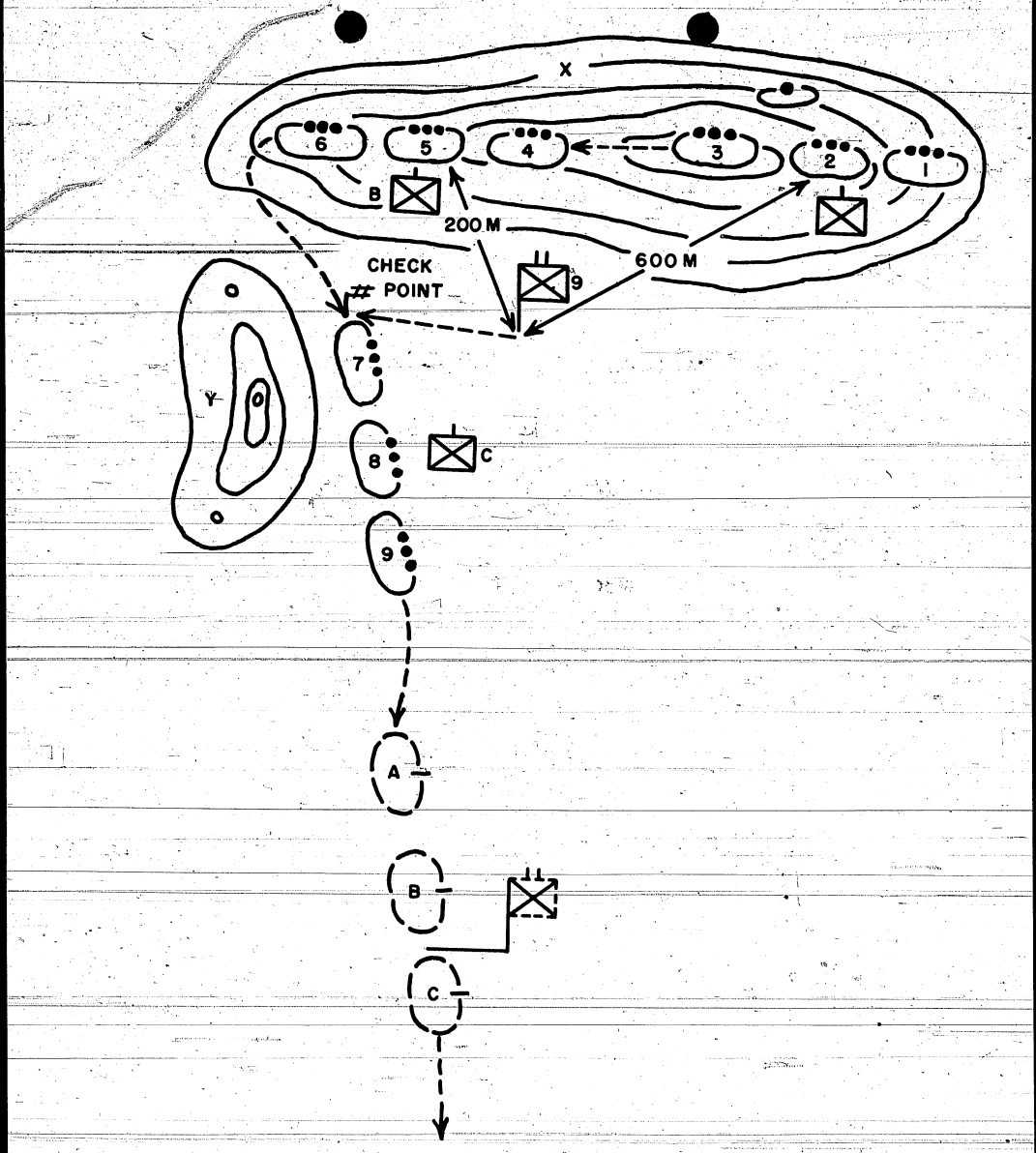
113

Use of the Counterattack

Enemy counterattacks were an integral part of their defensive system and were used for various purposes: (1) to blunt the edge of a United Nations assault; (2) to annihilate a portion of the hostile force; and (3) to recapture a lost position.

If the purpose of a Communist counterattack was to delay United Nations Forces or blunt an offensive, the attack began at night, but early enough to end the engagement by daybreak. If its motive was to regain a captured position, the attack began early in the evening to permit recapturing the objective by midnight. This enabled the remainder of the night to be spent in organizing defensive positions to make the objective tenable for the next day's fighting.

The enemy counterattacked United Nations positions which he thought lacked depth or strong rear support. He also counterattacked when United Nations Forces appeared disorganized, or when the United Nations Forces



Under covering fire of one squad of the 1st Platoon, Company A moves east in single file along the ridgeline toward Company B. As elements of the 3d Platoon, Company A, reach the right flank of the 4th Platoon, Company B, the latter moves out in single file toward Company C. When elements of the 6th Platoon, Company B, contact the 7th Platoon, Company C, the latter moves north leading the Battalion. Upon reaching the foot of Hill X, units are checked off by the Battalion Staff and Company Commanders. Upon order of the Battalion Commander, the covering squad then joins its parent unit. Battalion Headquarters is positioned between Companies B and C.

used the captured position as a starting point for a new offensive action without organizing it for defense.

The enemy attacking unit varied in size from a company to a regiment depending upon the situation. A thorough reconnaissance of the terrain in the vicinity of the objective to gain information on United Nations strength, disposition, and armament was accomplished by late afternoon or early evening of the day of the attack. All members of the attacking unit were familiar with the routes of approach, and the signals to be used, and the plan of attack before moving out.

The location of the prearranged counterattack unit was set up on the flank at the depth of the defense line 50 to 80 yards to the rear of the front defensive position. Communication trenches connected the rear position from the front. An order for the attack was usually oral. The attacking force was usually divided into widely extended small groups of squad and platoon size which approached United Nations lines quietly, deployed, and then attacked swiftly. Generally one squad moved out first in a triangular formation with one angle pointing forward.

Envelopments, turning movements, and penetrations were employed by the enemy in his night counterattacks. Enemy troops infiltrated into UN rear areas and endeavored to make the main assault on both flanks of the United Nations position between the frontline troops and reserves, or against a sector weakly defended. The enemy counterattack did not extend beyond the limit of frontal supporting fire, and when a position was taken, the enemy main body dispersed to the flanks to avoid UN artillery fire.

If a planned withdrawal from the sector was to take place, enemy reserve elements covered the withdrawal of the attacking unit. If the position was to be held, the enemy constructed fortifications and consolidated his positions.

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Countermeasures Taken By UN Forces Against the Elastic Defense

The same defensive measures employed against the night attack of enemy forces in a major offensive worked equally well against his counterattacks. A tight perimeter in depth, together with coordination of fire

between units, permitted United Nations units to withstand and repel enemy counterattacks.

A favorite tactic of United Nations Forces against the enemy's elastic defense was to press the attack until an enemy strong point was contacted. Friendly units then withdrew and placed artillery concentrations on the enemy's positions. To protect against the inverted-V formation of the enemy, UN forces screened all high ground in their forward movement and kept flanks well protected.

United Nations Forces determined the extremities of the Communist defensive positions by observation of its pattern of fire. When enemy action indicated a withdrawal, artillery concentrations were placed on both ends of the enemy's positions as well as on the delaying party. This artillery fire was echeloned in depth to cover any possible enemy withdrawal route. Rapid follow-up of the enemy withdrawal by UN Forces often prevented him from reorganizing and preparing new defensive positions. In small unit actions, the hostile covering force was easily by-passed and the withdrawing main body engaged. The enemy occasionally employed a rear guard. UN tank units proved effective in by-passing the enemy strong points. In October 1951 near KUMSONG, tanks from the 72nd US Tank Battalion by-passed one such strong point and surprised the enemy as he was being relieved by another unit. Heavy casualties were inflicted on the hostile force.

United Nations air power, by the use of radar, inflicted heavy losses on enemy troops as they withdrew at night.

SECTION C

The Stubborn Defense

Late in the Korean conflict, the Communist Forces changed from an elastic defense to one utilizing a main line of resistance (MLR). Several theories may be advanced to justify the change, although no concrete proof has been found to support any one.

In the past, Communist Forces could afford to trade space for time in order to launch counteroffensive measures. However, when the enemy reached the 38° Parallel, he could not afford to "lose face" by sacrificing territory of the homeland of the North Korean people. To do so, he may have felt, would cause loss of respect of the North Korean people and possibly of the entire oriental world.

In view of a possible armistice, to permit sections of North Korea to fall into United Nations hands would have given UN delegates a weapon in negotiation. Furthermore, forcing the UN troops to halt at the 38° Parallel would have enabled the Communist world to retain its "iron curtain" in Korea.

Probably the most logical reason for the change from elastic to stubborn defense tactics was the effect of United Nations air and artillery on masses of enemy troops. Formerly, the Communists attempted to destroy friendly division-size units by superior weight of numbers. But because of friendly air and artillery, the enemy resorted to attempts to annihilate small friendly units. This tactic was more effective when the MLR in defense was employed. A Communist document supports this theory as follows:

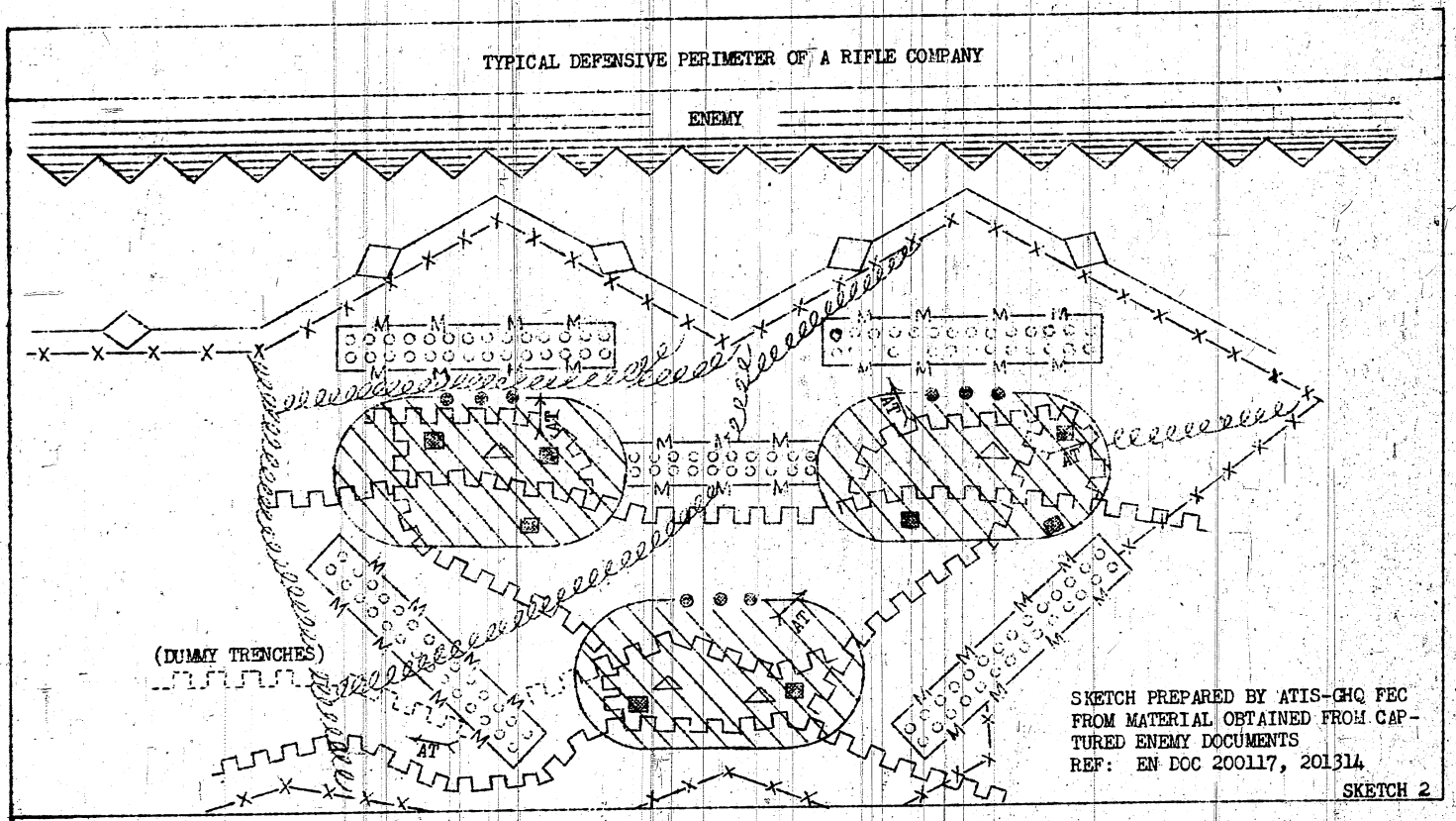
> We are to defend and further fortify the present positions of our battalion; therefore, we must not yield a single inch of ground or allow even one enemy soldier to penetrate. At the same time, in order to inflict a large number of casualties, we must be on the alert in the front lines so that we may seize upon suitable opportunities for aggressive small unit action. 116

Establishment of Defensive Positions

North Korean People's Army

The North Korean Army employed a modified type position defense. This consisted of a main line of resistance composed of a series of self-

TYPICAL DEFENSIVE PERIMETER OF A RIFLE COMPANY



SKETCH PREPARED BY ATIS-GHQ FEC
FROM MATERIAL OBTAINED FROM CAP-
TURED ENEMY DOCUMENTS
REF: EN DOC 200117, 201314

SKETCH 2

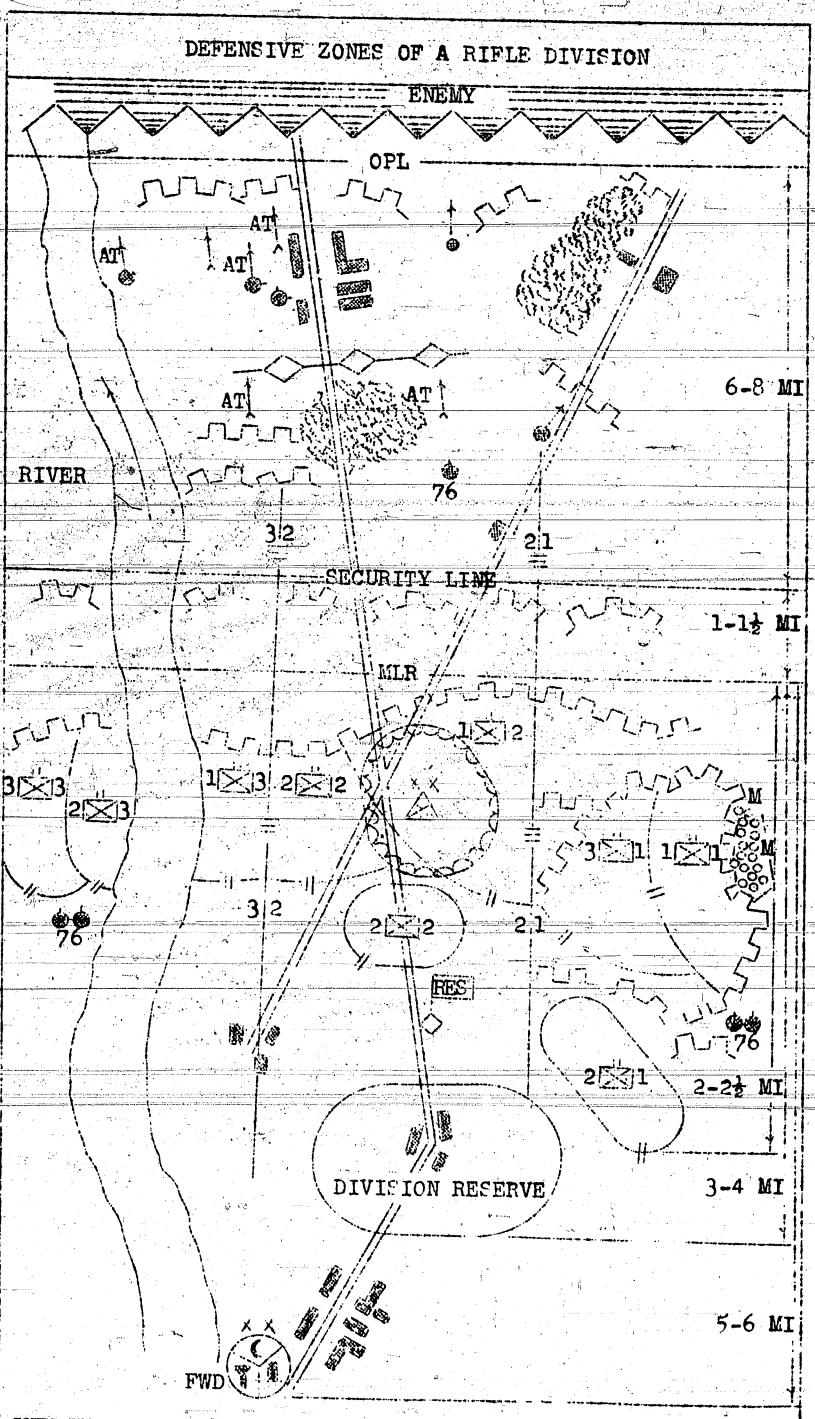
sufficient islands. Each island was capable of all-around defense; most were capable of mutual support by fire. The North Korean defense doctrine stressed the fact that the effectiveness of its defensive positions depended on the coordination of all types of fire with antitank defenses and obstacles.

Depths of North Korean rifle units varied. A regiment sometimes extended to a depth of six miles from the main line of resistance; a division sometimes extended to a depth of twelve miles. Normally, a North Korean battalion occupied a front of about 2000 yards and a depth of 1500 to 2000 yards. In mountainous terrain, an enemy battalion often defended a front of 3 1/2 miles.

The North Korean main line of resistance had a depth of three to four miles and was divided into regimental and battalion sectors. These consisted of a number of strong points protected by obstacles. About 1 to 1 1/2 miles in front of the MLR was a security line, manned by an enemy battalion, which consisted of number of individual strong points protected by a system of obstacles. It was designed to prevent surprise attacks and to act as a reconnaissance screen for the MLR. Each individual strong point in the line was supported by fire from the main line of resistance. In front of the security line was an outpost line which usually consisted of hasty emplacements manned with troops armed with small arms and hand grenades. This line was about six to eight miles in front of the MLR.

Enemy reserves varied in strength from one-third to one-sixth of the main force. Commitment was made only on the order of the senior commander, and this was usually done to restore penetrations in the MLR. Battalion OPs were generally located 200-300 yards from the MLR; regiments, 300-500 yards; and divisions, 500-1000 yards; command posts were located further to the rear--a battalion, 800-1000 yards; a regiment, 1500-2500 yards; and a division, 3500-4000 yards.

The smallest self-sufficient tactical unit in the North Korean Army in defensive combat was the regiment. Regimental sectors in the MLR were made up of battalion and company strong-points deployed in a circular manner in depth around the regimental key positions. This provided fire support for the flanks and critical sectors.



SKETCH PREPARED BY ATIS-GHQ, FEC, FROM MATERIAL OBTAINED FROM ENEMY DOCUMENTS

SKETCH 1

REF: EN DOC 20017 and 201314

SECURITY INFORMATION

The initial shock of a UN attack on North Korean defensive positions was absorbed by the security line. The unit holding this line attempted to force UN troops to deploy prematurely or to lure them into the MLR fields of fire. If hostile pressure was too strong, the security line withdrew to the MLR under the protective fire of supporting weapons. If the MLR was penetrated, all fire power from the other strong-points on the flanks and depth was concentrated to seal the gap.

In the event a United Nations unit enveloped a section of the North Korean defensive line, the encircled unit continued its defensive mission, for according to North Korean doctrine, the encircled unit was still responsible for its assigned mission. To prevent such a hostile movement, the enemy launched vigorous counterattacks against the flanks of the UN unit. Withdrawal was made only on the order of the senior commander. When such a withdrawal was impossible, the enemy attempted to infiltrate UN positions and conduct guerrilla activities to the rear.[117]

Chinese Communist Forces

Shortly after the Chinese Forces entered the Korean conflict, they defended key terrain features as a screening action for a pending offensive. A small reconnaissance group occupied forward positions to observe United Nations movement and troop deployment. The remainder of the enemy unit remained concealed in well-protected foxholes dispersed over the crest of the hill from which it could easily attack forward. When United Nations Forces crossed the crest, the enemy laid a devastating fire on the attacking force. When UN troops faltered, the enemy counterattacked.[118]

The CCF stubborn defense or main line of resistance was organized in depth along a narrow front. Extended outposts were placed to the front and on the flanks. Small groups of enemy soldiers, armed with light automatic weapons, manned the outposts and had the mission of delaying United Nations probing attacks on the CCF main line of resistance. Chinese forces organized key terrain features for an all-around defense if necessary, and erected obstacles to channelize United Nations movement. All dead space was covered by mortar fire, and cross fire patterns were established between the strong points.

In the mountainous terrain of Korea, the CCF rifle companies usually occupied the lower slopes of a ridgeline. The heavy weapons company occupied the top of the ridge. Battalion headquarters was somewhere between the rifle companies and the heavy weapons. All units from the squad upward maintained OPs, mainly in saddles between hills. Reserve units occupied areas to the rear of the terrain feature selected for the defensive action. The Chinese depended on counterassault as an integral part of their defense, and certain small units were designated as assault groups. These attacked UN positions under cover of light machine gun fire.[119]

Utilization of Terrain Features

Both North Korean and Chinese Communist forces selected hill tops as principle defensive positions. Positions were always located in places inaccessible to United Nations armor. Most of the enemy's defensive positions were dug near or on the topographical crest of ridgelines or high hills, and were usually dug in for three-sided defense. The enemy's strongest defense was normally directed against valley corridors containing principal roadways, and his positions were usually mutually supported in depth between hill masses. All positions were heavily fortified, well-supplied with ammunition, and tied together by interlocking fire.[120]

Entrenchments and Fortifications

Early in the Korean conflict when UN forces were on the defensive, Communist forces utilized hasty emplacements in a defensive action. Foxholes were of the slit-trench type, each large enough to accommodate a squad. Foxholes were sometimes dug along a hillbase for good fields of fire and observation, and security observation posts for such positions were located midway up the hillside. Platoon trenches were often constructed with machine gun emplacements at both ends large enough for the entire machine gun squad.

When the enemy was forced to fight prolonged defensive actions, adequate protective measures had to be taken against United Nations air and artillery fire. Simple emplacements became elaborate dirt and log

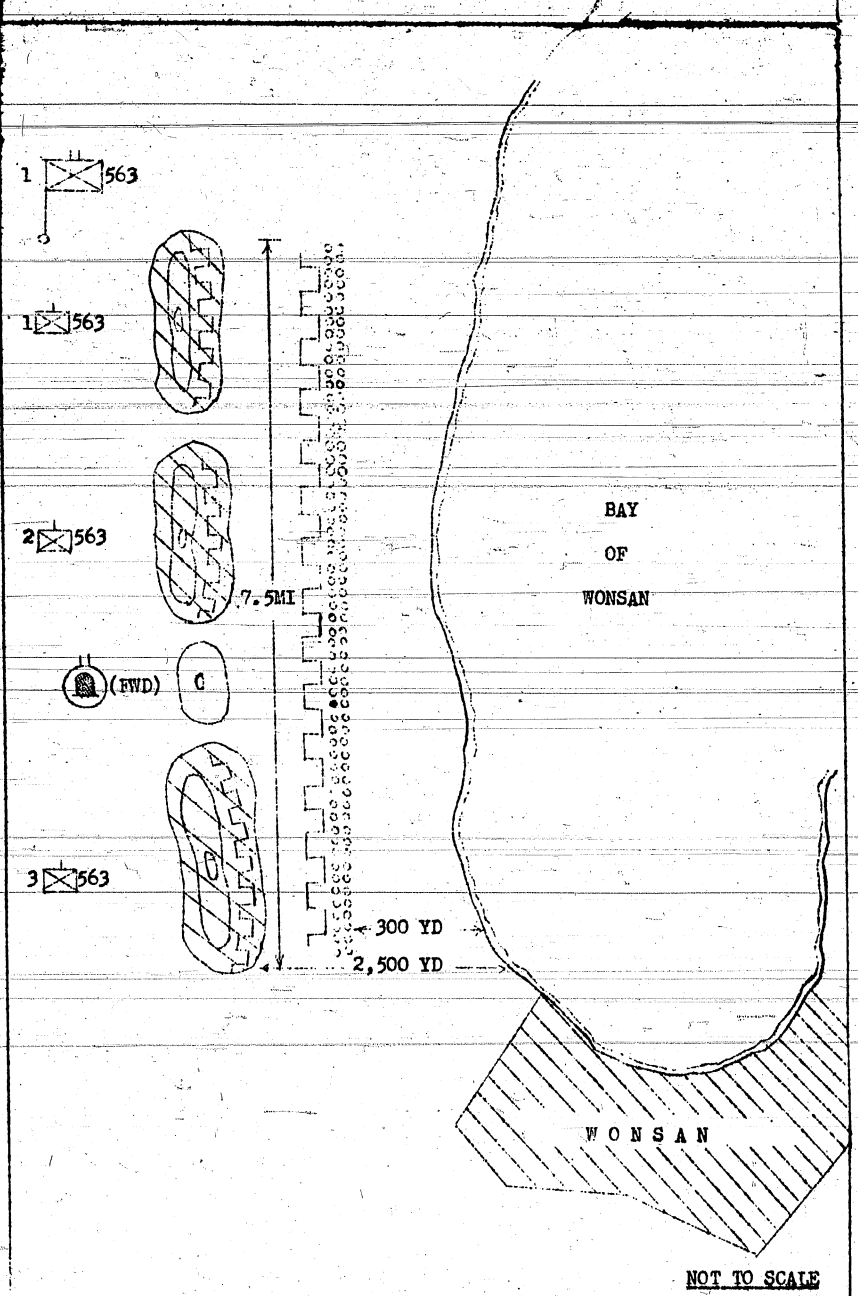
fortifications. A typical enemy strongpoint consisted of foxholes for riflemen, automatic weapons positions, mortar firing positions, and 76mm pack howitzer positions. All positions were connected by communications trenches. On forward slopes these trenches were covered with logs and soil; on the reverse slope, they were only partially covered. On the reverse slopes were located dug-in shelters and mortar firing positions. It was common practice to place primary defense positions on the forward slope, with personnel shelters on the reverse slope. Communications between the two were maintained by tunnel and by alternate trenches. All positions were constructed to afford cover from high angle fire yet provide good fields of fire. Entrenchments on the forward slope were constructed to enable enemy troops to rain grenades down on an assaulting force.

Hill top fortifications were covered with alternate layers of logs and dirt from 4 to 15 feet in depth. From 3 to 12 layers of logs were used for cover. Other underground shelters were constructed in soil, rock and shale. All bunkers were connected by communications trenches. Ammunition storage compartments were also joined to the main network of defensive position by trenches. These were located near the personnel shelters on the reverse slope. All were well fortified against hostile artillery, mortar, and small arms fire.

All brush and inflammable materials were cleared from the vicinity of the defensive works as protection against hostile incendiaries. Lips of dirt were placed around some bunkers, located below the military crest, to divert the flow of UN napalm bombs.

Two-or three-man foxholes were dug about six or eight yards apart on the forward slope and were manned during a hostile attack. When United Nations artillery fire was placed on a Communist strong point, the enemy riflemen moved from foxholes through the communications trenches to underground personnel shelters on the reverse slope. Each shelter held about six to eight men. When UN artillery fire was lifted, the enemy moved back, occupied the former positions, and fired on the attacking troops. Enemy mortar fire was also placed on the assaulting force. Reserve enemy troops, in shelters on the reverse slope, were used to

NK DEFENSIVE POSITIONS NORTH OF WONSAN



SKETCH PREPARED BY ATIS - GHQ FEC FROM MATERIAL OBTAINED FROM TWO POW
REF: TIS 1837, 1844

SKETCH 3

counterattack UN troops to prevent them from occupying newly taken positions. Alternate positions were prepared in case one was destroyed by hostile fire. The enemy also constructed many dummy positions which were successful in drawing fire.

Mortars and artillery pieces usually were emplaced in well-fortified positions on or just below the reverse slope. Often, fields of fire were restricted by overhead cover. However, in the US I Corps sector several unusual methods of employing mortars and artillery were observed. Pieces, located in well-constructed bunkers below the crest on the forward slope of the hill, could be fired and resupplied with ammunition while under cover. Escape tunnels leading to the reverse slope allowed the pieces to be evacuated. In one such instance, a four-gun battery of 76mm guns was found located on the forward slope of a hill within 2000 yards of the enemy MLR. The emplacement for these guns measured 21 feet by 35 feet and was at least 18 feet beneath the ground level of the ridge. 121

Camouflage

One of the most effective weapons of defense employed by the enemy in Korea was his use of camouflage. Methods of concealment and deception increased as the war progressed.

No special training was given the Communist soldier in the art of camouflage, but each squad leader was responsible for teaching the members of his unit camouflage discipline. This was probably why United Nations forces encountered such a wide variety of concealment and deceptive tactics. Enemy caps and coats were equipped with fiber loops so that natural camouflage could be used. When no cover existed, the soldier smeared dirt and mud over his clothing and face.

Units up to battalion size escaped aerial detection during the day by sleeping in ditches covered with pine branches, or rolling up in straw mats and lying in orderly rows, like piles of straw. During the enemy retrograde movement in May 1951, enemy soldiers carried pine branches. When United Nations aircraft were overhead, the enemy squatted and remained immobile. Had the enemy used the side of the road rather than the middle, he would have given the appearance from the air of an orderly row of bushes.

Self-propelled guns and tanks escaped detection by crashing into houses or haystacks. Others burned smudge pots to give the impression that the vehicles were on fire. Wheeled vehicles were dug in during the day in forward areas and covered with surrounding vegetation. If the vehicles had to be ready to move in a short time, they were parked in ditches, gullies, under partially destroyed bridges, and in tunnels. These, too, were camouflaged with branches and other vegetation. In one instance when enemy vehicles crossed soft ground, some dragged trees behind to erase their tracks. Pack animals were kept hidden during daylight as much as possible and camouflaged by the individual animal's attendant when necessary.

Railroad engines and cars were also covered with branches and brush, but the movement of the train and the smoke rendered this camouflage method ineffective. However, open flat cars and gondola cars were camouflaged with corrugated metal and dirt which successfully hid the cargo. Tunnels were frequently used for daylight concealment of trains.

Camouflage of depots and other installations of units lower than division was not mandatory, but installations from division upward were well-concealed. Maximum use was made of tunnels and caves for supply depots. Excavations were made by the responsible unit whenever necessary.

When an individual soldier dug his foxhole he carefully removed the soil and concealed the hole with natural vegetation. He disposed of the dirt by placing it on a cloth, then by strewing it around his position, later camouflaging it with scrub pine, sod, rice straw, or other materials at hand. Enemy soldiers digging entrenchements were difficult to see unless they were skylined. They camouflaged their uniforms and shovels, and when digging, they used short strokes.

The enemy once camouflaged a long highway bridge to simulate a continuous roadway. To create this effect, he attached high trees to the sides of the bridge and added gravel to the bridge floor. On occasions he broke up pontoon bridges during the day and hid the sections under nearby bridge wreckage or along the river bank. For some time friendly forces thought that these pontoon bridges were under construction; actually they were being used every night.

The enemy often used dummy positions and simulated targets to draw United Nations fire. Straw dummies made to represent riflemen, some partially clothed with discarded garments, succeeded in drawing considerable UN small arms and machine gun fire. Dummy tanks and aircraft attracted considerable air strafing and bombing. Artillery positions made out of natural material were emplaced in the standard horseshoe manner. Stacks of empty shell cases were placed near each position, while other empty cases were scattered around each simulated gun. Barrels consisted of 6 inch logs; shields were steel plates; trails were boards; the wheels were made of straw. Realism was carried to the extent of manufacturing foot and vehicle tracks in the position area.

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Employment of Weapons in the Defense

North Korean Peoples Army

Artillery and Mortars--North Korean artillery had the mission of harassing and inflicting casualties on UN reserves in assembly areas. It also fired to disperse and neutralize United Nations tank and infantry assaults. Purely interdictory missions were not fired. Mortars fired antipersonnel and harassing missions as well as antiattack missions at extreme ranges. Fire missions always attempted to separate UN infantry from its armor support. If a penetration in the North Korean main line of resistance occurred, artillery and mortars engaged the penetrating force to contain it. Enemy mortars displaced laterally over a distance of approximately 450 yards but rarely deployed in depth. Mortars were used when UN forces were within 1000 to 1500 yards of the MLR or when ten or more men were concentrated together.

In the early days of the Korean conflict, North Korean Military doctrine required a command reconnaissance (1) to determine the most suitable location of the outpost line of resistance, (2) to assign regimental sectors of responsibility, and (3) to select areas to be mined and neutralized by obstacles. This reconnaissance was conducted jointly by the division, regiment, and battalion commanders together with the division artillery commander and the commanders ofother supporting weapons. The division artillery officer made the over-all fire plan, including the use of 82mm and 120mm mortars, for support of the division

security line, counterbattery fire, fire on the final protective line, and support of counterattacks.

Fire support for the security line was furnished by NK artillery located in the main defense zone and by mortars which were moved in front of the MLR. The bulk of the artillery and supporting weapons was attached to the various strong points in the defensive line. Normally one artillery battalion was attached to an infantry regiment. Artillery fire was delivered from alternate positions in support of the security line.

To support the main line of resistance and assure maximum coverage, specific weapons were assigned zones of responsibility. Special attention was given to provide adequate fire protection to the zones between the individual strong points. The emplacement of the artillery varied with the situation and terrain, but it was generally employed in depth to assure that any penetration of the defense zone could be brought under fire. The weapons not assigned to support the security line were kept well concealed for the element of surprise. These weapons were not fired until the attacking force approached to within 450 yards of the main line of resistance. If a portion of the MLR was penetrated, all available fire was focused on that spot.

In the elastic defense, NK artillery deployed by echelons after dark, firing at maximum ranges in an endeavor to force United Nations forces to deploy. Part of the artillery was employed under decentralized control by attaching it to units in the forward defense positions. The remainder of the artillery was concentrated in the rear and fired under control of the senior commander.

During the latter part of the conflict, NK artillery generally took positions in inaccessible terrain; however, this depended on the hostile situation and the terrain. A battery of mountain guns was assigned to different infantry regiments for support. The sites selected were usually on the slopes of hills or at the foot of the high ground. Gun positions were dug approximately 100 yards apart and 800 yards to the rear of front line troops. Ammunition was stored in shelters about thirty feet to the rear of the guns on level ground, and six to seven feet where the terrain

was hilly. Gun positions were in bunker-like positions and well-camouflaged. Light machine guns were dug in between the gun positions on both flanks for local security. All firing was done during daylight hours, and if firing was done at night, calculations were made during the day. If the artillery remained for an extended length of time in one location, auxiliary positions were dug approximately 150 yards to the flank of the battery. If the enemy artillery pieces were discovered by UN air observation, the alternate positions were used.[123]

Heavy and Light Machine Guns

The NK battalion heavy machine gun company was usually deployed with the rifle companies. Each rifle company assigned to the defense of the main line of resistance had one heavy machine gun platoon, as did the battalion CP for all-around security and antiaircraft defense. This latter platoon could be committed to the defense of the MLR in an emergency.

Most of the heavy machine guns were placed on the flanks as were the light machine guns. This permitted oblique fire along the front and adequate coverage of obstacles. Positions of the guns were staggered in depth to avoid simultaneous destruction by UN air or artillery. All guns were controlled centrally by the platoon leader and were shifted from one target to another on his command. NK heavy machine guns usually opened fire at a range of 800 to 1000 yards; the light machine gun range for opening fire was 300 to 500 yards. When UN troops first assaulted, only a few guns opened fire, for the enemy usually waited until the assaulting troops were vulnerable to cross fire.[124]

Small Arms and Automatic Weapons

North Koreans depended on heavy rather than accurate automatic weapons fire in halting a UN attack. The enemy usually waited until United Nations troops were within 75 yards of their positions before they opened fire with small arms and automatic weapons. However, submachine guns opened fire at about 200 yards, and rifles at 100 yards. Grenades were hurled at distances from 10 to 30 yards.[125]

Chinese Communist Forces

Artillery

CCF artillery was seriously depleted by UN air strikes and artillery fire, and therefore did not constitute too great a threat to UN forces; however, after June 1951, enemy artillery increased in strength and constituted a real hazard. Normally a CCF artillery regiment supported an Army; an artillery battalion supported an infantry division; an artillery battery, a regiment; a platoon, a battalion. No attempt was made to mass fire. For protection against UN air strikes, a CCF antiaircraft automatic weapons unit corresponding in size to the field artillery unit was assigned to them.

Chinese did not utilize their artillery to support the withdrawal of their infantry units, although minor preparations were fired some time prior to the actual disengagement. Usually, the artillery, because of its lack of mobility, moved to the rear well in advance of the withdrawing units. During the latter part of August 1951, the enemy appeared to have adopted the Western type of defense, for at that time his artillery began to be well-coordinated with his infantry.

The artillery battery area was generally selected and designated by the battalion commander with specific locations for the artillery pieces picked by the battery commander. Preferred locations were in mountainous areas away from roads, since many of the CCF artillery pieces were of the pack-type. The distance between pieces was governed by the terrain, but usually it was between 40 and 80 yards. All guns were dug in and well-camouflaged.

Mortars

CCF mortars were normally located at the foot of high ground, or just below the reverse slope of a defensive position where the fire could be employed in support of the first defense line. Mortars were usually employed at ranges varying from 1000 to 1500 yards on hostile troop concentrations, and from 500 to 800 yards on attacking troops. Three to five rounds were fired as a shock action on offensive forces, and concentrated fire was placed in the center and rear of withdrawing UN troops to cause confusion.

Heavy and Light Machine Guns

CCF machine guns were usually employed in support of the main line of resistance in defensive warfare. All areas of enemy approach were covered by machine gun cross fire patterns. Short bursts of fire commenced on dispersed UN troops when they reached effective ranges or concentrated within 200 yards.

Small Arms and Automatic Weapons

Rifles and automatic weapons were fired when UN forces attacked and dispersed within effective firing range, or from 10 to 100 yards. Grenades, on which the enemy placed great reliance, were thrown when UN forces approached within 10 to 40 yards. Most small arms fire occurred with UN forces within 50 to 75 yards of the enemy positions.

Miscellaneous

The CCF also employed roving fire power units equipped with various weapons to confuse UN units and cause them to divert their fire power.

On one defensive position captured by UN forces, the enemy had prepared corrugated drums filled with rocks and TNT. These were located on rough ramps and evidently were to be rolled down on attacking troops with the hope that flying rock would cause UN casualties. Also on the same position, a trench was constructed about 50 yards below the crest to conceal enemy soldiers controlling trip wires attached to bangalore torpedoes around the hill.

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Mines and Roadblocks

Both Chinese Communist Forces and North Korean People's Army employed mines and roadblocks during defensive operations. Very little use of them was made under other tactical circumstances.

Enemy mines were generally laid in roads and by-passes, although in some instances the enemy mined open fields which afforded vehicular approach to defensive positions. Roads were mined in cuts, fills, and other places not suitable for by-pass.

Patterns of laying the mines varied according to the number of mines available, and the haste with which they were laid. The usual pattern of the mines followed a three-pace interval stretching across a road from shoulder to shoulder, staggered. In most places, however, the mines were

laid so that one lay in the track or rut most commonly used. Most mines were normally 1½ yards from the edge of the road. Depths of minefields were not uniform. Occasionally trip wires attached to pull-type fuses on some mines were stretched across the road and tied to trees or other objects. If a vehicle missed the mines, the tension on the wire activated them.

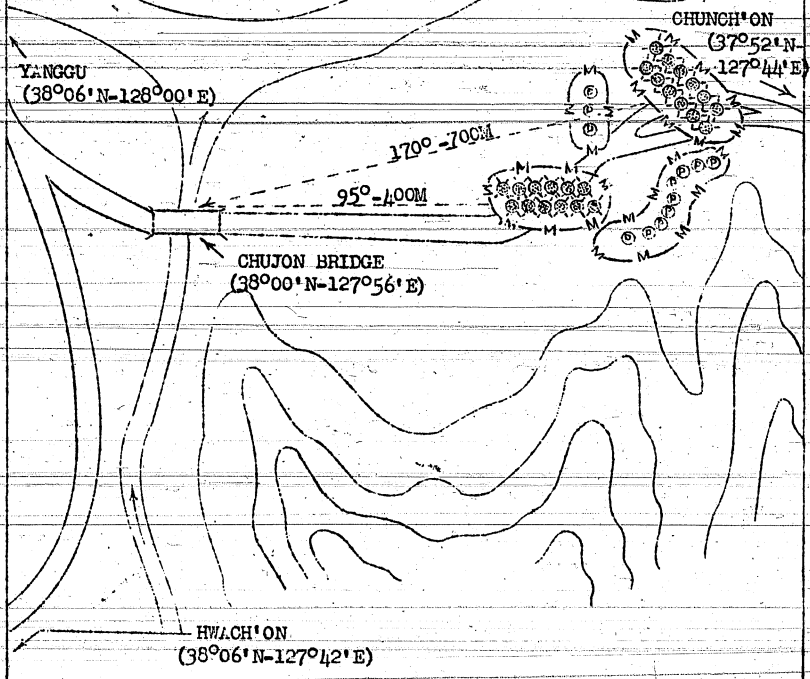
North Korean engineers placed mines in five to six rows with a distance of two to five yards between rows. The interval between mines was two to four yards. The depth of the mine fields averaged from 50 to 500 yards. Many bridges and stream beds were mined to prevent use by UN armor.

Some mines were buried 18 inches to 28 inches deep. This allowed a great amount of traffic to pass before exploding. These mines were very difficult to locate as they were too deep to be discovered by mine detectors, and probing was useless. Other mines were dug in from the shoulders of the road to avoid detection from the top. During the summer of 1951, the enemy placed large quantities of dynamite atop mines in a roadbed, to destroy UN equipment rather than to cripple or delay it. In other spots, the enemy buried scrap metal and beer cans to hinder the progress of UN engineer groups which were clearing paths. Enemy mined areas were not marked, nor were they in the most cases covered by fire.

The frequent use of roadblocks and undefended road obstructions characterized the enemy's defensive tactics. Roadblocks were constructed from large rocks or stones covered with brush and logs. Abandoned vehicles, ditches, craters dynamited in roads, and artificial landslides caused by demolitions were other favored means of blocking routes of advance. Roadblocks were employed singly and in series, in the latter case being placed close together. Many mines and roadblocks were booby-trapped. Some roadblocks were covered by enemy fire.

Most of the enemy's booby-traps were crude, made mostly from blocks of TNT and grenades. Earthen jars with blocks of TNT, amatol, or picric acid were used. Abandoned UN and enemy equipment was often booby-trapped, and in some instances, enemy dead. Most detonations of enemy booby traps depended on some form of a trip wire. During the cold weather of 1950-1951, the enemy buried a mortar round a few inches below the surface of the

TYPICAL NK ANTITANK MINE FIELD



SKETCH PREPARED BY ATIS - GHQ, FEC
FROM MATERIAL OBTAINED FROM ENEMY DOCUMENTS
REF: BULLETIN, ENEMY DOC #14 P30

NOT TO SCALE

SKETCH 2

ground in an abandoned fireplace. A small amount of fresh wood was placed on top of it to tempt UN soldiers to build a fire. The shell exploded two hours after the fire was kindled.

Miscellaneous

Antitank Defense

The shock action of UN armor was extremely effective on the CCF and the NKPA. To combat both the physical and mental damage done by UN tanks, the enemy took various measures. Many enemy pamphlets and manuals distributed to his troops tried to build up courage to cause personnel to attack UN armor. Specialized antiarmor units were organized.

In the North Korean army, all rifle regiments had two or three antitank teams, or "hunter groups," which had the dual mission of defense against tanks and aircraft. These teams were originally organized from the NK division antitank battalion and worked with combat engineer teams of platoon to company size. The AT teams consisted of three or four men armed with submachine guns, antitank grenades, mines, and bangalore torpedoes. Teams were deployed in the rear of defensive positions as mobile antitank forces. Their main mission in defensive warfare was to neutralize hostile tanks which penetrated the defensive perimeter.

The combat engineer unit planted mines and other obstacles to hinder the approach of hostile tanks. The "hunter group" had the mission of attacking and annihilating UN armor. To accomplish this, the teams hid near roads or approaches which could be used by armor, and attacked from the flank. As AT guns attempted to knock out the front and rear tanks, the "hunter group" attacked individual tanks in the column. Multiple attacks were sometimes made to accomplish the purpose.

Chinese Communist forces used antitank teams of various sizes. The enemy doctrine called for all infantry battalions, companies, and platoons to organize teams. Each platoon organized two or three. Company and battalion size teams consisted of two parts: a demolition team of three to four men, armed with one submachine gun each, three hand mines, and two bangalore torpedoes; a support team of three to four men armed with submachine guns and light machine guns. The mission of the support team

was to separate UN infantry from armor to allow the demolition team to attack. The platoon teams consisted of two to three men armed with submachine guns, grenades, incendiary bottles, mines, and other explosives. Pole and satchel charges were also carried by the antitank teams.

The antitank crews usually selected terrain in which tanks found it difficult to maneuver to set up positions in depth. Well-camouflaged emplacements, approximately 150 yards from the defense line, were built adjacent to the routes of approach. When hostile tanks approached, the support group opened fire to separate the assaulting infantry from the tanks. When the tanks approached without artillery support, the antitank teams attacked from the rear flanks. Small arms and machine gun fire was placed on the tanks in an attempt to hit the driver's periscope and keep the tank commander down as the enemy teams attacked. A team assaulted one tank at a time.

When the enemy approached the UN tank, he attempted to climb on the rear and hang small dynamite bags on the turret or gun. He threw grenades and bangalore torpedoes in the bogies. If the tank was disabled, the enemy attempted to set it on fire with incendiary grenades or Molotov cocktails. Although CCF tank hunter teams were fanatical in reaction to initial advances of UN tanks, they were generally content to stay out of sight when the armor returned from an assault.

Antiaircraft Defense

During the early stages of the Korean conflict, the NKPA placed little emphasis on antiaircraft defense. However, with the increase of UN air power, he employed both active and passive antiaircraft measures. The North Korean Army organized air defense teams, armed with heavy machine guns, from the divisional antiaircraft units and from the antiaircraft machine gun platoons of subordinate units. Air observation posts were used to warn troops, and 30 to 50 per cent of the ground arms were used in antiaircraft defense. Antiaircraft artillery guarded rear installations.

The enemy also employed "hunter groups," armed with machine guns, at key tunnels, bridges, and other installations. This team fired at

any overhead United Nations aircraft, and if the installation was hit and could be repaired, the team remained in position. If not, the team moved to guard another key point.

Early in 1951, due to UN air power, CCF regiments were assigned an antiaircraft company armed with six to nine 12.7mm DSHK guns. In addition, each Chinese battalion employed an antiaircraft net in combat. It was composed of a unit manned with nine machine guns--four heavy machine guns from the battalion, and two light machine guns from each company. Emplacements guarding key positions were usually on high terrain where the weapons could command the sky over the target. Emplacements were in the shape of a triangle with communication trenches connecting the ammunition dumps. All positions were well camouflaged.

If four machine guns were employed, the guns were set up on four corners of an invisible square around the installation. The interval between guns was 50 to 100 yards, and between groups of guns, 200 yards. Three machine guns formed a group and these were placed triangularly with an interval of 30 to 50 yards between guns. Continuous fire, on order of the commanding officer, was placed on UN aircraft.

In a defensive position, one platoon was designated to fire on hostile planes. The fire was concentrated, but staggered at different angles. Heavy machine guns fired at ranges over 800 yards; light machine guns, 500 yards; and rifle fire at altitudes less than 300 yards. Fire was first placed on the lead plane to break up any formation. All firing was controlled by the commanding officer.

Countermeasures Employed by UN Forces Against the Stubborn Defense

In spite of excellent artillery, air, and the support of other weapons, the infantrymen had to finally close and dislodge the stubborn foe.

In a typical assault on an enemy defensive position, air and artillery were first used in the softening up process. Aerial bombs weighing 250 and 500 pounds, with a 10-second delay nose and tail fusing, proved effective on enemy fortifications provided a direct hit was scored. Aerial bombardment was restricted due to the lack of the required precision bombing. On an average, one bunker was destroyed out of eight bomb drops on positively identified targets. This average decreased in adverse

weather or because of poor target indentification. Field commanders felt that three fighter-bombers, utilizing 250-pound bombs was required for each bunker.[131]

Artillery assault fire, at ranges of 2500 to 3000 yards, was usually employed in 50- to 60-yard brackets up and over the crest of the hill or ridge defended by the enemy. Enemy machine gun fire was silenced with artillery area fire with fuse quick and converged sheal. Precision fire by one piece was employed to destroy the emplacement. The artillery also reconnoitered all suspected enemy positions by fire using VT fuse to strip away any possible camouflage. It was proven that a direct hit by a 155mm shell was effective on enemy pillbox with a 5-foot protective roof; a direct hit with a 105mm shell was effective on one with a 3-foot protective roof. The best artillery support was provided by the direct fire of a 155mm gun, although high angle fire from heavy artillery also proved effective. VT fuses were used on bunkers at night to prevent rebuilding.

A method employed by UN forces to lift an artillery concentration on enemy positions was the firing of a WP shell. The enemy quickly recognized this, and when such a shell was fired he returned from his bomb shelters, manned his defensive positions, and fired at the assaulting UN troops. In one such attack on a stubborn enemy objective, UN troops employed a ruse. A WP round was fired at the enemy; and five minutes later, after friendly infantry fired small arms to simulate an attack, a mixed TOT and VT artillery barrage was brought down on the hostile position. The objective was taken without further difficulty.[132]

When artillery fire was lifted, 4.2mm and 82mm mortars pounded the enemy positions at three-minute intervals as the assaulting force moved up. Tanks moved forward of the infantry in the final assault and tried to close within a range of less than 1000 yards to fire on the enemy bunkers. A range of 300 to 400 yards was preferred. Tank fire was placed on the bunker apertures or embrasures using HE delay. If these were not visible, two rounds of APC were fired to effect an opening where the logs in the fortification joined the earth or just below the slope of

the roof. This neutralized, but did not destroy the bunker. Anti-aircraft weapons also moved out with the tanks and supported the ground assault.[133]

When the infantry assaulted the position, the artillery and tanks isolated the bunker being attacked from other enemy supporting installations with WP smoke and HE fire. The infantry used assault teams consisting of one rifle squad, two flame throwers, one demolition team armed with satchel and pole charges, one SCR 536 radio operator, one 75mm recoilless rifle squad, and one light machine gun squad, or a total of 26 men.

The teams deployed with the 75mm recoilless rifle squad placing fire on the apertures of the enemy binker at a range of about 600 yards. The light machine gun squads deployed to the flanks to support the attack. The rifle squad, together with the two flame throwers, closed in as far as possible and placed small arms and BAR fire on the bunker. The flame throwers then moved forward until 35 yards from the enemy position and engaged the bunker with fire while the demolition team planted the explosive charges. When the position was neutralized, the team hastily reorganized and prepared to move forward or to consolidate the position.[134]

United Nations armor was used in surprise attacks to by-pass enemy fortifications and hit him from the rear and flanks. To accomplish this, continuous UN engineer reconnaissance was necessary for the removal of mines and reduction of obstacles. UN infantry and armored officers and men had the highest praise for the work of the combat engineers in Korea. Braving enemy fire, they succeeded in detecting the majority of enemy mines employed. Various apparatus, such as flails and rollers, used on tanks to explode enemy mines, proved unsuccessful due to malfunctions and the great amount of explosive charges employed by the enemy.[135]

CHAPTER THREE

INFILTRATION AND GUERRILLA ACTIVITIES

Infiltration And Guerrilla Activities

Enemy espionage and guerrilla activity were widespread since the beginning of the Korean conflict, and played a large part in the enemy's operations and tactics. The North Korean People's Army intended guerrilla forces to be strictly miliatry, but the Chinese Communist Forces wanted the groups to be for political indoctrination. It appears that a happy medium was struck between the two Communist Forces in Korea. For this reason, infiltration tactics and guerrilla activities will be considered separately.[136]

Infiltration

Infiltration tactics were employed by the enemy for both espionage activities and for military operations. Early in the Korean conflict, enemy troops mingled with refugees fleeing southward because of the reluctance of UN pilots to strafe columns of civilians. In other instances, groups of men, women, and children walked into UN positions with North Korean soldiers interspersed among the lead elements. As the groups were screened, other enemy soldiers launched an attack.[137] UN officials were quick to determine the importance of the enemy's infiltration tactics as shown by the following statement:

> Infiltration tactics played a big part in the enemy's attack in the west sector, accomplished by the infiltration of small groups during darkness over a 2-3 day period, after which the infiltrated elements rallied for attacks in coordination with frontal attacks by tanks and infantry.[138]

Not only small groups succeeded in infiltrating UN lines, but major units as well. Early in December 1950, the 10th North Korean Division moved south through mountainous country from the 38° Parallel to within twenty miles of TAEGU. It was a remarkable military feat. It had to rely on the countryside for food and clothing and on captured stocks for ammunition. Lacking medical facilities, it was forced to operate on a survival of the fittest basis. It was able to keep the US 1st Marine Division (as well as ROK security forces) occupied in the mountains northeast of TAEGU. After the 1st Marine Division was committed to action in February, the enemy force became the full time concern of the 2nd ROK Division. Despite heavy losses from constant attacks, it main-

tained the form of a military unit. Approximately one-third of the enemy division managed to withdraw northward to its own lines by breaking into smaller units.[139]

Because of the effectiveness of UN air power, the North Korean Army changed its tactics and adopted an operation called "Paktisa." Groups of enemy soldiers, dressed as civilians and carrying concealed weapons, infiltrated UN lines at night and attacked from the flanks and rear. Others established roadblocks to cut off withdrawing friendly units. Both Chinese and North Koreans practiced the same ruses of having some soldiers dressed in civilian clothes and mingling with refugees. These men hid in caves and buildings during the day, and gathered information or conducted harassing raids at night. Some so-called civilians apprehended by UN troops carried mortar base plates, mortar tubes, ammunition, and hand grenades concealed in packs. Other captured North Korean soldiers had a complete change of white civilian clothes, and each had a package of 5000 ROK won.[140]

Enemy espionage was widespread in Korea and was very effective, but it was generally of a low calibre. Most enemy agents primarily gathered tactical information in a combat zone. Both North Korean People's Army and Chinese Communist Forces, together with enemy guerrilla forces, utilized large numbers of poorly trained agents to gather information of military value. High-level intelligence was conducted by training companies established by the North Korean Political Security Bureau and by North Korean field grade officers, especially trained for intelligence and espionage work. These agents normally confined their activities to the supervision of subordinate information nets.[141]

Missions given to agents varied with the sector to which assigned. On the front lines, the agents attempted to determine the location of the UN main line of resistance; the strength, composition, and disposition of various units; the number and types of weapons; the condition of roads; the objective and movement of UN patrols; and the location of hidden foodstuffs. In forward areas, the agent also determined the number and location of troops. In addition, he noticed the location of

UN artillery, armor, and command posts; the location of the various refugee checkpoints. In rear areas, in addition to noting the location and number of UN troops, agents located National Police strong points and determined their strength. They took the names and addresses of civilians friendly toward the North Korean cause and those who collaborated with UN Forces. They also noted the attitude and feeling of refugees and
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the South Korean people.

Enemy agents were recruited from both sexes and all ages. Young boys were very active in collecting information for the NKPA and partisan bands.

Some individuals were used who brought political disfavor upon themselves and tried to prove their loyalty by engaging in espionage activities. Agents were not well-picked and showed little incentive for their work. Evidently, there was no authority which centralized selection, assignment of missions, or control of enemy agents. Young, middle-aged, and elderly men and women were used singly, in pairs, and in "family-type" groups to facilitate movement. One such agent used a stretcher in an attempt to pass through UN lines. Two adults carried the agent, who posed as an ailing father, on the stretcher. Several young children, who knew they would be well-fed as long as the agent needed them, willingly claimed him as father. When apprehended, he was found to have concealed weapons under the bed clothes. Other agents adopted one or more small children and mingled with bonafide refugees. Others disguised themselves as farmers or local villagers and some were left behind when enemy
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troops withdrew northward.

Some attempted to pass through UN lines as refugees, others utilized mountain trails to avoid checkpoints. Falsified passes were carried by the agents to be used when questioned. Some wore US clothing and pretended to be ROK soldiers separated from their units. Once the agent reached his assigned area, guerrilla and other Communist organizations protected him and transmitted the information he obtained. Sometimes, these organizations assigned the agent subsequent missions. Usually, agents transmitted their information orally, or concealed information in the seams of their clothes or shoes or in the private parts of their

bodies. In rear areas, information gained by enemy agents was sent to North Korea by radio.[144]

Enemy espionage agents used many methods of identification. Money was not only a means of identification, but was also a means of transmitting messages. Japanese fifty-sen pieces indicated the agent was a member of the Korean Labor Party. Japanese coins of various denominations indicated types of arms (one sen-carbine, five sen-M1 rifles, etc.). Other Japanese coins indicated the rank of the agent; the higher the denomination, the higher the rank.[145]

Buttons of various colors and buttons sewed with different thread denoted an agent's identity. Cloth, broken eyeglasses which matched other glasses, North and South Korean flags, hair cut in various manners, jackets, pencils, beans, various types of spoons, and tattoo marks on the body, were also used as identification. An agent apprehended in the US IX Corps sector carried a pocket full of various coins of all denominations, buttons in all colors, spoons, and all the known methods of identification carried by enemy agents. Included in the coins were two sen pieces dated in the eighth year of Emperor Meiji. These were the key coins and the agent's identification pieces. The agent claimed the other coins and trinkets were a life-long collection.[146]

UN Countermeasures Taken Against Enemy Infiltration*

Infiltration of enemy military units was combatted in various ways by UN forces. Coordination of fire power between adjacent UN units in suspected areas, plus interdictory artillery fire, aided in abetting the influx of infiltrating enemy troops. At regimental levels, a civil assistant detachment, two counterintelligence agents, and one ROK police company were utilized to detect enemy agents. All refugees in the area were brought to a regimental collecting point and screened by the CIC agents. All indigenous men of military age apprehended were evacuated through prisoner of war channels. All others were sent to a division refugee collection point for further screening. From the division, the refugees were sent to corps points and on to an Eighth Army point if further interrogation was necessary. However, those cleared at corps level were turned over to ROK civilian control. All UN personnel released by the enemy were returned to at least army level for screening prior to release and return to military duty. This was done to detect any possible enemy indoctrination and assignment of an espionage mission. 147

Friendly troops were instructed to be suspicious of any civilians in front line areas. Lectures by CIC agents also assisted units in spotting enemy agents. Normally, civilians were not in the combat zone. This statement is evidenced by a report issued by the ROK National Police:

> When the defense line is very close from enemy line, those should be evacuated to the area located at 40 to 60 kilometers (approx. 24 to 36 miles) from the defense line; and those areas located 10 to 20 kilometers (approx. 6 to 12 miles) south of the next defense line should be evacuated....

Checkpoints for the control of travel by civilians in both directions were set up by military police units, civil affairs teams, and ROK National Police. Close liaison was maintained between UN Forces and ROK counterintelligence units and the ROK National Police. Informants employed by UN forces also aided in the detection of enemy agents. Some UN divisions had security forces organized from indigenous personnel which operated under the control of the division G2. These assisted in the prevention of sabotage and in the rounding up of enemy agents. Civil

* See countermeasures employed by UN Forces against guerrilla activity.

assistance detachments established lines which refugees could not cross
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going northward in an attempt to return home.

Measures to control refugees were also exercised by the ROK Government. All civilians were required to register in their villages or in a subdivision of a larger city such as SEOUL. In this manner, the National Police, which maintained a police box in every village, knew everyone who belonged in the town. Counterintelligence teams informed the National Police when agents were suspected to be in the area, and the police immediately questioned all strangers. All suspicious persons who lacked proper identification were turned over to investigative agencies for interrogation. Each civilian in South Korea was required to carry a Refugee Certificate or a Prefectural or City Resident's Certificate.
149
These had to be shown at every checkpoint or on request.

Refugee activities were centralized to ward off any possible fifth columnists. Groups to be evacuated were formed in the various villages and sectors, and each group had an appointed leader from the same locality. He knew everyone within his group and notified proper authorities when a stranger joined his column. All refugees in rear areas were required to keep on main roads and avoid trails and secondary roads used by
150
infiltrators and guerrillas.

Guerrilla Activity

At the beginning of the Korean conflict, approximately 5000 communist guerrillas were operating in South Korea. These guerrillas were directed by a core of some 1700 Communist indoctrinated personnel. In addition to this force, the North Korean People's Army had an organized army guerrilla unit, the North Korean Zennam Unit, and an independent army unit, the 766th Infantry Regiment. This regiment was expanded later from 3 battalions to 6 battalions and trained for such work. North Korean divisional guerrilla units were similar to NK reconnaissance companies and were seldom divorced from their parent unit. However, they had ir-
151
regular tables of organization.

Both the North Korean Zennam Guerrilla Unit and the 766th Infantry Regiment were landed amphibiously in South Korea in company-size groups

(about 80 men) and dispersed into the hills. The NK Zennam Unit landed in the wrong sector and proved ineffective. Its mission was to destroy railroad tracks at crossings, bridges, tunnels, curves, and switches, and to cut away telephone and telegraph wires. The 766th Regiment moved by mountain trails through uninhabited areas to its objective and succeeded in harassing UN troops.

Enemy military units, used in guerrilla activities, dressed in uniforms similar to other North Korean outfits and carried the standard weapons. However, members of the organization wore civilian dress to reconnoiter towns, villages, and rear areas of UN forces in daylight. These soldiers returned to the hills before dark and guided the main body back to the objective. In the approach to the objective, three scouts were sent out first, each about 8 yards apart. Companies were separated by 20 to 22 yards; platoons, 15 to 17 yards; and squads, about 10 yards. After the attack, the guerrilla unit withdrew into the hills before daylight.[152]

At other times, NK guerrilla units mingled with refugees and infiltrated to the rear of UN lines. At a certain point, they separated from the civilian column and assembled their weapons which had been hidden in oxcarts or bundles. A reconnaissance was then made by the units and an attack launched. Units were given specific missions and a specific time limit to accomplish the assignment.[153]

With the turn of battle in favor of UN Forces, many cut-off units attempted to escape northward. Some could not. Consequently, they formed their own guerrilla bands or joined forces with other previously established bands. Communist sympathizers and Korean Labor Party members also joined their ranks. These were utilized to furnish logistical support and to perform espionage missions. In November 1950, it was estimated that there was "a 'minimum' of 40,000 guerrillas in South Korea." It was believed that some North Korean general officers and their staffs were responsible for the over-all coordination of the activity of these bands with CCF and NK Forces.[154]

The routes of withdrawal of the guerrilla troops were easily deter-

mined, and by effective blocking actions by UN Forces, heavy casualties were inflicted on the enemy troops. A considerable number were taken prisoners.[155]

As a result, guerrilla forces in South Korea were widely dispersed, and later were divided up into six branches. Each branch consisted in strength from 600 men to 4,000 men. The People's Guerrilla Command was one of the twelve departments of the NKPA General Headquarters, and it controlled the active guerrilla branches of approximately 8,000 men. In addition to the branches, numerous partisan bands, organized by the Korean Labor Party, operated throughout the western part of South Korea. The branch units operated in the eastern sector. Branch units were organized on an army pattern, but the partisan bands followed the loose organization of the Korean Labor Party.[156]

Guerrilla bands established their headquarters in the mountainous terrain in their areas of operation. Security of these camps depended upon the guards at the stronghold itself. Members of the band deployed in a wide area, disguised as peasants and farmers, and had spies in nearby villages. Liaison with these strongholds was maintained by the use of couriers dispatched from the People's Guerrilla Command in North Korea. Guerrilla forces were able to receive messages from North Korea, but UN action captured and destroyed most of their sending stations. Messages carried by couriers were frequently in changed secret codes.[157]

The general mission of the enemy guerrilla branches was mainly to impede the South Korean war effort. Communication and supply lines were attacked; villages pillaged and raided; and Communist propaganda disseminated. Many raids were conducted out of necessity. Food and ammunition were critical items, and desperate bands raided many villages. All this increased the hatred of natives toward the guerrilla bands and resulted in brutal treatment of those captured. A general pattern of concentrating guerrilla forces in one area was the general trend.

Food, clothing, and supplies were obtained from the area in which the guerrilla bands were operating. These were gathered from voluntary contributors and sympathizers, by raids on farms, or by capturing UN

supplies. Female guerrillas purchased medical supplies from the local markets.

Replacements for guerrilla bands were obtained by volunteers, kidnapped young men and women, hostages, and enemy soldiers who had infiltrated UN lines.[158] Hostages aided in securing contributions of food.

Countermeasures Taken by UN Forces Against Guerrilla Activities

During the days of the PUSAN perimeter and the ensuing days of the breakout by UN Forces, it was necessary for UN Forces to divert large tactical units, division or larger, to secure rear areas. Friendly armor was employed to have a quieting effect on guerrilla forces. The 73rd Heavy Tank Battalion fired WP on dug-in enemy positions within the UN perimeter and forced the enemy to flee in all directions. Heavy and light machine guns were then used to good effect on the enemy. By studying the routes of movement of the guerrilla forces, UN troops were able to block their routes of withdrawal. Normally this was done by employing one battalion, organized for perimeter defense, in the route of enemy withdrawal. The remainder of the regiment or division used deployed to encircle the area in which the enemy was known to be. Initially, platoon-size patrols used to combat guerrilla forces were too small.[159] However, company-size and larger had good success.

On 19 July 1950, the Office of Coordinator, Protection of Lines of Communication, Rear Areas, was set up by the Eighth United States Army Korea. Its mission was to coordinate the efforts of Korean and US police to effect the maximum protection of railroads, highways, and bridges. It was also to provide protection for UN signal communication against sabotage and enemy guerrilla activity. One of the first steps taken by this office was to form Korean Police Battalions. At first, one provisional ROK police company was assigned to the US 24th and 25th Divisions with the mission of procuring local guides, securing information on the enemy and familiarizing the respective commanding generals with local terrain conditions and road nets. After about two months, the ROK police companies were returned to the Korean National Police.[160]

ROK Security Battalions and the Korean National Police combatted

guerrillas in rear areas, and were under the operational control of the ROK Army and supported logistically by it. Arms and ammunition for the National Police were furnished by the US Army. Both had the mission of guarding fixed installations and conducting anti-guerrilla activities. ROK Security Battalions were attached to the TABAEK-SAN Command, which had the mission of guarding two strategic passes on main supply routes, the TANYANG and MUNYONG passes; and the SONAM Command. This command was activated in June 1951 at the insistence of the ROK Army to combat guerrillas in the area.[161]

The ROK National Police was organized in 1945, but did not expand until the outbreak of hostilities. It now has 63,000 men as compared to 48,000 in 1945. The National Police, besides guarding fixed installations and conducting anti-guerrilla activities, also were charged with the security of the railroads in Korea. Several thousand National Police were attached to the American corps to control civilian population, screen indigenous personnel, and conduct counterintelligence missions.[162]

When guerrillas attacked a village or an installation, the National Police went immediately to the scene to pursue the attacking force. ROK Security Battalions did not. When a definite guerrilla force was located, the area was surrounded, and UN air strikes called in on the target. After the air raid, the National Police moved up to clean out the area. Often such attacks were jointly conducted with the ROK Security Battalions. Since 25 June 1950, the National Police inflicted an average 100 guerrilla casualties a day.[163]

RESULTS OF NATIONAL POLICE OPERATIONS FROM 25 JUNE 50 TO 31 AUGUST 51*

Enemy killed	67,228	
Enemy captured	23,837	
Enemy surrendered	44,154	
Enemy heavy weapons captured	1,650	135,219
Enemy rifles captured	22,571	
Police Killed	1,900	
Police kidnapped	225	
Police missing	6,866	9,991
Police heavy weapons captured	90	
Police rifles captured	2,300	

In addition to physically contacting the guerrillas, the National

* These figures probably included by-passed enemy troops in North Korea during late 1950.

Police maintained agents in towns and provinces suspected to be harboring guerrillas. Pamphlets, guaranteeing safe conduct, were distributed by hand and air in the same areas, to induce the enemy to surrender.[164]

In addition to guards at VHF stations, which were prime targets for guerrilla raids, wire, booby-traps and mines were extensively employed. Each rear area organization had an SOP which it followed during a guerrilla raid. Security platoons rode railroad trains. Flat or gondola cars, carrying machine guns and crews, were placed on the front and rear of some trains. Hospital trains had two gondolas in front. The first was to explode any mines on the tracks, and the second carried machine guns and crews. In this manner, the guerrilla menace was virtually eliminated by the fall of 1951.[165]

CHAPTER FOUR

SUMMARY OF THE EFFICACY OF ENEMY TACTICS

Summary of the Efficacy of Enemy Tactics

Enemy tactics were sound and well-executed. Contrary to the popular conception of the enemy as "a screaming horde," the NK and CC Forces were well-coordinated fighting machines. Enemy attacks showed considerable prior planning and good judgment for the most part.

Reconnaissance of UN positions was thorough and resulted in many penetrations. The extensive use of guerrilla activity, especially during the days of the PUSAN perimeter and the INCHON landing, aided the enemy's fighting machine. Tactics employed were similar to Western tactics; especially, the old Patton adage of "holding them by the nose and kicking them in the pants." Envelopments were widely used. It is believed that air superiority, firepower, and mobility of the UN Forces provided the difference between the two forces.

Defensively, the enemy used the same tactics, on the whole, as UN Forces; namely, that of trading terrain in an effort to gain time and inflict maximum losses on the opposition. After May 1951, the enemy adhered to the principle of the main line of resistance, and proved a stubborn, tenacious foe to dislodge. Massed artillery fire and hand-to-hand assaults were necessary to clear the enemy defensive positions.

Certain definite disadvantages to the enemy were noted in the tactics he employed. Definite offensive indications were conspicuous before every attack. This enabled UN Forces to prepare themselves. Since the enemy attacks followed a definite pattern in all cases, UN Forces were able to take appropriate defensive measures.

Another weakness noted in enemy tactics was his inability to sustain an offensive, especially at lower unit levels. This was caused by the damage inflicted on his supply system by UN air and artillery. Consequently, each enemy soldier carried approximately a week's supply of food. When this was exhausted, the enemy attack lost momentum and finally stalled. Undoubtedly winter weather hindered the resupply of enemy rear installations. This was due to the scarcity of natural camouflage and to the good flying weather available to UN aircraft.

The advantage of the enemy's superior manpower became a disadvantage

in the face of UN fire superiority. Enemy troops became demoralized and confused; units were difficult to control because of inadequate communications; and logistical support was difficult. The capture of many enemy troops suffering from old wounds indicated that Communist medical support was limited.

All in all, the Communist Force employed in Korea was a capable opponent which employed sound basic principles of war.

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162. Interview with Col. Wm. R. Hamby, Advisor to the Minstry of Home Affairs, Korean National Government, 24 Oct 51.

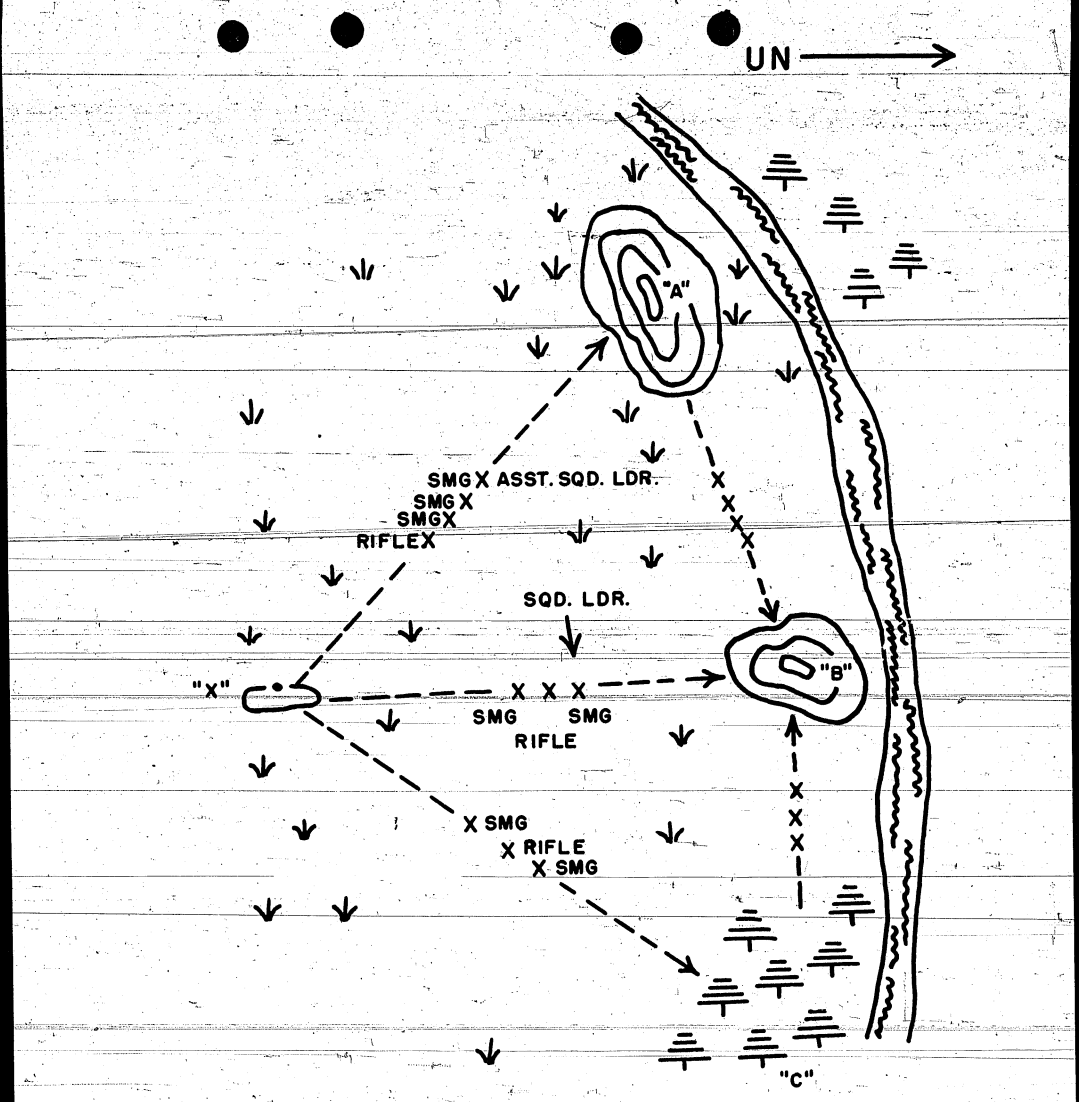
163. Interview with Col. Wm. R. Hamby; Interview with Capt. Owen Carroll.

164. Interview with Col. Wm. R. Hamby.

165. Daily Report for EUSAK Diary for 15 Jan 51, Office, Coordinator, Protection of Lines of Communication, Rear Area, Hq EUSAK; Observer Report, Lt. Col. Warren K. Bennett, undated, G3 Training Files, Hq EUSAK; Daily Report for EUSAK Diary for 13-14 Jan 51, Office, Coordinator, Protection of Lines of Communication, Rear Area, Hq EUSAK; Interview with Col. Wm. R. Hamby.

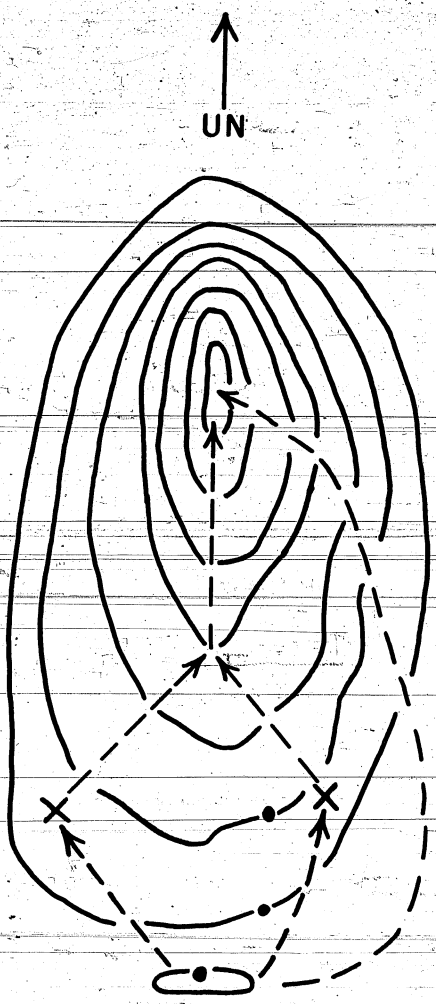
ANNEX A

TYPICAL RECONNAISSANCE FORMATIONS



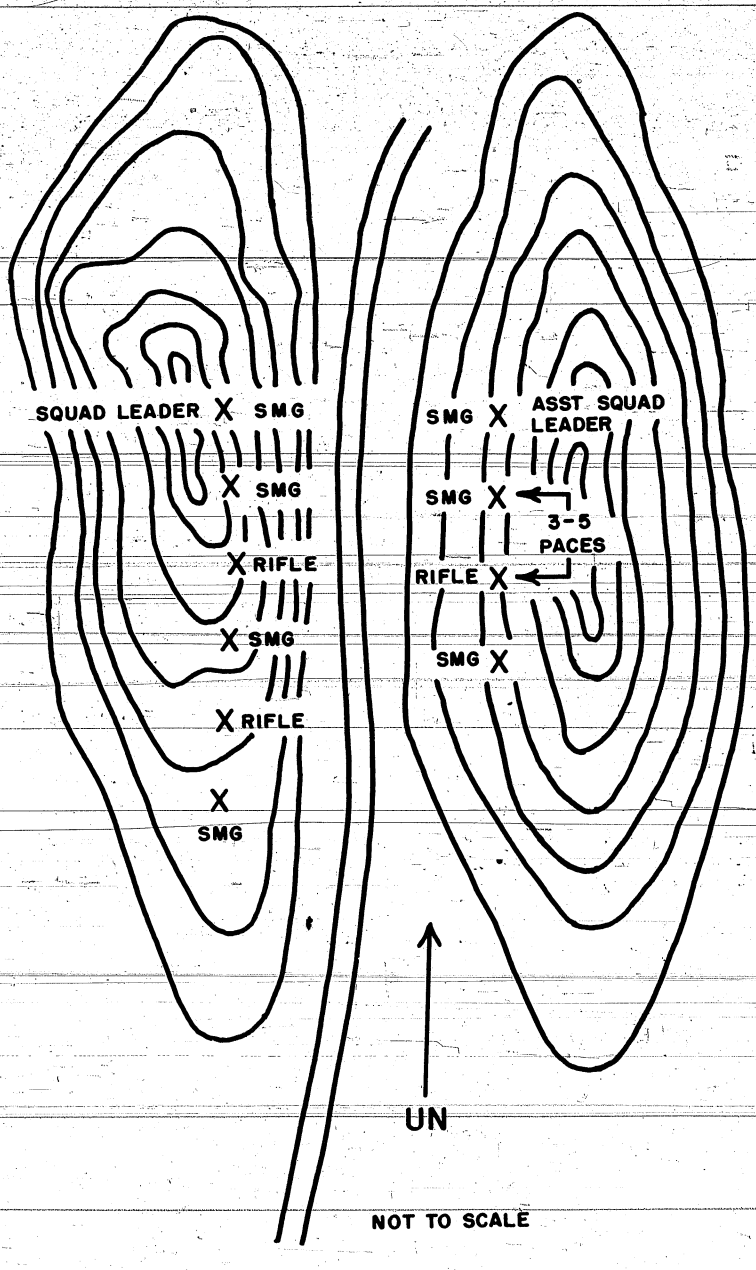
RECONNOITERING AN AREA

When reconnoitering an area, the squad leader first selects the most prominent terrain feature and sends three to four men to reconnoiter this spot. In the above sketch the assistant squad leader is sent with three men to Hill A, which was deemed the most important. Upon arriving at Hill A and determining it to be clear of enemy, a signal is sent to the squad leader at X. In the event enemy is encountered in vicinity of Hill A, one member reports this to the squad leader while the balance of the group remains to continue observation. If no enemy are discovered on or in close proximity of Hill A, the squad leader dispatches a three-man team to reconnoiter area C, while he himself proceeds to area B with two men. The three groups are given a specific time allotment in which to complete their reconnaissance. Upon completion of the mission, each team remains in its respective sector to await signal from the squad leader to move to B, the point of rendezvous. Upon receipt of a signal, either visual or audible, the two flank teams converge on the center by a route close to the river bank. After assembling, the entire squad returns to its parent unit along the approach route.



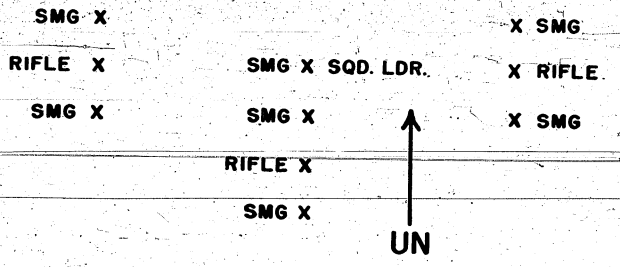
RECONNOITERING A MOUNTAIN

When reconnoitering a mountain, a squad size unit is normally employed. Upon reaching the foothill, two members of the patrol take up positions so as to observe along both sides of the mass. The remainder of the patrol gradually moves up the side in single file. Upon reaching a point just below the center of the crest, they turn ninety degrees and move in single file to the crest. If the mountain is clear of hostile troops, a signal is made to the two men posted at the foot to proceed to the top. If further reconnaissance is needed, the patrol continues on or returns to its parent unit using the route of approach.



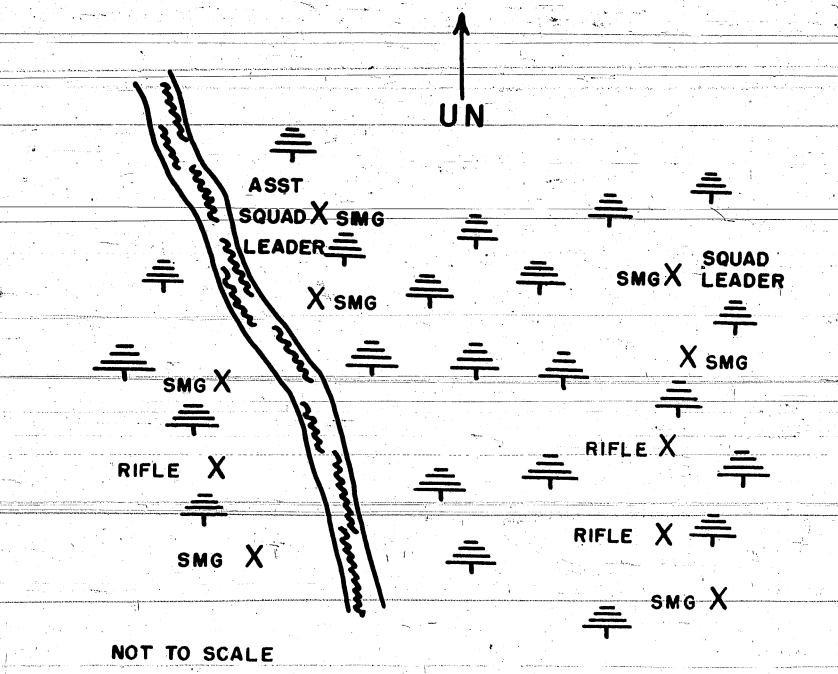
MOUNTAINS

When moving through mountains, to avoid defiles, a patrol ordinarily splits into two sections. Control of the split patrol rests with the Squad Leader and Assistant Squad Leader, each of whom leads a column. Control is exercised between the files by a system of prearranged signals. If necessary to move through a defile, a three-man point may be sent fifteen to twenty-five meters ahead of the main body. If the point receives fire from the adjacent hillsides, the main body either rushes through the defile or withdraws, depending on the amount of fire received and the importance of the mission.



OPEN TERRAIN

THE ASSISTANT SQUAD LEADER PLACES HIMSELF WITH EITHER FLANK COLUMN. AT THE HEAD OR BRINGING UP THE REAR, DEPENDING UPON THE SITUATION.



WOODED AREA

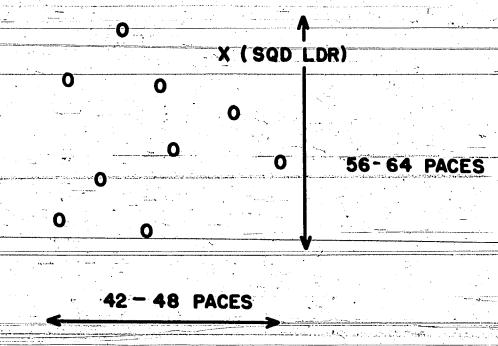
The formation used when moving a patrol through a wooded area is in nearly all aspects similar to that employed when crossing open terrain. The density of the woods dictates the division of the patrol into two or three columns. Control, also dependent upon the density of the area, consists of whistle signals and lighted match signals.

ANNEX B

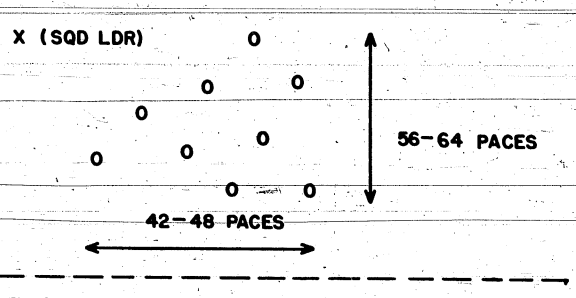
TYPICAL CCF SMALL UNIT FORMATIONS

CCF SMALL UNIT FORMATIONS

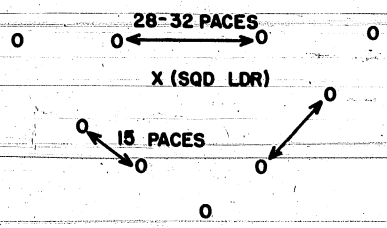
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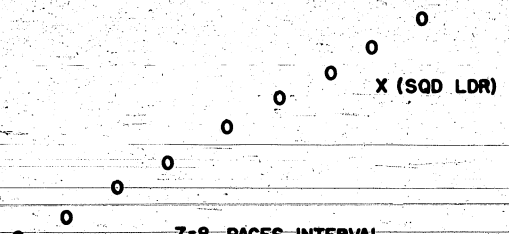
B. SQUAD LEADERS RIGHT TRIANGLE:



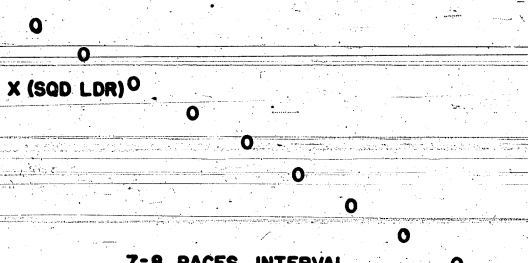
C. REAR TRIANGLE:



D. RIGHT STAIR TEAM:



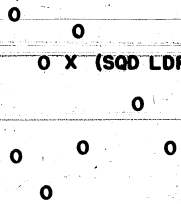
E. LEFT STAIR TEAM:



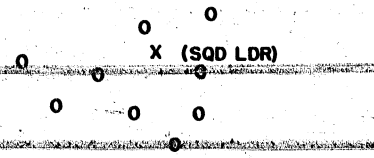
F. WIDE FRONT:



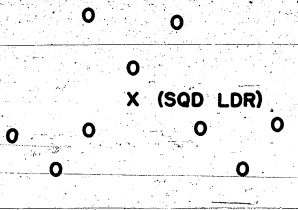
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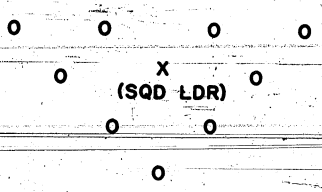
H. LEFT TRIANGLE:



I. FRONT TRIANGLE



J. REAR TRIANGLE



ANNEX C

PICTORIAL

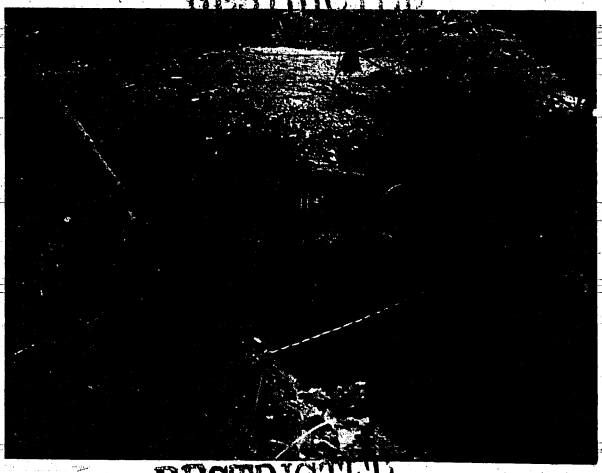
RESTRICTED



RESTRICTED

Overhead cover on point of communication trench.

RESTRICTED



RESTRICTED

Two personnel shelters with communications trench at CT833298.
(Map NJ 52-10, Korea, 1:250,000.)

RESTRICTED



RESTRICTED

Personnel shelter at CS 889987. (Map NJ 52-10, Korea, 1:250, 000.)



Weapons pit at end of communications trench at base of hill CS886984. (Map NJ 52-10, Korea, 1:250,000.)

RESTRICTED



RESTRICTED

Communication trench with overhead cover CS893983. (Map NJ 52-10, Korea, 1:250,000.)

RESTRICTED



RESTRICTED

Foxholes at base of hill at CS888985. (Map NJ 52-10, Korea 1:250,000)

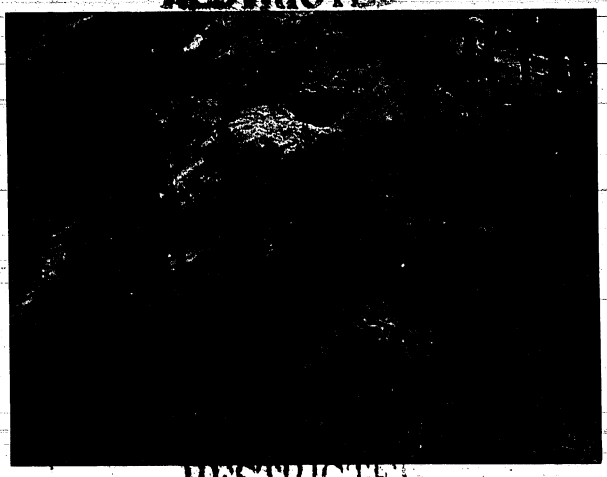
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AW Bunker on top of ridge at CS888985. (Map NJ 52-10, Korea, 1:250,000.)

RESTRICTED



RESTRICTED

Personnel shelter on ridge at CS887993. (Map NJ 52-10, Korea, 1:250,000.)

ANNEX D

AERIAL PHOTOGRAPHS



Oblique aerial photograph illustrating elaborate communications trenches employed by the Communist Forces in Korea



Oblique aerial photograph showing two Communist bunkers (lower right corner) on a strong point. Notice how the brush was cleared away for protection from UN incendiaries.



Oblique aerial photograph showing elaborate antitank ditches (see arrows) used by Communist Forces in Korea. The hill mass between the two roads was covered with many well-camouflaged bunkers and trenches.

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Volume III Part 13

Monograph, Enemy Material - Korean Campaign Eighth US Army

26 June 1950-Dec 1951

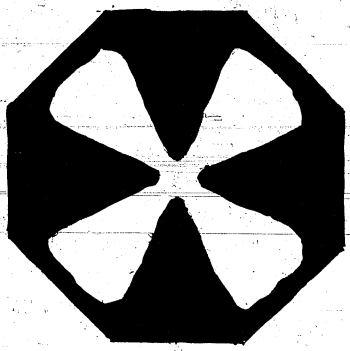
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SECRET SECURITY INFORMATION

MONOGRAPH

Enemy Materiel



Headquarters

EIGHTH UNITED STATES ARMY KOREA

(EUSAK)

APO 301

CMH LOG 175 19 Jun 52
4303

Incl #2

SECRET SECURITY INFORMATION

GENERAL HEADQUARTERS
FAR EAST COMMAND
APO 500

SECRET / SECURITY INFORMATION

AG 314.7 (3 Aug 51) MHS

OX/7467
18 JAN 1952

SUBJECT: History of the Korean War

TO: The Adjutant General
Department of the Army
Washington 25, D. C.
ATTENTION: HIS

Reference your letter, subj: History of the Korean War, dated 3 August 1951. Forwarded herewith in duplicate is monograph entitled "Enemy Materiel" to be part 13 of Volume III of the histories of the Korean Campaign.

FOR THE COMMANDER-IN-CHIEF:

Eileen M. Webster

EILEEN M. WEBSTER
Major, AGC
Asst Adjutant Gen

1 Incl
Monograph (in dup)
(1 cy n.c. OCAFF 63)

SECRET
SECURITY INFORMATION

HEADQUARTERS
EIGHTH UNITED STATES ARMY KOREA (EUSAK)
APO 301

VOLUME III, PART 13
ENEMY MATERIEL, INCLUDING ENEMY WEAPONS AND EQUIPMENT

This monograph was compiled by personnel of the Historical Section, EUSAK, and the Eighth Army Historical Service Detachment (Prov). Principal research and preparation of the original draft of the manuscript was the work of 1st Lt Bevin R. Alexander. Information was secured both from interviews with pertinent personnel and from official documents of GHQ, FEC; EUSAK; and EUSAK subordinate units. The classification of this document is SECRET; handling and regrading will be accomplished in accordance with the provisions of AR 380-5.

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ENEMY MATERIEL, INCLUDING ENEMY

WEAPONS AND EQUIPMENT

CHAPTER I

PROBLEMS PRESENTED BY THE NORTH KOREAN PEOPLE'S ARMY IN KOREAN CAMPAIGN

When the United States of America found itself embroiled in an undeclared war with the North Korean People's Republic on 26 June 1950, US field forces initially committed to action had only a hazy knowledge of the enemy they were facing and the odds, both in manpower and weapons, they would encounter. In the realm of weapons and materiel of war, it was generally known only that the North Korean People's Army (NKPA) was predominantly equipped with Soviet equipment. This fact, while other characteristics of the NKPA fluctuated widely, remained relatively constant; the NKPA fought from the beginning to the end predominantly with Soviet-supplied materiel.*

But the simple assertion that the NKPA was equipped with Soviet equipment and weapons of war does not begin to settle the problem with which American troops in Korea were confronted in meeting their new enemy. Far more pertinent are the questions: were NKPA arms and equipment of the most modern type, in what quantity were Soviet arms available, and how did these arms match up against American equipment?

Probably the most important element indigenous to the armament of the NKPA was the reluctance on the part of the USSR to equip its satellite nation with the most modern war tools available. This was a prime factor considered in the pursuit of the Korean campaign by United Nations Forces.

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* There were several exceptions to this statement: (1) According to one report (ATIS Interrogation Report No. 1607, page 24, Issue No. 11, "Interrogation Reports, North Korean Forces," Allied Translator and Interpreter Section, GHQ FEC, dated 11 October 1950), the NKPA 5th, 6th, 7th, and 11th Divisions were formerly part of the (Japanese?) Manchurian Army, and went to Korea intact and equipped with Japanese small arms and US M1s and carbines; the divisions also had some US artillery pieces, but these were left in North Korea due to the non-availability of US ammunition. (2) The NKPA, during the course of the Korean campaign, also acquired from the battlefield much US equipment which was subsequently used; this was particularly true of artillery, which the NKPA's Soviet-made supply was insufficient. (3) The North Koreans themselves, at the KANG-DONG, Korea, underground arsenal and at other locations, manufactured the following positively identified weapons: copy of US caliber .45 M1911A1 pistol, and copies of the Soviet PPSh-41 SMG (except stocks), 82mm mortar, 120mm mortar, ammunition for the PPSh-41, and drum-type magazines for the PPSh-41.

NKPA equipment was not always of the most modern manufacture, and the NKPA fought with materiel which, in many cases, was in a stage of obsolescence. Further, much of the heaviest Soviet materiel, i.e., the 152mm M1943 howitzer, the 152mm M1937 gun-howitzer, the Joseph Stalin series of heavy tanks, and very heavy artillery, was never turned over to the NKPA or the CCF. The NKPA possessed no heavier field artillery than the 122mm M1931/37 corps gun, no larger mortar than the 120mm M1938, and no later tank than the T-34/85. The bulk of the equipment in the hands of the enemy, particularly artillery and other heavy materiel, came from Soviet surplus stocks and was not of the most recent design. This factor lessened the effectiveness of the North Korean enemy immeasurably against the massive, modern firepower of American forces. The NKPA, after the first few months of the conflict when US troops were understrength and underequipped, was never able to trade blows with the US Army on equal terms.

Before any comprehensive study can be made of the North Korean materiel of war, a thorough understanding of the NKPA's organization and equipment is imperative.* Early success in the Korean campaign went to the NKPA not only because it exploited the element of surprise to the utmost, but also because it was a strong, compact, and well-organized force, which, while evidencing definite weaknesses, was nevertheless a potent adversary of the US Army.

The organization and equipment of the typical North Korean division at the start of hostilities offered a striking similarity to that of the average World War II Soviet infantry division. Analysis of PW reports indicated that virtually the only important difference between the NKPA division and its Soviet counterpart was that the North Korean division had an additional self-propelled artillery battalion, using SU-76s (76.2mm field guns on an obsolete T-70 tank chassis), a signal battalion instead of a company, and the lack of a chemical warfare company integral to the

* See Appendix No. 1, Inclosure No. 1, for complete schematic breakdown of the main elements of the typical NKPA infantry division, including a listing of the specific numbers of weapons of every type within the various divisional units.

Soviet division.* This intelligence assumes importance when it becomes clear that utilization of Soviet-manufactured equipment was quite simple for the NKPA because such materiel was designed for the very use to which the NKPA put it.

At full strength, the standard division totaled approximately 11,000 officers and men. This was smaller than the standard US infantry division but generally followed the normal triangular arrangement of the US unit. The division was composed of three rifle regiments, an artillery regiment, a self-propelled artillery battalion, an engineer battalion, a signal battalion, an antitank battalion, a training battalion, a reconnaissance troop, and the division rear services organization, which included medical, veterinary, transport, and supply organizations.

The arms of the infantry division were: 1,298 pistols (Tokarev 7.62mm TT-1933), 6,098 rifles (primarily the M1891/30 Mossin-Nagant 7.62mm, but also many carbine models of the same weapon), 3,198 submachine guns (7.62mm PPSh-41 and the PPS-1943), 385 light machine guns (Degbyarev 7.62 mm DP and 7.62mm DPM), 162 heavy machine guns (primarily the 7.62mm Maxim M1910), 66 antitank rifles (both the PTRD-41 Degtyarev 14.5mm and the PTRS-41 Siminov 14.5mm), 54 45mm antitank guns (the M1942 gun was most seen, but many M1937s were used), 81 82mm mortars (majority the M1937 "Battalion Mortar" but also some M1941), 18 120mm mortars (majority the M1938 but also some M1943), 24 antiaircraft machine guns (12.7mm DShK M1938 on dual-purpose mount), 36 76.2mm field guns and howitzers (12 were the M1927 regimental gun, which is actually a howitzer, and 24 were the M1942 division gun, a field gun), and 18 122mm howitzers M1938.

A discussion of the essential elements of the normal NKPA infantry division follows:

The NKPA rifle regiment possessed a T/O strength of about 2,500 men, with three rifle battalions, a 76mm gun (actually howitzer) battery, 120mm

* For a schematic analysis of one specific NKPA infantry division, see Appendix No 1, Inclosure No. 2. This study should serve to illustrate the variations within one NKPA division from the general organizational mean of the NKPA.

mortar company, 45mm antitank company, antiaircraft platoon, signal company, engineer platoon, and regimental rear services, including a medical unit and band, and headquarters and headquarters company.

The artillery regiment was the main source of artillery supporting fires in the infantry division. A unit of approximately 1,000 officers and men, the artillery regiment had two 76.2mm gun battalions (composed of 76.2mm field guns, predominantly the M1942 gun, though the obsolescent M1902/30 gun was encountered), a 122mm howitzer battalion (primarily the M1938 (M30) 122mm howitzer, but also considerable numbers of M1931/37s), and a headquarters organization.

Divisional units were: headquarters, reconnaissance company, SMG company, engineer company, antiaircraft machine gun company, transport company, antitank gun battalion, signal battalion, training battalion, guard platoon, and medical battalion.*

While the above listed general status of the NKPA infantry division was, no doubt, quite true of the earlier stages of the campaign in Korea, ravages on the strength and equipment of the typical division were quite severe when the enemy began to engage American forces closely. For example, the SU-76 self-propelled gun battalion, originally organic to the NKPA infantry division for the purpose of providing antitank support and close-in supporting fires for assault troops, was highly vulnerable to air and ground attack by UN Forces. As a result, attrition for this unit was extremely high.

The SU-76 encountered in Korea was a lengthened version of the obsolete T-70 Soviet light tank chassis on which an M1942 76.2mm gun was mounted, and it was typical of the general line of obsolescent and sometimes inferior equipment with which the USSR supplied the NKPA. The SU-76s turned over to the North Koreans had an open-topped fighting compartment, a deficiency which made the piece extremely susceptible to ground attack. The standard Soviet SU-76 has a covered fighting compartment, and the open-topped version is not found except in satellite armies.

Following the UN autumn counteroffensive in 1950, the thoroughly routed NKPA lost or abandoned practically all of its heavy equipment.

* A more detailed breakdown of the standard NKPA infantry division can be found in Appendix No. 2.

particularly, in its headlong retreat, its artillery weapons. Due to the ensuing acute shortages of artillery weapons and trained personnel, significant modifications were effected in the organizational pattern of the reconstituted North Korean Army.

Due to the effective UN air interdiction and heavy battlefield attrition, almost from the beginning the NKPA suffered from shortages of equipment, particularly artillery and other heavy materiel. Smaller items of equipment, mainly small arms and automatic weapons, light artillery, and mortars, were generally available in tolerable, if not adequate, amounts; but the heavier items of equipment were in short supply and most available artillery was plagued with serious shortages of ammunition. Coupled with deficiencies of trained personnel, these shortages in many instances required field commanders to effect a number of modifications in T/O&E, chiefly with regard to artillery, in order to maximize available firepower. The most important and most frequently reported organizational change of this type was the shift in specialization from the battalion to the battery level, presumably because of the enemy's inability to mass effective fires by units larger than batteries except under unusual circumstances. The main reorganization took the form of the elimination of the 122mm howitzer battalion in the division and the creation of three battalions of identical construction; i.e., two batteries of 76.2mm field guns and one battery of 122mm howitzers. This structure, however, was by no means universal and remained the exception rather than the rule.

While the NKPA infantry division was the basic fighting unit of the Korean conflict, a discussion of the unit does not adequately outline the situations in which enemy equipment was used against UN Forces. In addition to the antiaircraft battalions which constantly harassed UN aircraft over North Korea, the NKPA boasted one armored division (the 105th), and respectable amounts of corps and GHQ artillery.

An analysis of available reports on the North Korean 105th Tank Division indicated that its organization followed the pattern of the

World War II Soviet tank division with the following exceptions: the overall strength of the division (6,000) was approximately 50 percent less than that of its Soviet counterpart and did not have a heavy tank regiment, a rocket launcher battalion, a mortar regiment, or an anti-aircraft regiment. It was, though, fully equipped with Soviet vehicles, tanks, and weapons. While it may appear to have been organized for combat on a divisional basis, there is no available information to indicate the 105th Division was used as such.* Every report shows that the division was split, with the tank regiments usually supporting the infantry divisions. Even during the training phase the three tank regiments (the 107th, 109th, and 203rd) were stationed at separate locations in North Korea.

Basic armament of the NKPA tank division was 120 tanks, 40 per regiment. Every one of these tanks, according to all reports, was a T-34/85 Soviet medium tank. This was the only tank of any country that was definitely encountered from either the NKPA or the Chinese Communist Forces in Korea, and while causing wide consternation during the initial phase of the campaign, it was soon successfully countered by UN antitank weapons and US tanks. Other organic supporting units of the division were the 206th Mechanized Infantry Regiment and the 308th Armored Artillery Battalion equipped with SU-76s.

Regarding corps and GHQ artillery, the NKPA possessed three known regiments assigned to these commands, one regiment for each unit. The bulk of NKPA artillery support potential was concentrated within the organizational frame work of the combat divisions, for several reasons: shortages of artillery weapons, low mobility of NKPA artillery, difficulties imposed on the rapid movement of heavier field artillery by the mountainous topography of Korea, and the effective interdiction of UN airplanes. Each of the regiments assigned to corps and GHQ was originally composed of about 1,300 officers and men, and they were identical in structure, normally

* For a complete study of the 105th Tank Division see Chapter IV, Issue No. 4, "Interrogation Reports, Enemy Forces," Research Supplement, Allied Translator and Interpretor Section, Military Intelligence Section, General Staff, GHQ FEC, dated 15 December 1950. Also see the schematic outline of the 105th NKPA Tank Division in Appendix No. 1, Inclosure No. 3, this monograph.

attached piecemeal by battalions, and sometimes by batteries to subordinate combat commands. Each of the three battalions in the reserve artillery regiments had two batteries of four 122mm Soviet M1931/37 corps guns, one battery of four 122mm howitzers, a signal platoon, and an ammunition platoon equipped with four trucks. Hence, the total armament of the regiments was 24 122mm corps guns and 12 122mm howitzers.

Of great importance to the UN conduct of the campaign was the fact that these pieces, with the exception of a few captured US 155mm rifles ("long toms"), were the largest NKPA ordnance encountered; this was not true of the CCF. Further, these relatively heavy pieces of artillery were in comparatively short supply in the NKPA as constrasted to the relatively large quantity of artillery available to UN Forces, particularly the 155mm howitzers, the 155mm guns, and the 8 inch howitzers. The USSR consistently abstained from supplying the NKPA with any of its excellent corps (the 122mm gun is an exception) or heavy artillery; i.e., the 152mm M1938 and M1943 howitzers, the 152mm M1935 gun, the 280mm M1939 howitzer, the 210mm gun, and the 305mm howitzer. This greatly lessened the comparative strength of the NKPA with an equisized Soviet force. There were a few isolated references to the existence of some 152mm corps artillery howitzers in the hands of the NKPA, but these never were confirmed, and no 152mm piece of any sort was ever captured by UN Forces.

In an evaluation of weapons found in the NKPA and contrasted with weapons and equipment in the Soviet Army, it is readily confirmed that the NKPA was predominantly an obsolescently equipped army. One interesting element of the status of NKPA equipment received from the USSR is that many PWs reported that a large portion of the NKPA's materiel was composed of old models but of recent manufacture. One PW stated that the mortars in his unit were produced in 1948, 1949, and 1950. Large quantities of older equipment were also reported.[1] Much of this materiel, particularly armored vehicles, was reported to have been reconditioned prior to transfer from the USSR. This was verified by the fact that enemy (T-34/85) tanks captured through 19 October 1950 were in excellent

condition. Later occurrences of materiel were also found to be in relatively good condition. After the collapse of the NKPA during the UN counteroffensive in the autumn of 1950 and the resulting loss of large quantities of the army's equipment, it was necessary for the NKPA to receive practically an entire new supply of war materiel. Information supplied during the summer of 1951 by an unusually well-informed senior officer of the NKPA indicated that the USSR began a resupply of the North Korean enemy, which was sufficient to restore the firepower of most or all NKPA combat divisions to pre-war standards.

In asserting that the USSR deigned not to provide the NKPA with the most modern weapons it had available is borne out in the following analysis: while small arms, i.e., the TT M1933 Tokarev 7.62mm pistol, the Mossin-Nagant M1891/30 7.62mm rifle, the Mossin-Nagant M1938 carbines, the Degtyarev PTRD-41 14.5mm AT rifle, and the Siminov PTRS-41 14.5mm AT rifle, were basically those still found in the Soviet Army, and while automatic weapons in the NKPA were essentially those also found in the Soviet Army, (an exception was the Soviet M1946 7.62mm "company" LMG which was never issued to either the CCF or the NKPA), heavier weapons, armored vehicles, and other arms were supplied to the NKPA in older models, or, in the case of the heaviest pieces of ordnance, were not supplied at all.

In the case of mortars, the USSR provided the North Koreans with two types, the 82mm M1937 or M1941 battalion mortar and the 120mm M1938 or M1943 mortar. In each case, the more modern models of the above-mentioned mortars were supplied to the NKPA only in a ratio of about one to every 15 or 20 mortars of earlier and more cumbersome design. The later model mortars have elements of superiority over the older versions, as evidenced by the fact that the M1937 120mm mortar weighs 11 pounds more than the M1943 and has the same characteristics. The "big berths" of the Soviet mortar class--the 160mm mortar M1943--(mortars 82mm and above are classified as artillery by the USSR, China, and North Korea) was never encountered in Korea and offered a distinct handicap to the NKPA, inasmuch as the 160mm mortar, firing an 88-pound projectile 5,500 yards, could have

been of inestimable use by the enemy as "heavy artillery." The 107mm mountain mortar M1938, seldom seen in the Soviet Army, was never found in Korea, though ammunition for this piece was found.

As a consequence of the lack in the NKPA of heavier artillery which complemented and supported the fires of the lighter field artillery, the enemy was always decidedly inferior in artillery throughout the campaign and was never able to engage effectively in harassing and interdiction missions, counterbattery fire, and heavy concentrations. The basic pieces of artillery in the NKPA were the 76.2mm regimental howitzer, so-called because a battery of this small howitzer was organic to each infantry regiment, and the 76.2mm field gun. Only the M1927 76.2mm howitzer was observed in the Korean campaign, although the USSR does posses a later but inferior M1943 weapon. This small weapon served in a comparable way to that of the 105mm howitzer in the US Army. A companion piece to the 122mm howitzer, the 76.2mm field gun (called a divisional gun) was one of the most modern and effective pieces of ordnance possessed by the enemy in Korea. The 122mm howitzer, though weighing about the same as the US 105mm howitzer, throws a heavier shell (47 pounds compared to 33 pounds) approximately the same range. At the divisional level, the USSR ceased supplying its satellite army with field pieces, with the exception of the six known battalions of 122mm M1931/37 corps guns. Thus, most of the outstandingly designed Soviet corps and heavier artillery were absent. The 152mm gun-howitzer M1937, companion piece of the 122mm corps gun, could have had a profound influence on the Korean campaign had it been available in any numbers.

In antitank guns, only the lighter versions of the excellent Soviet series of antitank weapons were supplied to the NKPA (or CCF). The basic antitank weapon in the NKPA was the 45mm piece, an obsolescent weapon which was incapable of dealing effectively with US medium tanks. The improved M1942, with a greater armor penetrating ability than the earlier model, existed in the NKPA in a ratio of about four to one to the M1937 piece. Having been superseded by the far more effective 57mm M1943,* the

* See report in Chapter IV on the first reported action of this gun against US tanks.

45mm antitank gun is no longer standard in the Soviet Army. In both the CCF and NKPA, this 57mm antitank piece was encountered in a ratio of only about one to eight 45mm pieces. The76mm AT gun M1942, which was the only other antitank gun available from the Soviet Army, is identical to the 76mm divisional artillery field gun already discussed, the two battalions of this weapon per division having a dual mission of field artillery support and antitank fire. The dearth of the extremely effective World War II model 85mm divisional AT gun and the tremendous 100mm M1944 AT gun resolved one potential problem for UN tanks before the problem ever became more than dormant. Both of these two weapons could have dealt punishing blows to UN armor in the Korean campaign as they did to German armor during World War II. Consequently, according to a report on the performance of US ordnance in the Korean conflict by Colonel Joseph M. Colby, US armor could deflect most of the North Korean antitank fire, and one US M46 tank of the 6th Tank Battalion deflected 17 antitank gun hits in an encounter during October 1950 (probably 45mm AT gun fire, because the 57mm was not used in the campaign until later), and an M26 tank of the 89th Tank Battalion deflected 20 hits of all calibers (again probably 45mm primarily, though 76mm fire could have hit the tank from considerable range).[2] There are indications that the NKPA also possessed a few old 75mm M35 Japanese AT guns, as did the CCF, but only one of these weapons was captured; the overwhelming majority of the NKPA antitank weapons was of Soviet vintage.

Nothing has yet been mentioned about the NKPA antiaircraft weapons which,more and more as the campaign in Korea lengthened, came to play an important role in the conflict. Essentially the NKPA AAA, entirely Soviet-made, was inferior to the job for which it was assigned, demonstrating that the USSR during World War II found it unnecessary to develop AA to the extent that the western Allies and Germany did. While the heavier NKPA antiaircraft artillery had many limitations, the Soviet-supplied NKPA had large number of infantry weapons adaptable to AA fire, including the 7.62mm Maxim machine gun M1910 (on a dual-purpose M1931 mount or M1929 AA tripod) and the later 7.62mm Goryunov machine gun M1943, for which a dual-purpose mount is standard. Both of these weapons were organic parts of the NKPA

division. The 37mm M1939 Bofors-designed AA gun is a variation of the same 40mm antiaircraft gun which was organic to US Army antiaircraft automatic weapons AA battalions during World War II and afterwards. This weapon remains the standard Soviet light AA piece and, consequently, was the standard NKPA (and CCF) light piece. The only other AA weapon definitely used in Korea was the 85mm M1939, a weapon comparable to the US Army 90mm AA gun. There were many reports that, in 1951, the enemy fired a Joseph Stalin AA piece of larger than 85mm caliber against raiding UN airplanes over North Korea; no specimens of this weapon were captured, but it is safe to assume that such a weapon did exist. In competition with the modern UN fighter planes and bombers in the air over Korea, the enemy AAA was decidedly inadequate. While accounting for considerable airplane casualties, the problem of enemy AA fire was far from insurmountable, though a constant threat did exist.

As previously stated, the only tank known to have been possessed by the NKPA was the Soviet T-34/85 tank, oneof the outstanding tanks of World War II, but inferior to the US Army M46 and M4A3 tanks used in Korea. The T-34/85s, following the breakout from the PUSAN perimeter in late summer 1950, were no longer any serious threat to US Forces. The US Army 76mm and 90mm tank guns could penetrate and destroy the T-34/85 at any reasonable battle ranges; and in almost all tank engagements following the perimeter breakout, the T-34/85 lying in ambush had the opportunity of getting in only the first round.[3] The T-34/85, however, presented a tremendous problem during the earliest stages of the war, but with the appearance of superior US tanks and the use of the new US 3.5 inch rocket launcher, the 120 T-34/85 tanks making up theinitial tank force of the NKPA were nearly all crippled or destroyed. Mounting an 85mm gun on a chassis that possessed a high degree of armor protection afforded by the highly-sloped front plate of the tank, the T-34/85 tank caused a grave psychological and military problem for US infantry during the summer of 1950 when the unheralded armored vehicle seemed invincible--until adequate US counter-weapons showed up the weaknesses of the tank. Discounting the SU-76, which

although an armored vehicle was properly an artillery piece, the only other armored vehicle employed by the North Koreans was the obsolete BA-64 armored car, an inferior combat vehicle whose only weapon was a coaxial 7.62mm Degtyarev machine gun. By the autumn of 1951, a total of 105 of these combat decrepit vehicles had been captured by UN Forces, and many others had been easily destroyed.

The status of NKPA armored equipment demonstrates graphically how the USSR supplied its satellite with obsolescent and inferior weapons. Had the NKPA been equipped with quantities of the Joseph Stalin series of heavy tanks, mounting 122mm guns and possessing tremendous armor, the waging of the Korean campaign might have been radically different. No US armored vehicles taking part in the Korean campaign were adequate to meet the JS tanks, particularly the mammoth JS-III with its superlative armor and radical design. There were many reports, particularly during the summer of 1951, that JS tanks had been sighted in North Korea; and while the threat of these land cruisers presented a problem to UN commanders, the tank was never encountered in battle.

Concerning NKPA self-propelled artillery, it is interesting to note that the oldest version of this type of Soviet weapon was supplied. The open-topped SU-76, with its inadequate protection for the gunner in the fighting compartment, was not remotely equal to other equipment possessed by the USSR, particularly the self-propelled 85mm guns, 100mm guns, and 122mm guns, which are impressive weapons. None of these self-propelled guns and other even heavier pieces, where ever committed to Communist Forces in Korea.

Like their Soviet teachers, the North Koreans developed the land mine into one of their principal and most potent weapons. The simple, if not crude, Soviet antitank mines (with the aid of Japanese and captured American mines), accounted for 72 percent of the total tank casualties sustained by the US Army during the campaign. The primary Soviet antitank mine used was the TMD-B, a simple wooden box containing the igniter assembly with booster and two five-to-six-pound blocks of amatol or ammonite, wrapped in

waterproof paper. The TM-41 antitank mine had a cylindrical steel case containing an MV-5 igniter with a 75-gram booster charge and a main charge of approximately nine pounds. The Soviet POMZ-2 antipersonnel mine was another widely-used mine.

From a first impression of surprised incredulity when North Korean Forces began fighting US troops in July 1950, American thought during the first harried weeks of the Communist aggression suddenly reversed to shocked apprehension as the NKPA seemingly rolled over the US Forces with juggernaut fury, giving rise to the mistaken idea that the North Korean People's Army was far more powerful than it actually was. The quick collapse of the NKPA in the fall of 1950 when it was confronted with determined US offensive troops, demonstrated the serious weaknesses of the enemy, but not before American Forces faced serious problems in countering NKPA weapons and materiel that taxed the limit of the forces the United States had initially committed to Korea.

Probably the most surprising element during the first few months of the campaign, aside from the remarkably well-organized NKPA and the astuteness with which the army was wielded, was the apparent abundance of Soviet-supplied materiel that was so effectively thrown against first the Republic of Korea Army and then against American troops. Before any great number of US medium tanks arrived in the combat zone and before the new 3.5-inch rocket launcher was hurriedly supplied, the T-34/85 tank enjoyed such remarkable success that for a brief period it was credited with effectiveness and invincibility it certainly did not warrant. Tank-led NKPA columns were able to blast their way through the lightly-manned US and ROK lines and to present a terrific defensive problem for US troops. That the T-34/85 tank quickly met its match as soon as the US defensive line was ultimately stabilized around the PUSAN perimeter demonstrated the basic superiority of US arms over the older and less potent North Korean tanks.

The effectiveness of other forms of NKPA equipment must be judged in the light of what US and ROK forces could put up against the enemy. Unquestionably, NKPA equipment, by and large, was inferior to that of the

US Forces. But in the first weeks of the campaign the NKPA was capable of bringing massive superiority in both quantity of arms and quantity of manpower to bear against US Forces. When the US Army approached equal size to the NKPA (and the United States never placed nearly as many men in the Korean conflict as were pitted against them, although in autumn 1950, US and ROK troops probably outnumbered the NKPA), the entire picture of the war changed and the United Nations was the overwhelmingly more powerful force in Korea--until the Chinese Communist Force's entry into the conflict created an entirely new war.

CHAPTER II

PROBLEMS PRESENTED BY THE CHINESE ENTRY INTO THE KOREAN CAMPAIGN

While the North Korean Army consistently used equipment donated by the USSR, the Chinese Communist Forces had the unenviable distinction of possessing arms and equipment from practically every major war materiel producing country in the world. When the CCF entered the campaign, a great percentage of equipment of the CCF was US-made--procured largely from the Chinese Nationalist Army. The CCF added to their stores when they pushed UN Forces south in December 1950, causing UN troops to have to abandon large quantities of arms and equipment. Other sizeable quantities were supplied by the USSR, and in ever-increasing amounts as the fighting continued. But the list does not begin to end there; China itself produced considerable quantities of arms and equipment, primarily copies of US, Soviet, German, and Japanese models. Extensive stores of captured Japanese equipment of World War II vintage were utilized, and miscellaneous items of ordnance and equipment from Germany, Belgium, Poland, Czechoslovokia, Canada, Italy, Spain, Denmark, and Switzerland were employed in varying amounts.

Such a conglomerate array of war materiel not only presented prodigious logistical and replacement problems for the CCF, but it also caused UN Forces much confusion when they had to counter the weapons of such heterogeneous manufacture that were used against them. The CCF attempted to simplify their use of various pieces of equipment by arming specific units with weapons of one or two nations' make. Thus, the 6,000 troops of the advance column of the CCF committed to Korea were equipped with weapons obtained locally in China from the Japanese Kwangtung Army.[4] The first regiment of the CCF 8th Division committed was armed with Soviet and US automatic weapons and Japanese M38 and M99 rifles,[5] while the 2d Battalion, 342d Regiment, 38th CCF Army on 9 January 1951 was armed with Soviet 82mm mortars, US 2.36-inch rocket launchers, either US- or Chinese-made 60mm mortars, US Browning automatic rifles, M1 rifles, and Japanese M38 rifles.[6]

The former Japanese Army was a notably rich source of weapons and equipment for the CCF during the earlier part of the CCF intervention, and Japanese equipment was constantly observed throughout the campaign. Japanese materiel possessed by the CCF fell into the following general categories: carbines and rifles (four types), machine guns (two types, including a 20mm AT/AA gun), light artillery (six types, all 75mm), two heavy howitzers, a 105mm and a 150mm model, two types of mines, a 50mm grenade discharger (known as "knee mortar"), and the Japanese type-99 bangalore torpedo. This certainly was not all of the equipment of Japanese manufacture possessed by Chinese Forces, but it was all that was positively identified in use by the enemy in Korea. Positive identifications were made through ordnance technical intelligence reports and verifications by actual capture.[7]

As a general rule, Japanese equipment was inferior in detail to comparable weapons available to the UN Forces and was also inferior generally to Soviet equipment possessed by the CCF. Much of the Japanese war materiel was either obsolete or obsolescent during World War II, and when compared to post-war improved American weapons the vast majority was definitely outmoded. That China, basically a non-manufacturing nation, was compelled to adopt such equipment and go into combat with it was of definite advantage to the UN Forces. Japanese ordnance materiel further, could not be repaired adequately because replacement parts were not available, and ammunition for weapons was constantly in short supply (this is applicable not only to Japanese equipment but virtually to all other types held by the CCF). The Chinese, because of this deficiency in Japanese materiel, were compelled to commence manufacture of Japanese ammunition and spare parts in plants in China and Manchuria.

Much other Japanese equipment is possessed by the CCF, but none other than that listed above was encountered in the Korean campaign. For example, the CCF possesses many old tanks; i.e., the 15-ton type-94 medium tank and the 14.8-ton type-97 medium tank (improved); both these tanks are of ancient manufacture and are hopelessly outgunned by modern antitank weapons of all kinds. Also, the Chinese possess the Japanese type-97 81mm mortar, the Nambu type-94 and type-14 8mm semiautomatic pistol, and other weapons; but none was seen in the Korean theater.[8]

Probably the most disconcerting factor US Forces were faced with in Korea was that of receiving large volumes of hostile fire from US weapons, the same models that US troops themselves were using against the enemy. In many sectors of the battle line, this phenomenon resulted in warfare fought almost entirely with US weapons and often caused considerable confusion when location of friendly and enemy troops was not clear. Fortunately for US troops, the US Army could generally outgun the enemy's own US weapons in volume. Factors similar to those limiting the effectiveness of Japanese equipment in the hands of the CCF limited the general effectiveness of US equipment. The CCF had a difficult job in resupplying its US-armed forces with replacement items and with ammunition. A great aid to the CCF, however, was the battlefield recovery of large stocks of US weapons and ammunition in the UN retreat in December 1950 and later.

Generally, the main source of US weapons for the CCF was from captured materiel formerly belonging to the Chinese Nationalist Army. Large stocks of US supplies of all sorts were shipped to the Chinese Nationalists during and following World War II. A great percentage of this equipment was turned against US Forces in the Korean campaign.

On 16 April, a report stated that the CCF 40th Army was equipped with American weapons. In fact, when the 10th Regiment entered Korea each soldier was reportedly armed with a Soviet PPS submachine gun, but upon assignment to the 40th Army all PPS SMGs were turned into division headquarters for reissue to units already armed with Soviet weapons.[9]

The CCF entered the Korean campaign with a relatively small supply of Soviet equipment, but due to the vicissitudes of the war and the resupply problem for the CCF, more and more Soviet equipment was donated to the CCF. Essentially, Soviet equipment observed in the Korean theater of operations was identical in model to that possessed by the NKPA, and no further discussions here are necessary. However, during the summer of 1951, Soviet 132mm multiple rocket launchers (Katyushas) were identified in the western sector of the front, an area predominantly defended by the CCF; it can be surmised, therefore, that the CCF did possess this weapon in addition to NKPA versions of Soviet equipment.

Oftentimes Soviet equipment was mixed up with equipment of other national makes in CCF units, in the same manner in which most other equipment was distributed. But some reports indicate that occasionally entire divisions would be wholly equipped with Soviet-manufactured weapons.

Chinese-manufactured weapons came to play an ever more important part in the armament of the CCF in Korea. Although these were primarily pieces of ordnance of light size (mostly rifles and automatic rifles), the Chinese did manufacture a copy of the Japanese 70mm howitzer, type-92 (1932) and produced a quite adequate version of the US 57mm T15 E13 recoilless rifle (known as Model 36 in Chinese terminology).[10] Also, during late summer of 1951, the Chinese-made 90mm Model 51 rocket launcher, similar to the US version, but with spin-stablized rather that fin-stabilized projectiles, made its appearance.[11] Another Chinese-made weapon, a Model 1936 75mm pack howitzer, was also reported in action. The Chinese further produced their own uniforms, and considerable signal equipment. Weapons made in China were almost always copies of models of foreign nations.*

Ammunition for Chinese-made and foreign-procured weapons was manufactured by China in considerable quantities. Chinese 105mm rounds identical to the Japanese 105mm projectiles were discovered,[12] as were copies of the US M49A2 60mm mortar round[13] and, among others, copies of either the US or the Japanese 81mm mortar projectile (probably US since the Japanese mortar was never definitely encountered in Korea).[14] It appears that this ammunition was quite adequate for its purposes, if a test fire conducted by the 507th Ordnance Technical Intelligence Detachment on 27 April 1951 can be considered as conclusive. At that time it was found that all Chinese ammunition (12 rounds) fired when dropped into the mortar tube (while two US rounds out of six failed to fire), and Chinese ammunition outdistanced US ammunition at the minimum charge but did not appear to go as far when the charge was increased.[15]

* See Chapter IV for listing of Chinese-manufactured arms.

Perhaps the most unusual models of any weapons found in the CCF were the side arm, of which 11 makes of revolvers and pistols were encountered, and the rifle, of which no less than 24 different rifles, carbines, and antitank rifles (over and above US types) were found. Though doubtless the existence of such a myriad variety of side arms constituted a definite problem for the CCF and a consequent reverse problem for UN Forces, the many different makes of rifles presented more of a problem. This was because the importance of pistols in the Korean campaign was minor, due to the range at which most battles were fought; while the rifle, though of lesser importance on the UN side, was an important weapon to the Communists. Fortunately for the CCF, the German, Czechoslovakian, Belgian, Canadian, and other types of rifles and carbines were in far less abundance than the Soviet, US and Japanese rifles which were, in effect, the standard CCF small arms models. This cut down the logistical problems of the CCF considerably; nevertheless, the problem of ammunition and replacement parts supply was great.

Automatic weapons, like other weapons in the enemy's hands, were of a large assortment, coming in 33 separate types (over and above US makes) from the following countries: USSR, Japan, China, Czechoslovakia, Canada, Belgium, Germany, Switzerland, and France. Other foreign-made weapons aside from Japanese and Soviet artillery, mortars, etc., were two mortars (82mm and 120mm) of unknown make, and a hand-manufactured 57mm gun (evidently a makeshift piece; only one was ever captured).

For a full appreciation of the CCF and the problems presented by them, an understanding of the organization of the Chinese units in action in Korea is--as is true of the NKPA--essential. An army composed of such a motley assortment of arms and equipment should be expected to have almost infinitesimal variations in its T/O&E. Such is true to some extent, for each unit had to organize itself around the war materiel it had; nevertheless, the CCF followed a generally uniform organizational pattern, into which the various unrelated items of equipment that the CCF possessed was fitted as well as possible, and for which changes, when obligatory, were effected. Hence, the basic organization of the

CCF, like most arm, was the division, theoretically with a strength of 1,526 officers 10,699 enlisted men.* Actual strength of CCF units, however, wa most sure to be much smaller than the T/O called for, and the CCF ully did not have arms to equip all of its men; normally, about 30 cent of a unit's strength was made up of unarmed men.

CCF organizai underwent considerable change as the Korean campaign continued and the knesses of the initial CCF T/O&E became more apparent. By the spring offensive in May 1951, the following change had been effected abled largely to ever-increased aid from the Soviet Union: addition of organic 37mm antiaircraft gun battalion to the army artillery regt. Indications by 30 October 1951 of other augmentations but no nally confirmed were: an organic artillery battery to each gun batta of the infantry division, heavier artillery, including the 132 ultiple rocket launcher for each army, and additional antitank wns for combat units, including the 90mm Type-51 Chinese rocket lau er.[16]

The CCF infa division was slightly larger than, but similiarly organized as, the A infantry division. The major difference was the absence of an art ry regiment and substitution of a 75mm artillery battalion and a 1 mortar battalion.

While artill support was concentrated in the division in the NKPA, the CCF had only 6mm pack howitzers and 12 120mm mortars in its division (plus a 70mm howitzers in the regiments), and relegated its major artillery to my and army group. This was broken down as follows: a horsedrawn artil y regiment with 36 75mm horsedrawn guns, 12 37mm truck-drawn antiaaft guns, and 12 truck-drawn antiaircraft machine guns for each armnd a motorized artillery division with 108 105mm truck-drawn howit and 12 37mm truck-drawn antiaircraft guns, usually attached to an arroup, or a horsedrawn artillery division with 108 horsedrawn 57mm t 5mm artillery pieces and 12 truck-drawn 37mm

* See T/O&E chart included in this monograph in Inclosure No. 3.

iaircraft guns.

The calibers for the above-mentioned artillery units are only roximations. Depending on the unit and the materiel available to the , the standard T/O&E artillery varied from 70mm and 75mm Japanese US howitzers to 76.2mm Soviet howitzers and field guns for the in- ntry division, to various calibers of other weapons; i.e., 122mm witzers, US 105mm howitzers, US 155mm howitzers, etc. for the other illery regiments. For example, the artillery regiment of the CCF h Army had a battalion of 12 75mm pack howitzers, a battalion of 12 viet 76.2mm field guns, a battalion of 12 Soviet 122mm M38 howitzers, a battalion of antiaircraft artillery with 16 Soviet 37mm AA guns on four-by-two Gaz-51 trucks. One CCF artillery division had only two stead of three battalions and no antiaircraft battalion, and it had e battalion of 12 Japanese type-38 75mm field guns and one battalion 12 Chinese-made M36 75mm pack howitzers. The individual variations the basic CCF organization were almost endless and cannot be enumerated fficiently here.

The 1,526 officers and 10,699 enlisted men of the standard CCF fantry division comprised a unit of three infantry regiments, a 75mm ck howitzer battalion, a 120mm mortar battalion, a signal section ith men and equipment comparable to a company), headquarters and adquarters company, an engineer company, a security company, a re- nnaissance company, and a rear services section. A discussion of e essential elements of the typical CCF infantry division follows:

Infantry Regiment: with a T/O strength of about 3,000 men, the CCF fantry regiment was composed of three infantry battalions, a heavy apons battalion, headquarters and headquarters company, an engineer mpany, a security company, a reconnaissance and signal company, and a ar services section. This organization varied considerably from the PA organization and showed a shortage of heavy weapons in the regiment.

Heavier infantry weapons consisted of 18 82mm mortars, 27 60mm rtars, six 12.7mm heavy machine guns, two rocket launchers (either

2.36-inch or 3.5-inch, Chinese or American-made; i.e., 90mm type-51 or Chinese type), and nine 12.7mm antiaircraft machine guns. A report indicates also that some CCF infantry battalions carried two organic 70mm howitzers (infantry guns) in the heavy weapons company,[17] but this cannot be substantied by Eighth Army G-2 and must have been an exception. Small arms comparable to those found in the NKPA infantry regiment made up the remainder of the armament of the CCF regiment, except, that the individual variations of weapons was infinitely greater in the CCF due to the varieties of weapons.*

Infantry Battalion: 647 officers and men made up the T/O of the infantry battalion, divided into three rifle companies, a heavy weapons company, and a headquarters with a battalion aid station (two officers, 11 enlisted men). Though more lightly armed than a US infantry battalion, the CCF organization for this unit was similar to the US Army T/O&E.

In the average CCF infantry platoon of the infantry company there were 15 rifles, six submachine guns, and three light machine guns, or a total of 135 rifles, 54 SMGs, and 27 LMGs for all nine rifle platoons in a battalion; there were three 60mm mortars and two 50mm knee mortars (Japanese grenade launcher) per each weapons platoon of the infantry company, or nine 60mm mortars and six 50mm mortars per battalion; and there were four other LMGs and two 82mm mortars for each heavy weapons company of the battalion and two more 82mm mortars and two 70mm howitzers in the heavy mortar platoon and the artillery platoon of the battalion, respectively.

In a comparison between the firepower of a typical CCF infantry battalion and a US infantry battalion, US firepower emerged by comparison infinitely greater, with a US army battalion's small arms and supporting weapons capable of firing 14,152 rounds of ammunition per minute at sustained rates of fire to a CCF battalion's 9,070, and heavier supporting weapons of a US battalion capable of producing 2,166 pounds of explosive per minute to a CCF battalion's 1,087 pounds. Hence, the small arms available to a US battalion could fire three rounds to every two rounds fired by a CCF battalion, and two pounds of explosive to every

* See Appendix No.3, this monograph, for a complete schematic breakdown of the main elements of typical CCF units--infantry division, regiments, battalions, and separate artillery and other units.

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round fired by a CCF battalion.

A further increase was credited to the US infantry battalion since the average CCF battalion was only 70 percent equipped, giving a reduction factor of 30 percent. Applied to CCF potential small arms firepower, this increased US superiority to 2.38 rounds per single CCF round of small arms fire, and 2.8 pounds of explosive per single CCF pound. And another factor that immensely aided US firepower was the US supporting artillery fire, which was tremendously superior in volume to anything the Chinese could mass against UN troops.

Studies conducted by the Artillery Section, Eighth Army, and published in an Eighth Army PIR on 25 April 1951 concisely stated the superiority of the US artillery over enemy artillery (presumably both NKPA and CCF). The EUSAK Artillery Section established a reduction factor of 80 percent for effective firepower of CCF artillery units, reducing the capabilities of the 315 artillery units then in Korea by 252 units, and decreasing the firepower of the enemy's artillery to the equivalent of 63 US artillery battalions. Accepting this figure, potential enemy artillery firepower on 25 April 1951 (just prior to the great CCF spring offensive) was approximately 55 percent of the US Forces' potential in Korea at the same time. US artillery held other advantages over the CCF: technical superiority, including employment of the proximity fuze, air observation posts, and field artillery observation battalions.

Further adding to the preponderance in firepower in both infantry and artillery was US armor and air, which from very early in the campaign asserted enormous superiority over the enemy.*

The natural consequence of the CCF (and NKPA) weakness in firepower was the emphasis of the enemy upon decided numerical superiority, a factor which he overwhelmingly maintained throughout the campaign, and the opposite emphasis by UN Forces upon firepower superiority. The virtual balancing out of the best assets of both protagonists ultimately resulted in a stalemate of strength following the CCF offensive of May

* The full report on the comparison between the firepower of a CCF and a US infantry battalion can be found as Inclosure No. 3 to Eighth Army G-2 PIR No. 287 dated 25 April 1951.

1951 and the UN counteroffensive which immediately succeeded this (May-June 1951).*

* While the T/O strength of the average CCF infantry division was supposed to be 10,699 enlisted men and 1, 526 officers and the T/O strength of the average CCF army supposed to be 36,844 enlisted men and 5,426 officers, actual sizes of these units were nearly always considerably smaller. The following charts show enemy strength and dispositions as of 23 September 1951. Information was found in Eighth Army G-2 PIR No. 438, dated 23 September 1951.

Combat Armies & Corps, Not Including Service & Rear Area Troops

CCF Immediate Front		NKPA Immediate Front	
26th CCF Army	19,500	II Corps	18,700
42d CCF Army	28,000	III Corps	22,600
47th CCF Army	28,100	V Corps	18,100
64th CCF Army	24,500	VI Corps	29,700
65th CCF Army	28,900		
67th CCF Army	26,200		
TOTAL	155,200	TOTAL	89,100
Reserve Elements Located		**Reserve Elements Located**	
12th CCF Army	29,000	I Corps	40,500
15th CCF Army	29,000	IV Corps	37,200
20th CCF Army	25,000	VII Corps	52,500
27th CCF Army	17,500		
38th CCF Army	29,000		
39th CCF Army	29,000		
40th CCF Army	29,000		
60th CCF Army	13,900		
63rd CCF Army	29,000		
68th CCF Army	30,000		
Unk Armor Div	4,000		
TOTAL	264,400	TOTAL	130,200

CHAPTER III

CHANGES IN PROPORTIONS OF NATIONAL MAKES OF EQUIPMENT IN THE ENEMY'S HANDS

As the Korean campaign continued, both the CCF and NKPA experienced gradual changes in the proportions of equipment of types and makes with which they had started in the campaign. The most pronounced change in proportions of equipment was observed in the CCF when this force, between entry into the war in November 1950 and March 1951, registered a considerable jump in percentages of US arms and equipment held, an enormous drop in percentages of Soviet equipment, and a 50 percent rise in the proportion of Chinese-manufactured equipment.

The NKPA, following its rout in September-October 1950, lost most of its equipment but was re-supplied with the same type weapons with which it started the war, namely, those of Soviet manufacture. The NKPA, however, did obtain some US equipment from the battlefield. But, while the CCF's arms came in varying degrees from a dozen or more countries, the NKPA continued to fight with arms and equipment predominantly of Soviet make.

When the CCF committed its troops to the Korean comflict, the three major nations of manufacture of equipment were the USSR, the USA, and Japan, with 20.11 percent, 26 percent, and 15 percent of total materiel coming from these three countries, respectively. Another 28.91 percent was of unknown manufacture; but it can be surmised that a proportionate amount of this unknown equipment came from the three above-mentioned nations.

Battlefield losses, replacement difficulties, and normal attrition on equipment contributed to the deterioration of much of this equipment, and the CCF was obliged to find new sources of resupply. That much of this replaced equipment came from the United States is understandable; the CCF captured large quantities of US materiel in the process of its early offensives during the winter of 1950-51.

The great variety of weapons employed by the enemy, indicated in

the following table, demonstrates graphically the heterogeneous assortment of arms with which the CCF was plagued. Source of this study's information was from captured enemy materiel. Not only did this variety greatly magnify the enemy's resupply and replacement problems and seriously affect his firepower, it also presented difficult problems for UN Forces in trying (1) to keep a running account of the weapons pitted against them, and (2) to counter the effectiveness of these weapons when found:

ORIGIN	PERIOD COVERING NOV 50 - JAN 51	PERIOD COVERING 1 FEB 51 - 17 MAR 51
a. Chinese	4.78%	6.70%
b. Soviet	20.11%	6.85%
c. Japanese	15.00%	12.20%
d. American	26.00%	31.48%
e. British	.07%	-----
f. Canadian	2.89%	3.10%
g. German	1.56%	1.48%
h. Czechoslovakian	.91%	1.97%
i. French	-----	.53%
j. Unknown	28.91%	35.70%

The sharp increase in the proportion of US-manufactured war materiel can be attributed to the following factors: opportunities to investigate former areas of contact with UN Forces (following the CCF offensives) and the capability of recovering US equipment lost or abandoned on the battlefield, utilization of US equipment captured during the early February offensive, and the reported desirability of US weapons compared with other weapons available to the CCF.[18]

One reason for the sharp decrease in Soviet equipment in the CCF's hands could have been that these weapons were withdrawn from the battle-line[19] to provide additional weapons with which to equip other CCF units. Reports in March 1951 indicated that the CCF was then attempting to standardize its equipment by equipping specific units with one type of infantry weapon, and that some of the selected units were reorganized along Soviet lines and equipped with Soviet weapons.[20]

This standardization can again be seen in a study of the CCF 3d Field Army and the CCF 4th Field Army, which by March 1951 possessed predominantly US and much Japanese equipment and a very small percentage of Soviet equipment. Combat armies from these two field armies were in constant contant with UN Forces from the start of the CCF intervention to March 1951; this indicated that units engaged with UN troops were not reequipped with Soviet equipment. The table follows:

ORIGIN	CCF 3RD FIELD ARMY	CCF 4TH FIELD ARMY
a. Chinese	7.10%	6.70%
b. Soviet	4.30%	6.84%
c. Japanese	18.50%	12.20%
d. American	50.00%	31.48%
e. British	------	------
f. Canadian	3.60%	3.10%
g. German	2.90%	1.48%
h. Czechoslovakian	-----	-----
i. French	-----	-----
j. Unknown	13.60%	35.70%

A comparison of the various percentages of specific weapons by national manufactures brings out several interesting facts. As of March 1951, the CCF's rifles were 58 percent Japanese-made, its field artillery was predominantly Japanese and US, its rocket launchers 75 percent US, its antitank weapons overwhelmingly Soviet, and its pistols procured from almost every arms-producing country in the world.

An analysis of the rifles and carbines used by the CCF in Korea showed that besides the 58 percent Japanese-made small arms, 15 percent were Chinese, 13 percent Soviet, 10 percent US, 1 percent German, and 3 percent unknown.

As for submachine guns, US-made versions predominated by far; 57 percent were US-made, 15 percent Soviet, and the remainder unknown or of Chinese, British, or Canadian make. Of light machine guns, 41.4 percent were of unknown makes, but Japanese models comprised the largest

single type (18 percent) with Soviet running a close second (13 percent), and the following other national makes--China, 5 percent; US, 7 percent; British, 5 percent; Canadian, 10 percent; Czechoslovokian, 5 percent; and Swiss, 1 percent. US-made heavy machine guns comprised 27 percent of the total; Chinese, 4 percent; Soviet, 17 percent; Japanese, 12 percent; Canadian, 6 percent; Czechoslovokian, 1 percent; and unknown, 33 percent.

US types represented the largest percentage of mortars of all kinds in the CCF, 35 percent of the total. China and the USSR each contributed 13 percent, Japan 17 percent (a large percentage of these evidently was the 50mm "knee mortar"); Germany offered 2 percent, and 20 percent were unidentified.

A total of 22 percent of all field artillery was Japanese-made, and US versions accounted for 19 percent, with Chinese artillery making up only 1 percent and USSR, 6 percent; 52 percent was unknown. Reversing the trend against Soviet weapons, 83 percent of antitank weapons was contributed by the USSR, 7 percent by Japan, and 10 percent by unknown sources, an indication of the emphasis of the Soviet Army on antitank guns. Antitank rocket launchers were 75 percent US-made and, reputedly, 10 percent Soviet-made. This latter figure seems incorrect, however, because of limited Soviet antitank rocket launcher use; the figure should probably be considered Chinese contributions, inasmuch as China manufactured at least two models of this weapon during the campaign in Korea.[21]

Hitherto, nothing has been definitely stated concerning the weapons of US manufacture that the CCF possessed. Generally, it can be stated that most US equipment used by the Eighth Army was also encountered in CCF units. But, since most of the US-made materiel held by the CCF when it entered the Korean campaign was taken from the Chinese Nationalist Army, concise enumeration of US equipment then held by the CCF can be made.

The following are the specific types of weapons given to the Chinese Nationalists and subsequently procured by the CCF: carbine M1 and M2;

rifle M1; rifle M1903; rifle, 75mm recoilless; rifle, 57mm recoilless; rifle, Browning automatic; submachine gun M3; submachine gun, Thompson; US light machine gun; US heavy machine gun; US machine gun, caliber .50, M2; antitank gun, 57mm; pistol, caliber .45; pistol, caliber .38; 60mm mortar, 81mm mortar, 4.2-inch mortar; 75mm pack howitzer; 105mm howitzer; 155mm howitzer; 2.36-inch rocket launcher; 3.5-inch rocket launcher; M24 light tank; and M6 land mine.[22] There are some indications that the listing of the 3.5-inch rocket launcher as having been given the Chinese Nationalists is erroneous; the 3.5-inch R/L did not become available to US Forces in Korea until some time after the outbreak of hostilities and probably was never given to the CNA. But there is little doubt that the CCF captured this weapon on the battlefields.

CHAPTER IV

SPECIFIC PROBLEMS ENCOUNTERED BY INDIVIDUAL ENEMY WEAPONS

Enemy Artillery

Soviet Artillery

Soviet artillery in the hands of the CCF and the NKPA was unquestionably good. However, both the CCF and the NKPA were hampered in the most effective utilization of their Soviet-supplied artillery because the USSR donated only its light and some medium artillery for the campaign, declining to introduce its superior heavy corps and heavy artillery into the conflict. Hence, a discussion of Soviet artillery in the campaign resolves down to a few types and models and fewer calibers: 37mm antiaircraft guns, 45mm and 57mm antitank guns, 76.2mm howitzers and field guns, 82mm mortars, 85mm antiaircraft guns, 120mm mortars, 122mm howitzers, and 122mm guns.

Two primary characteristics of Soviet artillery were of great benefit to the transportation-shy and largely immobile enemy: the light weight of pieces, compared to their calibers, and the simply-designed mechanisms. Accordingly, the M1927 76.2mm howitzer (regimental gun) weighed only 1,720 pounds in firing position, the M1942 76.2mm divisional gun only 2,460 pounds, the M1938 (M30) 122mm howitzer only 4,961 pounds, and the M1931/37 122mm gun 15,692 pounds.

The two basic Soviet artillery pieces, particularly for the predominantly-Soviet-equipped NKPA, were the 76.2mm M1927 howitzer, of which there were four pieces (one battery) to each NKPA regiment; and the 76.2mm M1942 or M1902/30 divisional gun, of which there were 24 pieces (two battalions) to each infantry division. The stubby, little 76.2mm howitzer M1927 was a very adequate weapon for close support, firing a 13.67-pound HE projectile 9,372 yards with a 12-14 rounds-per-minute rate of fire. In conjunction with the 120mm mortar company of the NKPA regimental artillery, the regimental gun had a mission comparable to that of the US 105mm howitzer battalion usually attached to each US infantry

regiment. As a result, the NKPA infantry regiment had less direct artillery support than the US infantry regiment; i.e., four 76.2mm howitzers and six 120mm mortars to 18 105mm howitzers.

The rapid-firing and adequate-ranged 76.2mm M1942 divisional gun provided excellent tactical support to enemy forces. Having a dual mission as an antitank gun and a direct support field piece, the exceptionally light gun caused UN Forces considerable problems because of its ease in making rapid displacement and its long range 14,545 yards. The divisional gun could fire at 25 rounds per minute shells almost identical in size to the 76.2mm howitzer. As an antitank gun and firing the 6.72 pound HVAP-T projectile, the gun developed a muzzle velocity of 3,167 feet per second and could pierce 4.33 inches of armor at 328 yards with 0° obliquity. The other model 76.2mm divisional gun, the M1902/30, primarily used by the CCF, was encountered only in exceptional cases, and only one piece was definitely known to have been captured. A modernized version of the famous World War I Putilov M1902, the M1902/30, while suffering from a low rate of fire (eight rpm), could nevertheless throw shells an adequate distance (14,850 yards) when once firing.

The 122mm M1938 howitzer, of which there was a battalion of 12 guns in every NKPA infantry division and reportedly many in the hands of the conglomerate CCF artillery units, weighed approximately the same as the US 105mm howitzer, but could toss a 47-pound projectile as far as the 105mm howitzer could throw its 33-pound projectile. A companion piece to the 76.2mm divisional gun, the 122mm howitzer had a maximum range of 12,904 yards and a rate of fire of 5-6 rounds per minute.

At the start of the war, the NKPA reportedly possessed approximately 72 122mm 1931/37 field guns, the largest piece of Soviet artillery positively identified in the Korean campaign. These 72 pieces were organized into 18 batteries, six batteries in each of the three reserve artillery regiments: one assigned to each of the two NKPA corps committed on the NAKTONG River and one to the NKPA GHQ. These field pieces had a range of 22,747 yards, the same rate of fire as the 122mm howitzer, with which it was coupled in the reserve artillery regiments, and were

effective weapons. Also occurring in the CCF in some numbers, the 122mm gun could be used in counterbattery, antitank, and field fortification destruction missions. Although this piece was encountered in relatively small numbers in Korea, because of its long range and relative ease of displacement it posed no little problem for UN Forces. The 122mm gun held the same position in the enemy's armies as did the US 155mm gun (long tom) in the UN units.

Though an armored vehicle, the SU-76 self-propelled 76.2mm M1942 gun was used for direct support in assault missions by the NKPA. Before the Korean campaign had been long underway, this weapon was found to be quite vulnerable to modern US weapons. While an efficient and fairly rugged 12.3-ton vehicle (combat loaded), the open-topped SU-76 was an easy target for UN planes and artillery. The SU-76 was mounted on the chassis of the obsolete Soviet T-70 light tank.

The basic light antiaircraft artillery piece for the NKPA and CCF was the 37mm M1939 Bofors-type. Closely resembling the US 40mm anti-aircraft gun of the same type and design, the 37mm AA gun had a maximum vertical range of 19,692 feet and a maximum rate of fire of 160-180 rounds per minute. These pieces, while not organic to either the NKPA or CCF infantry divisions, were organic to the CCF army-attached artillery regiment (12 pieces, truck-drawn), to the CCF army group-attached motorized artillery division (12 pieces, truck-drawn), and to the CCF separate AA regiment motorized; and they were used extensively by the NKPA for rear-area protection. While obsolescent, these weapons caused UN airmen considerable difficulty.

The other antiaircraft artillery definitely observed in action in Korea was the 85mm M1939, which provided more capable rear area air defense than did the 37mm gun. This weapon had a maximum vertical range of 39,370 feet, a 15-20 rpm rate of fire, and fired a 20.28-pound HE projectile. Primarily used by the NKPA, the 85mm gun could be used in a secondary mission of direct support, but this situation did not prevail to any great extent. There were also many reports of the enemy using a new secret AA gun, called the Joseph Stalin. None of these guns have

been captured, but it is assumed that they were a new, heavier model of approximately 100mm caliber, probably a Soviet AA naval gun.

Fortunately for UN Forces, the best Soviet antitank weapons, i.e., the 85mm and the 100mm M1944, were never used in Korea, and only the older, lighter pieces were committed. Aside from the 76.2mm divisional gun, which had antitank fire as one of its missions, the only other antitank guns encountered were the 57mm M1943 and the 45mm M1937 and M1942. The 57mm AT gun was mounted on a carriage identical to that of the 76.2mm gun, and though small in caliber it could pierce 6.3-inches of armor at 328 yards with an HVAP-T projectile. Most distinguishable by its remarkably long tube (13 feet, 7 inches), the 57mm gun, when used properly, dealt some punishing blows to UN armor. With a rate of fire of from 20-30 rpm, the 57mm developed a muzzle velocity of 4,167 feet per second using the 3.88-pound HVAP-T shell.

A good indication of the effectiveness of the 57mm antitank gun can be gained from a report of the first known encounter of this weapon with US medium tanks.[23] Occurring on 3 June 1951, an estimated five to eight enemy 57mm pieces, emplaced in the vicinity of CHAIL-LI (CT507192) opened fire on three M46 tanks of Company C, 64th Heavy Tank Battalion, from a range of 350-450 yards, hitting all three, and totally destroying one. Two of the tanks were only slightly damaged, but the enemy AT piece was successful in penetrating all three tanks.

The Soviet 45mm M1937, while emerging from the Spanish Civil War as the most outstanding antitank weapon, was an obsolete piece by the time of the Korean campaign. Maximum armor penetration was only 2.8 inches, using a HVAP 1.875-pound projectile. More common was the M1942 piece which, with the same type shell, could penetrate 3.6-inches of armor. The M1942 was developed by strengthening the breech and increasing the tube length of the M1937 from 7 feet, 1½ inches to 10 feet, 8½ inches to obtain increased muzzle velocity and penetration. These 45mm pieces were the basic antitank weapons of the NKPA and were generally incapable of stopping UN armored equipment.

Considered as artillery by the Soviet Army, the CCF, and the NKPA alike, the 82mm and 120mm mortars found in the hands of the enemy in Korea will here also be considered as artillery. Where NKPA and CCF field artillery were lacking, the Soviet mortars (and Chinese copies thereof) filled the gaps. Soviet-made mortars proved to be among the most effective weapons pitted against UN Forces, and destruction of enemy mortar positions constituted one of the most serious problems front-line UN troops had to overcome.

Larger than either of the two largest US mortars, the 81mm and the 4.2-inch chemical mortar, respectively, the 82mm and the 120mm mortar were among the most effective weapons to evolve from World War II. The 120, mortar fired a 35.05-pound HE projectile a maximum of 6,240 yards; this projectile had an effective fragmentation radius of 55 yards against standing targets and 22 yards against prone targets. It was equally impressive in Korea. A mortar of such size required a superheavy base plate and a heavy weight (by mortar standards). The USSR solved both of these problems ingeniously by perfecting a circular, stamped base plate and a novel transport limber, which solved the mobility problem. The transport trailer was of two types, tubular and box, and consisted of a single pneumatic, wheeled caisson upon which the mortar tube and base plate could be easily loaded. In traveling position, the mortar and its limber weighed 2,425 pounds in the case of the M1938, and 2,414 pounds in the case of the M1943, a weight easily manhandled.

The 82mm mortar, or "battalion mortar", was equipped with steel wheels which permitted quick displacement over relatively even ground. The M1941 82mm mortar had the simplest wheel attachment process. However, the M1937 82mm mortar was encountered in the Korean campaign about twenty times more often than was the M1941; but this model, too, had ease of displacement. Both models had a maximum range of 3,325 yards and could fire up to 25 rpm of 7.3-pound HE projectiles. Effective radius of fragmentation was 33 yards against standing targets and 20 yards against prone targets. Rate of fire was twice that of the 120mm mortar.

A final type of Soviet artillery was the multiple rocket launcher,

which was used in the Korean campaign in limited numbers during the summer of 1951. The model identified in action in Korea was the Soviet M13 132mm, ammunition for which was captured. This weapon, mounted on a truck and having 16 rocket-launcher racks, was familiarly known as the "Katyusha" during World War II, and could fire 16 rockets a maximum range of 9,700 yards.[24] Primarily known for its high volume of fire, the "Katyusha" was not an accurate weapon, though its morale effect was great.

Japanese Artillery in CCF Hands

When the CCF entered the Korean conflict in November 1950, approximately 15 percent of the entire CCF armament consisted of Japanese-manufactured equipment, a large portion of it artillery. As the campaign continued, Japanese-manufactured equipment slowly lessened in percentage of the total amount of war materiel pitted against the UN Forces, but it remained an essential segment of the war potential of the CCF.

The Japanese artillery, which was utilized, covered almost the entire range of normal artillery calibers, from 20mm AA/AT (type-98) guns to 150mm howitzers, the largest caliber non-American artillery piece fired against UN Forces. The great majority of Japanese artillery used by the CCF was of 75mm caliber, five models of which were 75mm guns and one a 75mm howitzer model. But the Japanese 105mm type-91 (1931) howitzer was found in large quantity, and considerable numbers of 150mm howitzers type-4 (1915) were encountered. The 75mm artillery models committed to Korea were: 75mm gun type-38 (1905); 75mm gun type-90 (1930); 75mm mountain gun type-41 (1908); 75mm mountain gun type-94 (1934); 75mm gun type-95 (1936); and 75mm howitzer, model unknown.

Japanese artillery used in Korea was generally either obsolete or obsolescent, most guns looking as if they had come straight from the battlefields of World War II and had somehow found their way to the hills of Korea. None of the models of the 75mm gun measured up to the performance of the comparable Soviet piece, the 76.2mm M1942 divisional gun. Only one, the type-90 (1930), outdistanced the Soviet gun in range, and none had as much as half the rate of fire as did the Soviet weapon. Also,

the Japanese pieces were either too heavy, or if light, possessed extremely short range. Used out of necessity by the CCF, and captured during and after World War II from the intact Japanese armies in China and Manchuria, this artillery posed less of a problem than did the captured US and donated Soviet equipment used by the CCF.

To overcome the noticeably short range of the Japanese artillery and inadequate signal communications, the CCF resorted to emplacing its supporting weapons very close to the front lines. Hence, the location of these enemy pieces by US sound and flash methods was appropriately easier. The lightweight Japanese mountain guns, however, were most adaptable to the broken terrain fighting of Korea, and were often times quite effective in single-gun sniping against UN lines.* The mountain guns formed an important and integral part of the average CCF infantry division.

A total of 12 75mm pack howitzers (mountain guns) made up the artillery battalion of the CCF infantry division. When Japanese guns were used, both type-41 (1908) and type-94 (1934) were employed. The ancient type-41 was a weird-looking weapon, possessing trails consisting of two tubular shafts extending straight back from the wheel axle assembly for about three and a half feet to a crossbar. A single tubular trail was fitted to this crossbar. The piece weighed 1,180 pounds, had a 7,000 yard range, and could fire about eight rounds per minute. It was designed originally for pack transport but could be towed by either vehicle or horses. Generally, the CCF artillery units used animal-power as their prime movers. The other mountain gun found in action in Korea, the type-94, was a 1934 weapon designed to replace the type-41. A more conventional looking piece than the type-41, the type-94 weighed the same but threw a shell 2,000 yards further and could muster a rate of fire of 10-12 rounds per minute.

Of the Japanese field guns, the 75mm type-90 was perhaps the best.

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* As a specific example of what happened many times in the Korean campaign, Battery B, 15th FA Battalion, a US 105mm howitzer outfit assigned to the US 2nd Infantry Division, was fired on for one night by a single hidden enemy gun, believed to be a 75mm, while the battery was emplaced above YANGGU, Korea, during the summer of 1951. The gun was hidden somewhere in the hills above the battery position and threw in several shells, killing one Korean laborer and wounding several artillerymen. The Japanese light 75mm mountain guns were unusually well-adapted to implementation of this enemy practice.

The piece had a range of 15,000 yards (one source states 16,250 yards)[25] and a rate of fire of 10-12 rounds per minute. It weighed 3,520 pounds for vehicle draft and 3,080 pounds for animal draft. Like most other Japanese field guns, the type-90 used a range drum with a panoramic telescope for sighting purposes. The most ancient of all Japanese guns used in the Korean campaign was the 75mm type-38 gun, originally a 1908 model. Also encountered was a modernized version, incorporating an equilibrator, which did not exist on the original model, and an open box trail rather than the early model single box trail. Otherwise, the two pieces were identical, having a 9,000-yard range, a weight of 2,800 pounds, and a rate of fire of 8-10 rounds per minute. Designed to replace the type-38, the Japanese type-95 (1935) 75mm gun featured a longer range (11,660 yards), lighter weight (2,450 pounds), and a higher rate of fire (10-12 rounds per minute). The gun had a split trail rather than the type-38 box trail.

The Japanese 105mm howitzer, usually organic to CCF artillery divisions, was another outmoded piece of ordnance, but was capable of effective fire. Able to throw its projectiles 11,500 yards, the 105mm howitzer weighed 3,300 pounds and was normally used by the CCF with animal-draft. The 105mm howitzer, the largest piece of Japanese artillery encountered in Korea, was a 1915 vintage piece and had a maximum range of 10,800 yards. Its weight was relatively heavy--6,150 pounds--and its rate of fire slow--3-4 rounds per minute. These heavier pieces of Japanese artillery were, despite their antiquity, weapons that caused UN Forces considerable consternation. However, the overall superiority of US artillery nullified the Japanese artillery as a whole.

Although of insufficient caliber for most effective use against UN airplanes and tanks, the Japanese type-98 20mm AA/AT automatic cannon could throw out a respectible quantity of shells (120rpm) and was a dangerous weapon when used in front line areas. The cannon's maximum horizontal range was 5,450 yards, and its maximum vertical range was 12,000 feet. Mounted on a two-wheel carriage with three attached outriggers for support in firing positions, the 20mm cannon had a 360° traverse and elevation limits of -10° to +85°.

US Artillery

A discussion of the US-manufactured artillery in the hands of the CCF and the NKPA does not need to follow the detailed description given other nations' equipment utilized by the enemy's armies. Whether the CCF or NKPA obtained their US equipment from the Chinese Nationalist Army, as was the case in the CCF, or whether it was captured on the battlefield in the CCF and NKPA offensives, the enemy managed to provide himself with sizeable stocks of US ordnance covering the entire range of US Army artillery committed to Korea. From the quasi-artillery weapons like the 57mm and 75mm recoilless rifles--through the US 75mm pack howitzer, and on up through the 105mm howitzer and the 155mm howitzer--the enemy armed himself and turned these effective artillery weapons against UN troops. However, neither the 155mm gun nor the 8-inch howitzer were known to have been captured by the enemy and put to use by him.

The NKPA, though essentially armed with Soviet weapons, used some US artillery (and other equipment) whenever it could be obtained. The CCF, when it entered the Korean campaign in November 1950, counted an overall total of 26 percent of its weapons of US make, a percentage which rose to 31.48 from 1 February 1951 through 17 March 1951 when the pickings on the battlefields of Korea were unusually rich. Whole CCF armies were predominately equipped with US arms, while other armies and army groups contained an overwhelming preponderance of US-type artillery. It was long suspected by US intelligence officers that the enemy preferred US weapons to all other weapons available to him.[26] In any event, it was the first combat in which US troops had been engaged since the American Civil War, when the enemy fought with so many weapons of US make identical to their own. One commentary on the popularity of US equipment in the hands of the CCF was the extreme measures to which Chinese war plants went to duplicate US-designed ordnance and to manufacture ammunition for US weapons.

Enemy Armored Vehicles

While the only enemy tanks definitely encountered in the Korean campaign were the Soviet T-34/85s, and the only armored cars were the Soviet BA-64s, the threat of and persistent reports concerning other armored vehicles in the hands of the enemy required UN commanders at all levels to be prepared to cope with the suspected armored vehicles; and for this reason the T-34/85 tank and the BA-64 armored car alone did not constitute problems for UN Forces.

It was definitely known that the CCF, for one, possessed tanks other than the Soviet medium T-34/85, and reports continuously persisted throughout the campaign that both the CCF and NKPA had numbers of the extremely potent Joseph Stalin series of Soviet heavy tanks at their disposal. There were, further, many reports that the enemy was using modern US tanks, captured on the battlefield in Korea; i.e., the US M46, M24, and M4A3.

With its unusually conglomerate array of weapons from many foreign nations, the CCF could have committed several models of both Japanese and US tanks, in addition to any possible JS-IIIs, which were reliably reported to have been in the possession of the CCF, at least inside China itself. That none of these tanks were placed in action can be attributed to the fact that all Japanese and US model tanks held by the CCF were obsolete models of pre-World War II or World War II vintage, and could not have coped with the effective antitank warfare of UN Forces. The Japanese armored vehicles were captured from the Japanese Army in China and Manchuria during and after World War II, while US tanks, other than those retreived from combat with UN Forces in Korea, were taken from the Chinese Nationalist Army following that army's collapse on the mainland of China following World War II.

Two models of Japanese tanks were in the hands of the CCF but were never committed: the improved type-97 medium tank of 14.8 tons and mounting a 47mm gun, and the type-94 medium tank of 15 tons and mounting a 57mm gun. Neither of these two models could have been long effective in Korea because of their antiquity. The maximum armor thickness on the type-94 was only 0.67 inch, and that of the type-97 was but 1.29 inches,

armor that could have been easily penetrated by even the smallest UN antitank weapons. US tanks possessed by the CCF were little better. Also of World War II vintage, and all light tanks, these US armored vehicles would have been equally ineffective in combat in Korea.

The Joseph Stalin series tanks constituted a matter of entirely different dimensions. Mounting 122mm guns and possessing great armor protection, these heavy tanks could have outgunned any UN tank in action in Korea. But repeated reports of the presence of these tanks in Korea never were positively confirmed, and a showdown between these weapons and UN defenses was never forced, probably due to the USSR's (or the CCF's) reluctance to permit any to become available for technical study by the UN.

Therefore, a discussion of enemy tanks resolves into a study of just two weapons, in addition to the already discussed SU-76 self-propelled gun. By all odds, the T-34/85 tank was a most potent armored vehicle, and the BA-64 armored car was an entirely incompetent weapon for competition with UN guns and tanks. The T-34/85 tank was the undoing of many US troops during the hectic early days of the campaign when these tanks (all from the NKPA 105th Tank Division) led NKPA infantry columns into action. For a time, the T-34/85 constituted one of the major equipmental problems UN Forces had to overcome, but once the backbone of the NKPA armored strength was broken, the tank problem in the Korean campaign relegated to the background.

Beginning the conflict with 120 T-34/85s, the NKPA for a while possessed armor superiority. But within a short time during the summer of 1950, UN antitank fire and the ever-powerful UN Air Force destroyed a major portion of this initial tank striking force.

The T-34/85 was one of the outstanding tanks of World War II; and from the first committment of the T-34, initially mounting a 76mm gun--in 1941 by the Red Army against the attacking Germans--it served as the spearhead of the Red Army armored units throughout the remainder of World War II.[27] The modified T-34 used in Korea, mounting an 85mm gun, was one of the "sleepers" unleashed by the NKPA in its June 1950 attack, and its effective use caught UN Forces by surprise.

With a maximum armor thickness of three inches, the T-34/85 was normally able to deflect the projectiles of the US 2.36-inch rocket launcher (bazooka), then the primary close-in US antitank weapon. Shortly after the commencement of hostilities, with the hurried shipment of the new US 3.5-inch rocket launcher to front-line US Forces, the omnipotence of the T-34/85 took a sharp drop, and one major threat to US troops was quickly lessened.

The weight of the T-34/85 was 35 tons, width 10 feet, maximum speed 30 miles per hour, and cross-country speed 15 miles per hour. With its low silhouette, clean, heavily-sloped armor, good flotation, and excellent cross-country performance, the T-34/85 was a superior weapon. That the majority of these tanks were destroyed early in the campaign and were never sufficiently replaced by the USSR solved many a headache for UN commanders.

In contrast to the T-34/85, the other Soviet-supplied armored vehicle committed in the campaign was decidedly mediocre. The BA-64, a vehicle pulled by a four-cylinder, 50 horsepower motor, weighed only 4,838 pounds combat-loaded, and mounted only one 7.62mm machine gun. By fall 1951, a total of 105 of these armored cars were known to have been captured, and uncounted others had been destroyed. A thoroughly inferior armored vehicle, the BA-64 was never a severe threat to UN troops.

Enemy Small Arms and Automatic Weapons

In Korea, both the CCF and the NKPA, noticeably shy on heavier equipment, relied heavily upon their infantrymen's personnel and company weapons. While many different national makes of small arms and automatic weapons were encountered in the campaign, causing supply and replacement difficulties, the light weapons in enemy hands assumed an importance which was foreign to the US infantryman, who depended to a great extent upon his massive firepower to defeat the Communist enemy. In the rifle and weapons platoons of the CCF company the enemy possessed his primary firepower. In the rifle platoon, the CCF could outshoot a US platoon in small arms rate of fire 6,750 rounds to 5,112 rounds, while in the weapons platoon the CCF could throw out a rate of fire of 659 pounds to a US

weapon platoon's 547 pounds. US Forces possessed the unquestioned advantage in the heavier weapons: MGs and Browning automatic rifles in the rifle platoon, and HMGs, 75mm recoilless rifles, and mortars in the heavy weapons company.

In the case of the NKPA battalion, great reliance was again manifest in small arms. Where the US infantry battalion had only 279 rifles and carbines, the NKPA battalion had 439; where the US unit had but 27 BARs, the NKPA battalion used 162 PPSh submachine guns; where the US used 13 LMGs, the NKPA used 33; where the US used four HMGs, the NKPA used 18.[29] Hence, the small arms and automatic weapons of both the CCF and the NKPA were vital elements of armament.

The vast majority of the dissimilar assortment of weapons possessed by the CCF was small arms and light automatic weapons. In this category were found practically all of the various European weapons belonging to the CCF. These many types of weapons, coupled with the large quantities of US and Soviet small arms, presented supply difficulites which would have been serious even if enemy supply routes had been free of interdiction by UN aircraft and if the enemy had had sufficient transport facilities. Because of the problems of supply, the enemy emphasized his small arms in combat, as ammunition resupply was simpler for small arms, and he also stressed accuracy of fire in order that a maximum number of casualties could be inflicted with the least expenditure of ammunition.[30]

Rifles were important weapons to the enemy, and he possessed many types. For the NKPA, the primary rifles were the M1891/30 Mossin Nagant 7.62mm bolt action five-shooter, the M1938 Mossin Nagant 7.62mm carbine, and the modified M1944 carbine with folding bayonet. The NKPA also used both the PTRD-41 Degtyarev antitank rifle and the PTRS-41. US M1 rifles and carbines, whenever they could be captured and ammunition found for them, gained ready use in the NKPA. Several units were armed also with the Japanese M38 Meiji 6.5mm rifle.[31] However, the primary rifle armament of the NKPA was Soviet-made.

It was a different situation entirely for the CCF, whose rifles originated from a dozen or more nations. Aside from the same Soviet rifles the

NKPA used, the CCF possessed many US M1 rifles and carbines, some old US caliber .30 Springfield M1903 rifles, and the following additional rifles: Japanese Meiji 6.5mm carbine, Japanese M38 Meiji 1905 6.5mm rifle, Japanese Meiji 7.7 M99 1939 rifle, Belgian 7.9mm Model 1930 Mauser rifle, Chinese-made M1898 7.9 Mauser, Chinese-made copy of the German Model 98 rifle, German Model 98b 7.92mm carbine, German 98k 7.92mm carbine, Chinese copy of Italian Mannlicher-Carcano 8mm bolt-action rifle, German model 98 7.92mm Mauser rifle, Czech model VZ-24 7.9mm rifle, Czech Mauser rifle, and Canadian .60 caliber RBMK rifle.

The CCF attempted to assemble rifles (and weapons of all kinds) of one type or manufacture into specific units, so as to simplify the re-supply problem. It has been pointed out that the vast majority of CCF rifles and small arms of all types were either US-made, Soviet-made, or Japanese-made (See Chapter III); consequently, other national makes of arms were employed only in relatively small numbers. Thus, by fall 1951, 20,713 Soviet Mossin-Nagant 1891/30 rifles, 1,777 Soviet M1938 carbines, 8,035 Japanese Meiji M38 rifles, and 746 Japanese M99 rifles had been captured by UN Forces. Aside from US arms, no other rifles were captured from the CCF in any sizeable numbers.[32]

The Soviet Mossin-Nagant M1891/30 probably achieved more closely than any other rifle the status of the basic enemy rifle, though the Japanese M38 Meiji was extensively used by the CCF. The 9.92-pound piece had an effective range of 440 yards with an iron sight and 880 with a telescopic sight. Rate of fire was about 10 rounds per minute. The bolt-action rifle was fed by a five-cartridge magazine. Unhandily long, the Mossin-Nagant rifle was, on the whole, inferior to either the German Mauser or the US M1903 Springfield and was not in the class with the US caliber .30 M1.

The Soviet Mossin-Nagant carbines, M1938 and M1944, were shorter versions of the M1891/30 rifle, and were designed for service troops and weapons crews. In Korea, the enemy used these carbines for combat as well. Identical in all respects except length to the M1891/30, the M1938 weighed less (8.32 pounds), but had the same effective range. The M1944

was identical to the M1938 except that it had a folding bayonet permanently attached to the barrel, which hooked on the right side when not in use.

The Soviet antitank rifles were all early-World War II models, rush-produced to penetrate the then comparatively light German armor, but passed on to the satellite armies following the war. These rifles, both the single shot PTRD and the semi-automatic PTRS (with a five-round magazine), were of 14.5mm and could pierce 1.42 inches of armor at 330 yards.* Of limited use against UN armor, these weapons proved only a minor problem to the UN Forces in Korea, causing difficulty only for US armored cars, light tanks, and self-propelled weapons. They were in sufficient numbers, however, to warrant some consideration by UN commanders. The two weapons each had a muzzle velocity of 3,350 feet per second and an effective range of 880 yards.

Of the Japanese rifles encountered in action in Korea, the M38 Meiji 1905 6.5mm piece was the most used. This bolt-action rifle, weighing 8.75 pounds without bayonet and 9.5 pounds with bayonet, had a longer effective range (500 yards) than the Soviet M1891/30 and weighed slightly less. It was the basic Japanese rifle used in World War II and was a competent piece, despite a slightly smaller caliber than most of the standard world's rifles. However, the Chinese modified some of these rifles to enable them to use 7.92mm Mauser-type ammunition. This rifle came in three sizes: long, medium and short, and 50.2, 44.5, and 38 inches in length, respectively. Another version of this same rifle was the Meiji carbine, which measured one inch less than the short rifle, but which weighed 8.25 pounds and had a bayonet folded alongside the stock much in the same manner as the Soviet M1944 carbine. The other most used Japanese rifle was the 7.7mm M99 Meiji 1939, which had an effective range of 600 yards and was an improvedmodel over the 6.5mm series. These improved rifles were noted in a ratio of about one to every twelve M38 rifles and were used by the NKPA in limited numbers. The Chinese also modified some of the 7.7mm rifles to provide for the use of the 7.92mm

* According to data published by the Technical Intelligence Coordinator, G-2 Section, Eighth Army, in "Study of Enemy Arms and Equipment Identified in the Korean Theatre of Operation," prepared by the Technical Intelligence Coordinator, this figure is too high. Data listed in this document for armor penetration of both the PTRS-41 and the PTRD-41 are as follows: 110 yards, 1.18 inches; 330 yards, 1.08 inches; 550 yards, 0.98 inch.

Mauser-type ammunition.

Additional makes of rifles (other than Chinese-made discussed in Chapter V) encountered in Korea were found in such small numbers in comparison to the large number of enemy troops committed to action that a full discussion of them is unnecessary.

In the field of pistols, the enemy, particularly the CCF possessed at least a dozen specific types and models. But because the hand weapon was only a minor personnel defense piece of very limited use in combat by either the UN or the enemy, the myriad types of pistols and revolvers caused less of logistical problem than, for example, the many different types of CCF artillery pieces. Carried by officers of almost all ranks in both the CCF and NKPA Armies, the pistol and revolver, however, probably was of more importance to the enemy than were pistols to US Forces, who ca ried relatively few of them in the front areas as their basic weapon. The pistols and revolvers in the enemy's hands were less of a problem for US commanders than were the same side arms in the hands of US troops. Souvenir-hunting US soldiers were especially impressed with enemy hand weapons, often going to great length to procure them.

Aside from US caliber .38 revolvers and caliber .45 pistols, the following other types of side arms were encountered in the enemy's hands in Korea: Soviet Tokarev 7.62mm model TT-1933 automatic pistol; Soviet Nagant 7.62mm model 1895 revolver; South Korean .32 caliber automatic pistol; Italian Bernadelli 6.5mm pistol; Spanish 7.63mm automatic pistol; German, Franz-Stock, Berlin DRP 7.65mm pistol; Belgian Browning M1900 7.65mm pistol; German 7.9mm Mauser automatic pistol; North Korean copy of US caliber .45 M1911A1 pistol; and Czechoslovokian 7.62mm M1927 pistol.[33]

In the realm of automatic weapons, the enemy possessed not only many national makes but also several different types. Among his favorite weapons were Soviet, Chinese, and US versions of the submachine gun. But the enemy relied heavily upon light and heavy machine guns of various manufactures--primarily US, Soviet, and Japanese.

The following were the Soviet-manufactured automatic weapons encountered in Korea: 7.62mm PPS-1943 Sudarev submachine gun; 7.62mm PPSh-1941 Snpagin submachine gun; 7.62mm model DP, Degtyarev light machine gun;

7.62mm model DPM light machine gun; 7.62mm SHKAS aircraft machine gun; 7.62mm model DT Degtyarev tank machine gun; 7.62mm model DTM tank machine gun; 7.62mm model 1910 Maxim Heavy machine gun; 7.62mm model 1943 Goryunov heavy machine gun; 12.7mm model 1938 DShK heavy machine gun; 12.7mm model UBK Berezine aircraft machine gun; and 12.7mm model UB fixed A/A machine gun.

Only two models of Japanese-manufactured automatic weapons were used by the enemy: 7.7mm type-99 (1939) machine gun, and 7.7mm type-92 (1932) heavy machine gun. Chinese-made automatic weapons, all copies of other national makes, were: 7.62mm copy of Soviet PPSh-41 submachine gun, 11mm type-36 copy of US M3A1 submachine gun ("grease gun"), 9mm copy of British Sten Gun; submachine gun, .45 caliber, copy of US Thompson M1928A1 submachine gun; 7.92mm copy of Czechoslovokian model 1930 Brno light machine gun; 7.92mm copy of Czechoslovokian model VZ-26 Brno light machine gun; an unknown model, water-cooled 7.62mm heavy machine gun (possibly a copy of the German Maxim M1908); 7.62mm model 1937 copy of Danish Madsen; and a 7.9mm Maxim-type, air-cooled heavy machine gun.

Miscellaneously manufactured automatic weapons were: 9mm Czechoslovokian paratrooper's model submachine gun, 9mm Czechoslovokian standard model submachine gun, 7.92mm Bren-type light machine gun, believed to be of Japanese manufacture; Canadian Bren light machine gun; 7.92mm Czechoslovokian model 1925 Brno light machine gun; 7.9mm Belgian Browning light machine gun; Czechoslovokian model VZ-26 7.92mm light machine gun; 7.9mm Swiss Furrer heavy machine gun; and 8mm French Hotchkiss heavy machine gun.

A great deal of reliance by the Communist Forces in Korea was placed in small submachine guns, known generally to US Forces in Korea as "burp guns," which were crudely-made weapons with short effective ranges--PPSh-41, 220 yards; PPS-43, 220 yards; US M3A1 and Chinese copy type-36 of same, 220 yards--but they had high cyclic rates of fire which made them deadly weapons against attacking troops and troops in the open. Despite their limitations, many of these guns were captured and used by UN Forces in combat.

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The "burp guns," adding walking firepower for enemy troops, greatly increased the enemy's close-in effectiveness against UN Forces. Probably the most popular of the enemy "burp guns" was the PPSh-41 which, while relatively heavy (11.7 pounds), had the longest effective range of any of the series, it could toss out 900 rounds a minute in emergencies, although the effective rate of fire was only 100 rounds a minute.*

Light machine guns were another type of weapon extremely popular in the enemy's armies because of their mobility and light weight plus strong firepower, which factors were of great advantage to the transportation-weak and manpower-strong CCF and NKPA Forces. Principally used LMGs were the Soviet model DP Degtyarev, the Japanese Taisho II and Nambu, and the Czechoslovokian Kuldmet VZ-26. In the heavy machine gun category, the time-tested and vastly respected Soviet Maxim M1910 HMG, and Chinese copies thereof, were the overwhelming choice of the enemy's combat forces. More of these models were captured than all other types of HMGs combined. Although a ponderous weapon on its dual-wheeled mount (a M1931 modern, dual-purpose mount was also encountered), it was the drudger of Communist heavy machine gun organizations. Next most employed HMG was the Soviet 12.7mm DShK M1938, a dual-purpose HMG and AAMG.

Other Small Arms and Their Usages

Other types of small arms employed by the enemy consisted of hand-operated rocket launchers of either US or Chinese make; recoilless rifles, again of either US or Chinese make; and light company mortars 60mm sized, essentially US-or Chinese-made.

The Chinese were quick to adapt the relatively new weapons of war--the rocket launcher and the recoiless rifle--to their uses. The Soviet Army was noticeably short on both types of weapons, using only a direct copy of the German Panzerfaust as its version of the rocket launcher, and not possessing a recoilless rifle. Hence, US specimens of these weapons were employed subsequent to their capture from US troops; and Chinese copies of these weapons followed shortly thereafter.**

* Grenades are discussed in the next section.
** See Chapter V for Discussion of Chinese copies of weapons and ammunition.

The 60mm mortar and the Japanese 50mm "knee mortar," which latter actually was a grenade launcher, were the two types of mortars used by the enemy that did not fit into the Soviet-CCF-NKPA doctrine of employing mortars as artillery. The US 81mm mortar, also used, was employed in the same manner -- as artillery -- as were the Soviet and Chinese 82mm mortars. The US 60mm mortar and the Chinese copy of the 60mm mortar were virtually the same weapon, with interchangeable ammunition, the Chinese version had a slightly shorter tube than its US counterpart. Used in direct support of infantry, much in the same way they were used by US forces, the 60mm mortar was a quite effective weapon and caused many casualties among frontline US fighters.

Enemy Engineer Weapons and Other Arms

Both the CCF and NKPA were confirmed believers in using all types of mines, grenades, booby traps, and bangalore torpedoes; and such weapons were used very effectively against UN Forces. These ambush weapons came principally from four sources: the USA, the USSR, Japan, and North Korea.

Adept at planting mines and booby traps in roads, tank bypasses, and in front of UN positions, the enemy counted on these hidden weapons to a high degree. Throughout the campaign, approximately 72 percent of US tank casualties were caused by mines,[34] a factor that often caused traffic to be halted completely on the narrow Korean roads when a tank or other vehicle hit a concealed mine, and that necessitated the abandonment of many UN vehicles.

Like other items of equipment, the enemy resorted greatly to captured or otherwise procured US mines, particularly the M6A1 heavy antitank mine, the M7 light antitank mine, the M2A3 "Bouncing Betty" antipersonnel mine, the M3 antipersonnel mine, and the antipersonnel Schü-mine. Additionally, the enemy used virtually all types of US fuzes employed in Korea.

Soviet mines were also frequently encountered, particularly the TMD-B antitank mine, a wooden box affair, which because of its simple and cheap

construction was the enemy's most frequently--and successfully--employed mine.[35] Other Soviet mines used were the TM-41 antitank mine, the "Yam" series antitank mines, the TMS-B antitank or antipersonnel mine, the PMD-6 antipersonnel mine, and the POMZ-2 antipersonnel mine.

Sporadic instances of encounters with the Chinese No. 8 antitank or antipersonnel mine occurred, but this type of mine was the only positively identified Chinese mine. Two types of Japanese mines and one bangalore torpedo were encountered: the type-99 (1939) antitank magnetic mine and the type-93 (1933) antitank mine. Two other types of mines, the South Korean heavy and light antitank mine, captured from the ROK Army, also turned up in the enemy's hands in limited numbers, and were used against UN Forces.

Not only did the enemy frequently use conventional mines, but he also improvised several types of mines from local material that oftentimes proved quite effective. An example of this was a 55-gallon drum mine, a simply made af air constructed by filling the drum with rock and shrapnel and inserting in the center an eight-pound charge of TNT. The charge was primed non-electrically by using four pieces of time fuze eight inches long and non-electric blasting caps. The particular type of mine was fuzed and rolled down hills to burst among attacking UN troops.[36]

One result of the entry of the CCF into the Korean conflict was the enemy's increased use of the bangalore torpedo. Although it was designed primarily to breach barbed wire defenses, there were no reports of the enemy using the bangalore torpedo for this purpose. Instead, closely following his mine doctrine, the enemy laid torpedoes in areas where tanks or troops were likely to approach, burying at least two bangalores in roads, tank defiles, or in front of troops' positions with a pull cord running to a concealed location 40-50 feet away. The bangalore torpedo came to be a major weapon in the hands of the enemy as the campaign lengthened.[37]

Grenades used by the CCF and the NKPA originated from three sources: the USA, China, and the USSR. Four grenades normally were carried by each infantryman in combat, and the grenade was a vastly important weapon to the firepower-weak enemy. The enemy used the grenades cleverly, both by direct

throwing or firing and in booby traps.

Soviet hand grenades found in Korea were: model RG-42 offensive, model RDG-1933 offensive-defensive, model RPG-1943 HEAT, and RPG-6 HEAT. Of Chinese grenades, all stick models, there were four types: small, long handled, egg-shaped body, and type-99.

Another engineer-type weapon was the Soviet flame thrower which, while used by the enemy only on a few occasions, was a definite threat to UN Forces and had to be dealt with accordingly. Closely resembling a small arm, this carbine-shaped weapon had a wooden holder stock, metal trigger housing, wooden hand guard, and a metal barrel. Like US flame throwers, used in the attack of fortified postions or to knock out strong points encountered in an attack, this weapon was highly portable, capable of being operated by one man.[38] Its mobility also made it useful for defensive fighting. The Soviet flame thrower was not used often enough in the Korean campaign, however, to constitute a real problem to UN officers.

CHAPTER V

CHINESE AND NORTH KOREAN COPIES OF FOREIGN WEAPONS AND AMMUNITION

Heretofore, primary consideration has been given to those weapons and equipment in the hands of the enemy which were manufactured by foreign nations, predominantly the USA, USSR, and Japan. It must be remembered, however, that while neither China nor North Korea was equipped to produce heavy munitions of war on a scale anywhere approaching that of the three nations mentioned above, both countries manufactured large quantities of small arms, automatic weapons, mortars, and ammunition, virtually all of which were direct or slightly modified copies of armament of other nations.

Probably one of the most important elements of Chinese-made war materiel was the manufacture of ammunition which could be used in captured or donated equipment. One of the main difficulties the CCF and NKPA encountered in battlefield pickup of US weapons and post-war requisition of Japanese war equipment was the inability on the part of the CCF to procure sufficient ammunition to keep the weapons on hand in action. To a great extent, the CCF solved this problem by setting up ammunition factories to make duplicate ammunition.

The Chinese manufactured several models of small arms, submachine guns, machine guns, mortars, and grenades, and in addition undertook manufacture of three relatively large weapons: copy of the Japanese type-92 (1932) 70mm howitzer, copy of the US T15E13 57mm recoilless rifle, and a copy of the US 3.5-inch rocket launcher. With a few exceptions--the Chinese No. 8 A^T mine and a few others--all Chinese-made weapons and equipment encountered in the Korean campaign were direct or nearly direct copies of other national models. The Chinese developed their process of copying to almost a fine art. As one example of weapon interchangeability, Chinese 60mm mortars could fire US ammunition and US 60mm mortars could fire Chinese ammunition.

The major North Korean arms manufacturing establishment was an underground arsenal located northeast of KANG-DONG, (BU5038) in an old lead mine.

The arsenal was moved from PYONGYANG in June-July 1950 when the NK capital was first subjected to air raids. Overrun by the US 2d Infantry Division on 6 November 1950, during the fall 1950 breakout offensive, this arsenal was reportedly moved by the North Koreans to still another location where it continued operation. The arsenal evidently manufactured the following items of equipment in their entirety, except as noted in each case: Soviet PPSh-41 submachine gun (except stocks), Soviet 82mm mortar, Soviet 120mm mortar (except carriage), 7.62mm ammunition for the PPSh-41 submachine gun (except primers and powder). The ammunition and drum-type magazines for the PPSh-41 submachine gun were loaded at the arsenal.[39]

There were indications that major castings and forgings, such as base plates and defensive grenade bodies, were to be manufactured in newly installed facilities near the mine. There was no confirmation whether or not North Koreans, following the CCF intervention and the reactivation of the arsenal, ever manufactured these items.

The discovery of this hidden enemy arsenal brought an element of intrigue into the operations in Korea and proved that the North Koreans were not totally dependent upon the USSR and captured stocks for their weapons. No estimate can be made as to precisely how much ammunition and how many models of the PPSh-41, the 82mm mortar, and the 120mm mortar were produced in this arsenal and other, possibly similar, arsenals elsewhere in North Korea. But it can be determined that considerable quantities of war materiel were produced, thus providing the NKPA with weapons and ammunition most used by the army.

When UN Forces streamed north following the breakout from the Pusan Perimeter in autumn 1950, the North Korean authorities abandoned the mine, and employees were forced to march to the Manchurian border where they were ferried across the river. The North Koreans accomplished approximately 80 percent of the evacuation from the arsenal prior to the arrival of UN troops.[40]

The Chinese-made 57mm recoilless rifle was first captured from CCF troops north of ANJU in November 1950. Apparently copied from the US

version, the Chinese R/R possessed some added improvements. One improvement was a Chinese-type percussion firing mechanism and another was a tripod mount with a graduated traversing segment, possibly for more accurate fire. Weight was approximately 45 pounds and range was 4,000 yards. The piece could be fired at the rate of 15 rounds per minute.[41]

Partially copied from the US 3.5-inch rocket launcher, the Chinese-made 90mm type-51 rocket launcher contained a number of differences; the tube of the Chinese weapon was of one piece and did not break into two pieces as did the US model; the ammunition was spin-stabilized rather than fin-stabilized; the tube was of smooth-bore machine steel, approximately .08 inch thick and had a muzzle flash deflector at the front and a breech guard at the rear. All of these characteristics were similar to the US weapon, except that the muzzle flash deflector was perforated with 1/4 inch holes on the right half, possibly to decrease the yaw in the spinning projectile as it left the muzzle. The sight and electrical firing device were similar to the US weapon, and dimensions were similar. These weapons were not encountered in the Korean campaign until relatively late, being first reported during the summer of 1951.[42]

Chinese-manufactured small arms were many, consisting of the following types: 7.62mm copy of Soviet PPSh-41 submachine gun; 11mm copy of US M3A1 submachine gun (type-36 in Chinese terminology); .45 caliber copy of US Thompson M1928A1 submachine gun; 9mm copy of British Sten submachine gun; 7.92mm copy of German model 98K carbine; 7.62mm model 1891 rifle modified to single shot; 7.9 model 37 (1948) Chung Cheng Chinese-designed rifle; 7.92mm copy of German model 98 rifle; 8mm copy of Italian Mannlicher-Carcano rifle; 7.92mm copy of Czechoslovokian model 1930 Brno light machine gun; 7.92mm copy of Czechoslovokian model VZ-26 Brno light machine gun; 7.62mm unknown model water-cooled machine gun; 7.62mm model 1937 copy of Danish Madsen light machine gun; and 7.9mm Maxim-type air-cooled heavy machine gun.

The Chinese mortars have been discussed previously. The Chinese built three types of mortars, one the copy of the US 60mm mortar and two copies of

Soviet mortars: an unknown model 82mm and the M331 120mm. Four types of grenades were manufactured by the Chinese, and a copy of the Japanese bangalore torpedo was built in large numbers. The final type Chinese-made weapon was the Chinese-designed No. 8 antitank mine.

CHAPTER VI

PROBLEMS ENCOUNTERED BY ENEMY EQUIPMENT, OTHER THAN WEAPONS

Although the NKPA supply organization never approached the size or comprehensiveness of US Forces' in Korea, by rigid adherence to several well-defined concepts and concern for only the most rudimentary requirements of field forces, it was able to sustain offensive efforts in the early months of the campaign. This was the case despite crippled supply lines and an ever-increasing shortage of transport vehicles of all sorts. Both CCF and NKPA supply organizations were meager in size and scope. Only the requisite items were handled: ammunition, fuel, weapons, food, and clothing, and these only in the barest possible amounts.

Vehicles

Throughout the campaign, the NKPA and their CCF allies relied greatly on rail transportation to move their military cargoes to railheads. Reasons for this were ample: the relative lack of an adequate roadnet in Korea, the shortage of transport vehicles, and the air interdication of UN airplanes. Though curtailing road traffic and rail traffic greatly, the UN air interdiction program was never completely able to halt military rail transportation. However, due to extreme difficulties in getting supplies to fighting units, the NKPA and the CCF were required to insist on a rigid system of priorities, which required ammunition and fuel supplies to take precedence over all other classes of supplies.[43]

Emphasis of supply in both the CCF and NKPA was from rear to front, from higher echelon to lower echelon. Armies or corps were reponsible for moving supplies from railheads and depots to division dumps, utilizing motor transport (or other types, if motor was not available) from these higher units. The division rear services section likewise was responsible for breakdown of supplies to lower units, and thus the system continued to the final platoons in combat.

Except for rail transport used in bringing up supplies from the rear areas, the enemy was generally dependent upon truck transportation for hauling supplies up further. In the case of the NKPA, this latter job fell mainly to the divisional truck company, which at full strength was equipped with about 54 organic Soviet-made trucks, plus a variable and undetermined number of vehicles requisitioned in occupied areas; i.e., South Korean vehicles and captured US vehicles. Early in the war, UN air interdiction had seriously reduced the number of motor vehicles available to the NKPA and, as a consequence, greater reliance was placed upon animal draft transportation and human transport. Forcibly conscripted Korean civilians were pressed into service as human carriers, principally for the transport of supplies from divisional dumps to forward units using mountain roads and foot paths to evade detection by UN aircraft.[44]

Probably the most used Soviet truck was the GAZ-51, a 4x2 with a rated load of 2.7 tons, which is too high by US standards for the size of the truck. This vehicle and the more sturdy and militarily useful GAZ-63, a similar vehicle with a four- instead of a two-wheel-drive, were captured in some numbers by UN Forces and pressed into service for UN transport. Other vehicles were the ZIS-151 and the GAZ-67, the first being a six-wheel-drive truck rated at 3.8 tons, though obviously a 2½ton US 6 x 6; and the last being the Soviet jeep, outwardly resembling the US jeep, but actually a lightly built version of the GAZ model A Ford, with a four wheel-drive. This Soviet jeep was used by both the CCF and NKPA in ways comparable to uses of US jeeps in the US Army.

Soviet trucks of all kinds were virtually copied after US truck designs. The Ford Motor Company's aid had been enlisted during the 1920s and 1930s to help build up the Soviet truck industry. These Soviet-produced vehicles, used in Korea were not up to US standards but were effective enough in the campaign.[45]

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Engineer Equipment

With regard to engineer equipment, neither the CCF nor the NKPA had such a tremendous quantity or assortment of materiel as did the US Army. Manpower-saving equipment was at a premium, and the enemy consequently relied greatly upon hand tools for his engineering work.

Two main types of Soviet tractors were captured, the Stalinst S-80 and the ATZ. The S-80, almost an exact copy of the US caterpillar tractor D-7, was an 80-horsepower diesel- and gasoline-burning vehicle with a maximum tractive effort of 19,600 pounds in first gear and 3,307 pounds in fifth gear. The ATZ, a four-cylindered, four-cycled vehicle, burning gasoline and/or diesel fuel, was less often encountered in Korea. The motor was similar to the US International tractor motor 18-36.[46]

Crude Korean- or Chinese-made hand tools were the major engineer items used by the enemy during the campaign. Such items included long handled shovels, picks, earth augers, hand axes, wire cutters, cross-cut saws, and entrenching tools--all primitive in nature--but adequate for most field needs involving hasty construction and utilization of what the enemy had the most of: hand labor.[47]

Other, less universally-used items of engineer equipment were included in enemy bridging equipment. A ponton bridge, patterned after the Soviet Small Folding Boat MSL and the Folding Ponton NLP, but believed to have been of Japanese origin, was used in spanning streams. This ponton bridge was a well-designed unit of portable floating equipage and could meet most field requirements. Another ponton, a North Korean copy of the Soviet Metal Boat N2P-45, was also used in bridge building by the enemy.

Final bridging equipment items were: (1) A Soviet-manufactured flotation suit MPK (belt), consisting of rubberized overall, two wooden paddles, and a pneumatic belt used by individuals in crossing water obstacles, reconnaissance of river bands, and for performance of miscellaneous minor tasks in water ; and (2) Soviet-made pneumatic boat A3 consisting of a pneumatic float, a float transom, eight oars, and four bellows. This latter item was also the

standard floating support for the MdP-A3 bridge park and could carry 10 soldiers.

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CCF and NKPA Uniforms

Probably the most distinguishing characteristic of the enemy's uniforms was the simplicity of design and construction of both summer and winter styles, and the almost universal use of cotton cloth and/or padding in all forms of the enemy uniform. CCF and NKPA field clothing, unlike so much of their other equipment, was largely produced by the country using it, and, as a result, reflected the innate clothing styles of these two countries. CCF and NKPA uniforms were bulky and shapeless, basic and unadorned. (See Appendix No. 6 for sketches of enemy uniforms.)

The CCF winter uniforms were made of cotton cloth with unribbed cotton padding; there was no cross-stitching to hold padding in place, as was characteristic of NKPA winter uniforms to provide extra protection in cold weather. Chinese officers' and enlisted men's clothing evidenced certain differences but not to the degree true of the rank-conscious NKPA.

The winter uniform of the CCF officer consisted of a cotton-padded cap with a brown top and with pile lining on the earflaps and visor. The basic wear for officers was ill-formed jacket of brown quilted cotton, with two breast pockets and with an opening down the center and closed with five plain buttons, and a pair of trousers made of the same brown material. Some officer uniforms incorporated a one-eighth inch red piping on the outer edge of the collar, near the cuff of both sleeves, and down the outer seam of the trousers. The piping near the cuff of the sleeve formed an inverted V. This piping, however, was by no means universal to officers' uniforms and was often missing.

The shoes most commonly worn by officers were high-top black padded canvas type with rubber soles and a high-top shoe with the botton formed from brown leather and the top of gray canvas. This latter shoe was fur-lined and had leather heels with leather or rubber soles. PWs often stated preference for canvas-padded shoes because of their greater ease in drying

and because of the fact that they did not stiffen when dried.

The same kind of underwear was worn by officers and enlisted men in the CCF--drawers and undershirt of white cotton. During cold weather, remnants of summer uniforms were worn as undergarments, and there were some instances of CCF soldiers wearing as many as three summer uniforms under their quilted winter clothing.

The overcoat worn by officers was a double-breasted version with two rows of four buttons down the front and with a half-belt that buttoned across the back. The collar was bordered with the familiar officers' red piping. Most PWs were not wearing the overcoat when captured; being considered too cumbersome it was generally discarded.

CCF enlisted men wore the same types of cap and shoes as the officers, but the jacket for EM was made of brown, quilted cotton and had no pockets; it had an overlap across the front that fastened with five buttons on the right side. The overcoat for enlisted men was similar to that for officers except that it had no belt, had only one row of buttons down the right side, and the two pockets were placed at slight angles to facilitate placing hands in them.

One peculiarity of CCF uniforms was the omission of any insignia of rank on either officers' or enlisted men's clothing. The only uniform marking to indicate rank was the red piping on officers' uniforms. Interrogations of CCF PWs revealed, though, that rank was recognizable because lieutenants were armed with submachine guns, captains and majors with Mauser-type pistols, and lieutenant colonels and officers of higher rank were armed with Mauser-type pistols and also were escorted about by a personal bodyguard.

The basic NKPA winter uniform closely resembled its CCF counterpart except that it was made of cotton padded cloth with ribbing, and North Korean officers wore insignia of rank.

Although NKPA officers wore several types of winter caps, two types probably were standard issue: a quilted cotton type in brown, blue, and black

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and closely resembling a cyclist's helmet; and a type similar to the standard CCF winter cap except that it was dark blue, with padded crown, and with gray-brown, pile-lined earflaps and visor. Some, however, were merely brown. The officers' winter jacket and breeches were made of brown, quilted cotton. The jacket fastened down the center front, as on the CCF officer's jacket, with four buttons. These jackets had a breast pocket on the right side and loops on the shoulders for epaulets. The breeches had side pockets and, in some instances, one or two hip pockets.

Three specific designs made up the most common NKPA footwear: a high-top canvas shoe with rubber soles, a high-top padded canvas shoe with rubber sole, and a leather service shoe. All three designs were widely used by the North Korean enemy.

Winter underwear in the NKPA comprised cotton drawers and undershirts, plus remnants of summer uniforms and civilian clothes, frequently several layers thick. This evidenced a serious shortage of cloth in North Korea and, since this situation was apparent in the CCF uniforms, also a shortage in China.

Many types of overcoats were found on NKPA PWs, causing doubt that this Army issued a standard overcoat. This fact can also probably be attributed to material shortages in North Korea. Shoulder loops for epaulets were usually found on NKPA overcoats. Both Armies also issued padded cotton mittens for winter.

The enlisted men of the NKPA wore the same types of caps, shoes, and breeches as their officers. The EM winter jacket was also made of brown quilted cotton, had the same kind of overlap in the front as did the CCF enlisted men's winter jacket, and it was fastened with five buttons.

Rank in the NKPA was distinguished by insignia and epaulets similar to those in the Soviet Army, evidencing another instance of the close relationship of this satellite force with the USSR. Officers could also be distinguished by red piping on their uniforms, similar to that of CCF officers' uniforms. All members of the NKPA wore the same cap insignia, con-

sisting of a red star surrounded by a wreath.

In comparison between the CCF and NKPA uniforms, it can be stated that essentially they looked much alike. However, certain variations could be noted. The CCF uniform was made of plain cotton padded cloth in contrast to the ribbed cotton-padded cloth of the NKPA; the CCF used a device on its headgear, while the NKPA cap sported the red metal star; the CCF issued a fur-lined pair of shoes, the NKPA issued an all-leather shoe, and both Armies issued a padded canvas shoe; the CCF uniform trousers were conventional asiatic models with a drawstring at the ankle, while the NKPA uniform included breeches rather than trousers; the NKPA outer garments had shoulder loops for epaulets, whereas CCF uniforms were without rank distinction.

Like the winter uniforms, the CCF and NKPA uniforms were extremely simple in material and design. Though several types of cloth were used, most uniforms were of a very light form of cotton gabardine or broadcloth in a light brown color, slightly darker than khaki, and often with an olive drab cast. Only minor differences in design, fabric, and color were apparent between the CCF and NKPA types.

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Generally, officers wore a jacket which buttoned down the center with five buttons, while enlisted men wore a tunic-type jacket which buttoned only half-way down the front. Light cotton trousers of either breeches or standard type were worn by officers, but enlisted men generally wore ordinary trousers. North Korean trousers for EM usually buttoned at the bottom of the pants legs with two buttons, while CCF EM trousers usually did not. Another distinction between CCF and NKPA summer uniforms was that North Koreans wore shoulder boards designating rank while CCF uniforms were without this. In both Armies, officers' summer uniforms generally had the familiar red piping on pants legs, caps, and sleeves. Caps were of light cotton with a bill and ear flaps which could be turned up when not in use. There were unimportant differences between CCF and NKPA styles.

Summer footwear in both Armies consisted almost entirely of tennis shoes, with heavy rubber soles and canvas tops. Leather shoes were occasionally seen

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but only in isolated instances, and the sturdy, light tennis shoe was the overwhelming favorite of both Armies. Because an over-supply of equipment never was issued, the CCF and NKPA soldiers had just one pair of shoes--the ones on their feet. These light shoes were found by the enemy to be excellent for field use, particularly over the extremely broken terrain of Korea, and in climbing mountains.

Underwear was not usually considered one of the necessities for soldiers of the enemy, but when issued consisted of thin white cotton cloth shirts and shorts. The enemy also used civilian underwear to a great extent or no underwear at all.

For protecting soldiers against rain, the enemy employed a very ingenuous system: each man was issued a shelter half which was equipped with several buttons and a drawstring at one end so that it could be fastened around an individual's neck and buttoned up to form a parka-type raincoat. When not used as a rain repellent, it could be coupled with a shelter half of another soldier and made into a pup tent, or placed over the tops of foxholes for protection against rain.

Enemy uniforms, while appallingly meager by US standards, proved adequate and effective for use in Korea. While entirely without the diversified styles for all purposes of which the US Army could boast, the CCF and NKPA were likewise minus the huge quartermaster service organization which was necessary in the US Army; consequently, the enemy units were far more mobile. There are no indications that any appreciable quantity of uniforms was produced for the CCF or NKPA anywhere except in the enemy's own countries. In this respect, at least, both Armies were self-sufficient without outside aid.

When his own clothing supplies were in short supply, the enemy oftentimes wore captured US uniforms, a fact which occasionally caused confusion in distinguishing between CCF and NKPA troops and ROK troops. The enemy found US uniforms quite to his liking, sometimes prefering the former to his own issue.

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Enemy Rations

From the US point of view, the enemy's system of food supply is perhaps the best illustration of his lack of concern for supplying his troops with anything but the wherewithal to fight. Enemy soldiers received a dull, unvarying diet, composed of grains, beans, fish, or meat, and such fresh vegetables as could be locally procured. While these rations would appear inadequate and monotonous to US troops, they doubtless were considered quite sufficient for the less nourished Orientals, and the simplicity of the food supply system eased one of the major enemy problems: transportation.

The basic food issue for the NKPA and CCF soldier was known as a ration sack, which was simply a cylindrical white cotton bag, closed on each end into which ground food was packed. In the case of the CCF, these sacks contained pre-cooked wheat, millet, corn, beans, or barley, or combinations of these, making a prime ingredient of chow mein the CCF soldier's main dish. In the case of the NKPA, these sacks contained rice, ground wheat or other grains, or beans, or combinations of these, which were pre-parched. This powdered food closely resembled US-type commerical cereals and was mixed with boiled rice and eaten, or mixed with boiled rice, dried, and made into bisquits. Often, plain rice was eaten, either hot or fashioned into rice cakes and allowed to dry, then eaten.

The enemy's meat diet was small. Occasionally he received canned beef, pork, ham, and sardines from China; but normally fish, salted or dried, was the only type of flesh he ate in the field. Practically the only other type of food received from the rear was turnips preserved in brine and transported in barrels. Fresh vegetables were eaten only when they could be procured locally from Korean civilians, and there were no indications that the enemy received any appreciable shipments of vegetables from the rear.

Kitchen equipment was normally only a large metal pot, organic to the infantry company or other similar unit, in which all rations for the organization were cooked. No spoons of ladles were provided and these, if used,

were fashioned out of locally procured material or were obtained from civilians. Mess equipment for the soldier was simply a small porcelain rice cup, in the case of the CCF, or a larger aluminum cup, in the NKPA. Spoons, knives, or chopsticks were not issued, and the individual soldier had to obtain these eating utensils on his own. In general, equipment was practically never issued to the enemy soldier; either he made it for himself or procured from civilians.

By carrying most of the food he consumed on his back and transporting almost no cooking equipment or diversified rations, the enemy soldier was able to effect far greater personal mobility than was the US soldier. With only a few, easily transportable food items to ship, precious space was available for ammunition, weapons, and fuel; hence, a far greater proportion of firing materiel per transport unit could be carried than by comparative UN transportation organizations. All of this accounted, in some measure, for the ability of the enemy to maintain his fighting strength on the front despite severe shortages of trucks and rail stock, and in spite of UN air interdiction.

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Enemy Medical Facilities

The same rudimentary organization that characterized other NKPA and CCF service facilities also was characteristic of the enemy medical system. Nothing remotely approaching the comprehensive, highly proficient US Army medical service was found in either of the enemy's armies. The result of this insufficient arrangement was that a far greater proportion of enemy troops than UN Forces died from wounds and from diseases. Both CCF medical and civilian facilities were under the control of the Ministry of Medicine, a department of the Central Government of the People's Republic of China. The commanding officers of CCF medical installations usually were loyal Communist Party members with no medical training, while doctors in the forward areas usually were enlisted men promoted from the ranks and given varying amounts of medical training within the installations themselves.

Indications were that no graduates of medical colleges were found below the rear hospital level, though some fairly well-trained doctors captured from the Chinese Nationalist Army were utilized at army hospital and army surgical company levels. The criteria for choice of medical officers in the lower echelons were 70 percent loyalty and 30 percent technical skill or training.

When CCF medical units left China, they were well supplied with drugs, pharmaceuticals, bandages, etc. In Korea, due to supply problems it was almost impossible to replenish stocks, and medical care suffered accordingly. Origin of medicine and drugs was from three main sources: crystalline penicillin, emetine, and atabrine were US-produced and were captured from the CNA; some medical supplies were obtained from the Japanese Army; Chinese- and Manchurian-manufactured vaccines were plentiful. The USSR did not furnish the CCF with drugs; blood, plasma, and serum generally were not available.

Due to the abundance of Chinese-made vaccines, CCF troops were more effectively immunized than the UN had at first believed. Smallpox vaccination was almost universal in 1950 and received 90 percent coverage in 1951. Typhoid paratyphoid-cholera combined vaccinations received 100 percent coverage for the first shot, 90 percent for the second, and 80 percent for the third in 1951. Tetanus vaccinations covered 100 percent of troops for the first shot, 40 percent for the second, and only 15 percent for the last.

Primarily concerned with returning troops to combat rather than saving lives, seriously wounded soldiers were left to die, thus showing the CCF's callous regard for life and affording a saving of needed drugs for use on men who would live to fight again. Patients with severe illnesses and incapacitating wounds were discharged. But UN wounded were given first priority in treatment and medical care, even over CCF wounded.

Concerning NKPA medical facilities at the outbreak of the war, North Korean medical personnel were better trained than either the CCF or the ROKA. But by November 1950, deterioration of the NKPA medical service had become evident because many personnel had been killed or captured; by May 1951, deterioration was complete. Following that date, NKPA medical facilities and

services were inadequate and primitive, and forward installations were staffed by personnel, who, according to Capt Ralph M. Takame, Eighth Army Medical Intelligence Officer, were "little better than trained aid men."

Originally, drugs and pharmaceuticals were of Korean, Manchurian, and US manufacture, and exhaustion of these stocks caused a complete dependence upon Soviet and captured UN drugs. One NKPA hospital, the 947th Field Hospital, had medicinal supplies of even more varied origin. Approximately 50 percent of drugs such as aspirin, camphor, and "Chinese medicine" was of Korean origin, 30 percent of such supplies as bismuth, sulphanine, amnigen, digitamine, thrombagen, novocaine, etc. was of Japanese manufacture, and 20 percent, such as anaesthetics, were of Soviet origin. All gause and bandages were Soviet-made, and the more expensive medicine, such as penicillin, were of US manufacture. The NKPA used no streptomycin. One grave deficiency in the NKPA medical service was the lack of blood plasma, to a large extent due to the fact that there was no blood bank in North Korea and that plasma could not be obtained.

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An estimated 15-20 percent of all NKPA troops received no immunization during 1951, and the only evidence of epidemic control was the isolation of infectious diseases and prohibition of NKPA personnel from entering towns except in line of duty. Only eleventh-hour acquisition of Soviet pharmaceuticals thwarted the outbreak of a full-scale epidemic of diseases in the spring of 1951.

Like the CCF medical service, NKPA medical personnel were charged with returning slightly wounded soldiers to combat rather than saving life.

Heavier medical equipment was practically nonexistent in the enemy Armies. Only one large unit, an X-ray machine of Soviet manufacture, was ever captured. Laboratory facilities were in short supply, and blood was extremely scarce. So acute was the shortage that the blood of CCF soldiers was not typed, and when blood was available on-the-spot typing was performed.

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Enemy Signal Organization and Equipment

The enemy in Korea was provided with considerably less signal equipment than is found in US Army units of corresponding echelon, a fact which apparently forced the enemy to concentrate communications equipment in the area of the main effort at the expense of other sectors of the front. It furthermore conditioned a certain lack of control which may have been one of the factors resulting in the adoption of stereotyped tactical maneuver. This was true at least in the NKPA, following a set pattern of execution, which was demonstrated over and over again by stubborn adherence to an invariable offensive pattern; i.e., infiltration followed by flanking movement.

The general and intrinsic shortage of signal equipment in both Armies was greatly aggravated by supply difficulties, notably in wireless equipment, as well as by combat losses. In particular, radio sets and spare parts for electronic equipment were never resupplied in any appreciable quantities during any period of the campaign. Both enemy Armies came to rely to a large measure on captured US signal equipment, particularly wire and radios.

In both Armies, wire was the primary means of communication because of its inherent advantage in regard to security and economy. All other means of communication were secondary and radios, particularly, were used less often than in the US Army. Radio was the primary means of communication only in fast-moving situations and for reconnaissance and tank units.

Rigid economy measures caused the reduction or elimination of administrative circuits, while communications with unimportant sectors of the front and with rear echelons were pared to the bone. Also, when an axis of signal communication changed, special teams were organized to collect superfluous telephone wire and other signal equipment.

North Korean signal communications responsibility, while a command function, could apparently be transferred by commanders of units down to

regiment to the appropriate unit communications officer. Battalion commanders, however, were directly responsible for signal communications. The communications officer organized and coordinated the signal communications divisions and higher echelons, and he was directly responsible for the uninterrupted and accurate transmission of orders and reports. A breakdown of NKPA signal organization follows.

Communications between divisions and the next lower echelon was maintained by the divisional signal battalion, composed of 220 officers and men. This unit consisted of headquarters and training company, a wire communication company, and a radio company, each with approximately 80 men. Among other sections, the headquarters included a telephone platoon and a messenger platoon, the latter provided with three motorcycles for message delivery. In the other two companies there were eight Soviet RBM radios, one RSB mobile transmitter-receiver mounted on a ZIS-5 truck, 50 field telephones (all Soviet-made), and four GAZ-51 trucks.

A signal company with an approximate strength of 80 officers and men handled the signal communications of the regiment, including organic transport as follows: one ZIS-5 truck, one Soviet jeep, and four horse-drawn wagons. The signal company was organized into a staff platoon equipped with from two to four KOF-28 or KOF-43 cordless switchboards; a wire communication platoon with about 30 field telephones, three telegraph sets, and 15 reels of telephone wire; and a radio platoon that possessed approximately 12 radios of the RBM or 4 (RBS-40) type. Of these radios, two were placed with each battalion and the regimental artillery, while four remained with the regimental command post and command observation post.

The rifle battalion had an organic signal platoon composed of one lieutenant and 15 enlisted men; it was equipped with five or six field telephones and from four to eight reels of wire. Radios were not organic to the battalion level, but were sometimes attached from the regiment. Among rifle units, battalions were the lowest echelon with an organic signal unit

and signal responsibility.

Rifle companies apparently had no organic signal organization, with the battalion signal platoon attending to the companies' needs by furnishing them one field telephone for the company commanders' use. But in important sectors of the front, additional signal equipment, including radios, were temporarily attached. Messengers and visual or sound signals were resorted to for internal communications within the company. Battalion and regimental machine gun and mortar companies, on the other hand, had organic signal equipment; eight field phones in the HMG company, while mortar companies had the same facilities as artillery batteries.

In the NKPA divisional artillery regiment, one signal platoon, with about 40 men, maintained communication with subordinate battalions and with command and observation posts of the division. The platoon had a radio squad and three wire squads. Each artillery battalion of the divisional artillery possessed from two to four radios and four field telephones. Within the artillery battery, the signal squad of the command platoon laid telephone wire and attended to all other communication matters. Each battery had three field telephones, one or two reels of telephone wire, and from one to three radios. The SU-76 self-propelled gun battalions had a platoon with four field telephones and one RB-12 radio, while a standard 9-R tank radio was installed in each SU-76.

CCF signal organization followed the same general doctrine of the NKPA and suffered from similar shortages. The CCF, however, was plagued with a far more varied assortment of equipment than was the predominately Soviet-equipped NKPA.

Corresponding to the NKPA divisional signal battalion was the CCF divisional signal section, with 31 officers and 175 enlisted men. The CCF Army also possessed a similar organization. The infantry regiment had a reconnaissance and signal company of 142 officers and men, while the infantry battalion had a communications squad of 12 men in the ammunition and communi-

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cations platoon. The CCF regimental heavy weapons battalion also had a 12-man communications squad in its mortar company, as did each divisional heavy mortar battalion company and each artillery battery in the pack artillery battalion (eight men).

In the divisional signal section was a headquarters, a signal company of 13 officers and 99 EM, and a radio station with six officers and 40 EM. The signal company was divided into a wire platoon, a communications platoon, a radio platoon, and a headquarters. The reconnaissance and signal company of the infantry regiment was composed of a headquarters, a messenger platoon with four officers and 34 EM, a mounted signal reconnaissance section, a communications platoon with three wire squads and a switchboard squad, an air-ground liaison section, and a reconnaissance platoon.

CCF signal equipment consisted primarily of US, Soviet, and Chinese models. The NKPA was more uniformly equipped with Soviet equipment, though considerable quantities of US-made radios, telephones, and wire were used when captured.

One characteristic of both the NKPA and the CCF, but more pronounced in the CCF, was the use of oral, sound and visual communications, particularly in the lower echelons where wire and radio facilities were limited. To a large degree, the CCF resorted to whistles, drums, lights, and flares; and bugles was a favorite method of transmitting messages if units were in close contact.[54]

Visual signals were employed to indicate friendly positions, to call for fire support, and to indicate the commencement or completion of a phase of battle. For all of these purposes, flares enjoyed the greatest popularity in the NKPA. Frequently, too, sound signals were employed as warning of impending air attacks or, in the case of tank sirens, to maintain contact with infantry or artillery observers. Where it was impracticable to use visual signals, relays of signal personnel were often posted to relay messages orally; this field expedient was resorted to in at least one instance of direct mortar fire.

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PW descriptions of enemy signal equipment, primarily Soviet, follow:

Field telephones: The UNA F31 and UNA I31 models were widely used in units ranging from company or battery through regiment. In higher echelons, the TAM and TAI-43 type telephones were found more frequently, probably because of their better performance characteristics. Another type of field telephone, the UNI 43K10, was reported at regimental level and in armored units.

Switchboards: Available reports on telephone switchboards, at least in the NKPA, are confined to those used at regimental level. Most common at this echelon were the KOF-28 and KOF-43 six-line cordless models. The R60 switchboard, with 60 lines, also was used, but this model was probably found in echelons above division.

Wire: The standard field wire came in reels containing approximately 1,650 feet. The wire had seven strands, of which four were steel and three copper, and closely resembled US Signal Corps wire W110; PWs indicated that this Soviet wire did not perform as efficiently as US wire. US wire was also used whenever it could be captured.

High-power transmitters: At corps level, a radio transmitter with an output of 250 watts was identified; PWs claimed that it was mounted on a truck and powered by a gasoline generator, hence resembling the Soviet Model 3A or 3D transmitter.

RSB radios: This Soviet model was organic to the NKPA rifle division and was widely used by the CCF. Mounted on a ZIS-5 truck, these sets were powered with a 750-volt generator and were provided with a vertical mast antenna. Their transmission frequency ranged from 2.5 to 5 megacycles.

RBM or RBM-5 radios: This Soviet model was reported in rifle divisions and regiments of the NKPA and was encountered in the CCF. It was battery-powered and had a frequency range of from 1.75 to 6 megacycles. The transmitter circuit utilized three SO-257 tubes, and its vertical mast or a horizontal antenna gave the transmitter a CW range of from five to ten miles. The receiver was likewise powered by a battery and used five 2K2M and one SB-242 tubes. The set was designed only for earphone reception.

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Soviet model 4R (RBS-40) radio: This set was not commonly found in the infantry and artillery units; it was often used by artillery forward observers to direct fire.

Soviet model 9R radio: Tanks and other armored vehicles were equipped with this radio, and it was the basic set in the radio net of armored units.

Miscellaneous radios: Reports mentioned several less conventional types of radios, including the PGM-1, reportedly a 1948 model found in rifle regiments, and the model RB-12 radio, reported in the signal company of NKPA rifle regiments and in the NKPA SU-76 gun battalion. This model was probably identical to the 12-RP two-watt transmitter that was used during World War II by Soviet Army regiments.

Mobile signal equipment: Under the designation of mobile signal equipment was included airplanes, jeeps, motorcycles, armored cars, bicycles, and similar means of transport. These methods were not only widely used as a secondary means of communication, but also as a chief means in situations when radio silence must be preserved.

In addition to the Soviet-made equipment, and US equipment either procured from the Chinese Nationalist Army or captured on the battlefield, the CCF used much signal equipment of Chinese-make. This equipment included a radio transceiver, type E27, an unknown-type field switchboard, an unknown-type field telephone, an unknown-type desk telephone, a hand generator, type TC-45, and a portable hand generator, type I5.

Generally, enemy signal facilities were inadequate for the huge masses of manpower and the large numbers of units which committed to action in Korea. Though enemy signal communications did cause UN Forces considerable problems due to the fact that however meagre enemy equipment sometimes was, overall communication was maintained when necessary. The nonexistence of the superior type of signal communications normal to all echelons of US Forces halted the enemy from making many gains which otherwise could have been effected had quick and sufficient communications been provided.

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41. 509th Ordnance Technical Intelligence Detachment "OrdnanceTechnical Intelligence Report No 509-27 (Chinese 57mm Recoilless Rifle)," 26 December 1950, and filed in Ordnance Section, Eighth Army; and "Materiel in the Hands of or Possibly Available to the Enemy in Korea," Military Intelligence Section, General Staff, GHQ, FEC, August 1951.

42. Ibid.

43. For a comprehensive study of NKPA logistical problems, see Chapter II, Issue No. 1, "Interrogation Reports, North Korean Forces," Research Supplement, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 19 October 1950.

44. Ibid.

45. Department of the Army Pamphlet No. 30-2, "The Soviet Army," July 1949.

46. "Technical Intelligence" pamphlet, Office of the Engineer, Headquarters, Eighth Army, 1 May 1951.

47. Ibid.

48. Most of the information contained in this section was taken from a report on CCF and NKPA winter uniforms by 1st Lt Joseph W. Green II, Special Projects Officer, Office of Technical Intelligence Coordinator, G2 Section, Eighth Army, published in Eighth Army G2 PIR No. 457, 12 October 1951, and from other information submitted by Lieutenant Green. Also aiding in pointing out sources of information for the monograph and in making pertinent criticisms was Captain Raymond C. Martin, Technical Intelligence Coordinator, G2 Section, Eighth Army.

49. Lt Col Lawrence Ascoli, commanding officer, 590th Quartermaster Technical Intelligence Detachment, Eighth Army.

50. This section was prepared from information gained in an interview with Lt Col Lawrence Ascoli, commanding officer, 590th Quartermaster Technical Intelligence Detachment, Eighth Army.

51. This section was prepared in great part from information included in an unmarked report compiled between 25 May and 15 June 1951, "A Study of the Medical Facilities of the Enemy in Korea," and containing information from the following two reports by Captain Ralph M. Takami, MC, Medical Intelligence Officer, Eighth Army: "The Present Status of the Medical Service in the Chinese Communist Forces," based on information gathered from Interrogation of 29 CCF Medical officers and 100 non-medical PWs, and the "Present Status of the Medical Service in the North Korean Army," 30 June 1951, based on information gathered by interrogation of 100 NKPA PWs, including 21 medical officers and aidmen. This report was prepared by the Technical Intelligence Coordinator, G2 Section, Eighth Army, and is on file there.

52. Issue No. 11, "Interrogation Reports, North Korean Forces," p 69, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 11 October 1950.

53. Much of the information in this section was obtained from a report on North Korean signal communications in Chapter I, Issue No. 4, "Interrogation Reports, Enemy Forces," Research Supplement, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 15 December 1950. This report is a comprehensive study of the NKPA's entire signal organization and is recommended for further examination.

54. Issue No. 45, "Interrogation Reports, Korean Operations," p 160, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 22 March 1951.

55. "Technical Intelligence Bulletin Number III," Military Intelligence Section, General Staff, GHQ, FEC, 1 November 1951.

Note: In addition to the above citations, the following other documents were utilized in the preparation of this monograph for general and background information.

56. The following reports of the 507th Ordnance Technical Intelligence Detachment, Eighth Army: "Technical Intelligence Report No. 507-20 (Launcher, Rocket, 87mm, Chinese - Bazooka Type)", 18 September 1951; "Technical Intelligence Report No. 507-19 (Rocket, 87mm, HEAT, Chinese)," 16 September 1951; "Technical Report No. 18 (PPSh Sub-MG Manufactured in 1951)," 19 August 1951; "Technical Intelligence Report No. 17 (Maxim Machine Gun, Air Cooled, Chinese Nationalist Markings)," 11 July 1951; "Technical Intelligence Report No. 15 (Truck, Cargo, 6x6, ZIS-151)," 5 May 1951; "Technical Intelligence Report No. 13 (150mm Japanese Howitzer, Model 1915)," 16 April 1951; "Technical Intelligence Report No. 9 (Miscellaneous Observations)," 3 March 1951; "Technical Intelligence Report No. 8 (Chinese 60mm Mortar)," 2 March 1951; "Technical Intelligence Report No. 5 (Miscellaneous Observations)," 6 February 1951; "Technical Intelligence Report No. 2 (Fuzes for 122mm HEAT Projectile)," 2 February 1951; "Technical Intelligence Report No. 4 (85mm AA Gun, Modal 1939)," 4 February 1951; "Projectile, APCHE, for 122mm Gun," 15 January 1951; "Identification of Soviet Weapons in Use by North Korean Army," 5 October 1950.

57. The following reports of the 508th Ordnance Technical Intelligence Detachment, Eighth Army: "Captured Ordnance Materiel," 14 April 1951; "Captured Ordnance Materiel," 7 April 1951.

58. The following reports of the 509th Ordnance Technical Intelligence Detachment, Eighth Army: "Ordnance Technical Intelligence Report No. 509-49 (Guerilla Type Hand Gun, Approx. 8mm)," 9 August 1951; "Ordnance Technical Intelligence Report No. 509-53 (Chinese Copy of the Italian Mannlicher-Carcano)," 16 September 1951; "Ordnance Technical Intelligence Report No. 509-52 (North Korean Copy of US, Cal. .45 Pistol, M1911A1)," 15 September 1951; "Ordnance Technical Intelligence Report No. 509-48 Soviet GAZ-63 Truck)," 3 August 1951; "Captured Hand Guns to be Shipped to Aberdeen Proving Ground," 31 July 1951; "Ordnance Technical Intelligence Report No. 509-47 (New Model Soviet 37mm AA Gun, M1939)," 30 June 1951; "Ordnance Technical Intelligence Report No. 509-46 (New Variant of the

Soviet 120mm Mortar, M1943)," 27 June 1951; "Ordnance Technical Intelligence Report No. 509-45 (Captured Enemy 57mm Weapon)," 18 June 1951; "Ordnance Technical Intelligence Report No. 509-44 (Three Guerilla Type Weapons)," 15 June 1951; "Ordnance Technical Intelligence Report No. 509-43 (Chinese 120mm, Mortar, M331, with Transport Limber)," 12 June 1951; "Ordnance Technical Intelligence Report No. 509-40 (Chinese 57mm Recoilless Rifle, complete with Telescopic Sight and 18 Rounds of Ammunition)," 7 June 1951; "Ordnance Technical Intelligence Report No. 509-38 (Chinese 105mm Howitzer Round w/an American Case and a Japanese Projectile)," 18 March 1951; "Ordnance Technical Intelligence Report No. 509-29 (Report on ZIS-151 Truck)," 20 January 1951; "Captured Enemy Equipment (Report No. 509-15)," 26 October 1950; "Captured Enemy Land Mine, Report No. 509-13," 24 October 1950.

59. The following report of the 510th Ordnance Technical Intelligence Detachment, Eighth Army; "510th Ordnance Technical Intelligence Report No. 510-27 (Enemy Wooden Anti-Personnel Mine, Copy of the Soviet PMD-6)," 10 August 1951.

60. "Interrogation Reports, North Korean Forces," Issue No. 3, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, General Headquarters, FEC, 15 November 1950.

61. "Interrogation Reports, North Korean Forces," Issue No. 11, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 11 October 1950, pages as follows: 4,19,20, 23, 24, 30, 31, 39, 49, 61, 64, 69, 76, 82, 90, 95, 99, 106, 117, 123, 127, 157, 171, 173, 179, 180, 209, and 243.

62. "Interrogation Reports, Enemy Forces," Issue No. 4, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, Chapters III and IV, 15 December 1950.

63. "Interrogation Reports, North Korean Forces," Issue No. 12, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 17 October 1950,pages as follows: 1, 2, 20, 33, 40, 46, 47, 52, 56, 68, 83, 92, 97, 114, 128, 155, 174, 189, 190, 200, 205, 223, 249, and 277.

64. "Interrogation Reports, North Korean Forces," Issue No. 14, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 28 October 1950, pages as follows: 5, 11, 19, 42, 66, 82, 86, 99, 131, 151, 182, 187, 196, 204, 205, 209, 218, 231, 242, and 246.

65. "Interrogation Reports, Enemy Forces," Issue No. 19, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 8 December 1950, pages as follows: 21, 26, 34, 37, 84, 97, 147, 215, and 234.

66. "Interrogation Reports, Korean Operations," Issue No. 22, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 8 January 1951, pages as follows: 3, 6, 7, 9, 16, 23, 24, 28, 30, 50, 51, 53, 55, 56, 60, 65, 69, 71, 75, 76, 80, 83, 91, 95, 96, 115, 127, 152, 153, 161, and 170.

67. "Interrogation Reports, Korean Operations," Issue No. 45, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 22 March 1951, pages as follows: 4, 9, 30, 35, 58, 156, 160, and 163.

SECURITY INFORMATION

68. "Interrogation Reports, Korean Operations," Issue No. 49, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 30 March 1951, pages as follows: 1, 20, 25, 48, 55, and 83.

69. "Interrogation Reports, Korean Operations," Issue No. 85, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 4 May 1951, pages as follows: 9,13, 35, 74, 76, 84, 124, 143, 146, and 161.

70. "Interrogation Reports, Korean Operations," Issue No. 100, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 6 July 1951, pages as follows: 7, 21, 24, 76, 79, 154, and 155.

71. "Enemy Documents," Issue No. 12, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 19 December 1950, p 47.

72. "Enemy Documents, Korean Operations," Issue No. 20, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 17 July 1951, pages 16 and 17.

73. "Enemy Documents, Korean Operations," Issue No. 31, Allied Translator, and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 10 August 1951, p 1.

74. "Enemy Documents, North Korean Forces," Issue No. 4, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 21 October 1950.

75. "Enemy Documents," Issue No. 8, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 22 November 1950.

76. "Enemy Documents, Korean Operations," Issue No. 13, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 26 December 1950.

77. "Enemy Documents, Korean Operations," Issue No. 17, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 13 January 1951.

78. "Enemy Documents, Korean Operations," Issue No. 24, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 16 February 1951.

79. "Enemy Documents, Korean Operations," Issue No. 64, Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, 24 September 1951.

80. "Enemy Materiel Captured or Destroyed by Eighth Army Units for the Period 25 June 1950 to 28 September 1951," 21 October 1951, Headquarters, Eighth Army, Office of the Assistant Chief of Staff, G2 Intelligence.

81. The following Artillery Information Bulletins from Office of the Artillery Officer, Headquarters, Eighth Army: No. 2, 28 July 1950; No. 4, 11 August 1950; No. 5, 18 August 1950; No. 7, 15 January 1951; No. 8, 3 October 1950; No. 9, 3 November 1950; No. 10, 2 February 1951; No. 11, 10 March 1951; No. 12, 14 April 1951; No. 13, 19 June 1951; and No. 3, 4 August 1950.

SECURITY INFORMATION

82. Letter, Subject: "Identification of Enemy Artillery Weapons," Office of the Artillery Officer, Headquarters, Eighth Army, 14 February 1951.

83. Enemy Documents, "Batch No. 1007, Korean Documents Captured by 65th RCT, 3d Inf Div on 27 May 1951, place of Capture Not Given, received 164 MISD from 521 MISD on 4 June 1951," from 164th Military Intelligence Service Detachment, Office of the Assistant Chief of Staff, G2, Headquarters, Eighth Army, 8 June 1951.

84. "Use of Bangalore Torpedoes by Chinese Communist Forces," Office of the Assistant Chief of Staff, G2, Eighth Army, Headquarters, 6 February 1951.

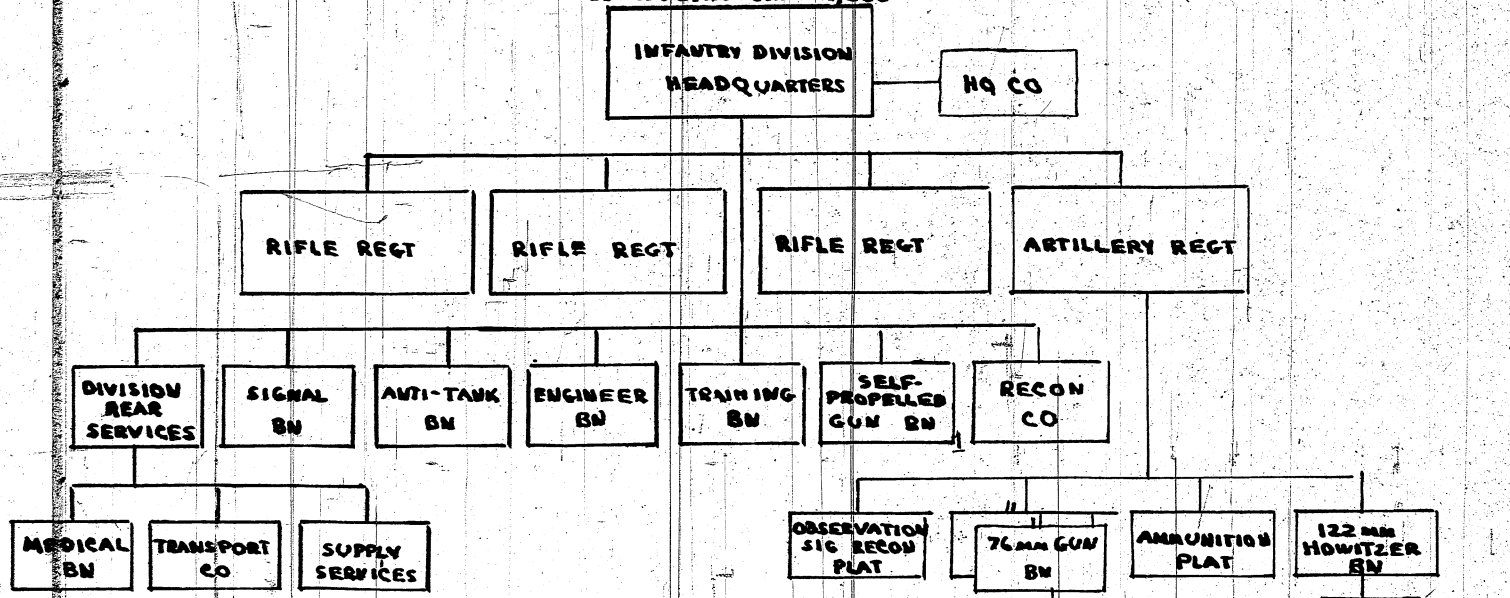
APPENDICES

APPENDIX NO. 1

NORTH KOREAN PEOPLE'S ARMY ORGANIZATIONAL CHARTS

TYPICAL NORTH KOREAN INFANTRY DIVISION

EST T/O STRENGTH: 11,000

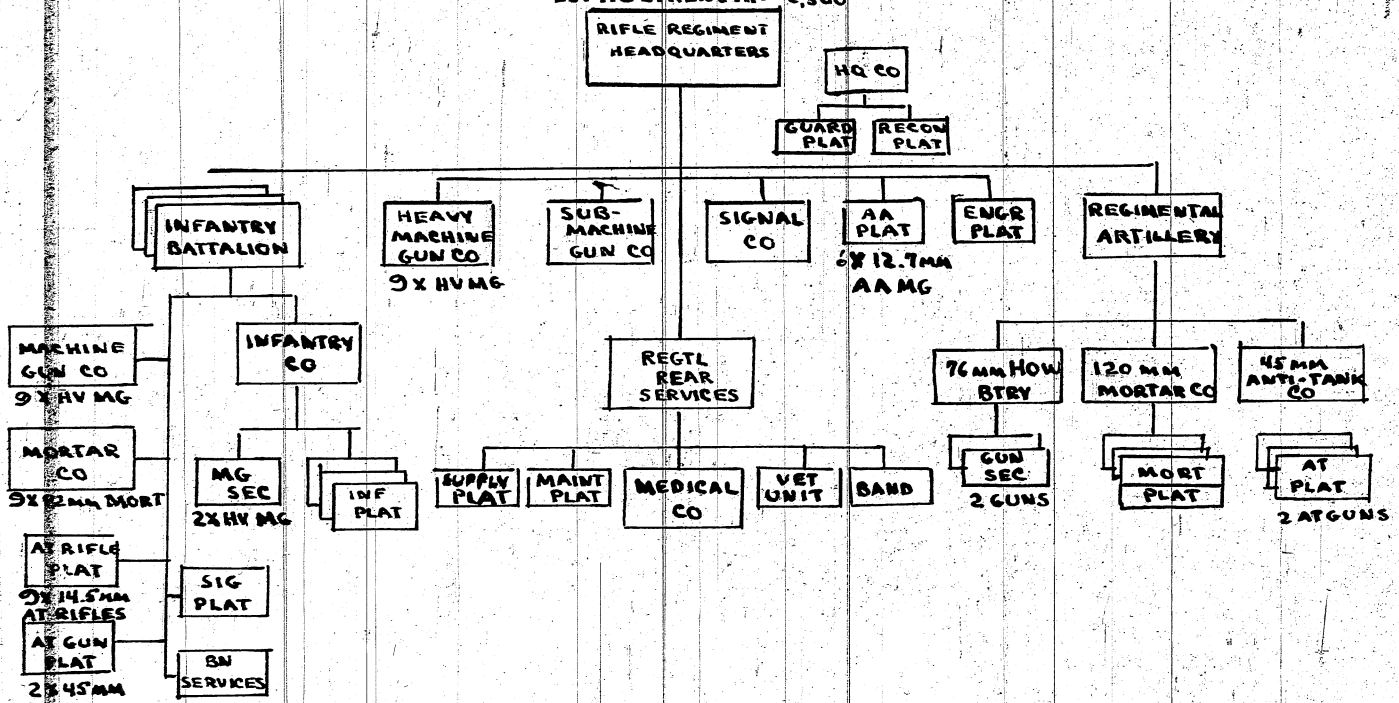


FROM:
CHAP I, ISSUE NO 1, INTERROGATION REPORTS,
NORTH KOREAN FORCES,
AIS, MIS, GS, GHQ FEC
DATED 19 OCT 1950

1. ONLY IN EARLY STAGES OF CAMPAIGN

TYPICAL NORTH KOREAN RIFLE REGIMENT

EST T/O STRENGTH: 2,500



FROM:

CHAPI, ISSUE NO1, INTERROGATION REPORTS NORTH KOREAN FORCES ATIS, MIS, GS, GHQ, FEC DTD 19 OCT 1950

STATISTICAL TABLE, STRENGTH, WEAPONS & EQUIPMENT
NORTH KOREAN ARMY REGIMENT

WO.	ORGANIC UNITS	STRENGTH OFF	STRENGTH EM	PISTOL 28	RIFLE	PPSH SUB MG	LIGHT MG	HEAVY MG	AT RIFLE 14.5MM	AT GUN 45MM	MORTAR 82MM	MORTAR 120MM	AA MG 12.7	GUN 76MM	HOW 122MM
1.	REGTL HQ	14	53	28	17	22									
2.	RECON PLAT	1	29	4	10	14	2								
3.	AA-MG PLAT	1	29	3	15	9	3						6		
4.	ENGINEER PLAT	1	36	3	25	9									
5.	GUARD PLAT	1	12	1	12										
6.	SUPPLY PLAT	1	20	10	18	2									
7.	MEDICAL PLAT	2	28	10	20				RECEIVED FROM:						
8.	TRANS PLAT	2	36	5	28	5			RESEARCH & ANALYSIS SECTION G-2						
9.	SIGNAL COMP	2	93	5	31	9			HQ EUSAK, APO301						
10.	TRAINING COMP	FURNISHED		4					% 28 OCTOBER 1951						
11.	SMG COMP	5	160	4		94	7								
12.	MORTAR COMP	4	56	5	32	21	2					6			
13.	AT RIFLE COMP	4	57	4	16	41									
14.	AT GUN COMP	5	58	7	23	30	3		6						
15.	76MM GUN COMP	5	50	9	22	22	2			6				4	
16.	INF BN	38	682	86	439	162	33	18	4	2	9				
17.	INF BN	38	682	86	439	162	33	18	4	2	9				
18.	INF BN	38	682	86	439	162	33	18	4	2	9				
	TOTAL	162	2653	347	1586	764	118	54	18	12	29	6	6	4	

UNITS OF FIRE, NORTH KOREAN RIFLE REGIMENT

TYPE OF WPN	NO. OF WPNS IN REGT	TOTAL QUANTITY OF AMMUNITION		WITH WEAPONS INDIVIDUAL		IN OR TRAINS		IN REGTL TRAINS	
		NO. OF RDS.	WEIGHT (IN SHORT TONS)	NO. OF RDS.	UNIT OF FIRE	NO. OF RDS.	UNIT OF FIRE	NO. OF RDS.	UNIT OF FIRE
RIFLE & CARBINE 7.62MM	1,868	186,800	7.19	130,760	.70	28,020	.15	28,020	.15
SMG 7.62MM	456	136,800	2.01	95,760	.70	20,520	.15	20,520	.15
LMG 7.62MM	188	86,400	2.95	10,584	.12	22,896	.27	52,920	.61
HMG	54	135,000	5.54	81,000	.60	27,000	.20	27,000	.20
AA MG, 12.7MM	6	36,000	6.77	24,000	.67	NONE	0	12,000	.33
AT RIFLE, 14.5MM	27	3,240	.47	1,350	.42	945	.29	945	.29
AT GUN, 45MM	12	2,400	7.92	600	.25	1,200	.50	600	.25
FIELD GUN, 76MM	9	500	7.18	64	.12	248	.44	248	.44
MORTAR, 82MM	27	3,240	14.46	1,080	.333	1,080	.333	1,080	.333
MORTAR, 120MM	6	480	13.2	120	.25	180	.375	180	.375
VERY PISTOL	54	3,240	UNK	1,620	.50	1,080	.33	540	.17
HAND GRENADE	1,868 TPS	3,736	4.48	3,736	1.00	NONE	0	NONE	0
AT GRENADE	—	500	.93	250	.50	125	.25	125	.25

CHART PREPARED BY ATIS, GHQ FEC
FROM MATERIAL OBTAINED FROM
TRANSLATIONS OF CAPTURED DOCUMENTS
REF: ATIS BULLETIN 8, ITEM 11, BULLETIN 15, ITEM 3.

FROM:
QMAPI, ISSUE NO1, INTERROGATION REPORTS
NORTH KOREAN FORCES
ATIS, M.I.S, GS, GHQ, FEC
DTD 19 OCT 1950

STATISTICAL TABLE, STRENGTH, WEAPONS & EQUIPMENT

NORTH KOREAN ARMY ARTILLERY BATTALION

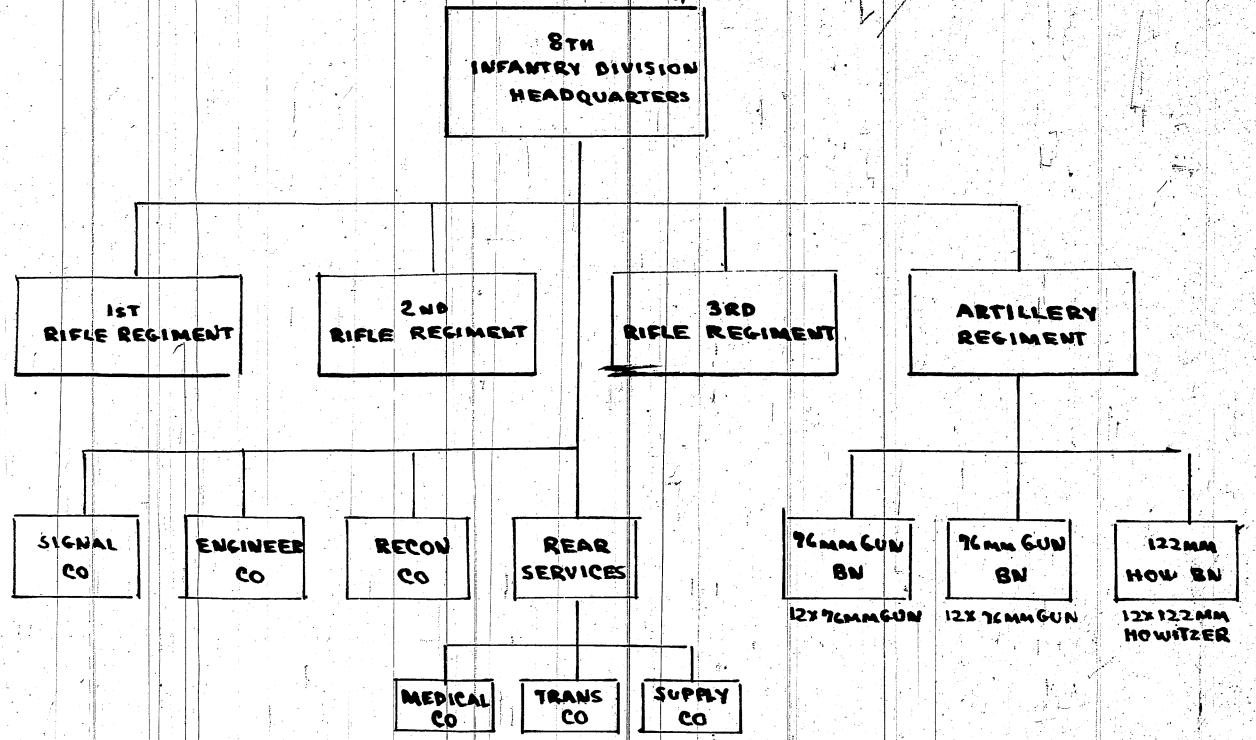
NO	ORGANIC UNIT	STRENGTH OFF	STRENGTH EM	PISTOL	RIFLE	PPSH SUB MG	HEAVY MG	LIGHT MG	ANTI TANK RIFLE 14.5MM	ANTI TANK GUN 45MM	MORTAR 82MM	MORTAR 120MM	AA MACHINE GUN 12.7MM	GUN 76MM	HOW 122MM
1.	BN HEADQUARTERS	6	12	9	7	2									
2.	AT RIFLE PLATOON	1	30	2	22	4	3		4						
3.	TRANS PLAT	1	15	1	12	3									
4	OBSERVATION PLAT	1	19	1	14	5									
5	AMMO SUPPLY PLAT	1	25	1	18	7									
6	MEDICAL PLATOON	1	7	2	6										
7.	ARTILLERY BATTERY	5	81	7	38	47								2	2
8	ARTILLERY BATTERY	5	87	7	38	47								2	2
9.	ARTILLERY BATTERY	5	87	7	38	47								2	2
	TOTAL	26	369	37	193	162	3		4					6	6

NOTE: ORGANIZATION, STRENGTH AND THE ALLOTMENT OF WEAPONS ARE BASED ON THE BEST AVAILABLE INFORMATION. IN SOME CASES, FIGURES HAVE BEEN INTERPOLATED

RECEIVED FROM:
RESEARCH & ANALYSIS SECTION, G-2,
HQ, EUSAK, APO 301
9/a 28 OCTOBER 1951

NORTH KOREAN 8TH INFANTRY DIVISION

EST T/O STRENGTH: 9,700



CHAP III, ISSUE NO 4, INTERROGATION REPORTS, ENEMY FORCES ATIS, MIS, GS, GHQ, FEC DTD 15 DEC 1950

26

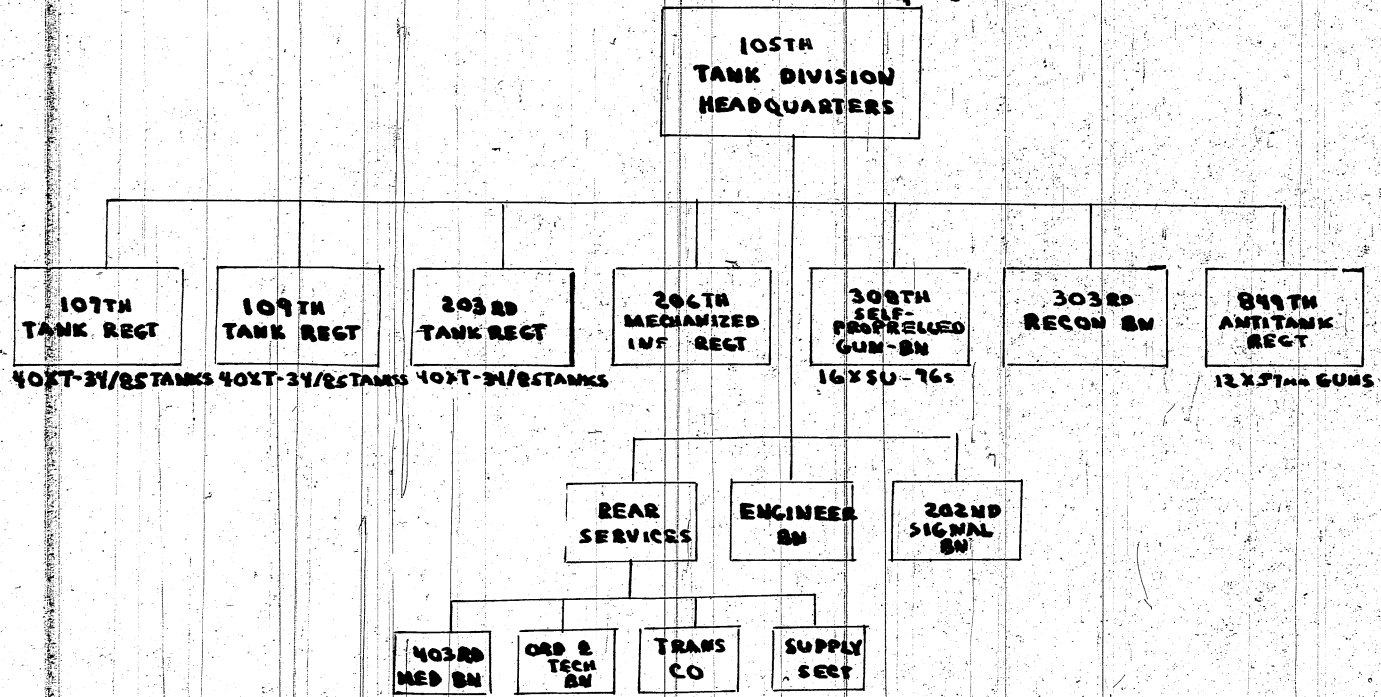
STATISTICS OF WEAPONS & AMMOES
8TH DIVISION ARTILLERY - NORTH KOREAN ARMY

(WEAPONS) ITEMS	(AMMO)	REQD NO.	ACTUAL NO.*	LACKING NO.*
PISTOL	7.6mm	1,390	624	746
INF RIFLE	76 mm	5,799	719	5,080
CAV RIFLE	76 mm	2,180	191	1,989
SMG		2,080	505	1,585
LMG		338	16	322
HMG		168	4	164
AAMG	12.7mm	18	3	15
ATG	14.5 mm	127	1	126
ATG	45 mm	48		48
REGT GUN	76 mm	12	1	11
DIV GUN	76 mm	24	4	20
MORTAR	82 mm	89	5	84
MORTAR	120MM	18	1	17
HOWITZER	122 mm	12	4	8
AUTOMATIC GUN	76mm	16		16

RECD FROM: RESEARCH & ANALYSIS SECTION, G2, HQ EUSAK, APO 301, % 25 OCT 1951

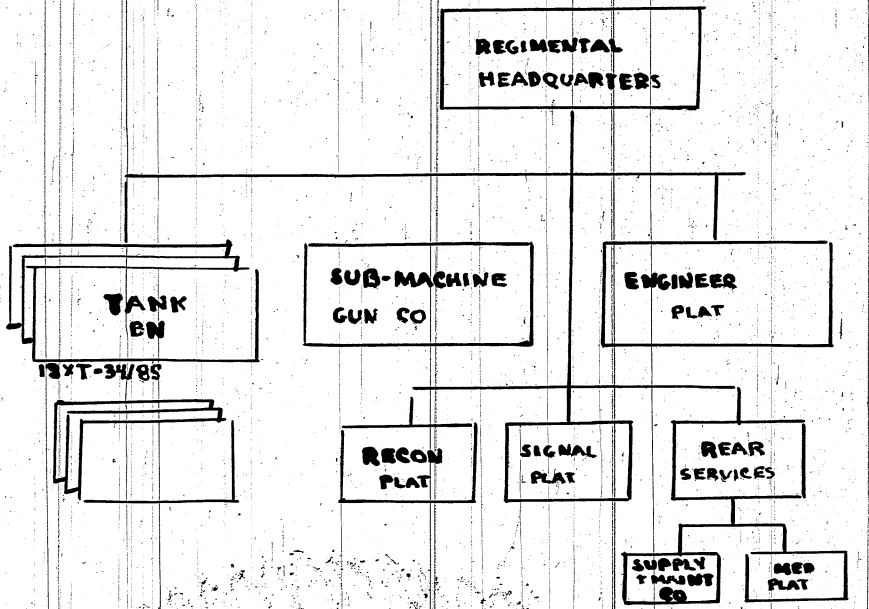
* THESE FIGURES WERE VALID ONLY DURING EARLIER PORTION OF CAMPAIGN. DIVISION WAS LATER RE-EQUIPPED.

NORTH KOREAN 105TH TANK DIVISION
EST T/O STRENGTH: 6,000



FROM:
CHAP. ISSUE NO. 1, INTERROGATION REPORTS
NORTH KOREAN FORCES
ATIS, MIS, GS, GHQ, FEC
DTD 19 OCT. 1950

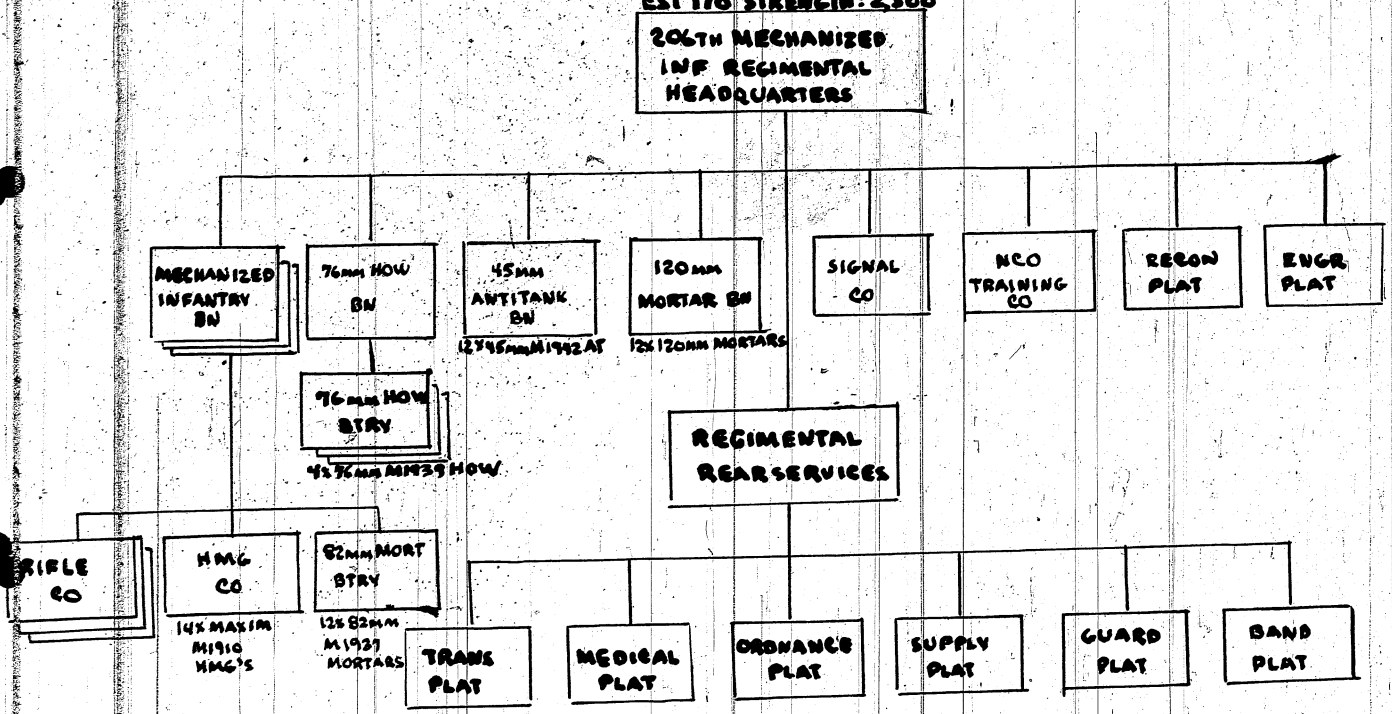
NORTH KOREAN TANK REGIMENT
EST T/O STRENGTH: 600



FROM:
PHAP I, ISSUE NO. 1, INTERROGATION REPORTS
NORTH KOREAN FORCES
ATIS, MIS, GS, GHQ FEC
DTD 19 OCT 1956

NORTH KOREAN 206TH MECHANIZED INFANTRY REGIMENT

EST T/O STRENGTH: 2,500



FROM:
CHAP I, ISSUE NO. 1, INTERROGATION REPORTS
NORTH KOREAN FORCES
ATIS, MIS, CS, GHQ, FEC
DTD 19 OCT 1950

APPENDIX NO.2

STUDY OF EQUIPMENT AND ORGANIZATION OF TYPICAL NORTH KOREAN DIVISION

APPENDIX NUMBER 2

The following study of a typical North Korean People's Army infantry division was lifted almost wholly from Chapter I, Sections 1 and 2, of Issue Number 1 "Interrogation Reports, North Korean Forces," Allied Translator and Interpreter Section, General Headquarters, Far East Command, Military Intelligence Section, General Staff, dated 19 October 1950. Considered the finest and most concise study on the North Korean's basic army organization, this study was selected for inclusion as an explanatory appendix to this monograph. The report follows:

TYPICAL NORTH KOREAN INFANTRY DIVISION

1. GENERAL

In examining the organizational relationship between the North Korean and Soviet armed forces a striking similarity is evident between the North Korean Infantry Division and the comparable World War II Soviet division. Analysis of PW reports indicates that the only major differences are that the North Korean unit has an additional self-propelled artillery battalion, a signal battalion instead of a company, a replacement battalion in place of a company and lacks the chemical warfare company integral to its Soviet counterpart. All North Korean infantry divisions identified to date apparently have essentially the same organizational pattern with a few variations in the size of support elements. Weapons and equipment mentioned in the text are all of Soviet manufacture.

2. ORGANIZATION AND EQUIPMENT

a. Composition and Strength

At full strength, the standard division boasts a total of approximately 11,000 officers and men. Of triangular design, it is said to be composed of a headquarters, three rifle regiments, an artillery regiment, a self-propelled artillery battalion, an engineer battalion,

a signal battalion, an anti-tank battalion, a training battalion, a reconnaissance troop and the division rear services organization, including medical, veterinary, transport and supply organizations.

Division headquarters, with approximately 120 men, reportedly consists of the commander, a major general, a general and special staff and a headquarters company. The commanding general is responsible for all basic decisions; he concentrates on control of operations, delegating administration to the greatest possible extent. In close liaison with the commander is the divisional political deputy, usually a senior colonel, who is said to be charged with the responsibility for directing political activities throughout the command and who checks carefully the decisions of the division commander for fulfillment of directives from higher headquarters, reporting any deviations or infractions of those orders to the appropriate agency whenever he deems it necessary. The Chief of Staff, a senior colonel, is the second-in-command and, together with the Chief of Rear Services, is the only person authorized to act in the name of the commanding general. It is through his office that the commanding officer transmits his decisions. He commands the staff, directs the work of all the Chiefs of Arms and Services and according to informants, usually countersigns all operational orders to make them official. The divisional staff reportedly includes the Chief of Rear Services, who controls supply, maintenance and transportation, and an artillery chief who, in addition to commanding the artillery regiment, plans the tadtical employment of all organic and attached artillery elements in the division. In addition, PsW state, he has certain supply and ordnance maintenance responsibilities as well. The special staff allegedly includes the division engineer and signal officers, both of whom also command the battalions of their respective branches.

b. Rifle Regiment

(1) Composition and Strength

The T/O strength of the North Korean Rifle Regiment is estimated to be about 2,500 men, approximately the same strength as that of the World War II Soviet rifle regiment. It is organized around three rifle battalions with supporting regimental artillery. Like its Soviet prototype it has no tank company, but is said to possess strong firepower in its 76mm gun battery, 120mm mortar company, sub-machine gun company and antiaircraft platoon. Also said to be included in the organization are the regimental signal company, engineer platoon and the regimental rear services, including a medical company, supply platoon, maintenance platoon, veterinary unit and band. Regimental headquarters, with an estimated 85 officers and men, reportedly consists of the commanding officer, an executive officer and a political officer. Identified on the commander's staff are the Chief of Rear Services and the artillery, signal, reconnaissance, engineer and personnel officers. The regimental guard and reconnaissance platoons are said to be directly under the headquarters company.

(2) Rifle Battalion

Each of the three rifle battalions, with an estimated strength of 650 officers and men, is reported to be composed of three rifle companies, a heavy machine gun company, a mortar company, an anti-tank gun platoon, an anti-tank rifle platoon, and signal, medical and supply platoons.

(a) Rifle Company

The individual rifle company, said to have a T/O strength of approximately 150 men, includes a headquarters, three rifle platoons and one heavy machine gun section. Company headquarters reportedly consists of the company commander, a first sergeant, a cook and several

medical aid men.

According to PsW, the rifle platoon has four squads and a total T/O strength of 45 men. Each squad is said to have a light machine gun squad and eight riflemen. Squad weapons are reported to consist of one PPSh sub-machine gun (with three 72-round magazines), one DP light machine gun and Soviet M1891/30 rifles. In addition, each rifleman carries two hand grenades and one has a sniper's telescopic sight. The company commander and platoon leaders are armed with Tokarev pistols.

The company machine gun section, consisting of about 15 men, is said to contain two squads, each armed with a Maxim M1910 heavy machine gun. Squad members carry a M1891/30 rifle and two hand grenades apiece.

(b) Heavy Machine Gun Company

The heavy machine gun company has an estimated strength of 70 officers and men and consists of three platoons of three squads each. Each platoon is reportedly equipped with three Maxim M1910 heavy machine guns (on M1931 dual-purpose mounts), one per squad. It is claimed that each machine gun is supplied with approximately 1,700 rounds of ammunition. Personnel other than the gun crews carry M1891/30 rifles.

(c) Mortar Company

The former commanding officer of an 82mm Mortar Company states that the company strength is 70 officers and men. He claims that the company is divided into three platoons, each with three squads. Each platoon is equipped with three 82mm M1937 mortars, one morbar per squad. Other equipment reportedly includes 17 M1891/30 rifles, one pistol, two grenades per man and one horse cart.

(d) Other Elements

The anti-tank platoon, said to have a strength of 15 officers and men, is composed of two gun sections, each equipped with a

45mm anti-tank gun.

The anti-tank rifle platoon is reportedly composed of an officer and 15 men, the latter in three squads of five men each. The platoon is equipped with nine 14.5mm PTRD M41 anti-tank rifles, three per squad.

The signal platoon, with an estimated T/O strength of 16 officers and men, is reportedly equipped with either three TAM or UNA F-31 field telephones and wire.

The battalion medical platoon has a strength of nine men, including one medical officer; the battalion supply platoon is said to be composed of eight men and to be equipped with six horse-drawn wagons.

(3) Mortar Company

The regimental 120mm mortar company, consisting of a company headquarters, a command squad and three mortar platoons, is said by one PW to be staffed by five officers and 54 men. Company headquarters reportedly contains a commanding officer, a political officer and two sergeants. One, a master sergeant, acts as first sergeant of the organization. The other assists the latter in matters relating to personnel records and ammunition supply. The command squad, allegedly composed of a junior sergeant and nine privates, performs such duties as reconnaissance, wire-laying and fire observation and correction. Each platoon is reported to have one officer and 14 men and to consist of two squads, each containing a squad leader, a gunner and five ammunition bearers.

The regimental mortar company is said to be equipped with six 120mm M1943 mortars. Other items of equipment identified by PsW include an instrument similar to a BC scope, four TAM field telephones and approximately four miles of wire. Each officer reportedly carries a

pistol while the men are armed with a carbine and two hand grenades each.

According to one PW, the mortars are drawn by GAZ-51 trucks and are transported on a carriage similar to the 120mm tubular-type carriage. Ammunition is fused with a GVM-2 impact fuse. The minimum elevation of the piece is said to be 45°, maximum 80°; maximum range is reported to be approximately 6,000 yds. Although the maximum rate of fire is from 12 to 13 rounds per minute, the most efficient rate is said to be from 7 to 8 rounds per minute.

(4) Anti-tank Company

The 45mm anti-tank company, consisting of a company headquarters and three anti-tank platoons, has an estimated strength of 50 men, including five officers, 13 non-commissioned officers and 37 privates. Company headquarters is said to be composed of the commanding officer and a political officer. The platoons, which are broken down into two gun sections each, are commanded by lieutenants. Each gun section has a section chief, one gunner and six privates.

The company is said to be equipped with six 45mm M1937 anti-tank guns; two guns per platoon, one per gun section. PsW state that these weapons are usually horse-drawn. Company officers are reportedly armed with pistols, non-commissioned officers with sub-machine guns and privates with M1938 carbines.

(5) Artillery Battery

The regimental artillery gun battery, consisting of a headquarters and two gun sections, has an estimated strength of 60 men. Two 76mm field guns, reportedly horse-drawn, are said to be assigned to each section.

(6) Heavy Machine Gun Company

The regimental heavy machine gun company is reportedly composed of a headquarters and three platoons and has an estimated

strength of 76 officers and men. Three squads make up each platoon. Nine 7.62mm M1910 Maxim heavy machine guns, three per platoon, one per squad, are said to comprise the company armament.

(7) Sub-machine Gun Company

According to one PW, the sub-machine gun company, composed of three platoons, has an estimated strength of 100 officers and men, 20% of whom are armed with PPSh M1941 sub-machine guns and 80% with M1938 carbines. This weapons ratio seems highly unlikely in view of the nature of the unit, however.

(8) Signal Company

The regimental signal company is reported to be composed of wire, radio and staff platoons and has a reported strength of 70 officers and men.

(9) Antiaircraft Platoon

The antiaircraft platoon, reportedly composed of 30 officers and men, is said to be equipped with six 12.7mm DSHK M1938 antiaircraft machine guns.

(10) Engineer Platoon

The engineer platoon, consisting of two squads of 10 men each, is equipped with land mines, mine detectors, picks, shovels, axes and bandsaws. In addition, each man carries an M1891/30 rifle.

(11) Reconnaissance Platoon

Regimental headquarters reconnaissance platoon, with a strength of one officer and 32 enlisted men, is composed of three squads and is reportedly armed with four pistols, 10 rifles and 17 sub-machine guns.

(12) Guard Platoon

Regimental headquarters guard platoon, with a reported strength of 40 men, is made up of four squads. One source claims that

each man is armed with a M1891/30 rifle while another PW alleges that all personnel carry PPSh M1941 sub-machine guns.

(13) Regimental Rear Services

The regimental rear services reportedly include a medical company, a supply platoon, a maintenance platoon, a veterinary unit and a band.

The medical company is said to have a total strength of 20 men, including seven officers (three doctors, three surgeons, one pharmacist) and 13 aid men and stretcher bearers. One captured medical officer states that the company is equipped with two surgical kits, two medical kits, two horses and one cart. Another source claims that two ambulances are also part of the table of equipment. PsW state that medical personnel are armed and that company weapons include six M1933 Tokarev pistols, four sub-machine guns and M1891/30 rifles.

The regimental supply platoon is reportedly equipped with 23GAZ-51 and YAG-4 trucks. The maintenance platoon has an estimated strength of 30 men, each armed with M1891/30 rifles. The veterinary unit is said to consist of 15 men, the regimental band of 20.

c. Artillery Regiment

According to PsW, the divisional artillery regiment has a T/O strength of approximately 1,000 officers and men and consists of two 76mm gun battalions, a 122mm howitzer battalion and a headquarters battery. These four units are each said to be staffed by 250 men. Each gun battalion has three firing batteries and a total of 12 76mm M1942 artillery pieces. The howitzer battalion, composed of three batteries, is armed with 12 122mm M1938 howitzers. Personnel in all three battalions carry M1938 carbines as their individual weapon.

The regimental headquarters battery is said to include a political section, a topographical staff, a communications section, a supply section, an operations section and a military personnel section. In addition, it includes an observation-signal-reconnaissance platoon and an ammunition platoon.

d. Self-propelled Artillery Battalion

The self-propelled artillery battalion, composed of three gun companies, a signal platoon and a rear services section, is reportedly commanded by a lieutenant colonel, and has a strength of approximately 110 officers and men and a total of 16 SU-76 self-propelled artillery pieces. A senior captain, the former communications officer of such a battalion, reports that battalion headquarters consists of the commanding officer, executive officer, signal officer, personnel officer, political officer and the operations officer. The self-propelled gun company is said to be composed of two platoons, each containing two SU-76s. Each piece is said to be manned by a four-man crew and one officer. Each company also is reported to have a cultural officer, a technician, a supply sergeant and a mechanic. The signal platoon is reportedly composed of 10 enlisted men and two officers.

Equipment and armament reportedly consists of the following: battalion headquarters has one SU-76 and 12 trucks. Each staff officer carries a M1933 Tokarev pistol, each enlisted man is armed with a PPSh 1941 sub-machine gun.

Each self-propelled gun company is equipped with five SU-76s. One man in each crew carries a 7.62mm dual-purpose light machine gun, and one man carries a PPSh 1941 sub-machine gun. A 12 PTM wireless radio, with a reported range of about 12 miles, allegedly accompanies each gun. The remaining crew members are armed with Tokarev pistols.

The signal platoon is said to be equipped with one battery-powered radio transmitter and receiver and four TAM field telephones; each man is armed with an M1891/30 rifle.

e. Signal Battalion

The division signal battalion is reportedly composed of 260 officers and men and contain a wire company, a radio company and a headquarters company. Battalion headquarters personnel are said to be armed with M1938 Tokarev pistols, PPSh M1941 sub-machine guns and grenades. Information concerning the organization of the wire and radio companies, each of which have 80 officers and men, is limited. Each enlisted man is said to be armed with an M1891/30 rifle, each officer with a Tokarev pistol. One informant claims that each enlisted man carries an M1944 carbine, but this statement is not substantiated by other PsW. The wire company is reportedly equipped with 20 TAM field telephones and 40,000 feet of telephone wire. Headquarters company, with an estimated strength of 100 officers and men, is made up of a motorcycle, a staff and a wire platoon. The motorcycle platoon is allegedly equipped with three motorcycles and armed with three PPSh M1941 sub-machine guns, and 27 M1891/30 rifles. The wire platoon, with a strength of 40 men, is reportedly broken down into four squads of six men each and one replacement squad of 16 men. The platoon officer carries a Tokarev pistol, while remaining personnel are armed with five sub-machine guns and 34 M1891/30 rifles.

f. Anti-tank Battalion

The division anti-tank battalion, said to contain 190 officers and men, reportedly consists of three 45mm anti-tank companies and an anti-tank rifle company. The gun companies are said to be equipped with four 45mm M1942 anti-tank guns each, while the fourth unit has 18 14.5mm PTRO-41 anti-tank rifles. Individual soldiers are reportedly

armed with rifles. Transportation is said to be provided by 39 2½-ton trucks.

g. Engineer Battalion

According to informants, the division engineer battalion has a strength of 250 officers and men armed with M1944 carbines and equipped with shovels, picks, axes, saws and mine detectors.

h. Training Battalion

A training battalion of 500 officers and men is reported. It allegedly trains non-commissioned officer replacements for the rifle companies.

i. Reconnaissance Company

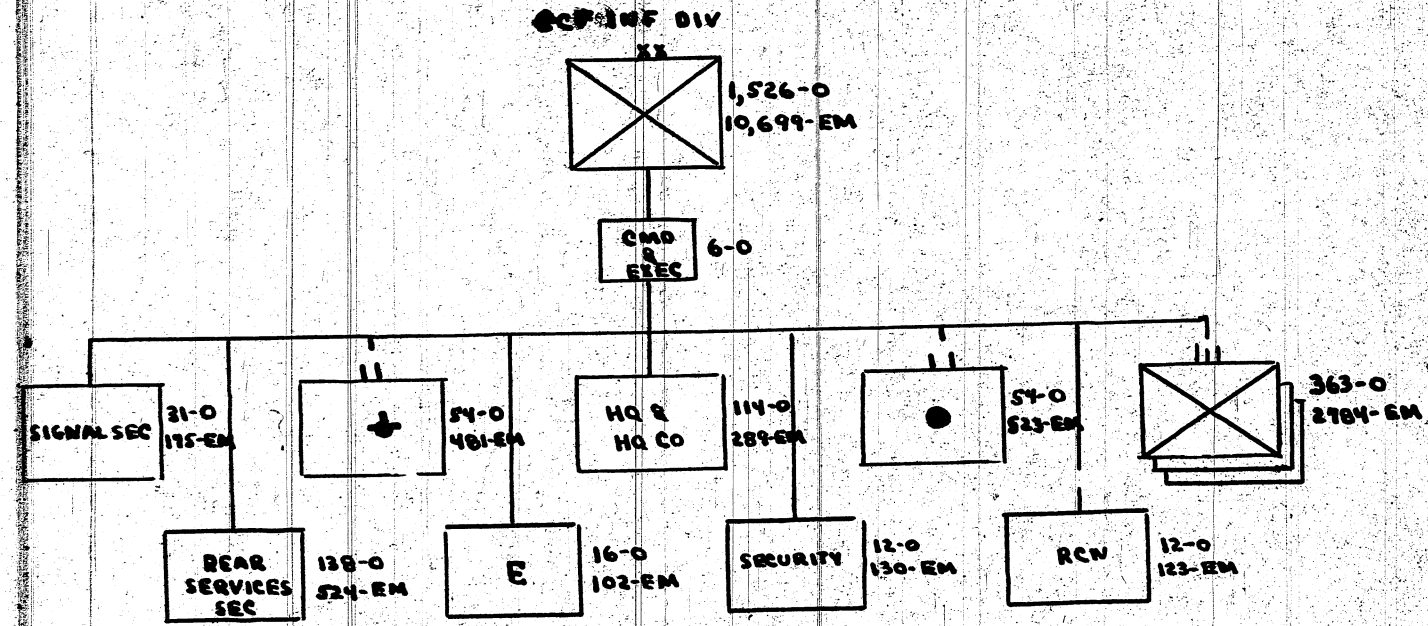
The reconnaissance company, with an estimated strength of 90 enlisted men and four officers, is said to be armed with 80 PPSh sub-machine guns, 20 Tokarev pistols, and equipped with four telescopes and five pairs of binoculars.

j. Rear Services

The division rear services include a medical battalion, a veterinary unit, a transport company and a supply section charged with securing equipment and supplies, supervising repairs and maintenance and handling pay and finances. The medical battalion allegedly contains 200 individuals, 30% of which are reported to be women. Personnel are said to be armed with rifles. The transport company, with an approximate strength of 70 men, is equipped with about 50 2½-ton trucks, six or seven motor-cycles and 10 horse-drawn wagons.

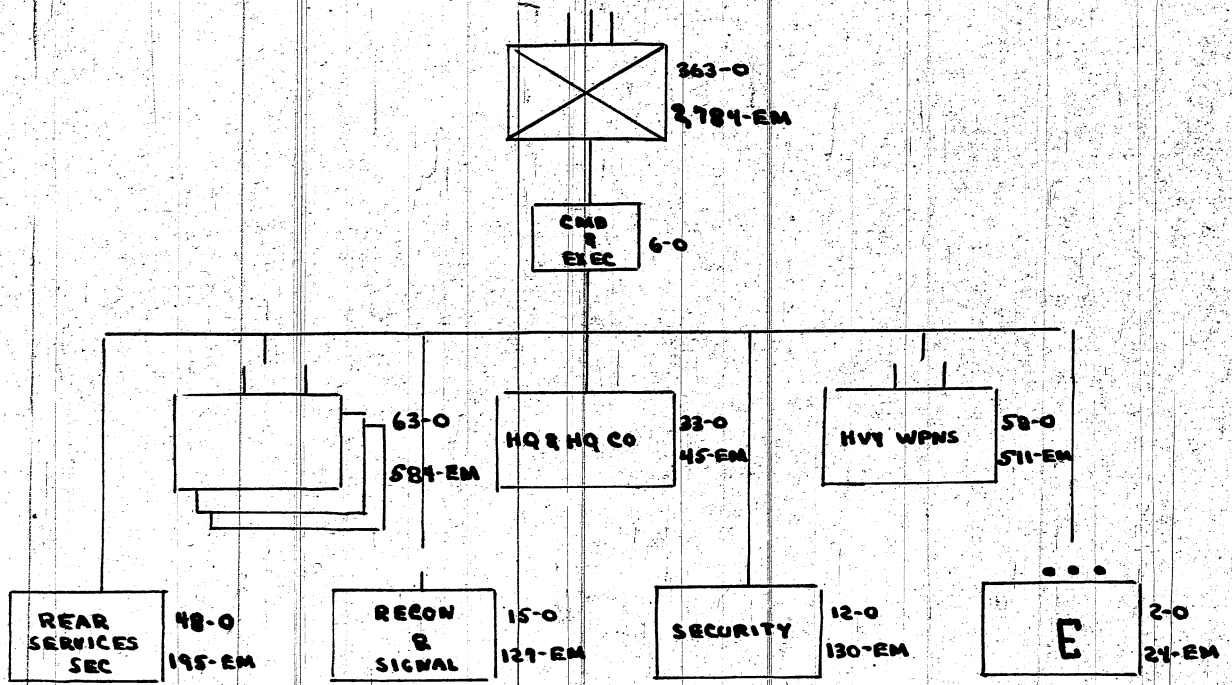
APPENDIX NO. 3

CHINESE COMMUNIST FORCES ORGANIZATIONAL CHARTS



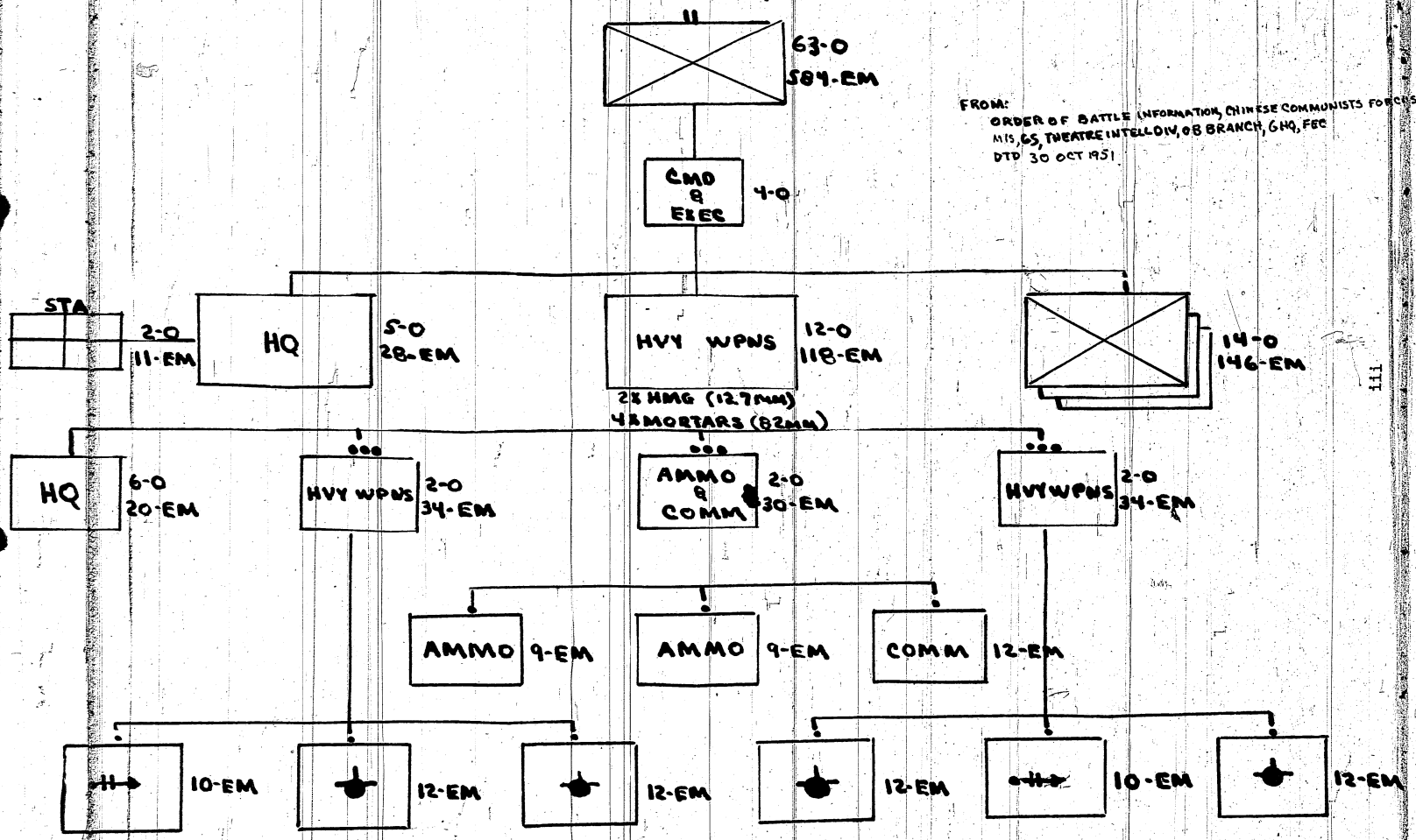
FROM:
ORDER OF BATTLE INFORMATION CHINESE COMMUNISTS FORCES
MIS, GS, THEATRE INTELL DIV, OB BRANCH, G-2 HQ, FEC,
DTD 30 OCT 1951

CCF INFANTRY REGIMENT



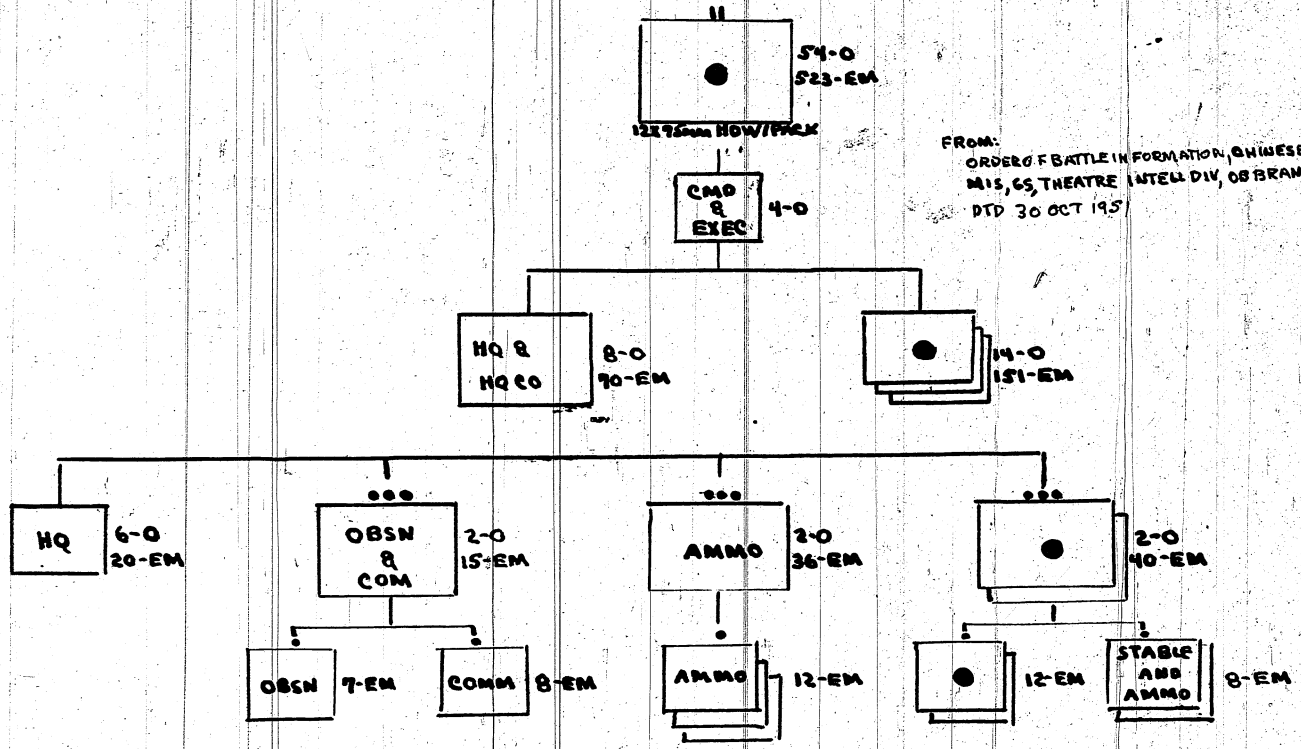
FROM:
ORDER OF BATTLE INFORMATION,
CHINESE COMMUNISTS FORCES, MIS, GS, G
THEATRE INTELL DIV, OB BRANCH, GHQ, FEC
DTD 30 OCT 1951

CCF INFANTRY BATTALION, INF REGT



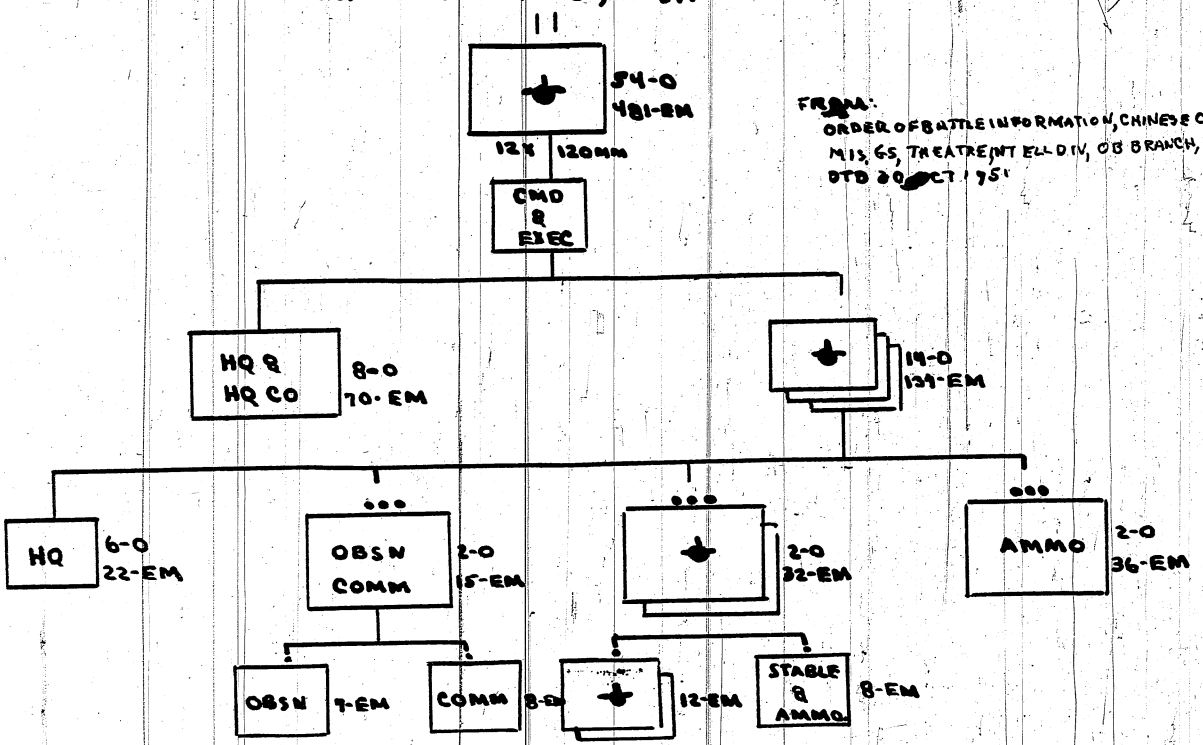
FROM:
ORDER OF BATTLE INFORMATION, CHINESE COMMUNISTS FORCES,
MIS, GS, THEATRE INTELLDIV, OB BRANCH, GHQ, FEC
DTD 30 OCT 1951

CCF ARTY BN (PACK), INF DIV



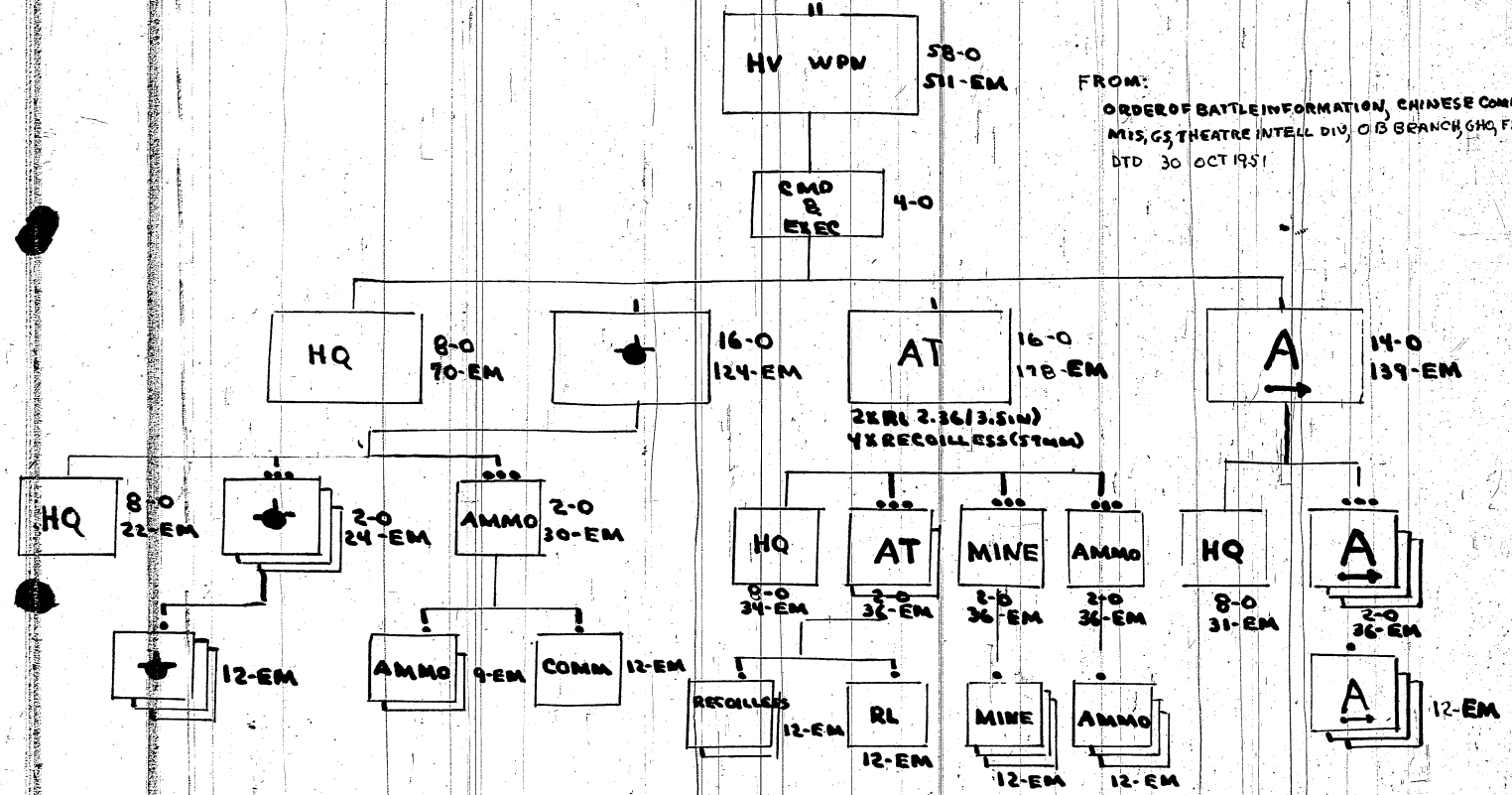
FROM:
ORDER OF BATTLE INFORMATION, CHINESE COMMUNIST FORCES
MIS, GS, THEATRE INTELL DIV, OB BRANCH, GHQ FEC
DTD 30 OCT 1951

CCF HEAVY MORTAR BN, WF DIV



FROM:
ORDER OF BATTLE INFORMATION, CHINESE COMMUNIST FORCES,
MIS, GS, TREATMENT ELL DIV, OB BRANCH, GHQ, FEC
DTD 20 OCT 1951

CCF HVY WPNS BN, INF REGT

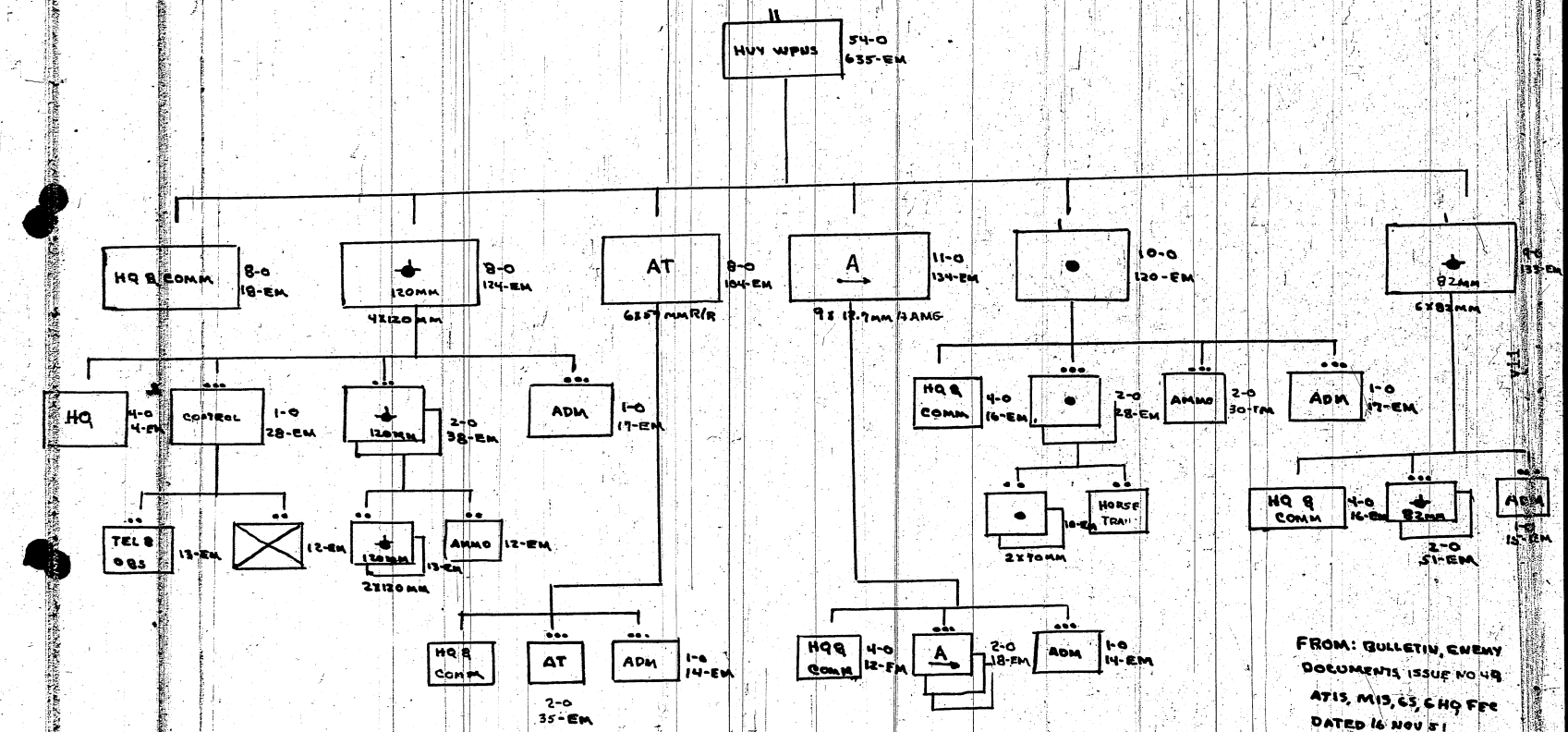


FROM:
ORDER OF BATTLE INFORMATION, CHINESE COMMUNIST FORCES
MIS, G3, THEATRE INTELL DIV, O/B BRANCH, GHQ, FEC
DTD 30 OCT 1951

IA

SECRET

HUY WPNS BN, INF REGT



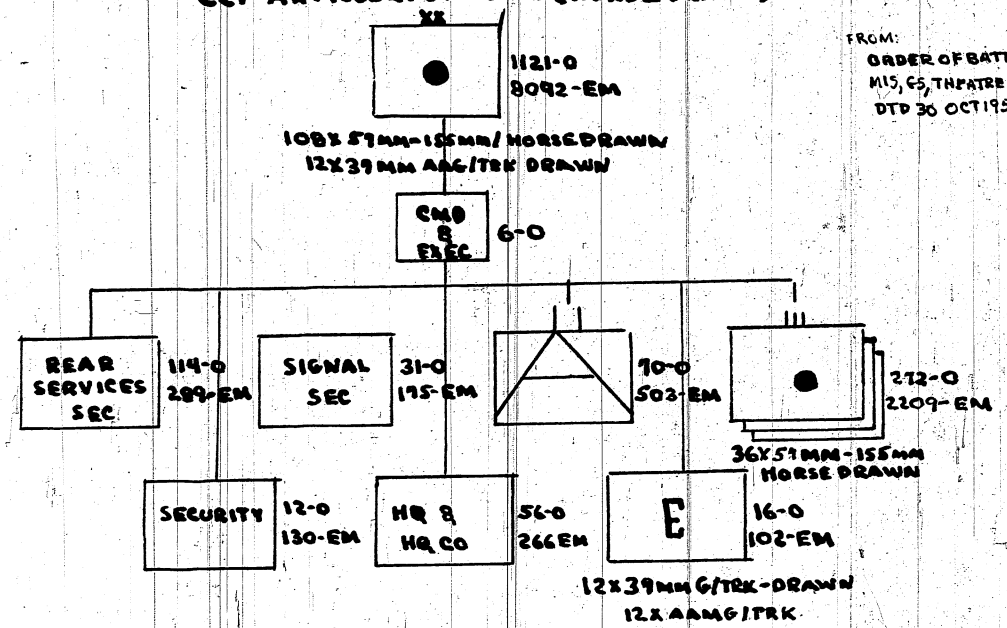
ANOTHER FORM OF HUY WPNS BN ORGANIZATION IN INF REGT.

FROM: BULLETIN, ENEMY DOCUMENTS ISSUE NO 48 ATIS, MIS, G-2, & HQ FEC DATED 16 NOV 51 TRANSLATED FROM CHINESE DOCUMENT COVERING UNK UNITS

SECURITY INFORMATION

SECRET

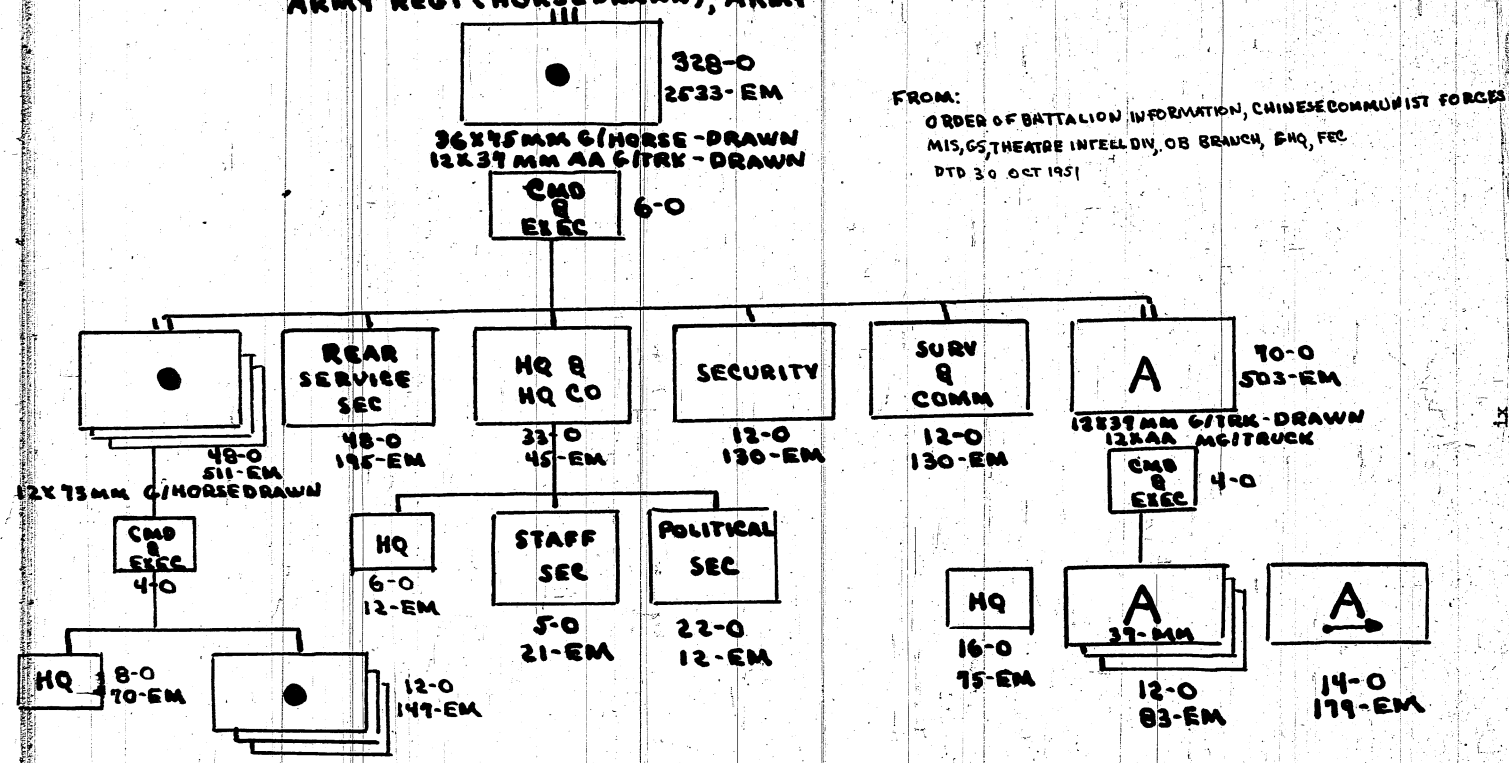
CCF ARTILLERY DIVISION (HORSE DRAWN)



FROM:
ORDER OF BATTLE INFORMATION, CHINESE COMMUNIST FORCES
M15, G5, THEATRE INTELL DIV, OB BRANCH, GHQFEC
DTD 30 OCT 1951

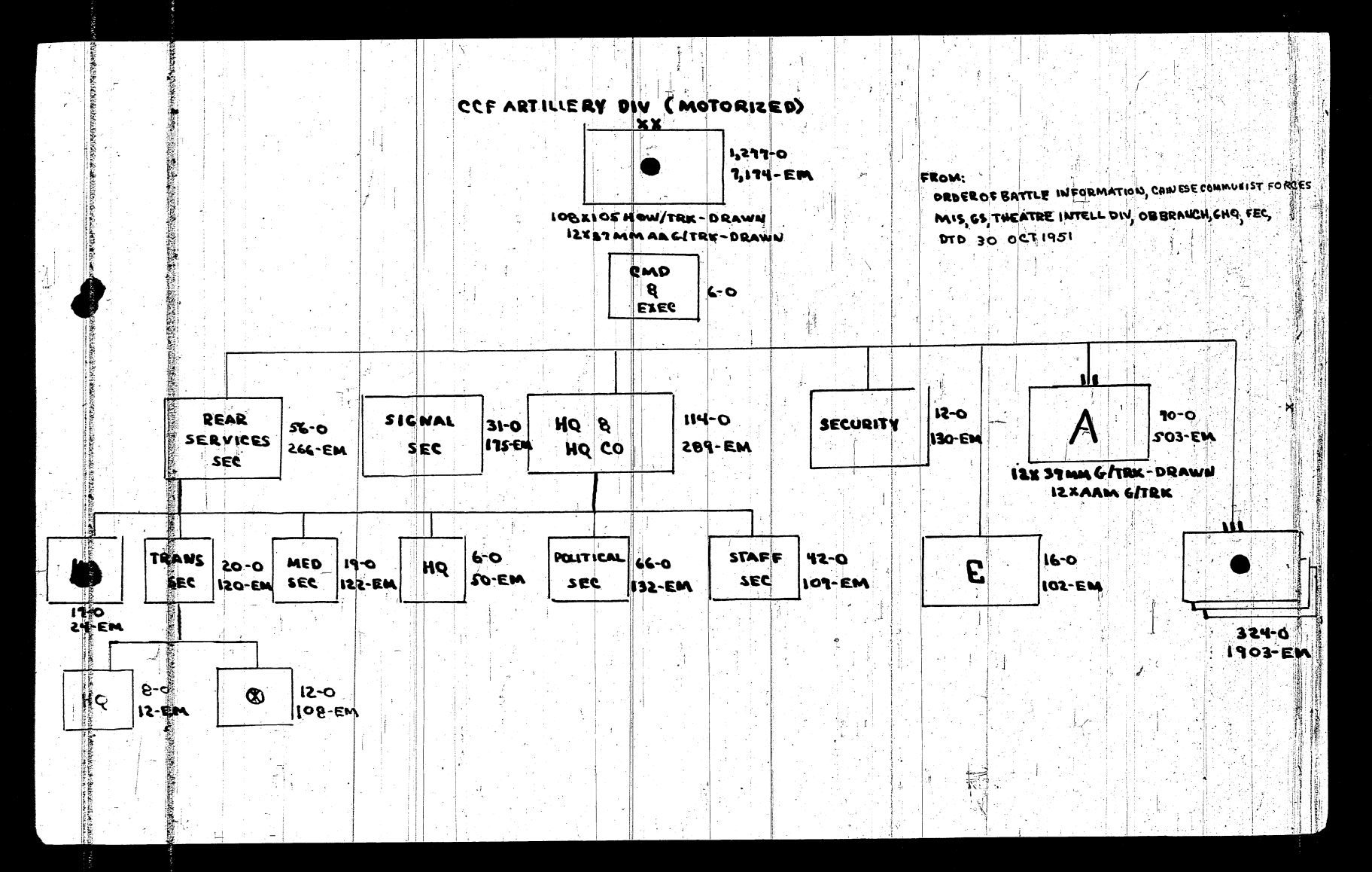
VIII-A

ARMY REGT (HORSEDRAWN), ARMY



FROM:
ORDER OF BATTALION INFORMATION, CHINESE COMMUNIST FORCES
MIS, GS, THEATRE INTELL DIV, OB BRANCH, EHQ, FEC
DTD 30 OCT 1951

CCF ARTILLERY DIV (MOTORIZED)



FROM:
ORDER OF BATTLE INFORMATION, CHINESE COMMUNIST FORCES
MIS, GS, THEATRE INTELL DIV, OB BRANCH, GHQ, FEC,
DTD 30 OCT 1951

Statistics of Weapons on Hand

Units \ Items / Number		6.5mm Rifle	Automatic Rifle: British 7.7 Bren Gun	Automatic Rifle: 7.9mm (TN Type of gun not given)	Automatic Rifle: US 30 Caliber	Automatic Rifle: Total	US 7.62mm Heavy Machine Gun	Other Types: US 30 Automatic Rifle	Other Types: Carbine	Other Types: Submachine Gun	Other Types: Pistol	Other Types: Very Pistol	Other Types: Recoilless Gun	Other Types: Heavy Bazooka	Other Types: Bazooka	Other Types: Grenade Launcher	Light Mortar: 60mm	Light Mortar: 81mm	Light Mortar: 82mm	Light Mortar: Total	Tools: Shovel	Tools: Pick	Tools: Stretcher	Mines: Hand Grenade	Mines: Land Mine	Mines: Explosive	Mines: Flare
Directly Attached to Regiment	Administrative Company	14							17	2	55										79	11		130			
	Signal and Reconnaissance Company	5							25		12	1				1					92	1		170			
	Guard Company		6			6		29	20	9	5	1				6					87	2		110			
	1st Artillery Battery	13							10	2	10	1						4		4	96	8	1	85			
	2d Artillery Battery	26		1		1		10	5	1	12	1									73	4	1	122			
	Administrative Service Section	4							4		22										30	1	1	68			
	Subtotal	62	6	1		7		39	81	14	116	4						4		4	457	27	3	685			
1st Bn	Battalion Headquarters								16		10	1									10			4			
	1st Heavy Weapons Company						3		11		9	1	1	1	1	7		2		2	41	3	2	95			
	1st Company			2	2	4		6	19	3	7	1					2			2	38		1	70	1		
	2d Company			4	2	6		6	26	2	9						2			2	28	3	1	106	3	20 catties	
	3d Company		1		4	5		6	25	3	8	1					2			2	22	1	1	32			
	Subtotal		1	6	8	15	3	18	91	8	43	4	1	1	1		6	2		8	139	7	5	306	4		
2d Bn	Battalion Headquarters								12		10	1									11		3	34			
	2d Heavy Weapons Company						4	3	6	1	8	1		1	1				2	2	95	10	5	65			
	4th Company			6		6		5	14	8	5	1					2			2	50	8	6	140	3		7
	5th Company	1	3	3		6		10	13	10	5	1					2			2	40	5	2	120	3		3
	6th Company			5		5		11	13	6	5	1					2			2	59	2	4	129	2		1
	Subtotal	1	3	14		17	4	29	58	25	33	5		1	1		6		2	8	255	25	20	488	8		11
3d Bn	Battalion Headquarters	1							11		13	1									11			14			
	3d Heavy Weapons Company						4	1	19		12	1		1	1				2	2	32	2	2	51			
	7th Company	3	1	3	1	5		11	18		7	1					2			2	35	3	2	75			
	8th Company			5		5		10	21		7	1					2			2	47	1	2	130	3	40	2
	9th Company	8	5			5		7	14		7	1					2			2	34	2	2	30	1	30	2
	Subtotal	12	6	8	1	15	4	28	83		45 (TN Sic)	5		1	1		6		2	8	159	8	8	300	4	10	4
	Total	83	16	29	9	54	11	114	313	92 (TN Sic)	237 (TN Sic)	18	1	3	3	7	18	6	4	28	1010	67	35	1579	16	80 catties (TN Sic)	15

Remarks: 1. The four recently received heavy machine guns and, the light machine guns, are not included in the above statistics.

2. The five heavy bazookas, five light machine guns and three 60mm mortars in the regimental stockpile are not included.

Reported by JEN Fu-li

Note: This report was taken from Bulletin, "Enemy Documents, Korean Operations," Allied Translator and Interpreter Section, Military Intelligence Section, General Staff, GHQ, FEC, dated 28 June 1951, and was compiled from two captured sheets of loose paper written in Chinese, dated 11 January 1951, and concerning regimental weapons and ammunition of an unknown unit. This report was included in this monograph to illustrate the variations which occurred in CCF units from the T/O&E.

Statistics of Ammunition on Hand

11 January
No 3.

Items / Number / Units		6.5mm Rifle Ammunition	Automatic Rifle Ammunition				US 7.62mm Heavy Machine Gun Ammunition	Other Ammunition					Shells				Mortar Shell				Animals				
			British 7.7 Bren Gun	7.9mm	US 30 Caliber	Total		US 30 Automatic Rifle (HEAVY BARRELED)	Carbine	Submachine Gun	Pistol	Very Pistol	Recoilless Gun	Heavy Bazooka	Bazooka	Grenade Launcher	60mm	81mm	82mm	Total	Combat Horse	Draft Horse	Riding Horse	Pack Horse	Total
Directly Attached to Regiment	Administrative Company	940							172	560	2832												4	9	13
	Signal and Reconnaissance Company	200							2380		1470	30				14					3			4	7
	1st Artillery Battery	440							415	55	665	30						62		62		4		18	22
	2d Artillery battery	1600		25		25		1000	290		1100	30												25	25
	Administrative Service Section	160							200		540													10	10
	Guard Company		2760			2760		1940	1120	560	550	30				122									
	Subtotal	3340	2760	25		2785		2940	4577	1175	7150 (TN Sic)	120				136		62		62	3	4	4	66	77
1st Bn	Battalion Headquarters								1000		①	23											2		2
	1st Machine Gun Company						3000		1100	300	①	29	21	1	28			21		21		2		9	11
	1st Company			1400	700	2100		400	1200	260	①	22					22			22					
	2d Company	50		2600		2600		515	1560	150	190						18			18					
	3d Company		200		1200	1400		400	1000	70	160	16					29			29					
	Subtotal	50	200	4000	1900	6100	3000	1315	7310 (TN Sic)	720 (TN Sic)	①	90	21	1	28		69	21		90		2	2	9	13
2d Bn	Battalion Headquarters								1200		①	28											2		2
	2d Machine Gun Company						6250	260	1100	140	①	30			14				88	88		2		9	11
	4th Company			5158		5158		200	1000	540	500	29					70			70					
	5th Company	50	1500	2500		4000		1190	1930	1200	345	30					62			62					
	6th Company			4070		4070		1160	1490	515	680	30					58			58					
	Subtotal	50	1500	11708 (TN Sic)		13228	6250	3020 (TN Sic)	7320 (TN Sic)	2345 (TN Sic)	8704	147			14		190		88	278		2	2	9	13
3d Bn	Battalion Headquarters	40							1400		380	20											2		2
	3d Machine Gun Company						7900		1430		383	30			12				30	30		2		10	12
	7th Company	35	300	1430	300	2230		1090	1430		1400	8					21			21					
	8th Company	14		2530		2530		1000	2500	70		27					43			43					
	9th Company	480	2650			2650		600	650	10	764	30					75			75					
	Subtotal	560	3150	3960	300	7410	7900	2690	7450	80	2409	145			12		139		30	169		2	2	10	14
	Total	3900	7616	19713 (TN Sic)	2200	29083 (TN Sic)	17150	9965	76152 (TN Sic)	4320	13550 (TN Sic)	462 (TN Sic)	21	1	54	136	278 (TN Sic)	83	118	599	3	10	10	94	117

Remarks: All animals are retained in the second echelon.

(TN Symbol ① indicates that original document is illegible.)

Reported by JEN Fu-li (任福利)

SECURITY INFORMATION
CONFIDENTIAL

SECRET

APPENDIX NO. 4

TECHNICAL STUDY OF CHARACTERISTICS OF ENEMY ARMS AND EQUIPMENT

Secret

Study of Enemy Arms and Equipment Identified in the Korean Theater of Operation

(Prepared by the Technical Intelligence Coordinator, G-2 Section, EUSAK.)

Notice

In addition to the equipment identified in this booklet, the following other items of ordnance were listed as positively identified as being in use by the enemy in Korea in "Technical Bulletin Number III," Military Intelligence Section, General Staff, GHQ, FEC, dated 1 November 1951: Japanese--Rifle, 6.5mm, Type 97 (1937); Gun, 7.5mm, mountain, Type 41 (1908); Gun, 75mm, Type 95 (1936); Howitzer, 75mm, (model unknown); Mine, antitank, Type 93 (1933); Soviet--Ammunition (expended for 132mm M13 rocket launcher; Revolver, 7.62mm, Model 1895, Nagant; Rifle, .22 caliber, Sporting Type; Rifle, 7.62mm, Model 1891, Mossin-Nagnat; Rifle, 7.62mm, Model 1891/30, Sniper's; Gun, machine, tank, 7.62mm, Model DT, Degtyarev; Gun, machine, aircraft, 12.7mm, Berezine, Model UBK; Gun, aircraft, 23mm, automatic, Model VYA; Mine, antipersonnel, PMO-6; Chinese--Gun, submachine, 7.62mm, Copy of Soviet PPSh-41; Carbine, 7.92mm, copy of German Model 98k; Rifle, 7.62mm, Model 1891, modified to single shot (presumably Soviet type); Rifle, 7.9mm, Model 37 (1948) Chung Cheng; Rifle, 8mm, copy of Italian Mannlicher-Carcano; Gun, machine, light, 7.92mm, copy of Czech, Model 1930, Brno; Gun, machine, heavy, 7.62mm, Model unknown, water-cooled; 3.5inch rocket launcher (copy of US version); Grenade, stick, long handle; Grenade, stick, egg shaped body; Grenade, stick Type 99; Miscellaneous--Pistol, .32 caliber, automatic, South Korean; Pistol, 6.5mm, Bernadelli, Italian; Pistol, 7.63mm, automatic, Spanish; Pistol, 7.65mm, Franz-Stock, Berlin DRP, German; Pistol, 7.65mm, Browning, M1900, Belgian; Pistol, automatic, Mauser, 7.9mm, German; Pistol, copy of US caliber .45 M1911A1, North Korean; Pistol, 7.62mm, M1927, Czech; Carbine, 7.92mm, Model 98b, German; Carbine, 7.92mm, Model 98k, German; Rifle, 7.9mm, Model VZ-24, Czech; Rifle, Mauser, Czech; Rifle, .30 caliber, RCMK, Canadian; Gun, Machine, light, 7.92mm, Bren, type believed to be Japanese; Gun, machine, light, Degtyarev, [illegible] and forged and manufactured; Mortar, 120mm, short barrel, Model unknown, believed to be Soviet. Many of these models identified as of European make are probably included in this booklet as Chinese copies.

Note 2: Inked-in numbers on the outside edges of following pages refer to totals of appropriate items of enemy equipment definitely captured by UN forces from beginning of war to o/a 15 October 1951. Source: Technical Intelligence Coordinator, G-2 Section, Eighth Army.

The purpose of this study is to provide a consolidated listing of enemy arms and vehicles identified in this theater. In all cases it was not possible to positively determine which enemy (i.e. NK or CCF) was in possession of material when captured or found. The identifications contained herein were compiled largely from Technical Intelligence Reports and the characteristics of weapons were compiled from DA, FECOM, and EUSAK publications by the Technical Intelligence Coordinator, Office of the Assistant Chief of Staff, G2, EUSAK. The information presented was compiled 30 July 51.

SMALL ARMS

This Section of the study deals with pistols, carbines, rifles, and grenade launchers being used against UN forces in Korea. These weapons have been battle tested, largely by Soviet and Japanese forces during World War II. They represent simple but rugged construction.

Secret

SOVIET SMALL ARMS

Name	Barrel Length	Overall Length	Weight	Feeding Device	Operation	Muzzle Velocity	Rate of Fire	Effective Range	Max Range	Types Ammo	Captured From
1. Pistol, TT-1933 Tokarev 7.62mm	4.6"	7.7"	1.8 Empty	8 rd. mag.	Short recoil Semi-Auto matic	1378 f/s	8 rds in 10-15 Sec	50 yds.	770 yds	Ball	NK 52
2. Pistol, Signal 26.7mm	Believed to be copy of German double-barrel 26.9mm.		4 2/3#	Double Barrel							NK 6
3. Carbine, M1938 "Mossin-Nagant" 7.62mm		40"	.2 with sling & bayonet	5 round box type mag.	Bolt action	2650 f/s	10 rpm	440 yds	3,200 yds	Ball, Tracer AP & other	NK 6177
4. Carbine M1944 "Mossin-Nagant" 7.62mm		40.1"	8.36 with sling & bayonet	5 round box Mag.	Bolt action	2650 f/s	10 rpm	440 yds	3,200 yds	Ball, Tracer AP & other	CCF 749
5. Rifle, M1891/30 "Mossin-Nagant" 7.62mm		48.5"	9.7 with sling & bayonet	5 round box mag.	Bolt action	2838 f/s	10 rpm	440 yds. w/ iron sight; 880 w/telescope sight (3.5 power telescope)		Ball, Tracer AP, a low relay cartridge for use with silencer, & others	NK & CCF 24 713

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SOVIET SMALL ARMS (Cont'd)

	Caliber	Barrel Length	Overall Length	Weight	Feeding	Operation	Muzzle Velocity	Rate of fire	Effective Rate of Fire	Max Range	Type Ammo	Captured from
6. Rifle, AT PTRD-41 "Degtyarev"	14.5mm		79"	38.1#w/ Bipod (Unloaded)	Single Shot	Bolt Single Shot	3350 f/s	8-10rpm (w/two men)	Fixed Target 880 yds; Moving Target 550 yds. AP at 30°Impact Angle 110 yds -1.18 in. 330 " 1.08 " 550 " .98 "		API	CCF NK
7. Rifle, AT PTRS-41 "Siminov"	14.5mm		83"	46.1#W/ Bipod (Unloaded)	5 rds Mag	Gas operated Semi-Automatic	3350f/s	10-15 rpm	Fixed Target 880 yds moving target; 550 yds AP at 30° 110 yds - 1.18 in. 330 " 1.08 " 550 " 0.98 "		API HVAPI	NK

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JAPANESE SMALL ARMS

Weapon	Caliber	Barrel Length	Overall Length	Weight	Feeding	Operation	Muzzle Vel	Rate Fire	Effective Range	Max. Range	Type Ammo	Captured From
1. Carbine "Meiji"	6.5mm	19.37"	38½" w/ Bayonet Folded 51.63" w/ Bayonet Extended	8.75#	5 rd Clip Loaded Mag Fed	Bolt Action	2400 f/s		500 yd Accuracy	2000 Meters	Rimless Ball	NK
2. Rifle, M38 "Meiji" 1905	6.5mm		50½"	8.75# w/o Bayonet 9.5# w/ Bayonet	5 rd Clip Loaded Mag Fed	Bolt Action	2400 f/s		500 yd Accuracy	2400 Meters	Semi Rimmed Ball Tracer	CCF
3. Rifle, M99 "Meiji" 1939	7.7mm		44 w/o Bayonet	8.8# Unloaded with Sling	5 rd Clip Fixed Vert. Box	Bolt Action	2300 f/s			1500 Meters	Rimless Ball Tracer, AP	CCF NK
4. Grenade Launcher Type 89	50mm	10"	24"	10.25#					131-737 yds		50mm Grenade 1# 7 oz	

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MISCELLANEOUS SMALL ARMS

Weapon	Caliber	Barrel Length	Overall Length	Weight	Feeding	Operation	Muzzle Velocity	Rate of Fire	Eff Rate of Fire	Max Range	Type Ammo	Captured From	
1. Pistol, M1935 Polish	9mm	4.75"	7.75"	29 oz	8 rd Mag	Recoil							1
2. Rifle, Mauser, Belgian		-										CCF	1
3. Rifle, Mauser, Chinese, M1898	7.9mm	28.5"	32.5"		5 rd Mag	Bolt Action						CCF	-
Copy of German M98													2
4. Rifle, Recoilless Chinese	57mm	44.1"	61.3"	25 Kg	Interrupted Screw	Dynamic Principle	360 m/s	15 rpm			HE AP Cannister	CCF	10
5. Grenade, thrower, Improvised w/ M38 Rifle Action													

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B. AUTOMATIC WEAPONS

This section deals with sub-machine, light and heavy machine guns. The blow-back operated Soviet sub-machine gun is the basic weapon of this type used by the enemy in Korea. Though lacking accuracy, this weapon delivers a high volume of fire and is of simple construction. The light machine guns are largely of Soviet and Japanese manufacture and represent a variety of designs. The heavy machine guns are largely Soviet weapons. The Chinese weapons are generally copies of US and German designs.

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-- SOVIET AUTOMATIC WEAPONS --

NAME	Caliber	Length	Weight	Feeding Device	Operation	Muzzle Velocity	Rate of Fire	Effective Range	Maximum Range	Type Ammo	Type Fire	Cooling	Capt. From
1. Gun, Sub Machine, PPSh-41, "Shpagin"	7.62mm	10½" Barrel 33" Total	10.15# w/ drum mag. 9.09# w/ box mag.	71 rd drum 35 rd box	Blowback	1650 fps	Cyclic 600 rpm Effective 100 rpm	220 yds	875 yds	Ball	Selective a. Auto b. Semi-auto	Air	CCF NK 30
2. Gun, Sub Machine, PPS-43, "Sudarev"	7.62mm	9½" Barrel 32-3/4 inch total	6.61# w/o magazine 7.98# loaded	35 rd box	Blowback	1650 fps	Cyclic 600 rpm Effective 100 rpm	220 yds	880 yds	Ball	Auto only	Air	NK 52
3. Gun, Sub Machine, Paratrooper Model, (Soviet* copy of British Sten Gun)	9mm	30" total	6# 10 oz.	32 rd Mag	Gas Operated		500 rpm	200 yds				Air	NK CCF
4. Gun, Machine, Light, Model DP "Degtyarev"	7.62mm	23.8" Barrel 50.5" total	18.5# W/Bipod	47 rd Drum	Gas Operated	2770 fps	Cyclic 550 rpm Effective 80 rpm	880 yds at Grd Targets 1650 ft. AA Targets	3300 yds W/ Light Ball 5500 yds W/ Heavy Ball	Light Ball Heavy Ball AP, API Tracer	Auto only	Air	CCF NK 4073
5. Gun, Machine, Light, Model DPM	7.62mm	50.5" Total	20# W/Bipod	47 rd Drum	Gas Operated	2700 fps	Cyclic 550 rpm Effective 80 rpm	880 yds Grd Targets, 1650 ft. AA Targets	3300 yds W/ Light Ball 5500 yds W/ Heavy Ball	Light Ball Heavy Ball AP, API Tracer	Auto only	Air	CCF NK

* This would appear to be a Chinese rather than Soviet copy, which does exist.

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	Weapon	Caliber	Barrel Length	Overall Length	Weight	Feeding Device	Operation	Muzzle Velocity	Rate Fire	Eff Range	Max Range	Type Ammo	Type Fire	Cool Sys	Capt. From
6.	Gun, Machine, Heavy, Model 1943 Goryunov	7.62mm		46"	30.4# gun only; 89# gun w/tripod	250 rd fabric belt 50 rd link belt	Gas	2620 f/s	Cyclic 500-700 rpm Eff 300-350 rpm	1100 yd Grd Target; 1650 ft AA Target	3300 yds w/ Light Ball; 5500 yds w/ Heavy Ball	Light Ball Heavy Ball AI, II Tracer		air	GOF UK 51
7.	Gun, Machine, Heavy, Model 1910 "Maxim"	7.62mm	28.4"	43.3"	145.5# w/ tripod	250 rd belt	Short Recoil	2620 f/s	Cyclic 500 rpm Eff 250 300 rpm	1100 yds Grd Target w/ Sight; w/ AA sight 550 yds	3300 yds w/ Light Ball; 5500 yds w/ Heavy Ball	Light Ball Heavy Ball AI, II Tracer		Water	UK 953
8.	Gun, Machine, Heavy, 1939 "Degtyarev"	7.62mm	28.4"	46"	28.4# Gun only; 72# w/ tripod & shield	250 rd canvas belt 50 rd Metallic belt, link	Gas	2650 f/s	Cyclic Normal 500-600 rpm fast 1000-1200 rpm	1100 yds Grd; 1650 AA			Auto Only	Air	GOF UK
9.	Gun, Machine, Heavy, MGK 1938	12.7mm	39.4"	62.3"	74.8# Gun only 367.4# w/gun tripod & shield	Metallic Link belt 50 rds	Gas	2887 f/s	Cyclic 550-600 rpm fast 1000-1200 rpm	2800 yds Grd 4950 ft AA	7650 yds	AI, AII API IO	Auto Only	Air	GOF UK 95
10.	Gun, Machine Aircraft, Flexible "Degtyarev"	7.62mm	23.8"	39.2"	15.8#	60 rd Drum	Gas	2760 f/s	Cyclic 550 rpm				Auto Only	Air	GOF
11.	Gun, Machine, A/C Fixed, SHK 36	7.62mm	23.6"	37.8"	23.1#	Disintergrating metallic link belt	Gas	2805 f/s	Cyclic 1800 rpm				Auto Only		UK
12.	Gun, Machine, Aircraft, Model UB	12.7													UK

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SOVIET AUTOMATIC WEAPONS - (Cont'd)

NAME	Caliber	Barrel Length	Overall Length	Weight	Feeding Device	Operation	Muzzle Velocity	Rate of Fire	Effective Range	Maximum Range	Type Ammo	Type Fire	Cooling System	Capt. From
13. Gun, Machine, Tank, Model DF	7.62mm	23.75"	46.5 "/ Stock Extended	21.44 "/0 Mag	60 rd Drum	Gas	2770 f/s	Eff 125 rpm Cyclic 500 rpm	880 yds Grd Target; 1650 ft AA Targets	3300 yds "/ Light Ball; 5500 yds "/ Heavy Ball	Light Ball Heavy Ball AP,API Tracer	Auto Only	Air	NK
14. Gun, Machine, Tank, Model DT	7.62mm	A Modification of Model DT with operating Spring moved from under the barrel to rear of the receiver.												
15. Gun, Machine, "/small "ater intake "Maxim"														

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JAPANESE AUTOMATIC WEAPONS

Name	Caliber	Barrel Length	Overall Length	Weight	Feeding Device	Operation	Muzzle Velocity	Rate of Fire	Effective Range	Maximum Range	Type Ammo	Type Fire	Cooling Sym	Captd From
1. Gun, Machine Light, Type 96, 1936	6.5mm		42"	21#	Bren type Mag-30 rd	Gas	2410f/s	Max 530 Eff 120		1600 meters	Semi-rim Med-rifle Ammo	Auto Only	Air	CCF
2. Gun, Machine Light "Taisho II" "Nambu"	6.5mm		43½"	22#7oz	Hopper-30rds (6 clips of 5 rds)	Gas	2440f/s	Max 500 Eff 120		—	Rifle	Auto Only	Air	NK
3. Gun, Machine Light M99 1939	7.7mm		42"	23.03#	Bren Type 30 rds	Gas	2300f/s	Cy 800 Eff 250	1500 yds	3800 yds	Rimless	Auto Only	Air	NK
4. Gun, Machine Heavy, Type 92 (1932)	7.7mm	29.5"	46"	63# w/ Tripod	Strip Fed 30 rds each	Gas	2400f/s	Max 450	1500 yds	3600 yds	Semi-Rimless API Ball, AP Tracer	Auto Only	Air	CCF
5. Gun, Machine Heavy														NK

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Name	Caliber	Barrel	Overall	Weight	Feeding Dev	Operation	Muzzle Vel	Rate-fire	Type Fire	Cooling Sys	Captd From	
1. Gun, Machine, Light, Furrer Swiss				21#	30rd Box	Short Recoil				Air	CCF	1
2. Gun, Machine, Light, German											NK & CCF	32
3. Gun, Machine, Heavy, French Hotchkiss	7.92"	30½"		52#; Tripod 72#	Metal Strip	Gas				Air	CCF	1
4. Gun, Machine, Heavy, German										Water	CCF	5
5. Gun, Machine, "Kuldmet" V2-26 Czech											CCF	132
6. Gun, Machine, "Madsen" Danish	7.92"	18-3/4 23-1/8	40-45"		Arc Shaped Mag 25-40 rds	Recoil		Cyclic 450 rpm		Air	CCF	3
7. Gun, Sub-Machine, 4 each captured:	9mm		30-35"	8# W/O Mag	30 rds Box Type	Blowback	1060f/s	Eff 200 yds	Selective Single or Auto	Air		
1. Paratrooper Model, Czech												1. NK
2. Chinese Nat. Model												2. CCF
3. Standard Model, Czech												3. CCF
4. Copy of British Sten Gun Mark II												4. CCF

Figures are for British Sten Gun

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Misc - Auto - Weapons (Cont'd)

Name		Cooling System	Captured From
8. Gun, Sub-Machine Copy of US M3A1 "Grease Gun"	Identical with U. S.		NK
9. Chinese Copy of German Maxim, HMG, M1908		Air Cooled	NK

Name	Caliber	Barrel Length	Overall Length	Weight	Feeding Device	Operation	Muzzle Velocity	Rate Fire	Type Fire	Cooling System	Captured From	
10. Gun, Sub-Machine, Copy of US Thompson by Chinese (Figures US Model)	.45" (45 cal)	10½" w/ compensator 12½"	33" w/ compensator	9#13 oz w/o Mag	Drum 5 rds Box 20 rds	Recoil	950 f/s	Cyclic 600-700	Single or Auto	Air	2	Note: Information pertaining to Effective Range, Maximum Range and Type Ammunition is unavailable at this time.
11. Gun, Machine, Light, Model VZ-26 Brno Chinese Mfg. Figures are for Brno ZB (1925)	7.92mm	24"			Arc Shaped Mag 20 rds Box				Auto & Semi-Auto	Air	NK 132	
12. Gun, Machine, Heavy, Chinese											CCF	
13. Gun, Machine, w/ smooth barrel Jacket Chinese											CCF	
14. Gun, Machine, Light, M79 Chinese											CCF	
15. Gun, Machine, Heavy, Maxim, Chinese	7.92mm			118#7 w/ Mount	Belt Fed	Recoil	2700 f/s	600 rpm		Water	CCF 1	

C. MORTARS

Following the doctrine of the Soviet Army, the enemy in Korea places strong emphasis on the use of mortars. Mortars are considered artillery by the Soviets and many of the satellites. The Soviet designed mortars are considered excellent weapons and are highly mobile. The Chinese have manufactured copies of US, German, and Soviet mortars. While characteristics for the Chinese weapons are not available, it is assumed that they approximate the weapon copied.

SOVIET MORTARS

NAME	Caliber	Weight Fire Pos.	Weight Carry Pos.	Transport Method	Type Sight	Maximum Range	Type Shell	Weight Shell	Frag. Radius Prone	Frag. Radius Standing	Rate Fire	Interchangeability	Capt From
1. M1937 "Battalion Mortar" Fixed Fire Pin.	82mm	121#	134#	3 loads for Man Carry.	Optical	3326 yd	HE Smoke	7.3# 7.63#	16 yds	33 yds	25 rpm	US Jap German Italian	CCF
2. M1938 A. Fixed Fire Pin B. Trigger	120mm	603# Barrel / Breech 231; Bipod 165; Baseplate 209; Sight 3.	1100# / Trailer; 2425 / Trailer & Limber	Trailer	Collimating	6240 yd	HE Smoke Incend German	35# 36.4# 37.9# 34.8#	22 yds	55 yds	12-15 rpm	US Jap German Italian	CCF
3. M1943 A. Fixed B. Trigger	120mm	603# Barrel / Breech 231; Bipod 165; Baseplate 209; Sight 3	1100# / Trailer	Trailer	Collimating	6240 yd	HE Smoke Incend German	35# 36.4# 37.9# 34.8#	22 yds	55 yds	12-15 rpm	US Jap German Italian	NK CCF
4. M1941	82mm	99.21#	118# for 3 Man Carry 111.33# for Towing	Detachable Wheels or 3 Man Carry	Mechanical Azimuth	3326 yd	HE Smoke	7.3# 7.63#	16 yds	33 yds	25 rpm	US Jap German Italian	NK CCF

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CHINESE MORTARS

Model	Caliber	Weight Fire Pos	Weight Carrying Pos	Transport Method	Type Sight	Maximum Range	Type Shell	Weight Shells	Frag. Radius Prone	Frag. Radius Standing	Rate Fire	Captured From
a. Copy of M-2 US. Tube is 2" Shorter than US Model	60mm											NK CCF
b.	81mm											
c.	82mm											CCF
d. M331	120mm	600#	1100#			6500 yd						NK CCF
MORTARS MISC												
a. German (Believed to be Granatenwerfer) Figures are for German wpn.	120mm	616#				6600 yd	HE	35#				

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D. ANTI-AIRCRAFT WEAPONS

These weapons are basically AA weapons but can be used as dual purpose weapons for AT fire. All three weapons are considered efficient.

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AA GUNS

Model	Caliber	Weight FP	Weight TP	Tube Length	Maximum Range	Max Vert Range	Rate of Fire	Type Ammo	Muzzle Velocity	Wt. of Proj.	Armor Penetration "/APT at 328 yds.	Captured From
1. M1939	37mm	4630#	4630#	7.3" (USSR)	8,752 yds	19,692 ft	160-180 rpm	HET APT HVAPT	2,837 f/s 2,887 f/s 3,150 f/s	1.61# 1.70# 1.37#	2.0" @ 0° 1.57" @ 30°	NK
2. M1939	85mm	9480#	9480#	13.74" (USSR)	16,950 yds	39,370 ft	15-20 rpm	HE APT HVAPT	2,953 f/s	20.28# 21.23#	4.48" @ 0° 3.7" @ 30°	NK
3. Type 98 Japanese AA/AT Cannon	20mm	836#	836#	4'7" (Jap)	5,450 yds	12,000 ft	120 rpm	HE-T AP-T	2,720 f/s			

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E. ANTI-TANK WEAPONS

All anti-tank artillery that has been identified is of Soviet and Japanese design. The Soviet weapons in this field are considered excellent. The Soviet 100mm has not been identified in Korea. Ammunition used is varied.

SOVIET AT GUNS

Name	Caliber	Weight FI	Weight TP	Tube Length	Type Ammo	Wt of Projectile	Muzzle Velocity	Max Horizontal Range	Armor Penetration at 328 yards	Rate of Fire	Captd From
1. Gun, AT, M1937	45mm	1235#	2646#	7' 1½"	HE APT HVAP	4.72# 3.15# 1.875#	1095 f/s 2493 f/s 3510 f/s	4814 yds 8600 yds	 2.4 inches 2.8 inches	20 - 30 rpm	NK 57
2. Gun, AT, M1942	45mm	1257#	2701# w/Caisson	10' 8½"	HE APT IT HVAPT	4.71# 3.15# 3.18# 1.88#	1125 f/s 2690 f/s 3510 f/s	5470 yds	 2.56 inches 3.6 inches	30 rpm	NK 202
3. Gun, AT, M1943	57mm	2540#	3527#	13'7"	HE AP-HET HVAP-T APT-T	9.2# 6.9# 3.88# 6.9	2296 f/s 3248 f/s 4167 f/s 3248 f/s	9200 yds	 4.3 inches 6.3 inches	20 - 30 rpm	NK CCF 22
4. Gun, AT, M1942	76mm	3272#	5291#	11' 9"	HE APT HVAP HEAT	13.67# 14.33# 6.66# 11.65#	2231 f/s 2450 f/s 3510 f/s	14,539 yds	 At 1044 yds 0°2.9" At 547 yds 0°3.62"	25 rpm	CCF 141

JAPANESE AT GUNS

1. Gun, AT, M38, Jap, (Old Model) (1935)	75mm	2083#		7'6"	HE HEAP Shrap [redacted]	13#		9025 yds		8 - 10 rpm	CCF 4
2. Gun, AT, M38 Jap Improved	75mm	2449#		9'2"	HE, AP Shrap Smoke Illun Chem		1977 f/s	12,565 yds		10 - 12 rpm	CCF 10
3. Gun, AT, M35, Jap Believed to be M95(1935) Figures for this upn M95	75mm	2440#		7'5.7"	HE, AP Shrap Incend Smoke Chem		1640 f/s	12,000 yds	SECURITY INFORMATION Secret	10 - 12 rpm	NK CCF 1

F. ARTILLERY

All artillery identified is of Soviet and Japanese design. Included in this listing is one self-propelled weapon, the SU-76. The characteristics of the carriage are included, in detail, under armored vehicles.

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SOVIET ARTILLERY

Name	Caliber	Weight Firing	Weight Traveling	Tube Length	Type Ammo	Weight Projectile	Muzzle Velocity	Maximum Range	Armor Penetration	Rate of Fire	Captured From	
1. Gun, M1902/30	76mm	2976#	5247# with added caisson	Two types a. Old 7' 0" b. New 9' 6"	HE APT HVAP HEAT	13.67# 14.33# 6.61# 11.68#	2316 f/s 2254 f/s 3510 f/s ?	14,850 yds	2.13" @1094 yds & 0 3.62" @ 547 yds & 0	8 rpm	CCF	1
2. Gun, M1931/37,	122mm	15,692#	15,435#	18'	HE AP HVAP HEAT HE	47.97# 55.12# 55.12# 29.19# 55.12#	1870 f/s 2625 f/s 2625 f/s ? 2625 f/s	22,747 yds	AP at 0 6.5" @ 109 yds 6.3" @ 328 yds 6.2" @ 547 yds 5.9" @ 1049yds 5.1" @ 2188yds	5-6 rpm	CCF MK	18
3. Howitzer, M1938, (M-30)	122mm	4961#	6173#	8' 4" approx	HE HEAT	47.97# 29.15#	1690 f/s ?	12,904 yds	3.94" at all ranges where hit is made	5-6 rpm	MK	84
4. Gun, Divisional, M1942, (ZIS-3)	76mm	2460#	5512#	9' 9" w/o Muz Brk 10' 7½" w/Muz Brk	HE HEAP-T HVAP-T HEAT	13.67# 14.33# 6.72# 11.68#	2231 f/s 2041 f/s 3167 f/s ?	14,545 yds	328 yds at 0 2.83" 4.33" 3.50"	25rpm	MK	141
5. Gun, (Howitzer), Regimental M1927	76mm	1720#	3572#	3' 10½"	HE HEAP-T HEAT	13.67# 14.33# 11.24#	1270 f/s 1214 f/s ?	9,372 yds	328 yds at 0 2.83" At any range where hit is made 2.36"	12-14 rpm	MK	71

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SOVIET ARTILLERY

Name	Caliber	Weight Firing	Weight Travelling	Tube Length	Type Ammo	Weight Projectile	Muzzle Velocity	Maximum Range	Armor Penetration	Rate of Fire	Captured From
6. Gun, Self-propelled SU-76, M1942/43	76.2mm	12.3 short tons		9'9" w/o Muz Break 10'7" w/ Muz Break	HE HEAP-T HVAP-T HEAT	13.67# 14.33# 6.72# 11.66#	2231 f/s 2041 f/s 3166 f/s	W/HE 14,545 yds Indirect Fire 6100 yds Direct Fire 1640 yds	HEAP-T At 109 yd @0° 2.95" At 328 yd @0° 2.83" At 547 yd @0° 2.72" At 1094 yd @0° 2.4" At 2187 yd @0° 1.89" HVAP-T 109 yd @0° 5.04" 328 @0° 4.33" 547 @0° 3.62" 1094 @0° 2.28"	10 rpm	UK

JAPANESE ARTILLERY

1. Howitzer, Jap Believed to be 91(1931)	105mm	4250#		8'4"	Semi-fixed HE AP Shrapnel Chem	34.74"	1790 f/s	11,500 yds		6 - 8 rpm	CCF
2. Howitzer, Jap Fourth year Type (1915)	150mm	7100#		7'3"	HE AP Shrap Chem Semi-Fixed	80#	1350 f/s	7560 yds		3-4 rpm	CCF

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JAPANESE ARTILLERY

Name	Caliber	Weight Firing	Tube Length	Type Ammo	Wt Projectile	Muzzle Velocity	Maximum Range	Rate of Fire	Captured From
3. Howitzer, Jap Model 92 (1932) *	70mm	490#	28½" Bore 27½"	HE Semi-Fixed	8#	650 f/s	3000 yds		
4. Gun, Mountain Model 94, Jap (1934)	75mm	1200#	5'1½"	HE AP Shrap Chem Incend Illum	13#	1300 f/s	9750 yds	10 - 12 rpm	
5. Gun, Jap Model 38, (1905) Improved	75mm	2083#	7'6"	HE HEAP Shrap Smoke Incend Illum	13#	1977 f/s	9025 yds	8 - 12 rpm	
6. Gun, Jap Model 90, (1930)	75mm	3300#		HE HEAP Shrap Smoke Incend Illum		2230 f/s	16,250 yds	10 - 12 rpm	

* This would appear mainly a Chinese copy of this gun, though Japanese-made models probably appeared in some numbers.

SECURITY INFORMATION
Secret

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4

Secret



ARMORED VEHICLES

Only three vehicles of this category have been identified. All are of Soviet manufacture and are considered to be efficient and rugged.

SECURITY INFORMATION

Secret

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SOVIET ARMORED VEHICLES

Name	Weight	Length not incl Gun	Width Overall	Height to Top of Turret	Ground Clearance	Traverse	Crew	Armament	Rate Fire	Ammo Carried	Speed Max.	Type Motor	Capt. From
1. Tank, Medium T-34/85	35 Short Tons Combat loaded	19'7"	9'8"	7'9"	1'3"	360° hand and elec Turret	5	1-85mm (M1944) fire-elec or mech. 2-7.62mm MG coaxially mounted. 3-7.62mm MG Ball mtd on right front of hull	7-8 rpm	55rds 85mm 2,745 rds - 7.62mm	30-34 MPH	1-V-12 Diesel	NK
2. Gun, Self-propelled SU-76 M-1942/43 See Soviet Art. for Further Info.	12.3 Short Tons Combat loaded	19'6"	9'10"	7'9"		30°		1-76mm Field Gun	10 rpm	60 rds	28 MPH	2-6 Cy gasoline	NK
3. Car, Armored BA-64	2.6 Short tons Combat loaded							1-7.62mm MG			50 MPH	1-4 Cy gasoline	NK

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SECURITY INFORMATION

Secret

Secret

H. GENERAL PURPOSE VEHICLES

All general purpose vehicles identified have been of Soviet design and manufacture. The ZIS-151 is a copy of the US GMC 2½ ton, 6 x 6. These vehicles under test have proven superior to our own GMC when loaded but weaknesses in the body show that the GMC is superior when not loaded. The GAZ, 67, is the Soviet Jeep. This vehicle has 4 wheel drive.

GENERAL PURPOSE VEHICLES - SOVIET

Secret

	Name	Type	Tonnage	Weight	Body Capacity	Overall Length	Overall Width	Wheelbase	Overall Height	Ground Clearance	Type Motor	Captd From
1.	Truck, GAZ 67, Jeep	4 x 4										NK 7
2.	Truck, GAZ 51, Cargo	4 x 2	2.7		120 cubic feet	18'	7.3'	10.7'	7.2'	0.8'	6 cyl "L" head	NK 11
3.	Truck - ZIS 150 Cargo											NK 2
4.	Truck, ZIS 151 - Copy of our GMC 6 x 6	6 x 6	3.8			22'5"		13'9"	7'6"	10 3/4'	6 cyl "L" head	NK 4
5.	Tractor, Kharkov			5.6 tons								NK 1
6.	Motorcycle w/sidecar										2 cyl aprx 30-35 HP	NK 1
7.	Truck, GAZ 63 Cargo	4 x 4			120 Cubic Feet	18'	7.3'	10.7'	7.2'	0.8'	6 cyl "L" head 70 HP	1
8.	Tractor, AT3											
9.	Tractor, S - 80						7.82'					

SECURITY INFORMATION
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I. MINES

This listing of mines includes those most common and does not include the US and ROK mines used by the enemy. This listing is not complete since ingenuity and field expedients are predominant. The resourcefulness of each enemy unit enables the development of improvised mines. This listing shows the standard AT and AP mines.

Secret

SOVIET MINES

Name	Size	Material of Construction	Explosive	Weight of Explosive	Weight of Mine	How Fired	Remarks	Captured From
1. TMD-B Box Mine	12½x11¼x6¼"	Wood	TNT, Picric Acid, Dynamite, Amotol	Variable 11-16 lbs	16.5-17.5#	Pressure	AT-300-450# AP-10-15#	NK & CCF
2. POMZ - 2 Stake Mine	5¼x2 3/8" dia	Wood & Metal	TNT	2.6 oz	4.4#	Trip Wire	Stake is 8½" long. NUV igniter	
3. TM - 41 Round Metal case	5 3/4"x10½" dia	Metal	Amatol 80/20 or TNT	9#	12.1#	Pressure at 350# MV-5 fuse		
5. Bangalore Torpedo	39½"x1½" dia	Metal pipe	TNT		6½#	Pull Cord-Delay in Fuze	Used as an improvised Mine	

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SECURITY INFORMATION
Secret

Secret

MISCELLANEOUS MINES

Type	Size	Material of Construction	Explosive	Weight of Explosive	Weight of	How Fired	REMARKS
1. Japanese Magnetic Mine Type 99	1½" dia 4 3/4"	Canvas	TNT	1½#	2# 11 oz	4 to 6 second delay	Mine thrown on veh. Magnet holds mine to veh. Before throwing mine the fuze is struck a sharp blow after which detonation occurs in 4-8 sec. Single mine will penetrate 3/4" armor.
2. NKPA "SHUMEE"	7 3/4"x 3 1/2x 1 3/4"	Wood	TNT	1/2#		Pressure MUV fuze	T-shaped pin is removed when pressure is applied causing mine to fire.
3. NKPA Improvised Grenade Mine		Soviet F-1 Type grenade attached to stake	TNT	2 oz.	1.5#	Tripwire	Straighten out safety pin of grenade. Pass wire thru ring. Grenade remains above grd. When wire is hit pin falls out arming grenade.
4. Bangalore Torpedo Chinese	39"x1 15/16 dia	Pipe Metal	TNT or Picric Acid	0.65-0.7 kg		Pull Friction	Used as an improvised mine.
5. Bangalore Torpedo Japanese	48 5/8"x1 3/32 dia	Metal Pipe	TNT or Picric Acid	3½#	10#	6 to 7 seconds delay	Used as an improvised Mine.
6. NKPA AT Mine	5 1/4"x2 3/4" dia	Serrated Steel Pipe	60% dynamite w/sand base	1½#	2# 4 oz	Tripwire 10-15#	Casualty radius (Probable-100 yds). MUV fuse.

SECURITY INFORMATION

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MISCELLANEOUS MINES - (Cont'd)

Type	Size	Material	Explosive	Wt. of Explosive	Wt. of Mine	How Fired	Remarks
7. Chinese AT Mine #8	4" X 9" dia	Metal	TNT	5#	12#	Pressure 300-500#	Similar to US-M1 Mine. Has a place for tripwire on side of igniter.
8. Satchel Charge, Jap.	1-1/8" X 13½" X 20½"	Canvas w/ Wooden handle	Picric Acid Blocks	9.2#±		5 seconds delay fuze	
9. Pole Charge Chinese	36" Pole	Wood & Rice Sack	Powder Picric Acid	11#	16#		
10. Prepared Charge, Jap Model 97	20-5/8" X 2-1/16" X 1-1/16"	Waterproof Paper	"Haisheku-Yaku"	2½"	2½ - 3# Approx.		

SECURITY INFORMATION

Secret

Secret

K. GRENADES

This listing is of the identified standard grenades employed by the enemy. Improvised grenades other than those listed have been found but are not included in this report.

SECURITY INFORMATION

Secret

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SOVIET GRENADES

Name	Weight	Explosive	Length Delay	Range	Eff Rge of Frag	Armor penetn	Size	Captd From	
1. Hand, Fragmentation, Model F-1, fuzed, defensive	1.53#	2 oz TNT	3.5-4.5 sec.	40-50 yds	To 220 yds			CCF	39,934
2. Hand, HEAT RPG (1943)	2.65#	Shaped charge	Impact	16-21 m/s		2.95 in		NK	2,384
3. Stick & Fragmentation Jkt, RGD, Dyelmov (1933)	w/frag jacket 1.7# w/o frag jkt 1.1#		3.2-4.0 sec.	30-40 yds	w/frag jacket 15 yds w/o frag jkt 10 yds				1,760
4. Offensive, Hand Model RG - 42	0.88#	3.903 oz TNT	3.2-4 sec.	35-45 yds	17-25 yds			NK	160
5. RPG - 6						3.9"	13.5		0

MISCELLANEOUS GRENADES

1. Hand, Frag, WP?								NK	120
2. Chinese "Stick" Grenade			3-4 sec				5"x2" dia	CCF	
3. Chinese shaped charge AT grenade							7"x3.9" dia at base of cone		280

SECURITY INFORMATION
Secret

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J. FIRING DEVICES

This listing, similar to the listing of mines, shows only standard types. Variations, combinations, and field expedients will be found.

Secret

SOVIET FIRING DEVICES

Name	Type	Size	Material of Construction	Time	REMARKS
1. Igniter for Bangalore Torpedo Soviet	Pull Friction		Wood	7 sec	
2. MV-5 Igniter	Pressure	½" - 1"	Metal or Plastic	Instant	No safety pins, striker & retain ball principle, used mostly in AT mines
3. Clockwork Delay Fuze	Mechanical	4 1/8"	Bakelite & Metal	Optional fr 1 - 10 day	
4. Mechanical - Electrical Delay Fuze	Mechanical until Electrical Contact	2" - 3.9"	Metal	Optional fr 1 - 10 day	
5. MUV Igniter	Pull	½" x 3"	Metal or Plastic	Instant	Used mostly for AP Mines and booby traps.

SECURITY INFORMATION

Secret

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MISCELLANEOUS FIRING DEVICES

Name	Type	Size	Material of Construction	Time
1. Japanese Bangalore Torpedo Igniters	Pull friction	5¼"xl 1/16"	Aluminum alloy	7 sec
2. Chinese Bangalore Torpedo fuze (to replace Jap fuze)	Pull friction	6"xl 15/16"	Wood	7 to 8 sec

SECURITY INFORMATION

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ABBREVIATIONS

The following abbreviations are used in this study:

AMMUNITION

1.	AP	Armor Piercing
2.	AP-HET	Armor Piercing High Explosive Tracer
3.	API	Armor Piercing Incendiary
4.	APIT	Armor Piercing Incendiary Tracer
5.	APT	Armor Piercing Tracer
6.	CHEM	Chemical
7.	HE	High Explosive
8.	HEAP	High Explosive Armor Piercing
9.	HEAPT	High Explosive Armor Piercing Tracer
10.	HEAT	High Explosive Anti-Tank
11.	HET	High Explosive Tracer
12.	HVAP	High Velocity Armor Piercing
13.	HVAP-T	High Velocity Armor Piercing Tracer
14.	INCEND	Incendiary
15.	SHRAP	Shrapnel

GENERAL

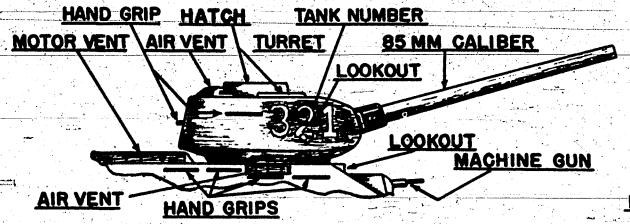
1.	@	At
2.	Cy	Cyclic
3.	Dia	Diameter
4.	FP	Firing Position
5.	Frag	Fragmentation
6.	FPS	Feet Per Second
7.	F/S	Feet Per Second
8.	Mag	Magazine
9.	Max	Maximum
10.	Rds	Rounds
11.	RPM	Rounds Per Minute
12.	Sec	Second
13.	W/	With
14.	W/O	Without

SECURITY INFORMATION

Secret

APPENDIX NO. 5

SKETCHES OF SEVERAL TYPES OF ENEMY WEAPONS AND EQUIPMENT

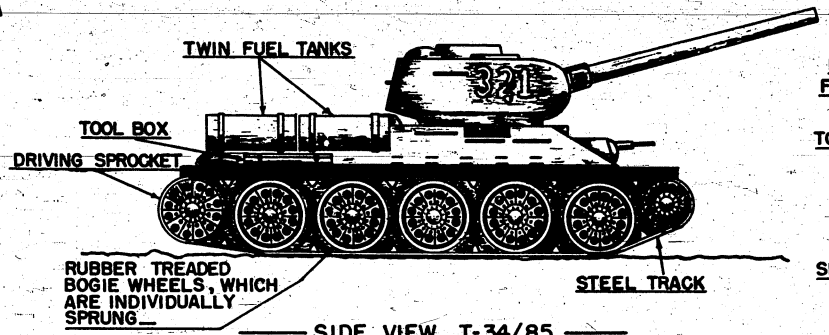


DETAIL OF TURRET
T-34/85

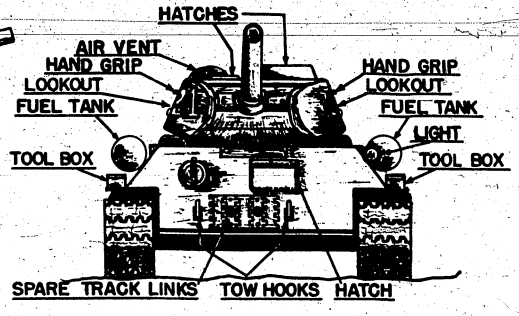
SOVIET MEDIUM TANK

MODEL T-34/85

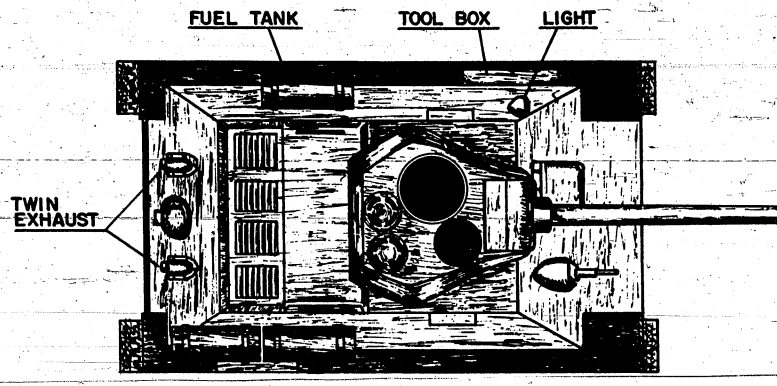
WEIGHT	35 TON
HEIGHTH	8' 3"
WIDTH	9' IC"
LENGTH	19' 8"
MAIN ARMAMENT	85 MM (M1943)
SUSPENSION	CHRISTIE TYPE



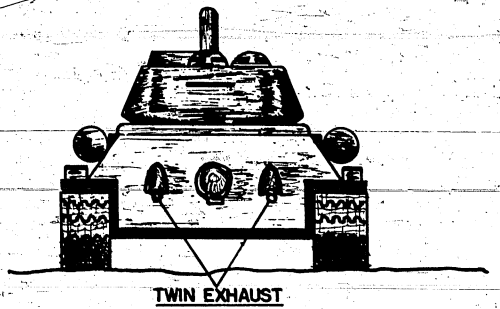
SIDE VIEW T-34/85



FRONT VIEW T-34/85



TOP VIEW T-34/85

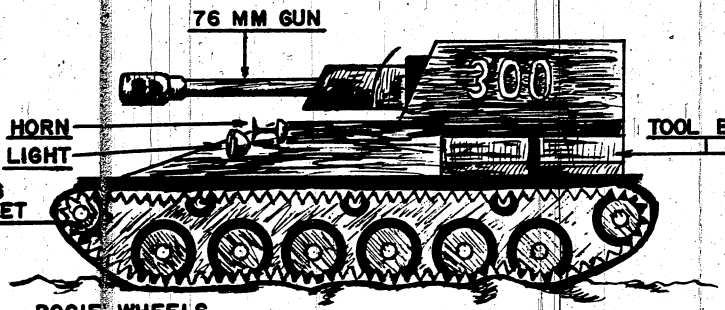


REAR VIEW T-34/85

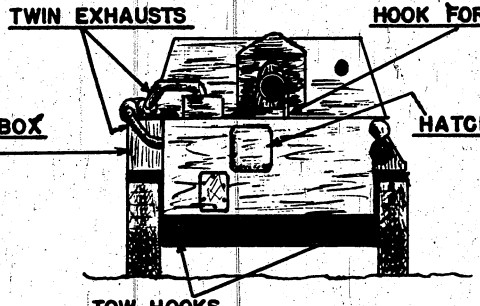
PREPARED BY ARTY SECT EUSAK Gardner. G

REPRODUCED BY 62d ENGR TOPO CO (CORPS) 1951

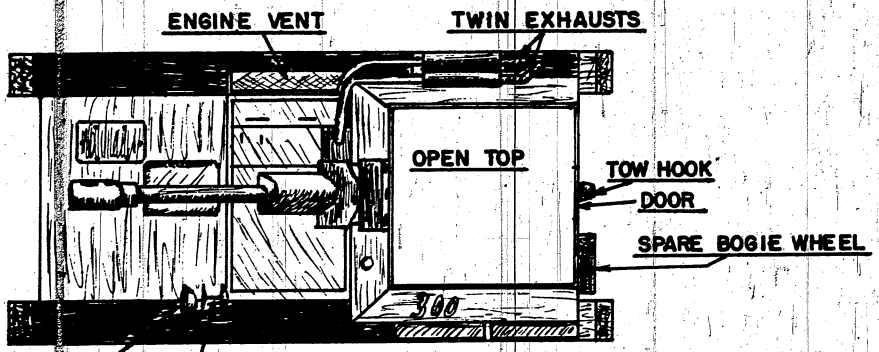
SU 76 SP GUN SOVIET



SIDE VIEW



FRONT VIEW



TOP VIEW

SOVIET
SELF PROPELLED GUN

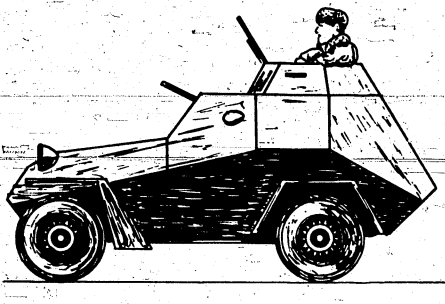
MODEL	SU 76
WEIGHT	16.8 TONS
HEIGHT	7'9"
WIDTH	9'10"
LENGTH	19'6"
MAIN ARMAMENT	76 MM GUN(M 1942)
SUSPENSION	KV 6 BOGIE WHEELS 3 RETURN ROLLERS

PREPARED BY ARTY SECT EUSAK

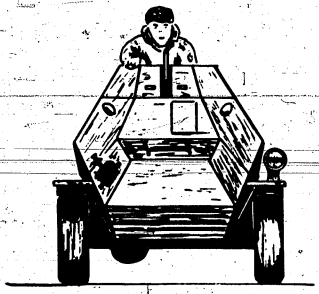
By G. Gardner

REPRODUCED BY 62d ENGR TOPO CO (CORPS) 1951

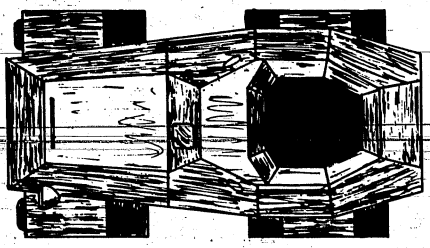
SOVIET BA-64 ARMORED CAR



— BA-64 SIDE VIEW —



— BA-64 FRONT VIEW —



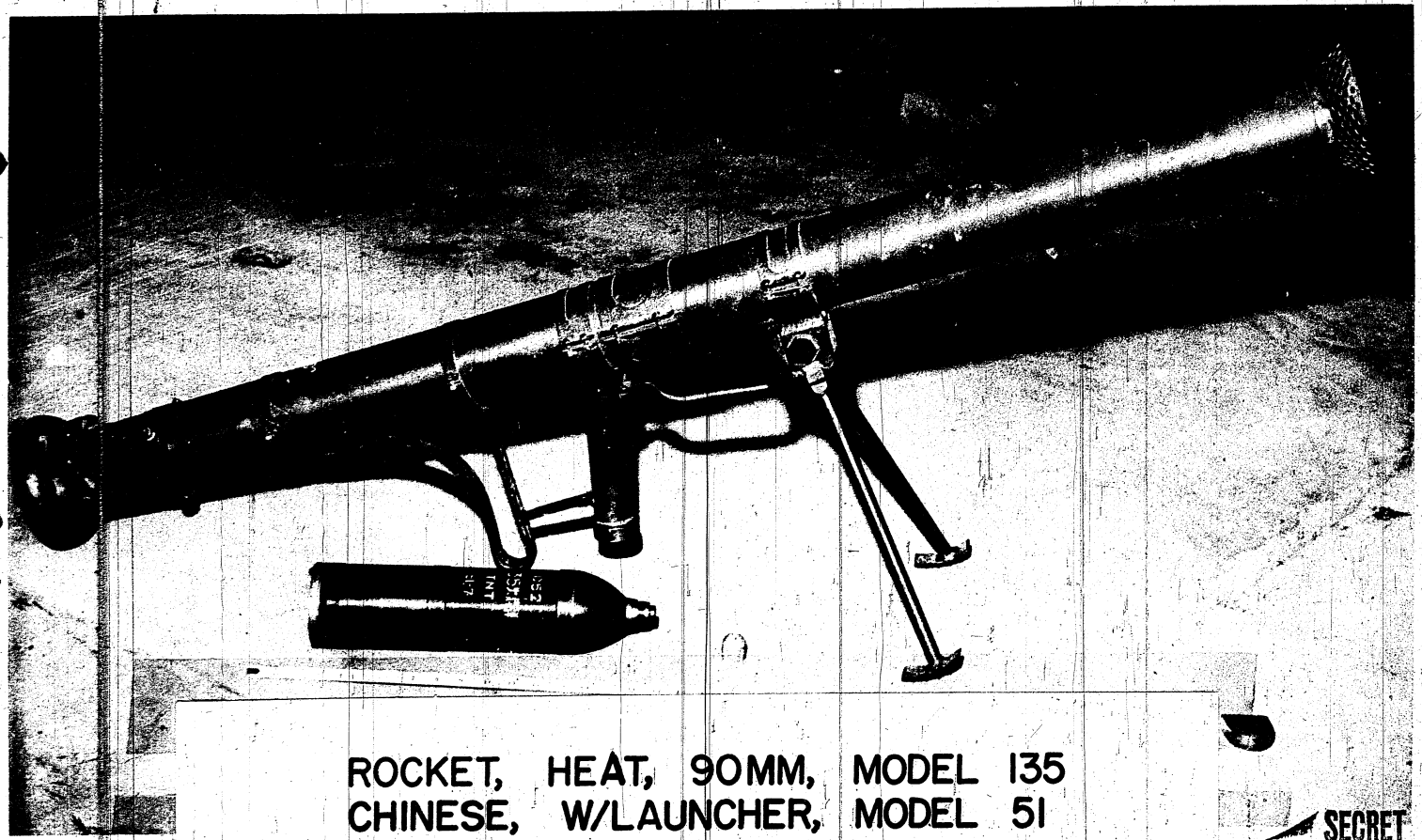
— TOP VIEW BA-64 —

SOVIET BA-64 ARMORED CAR

WEIGHT	4,838 Lbs.
ENGINE TYPE	4 CYLINDER 50 HP. MODEL A FORD
SPEED	55 MPH
ARMAMENT	7.62 MM MACHINEGUN

PREPARED BY ARTY
SEC EUSAK

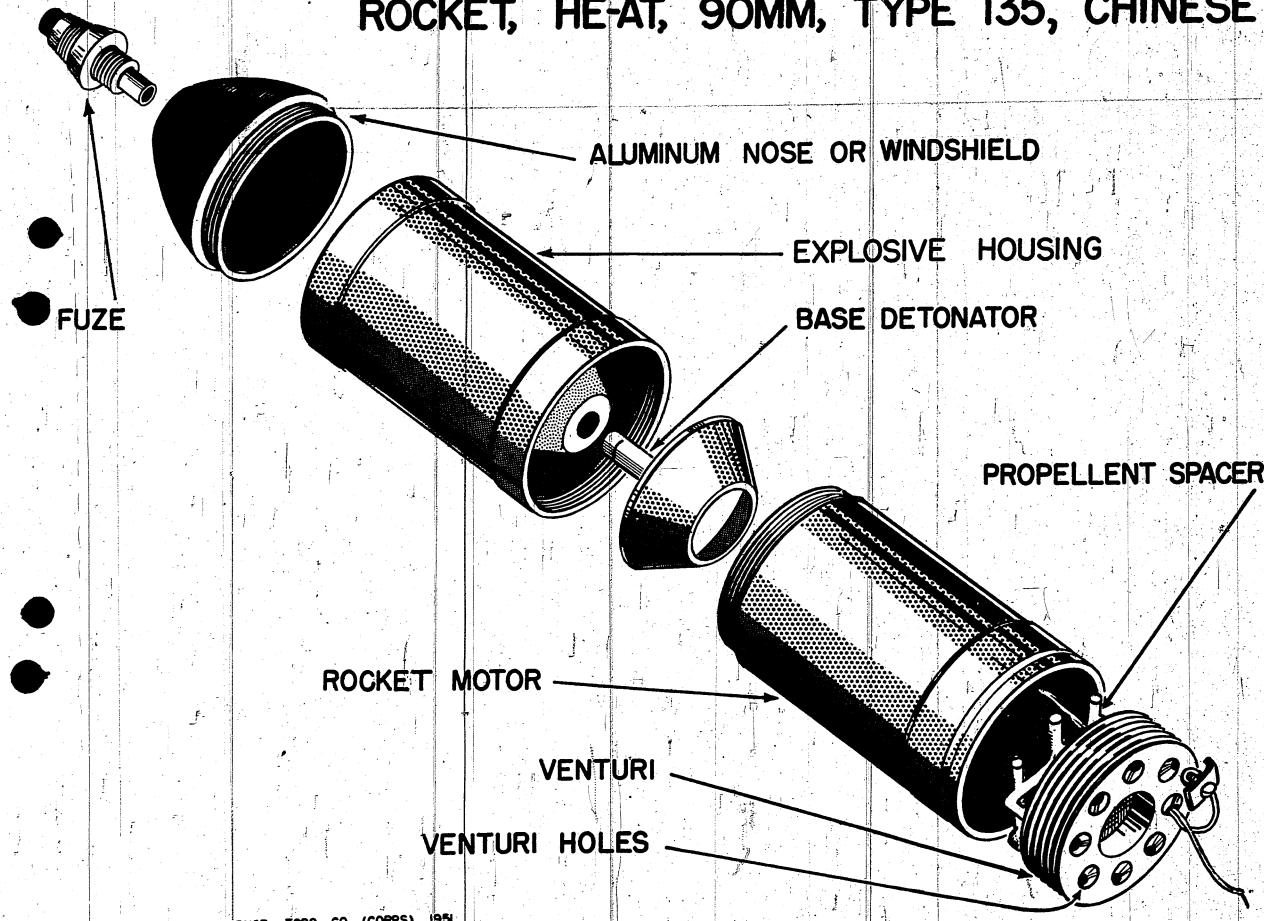
REPRODUCED BY 62d ENGR TOPO CO (CORPS) 1951



ROCKET, HEAT, 90MM, MODEL 135
CHINESE, W/LAUNCHER, MODEL 51

FIGURE 2

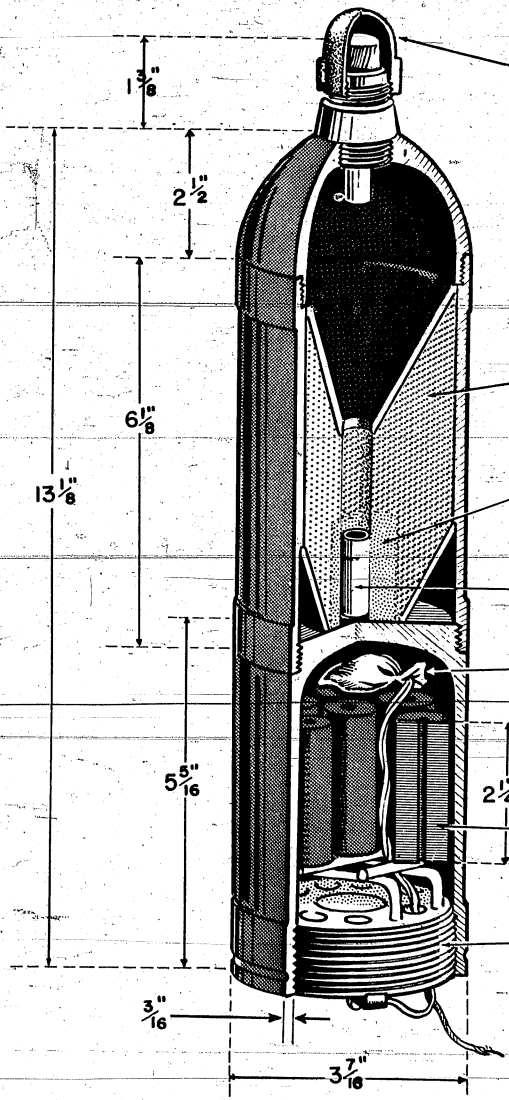
ROCKET, HE-AT, 90MM, TYPE 135, CHINESE



REPRODUCED BY 624 ENGR TOPO CO (CORPS) 1951

SECURITY INFORMATION
SECRET

ROCKET, HE-AT, 90MM, TYPE 135, CHINESE



REPRODUCED BY 62d ENGR TOPO CO (CORPS) 1951

ENEMY "FIRE" AP MINE OR GRENADE

8 May 51

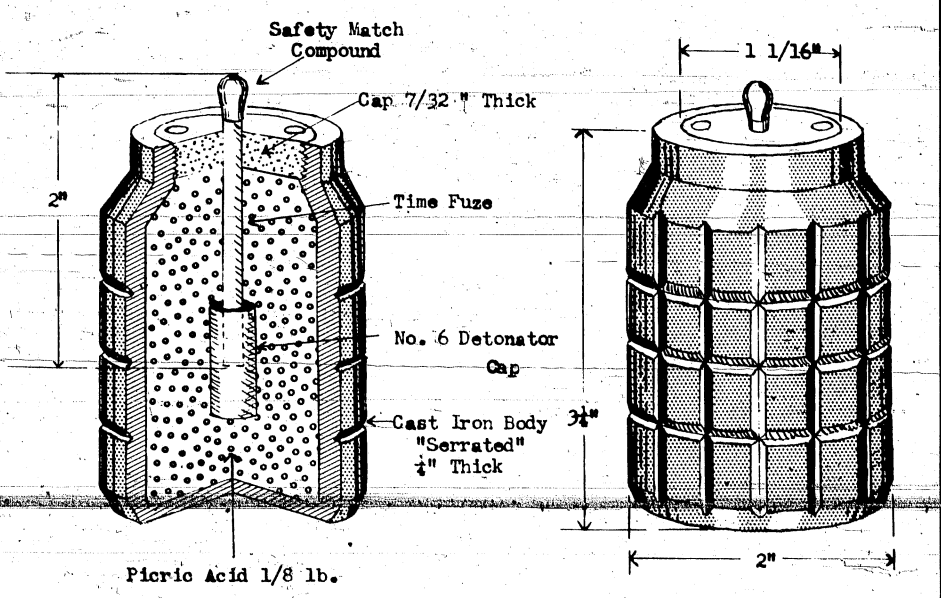
1. This report was produced by the 533rd Engineer Technical Int Team (Research) as Report No. 66 dated 30 April 1951. It is based on information contained in Special Report No. 29, 557th ETID (C). The following information was extracted and prepared for publication by the Plans and Estimates Division, G-2 Section, EUSAK.

2. SOURCE: The information was received from the 13th Engr C Bn, and personal investigation by members of the 556th ETID (C) in the vicinity of the road from ORON-NI DS176977 to MORUMEGI DT206044, sheet # 6827 IV.

3. DESCRIPTION: (See attached sketch) The serrated cast iron body of this AP mine or grenade bears a resemblance to the Japanese type 91 or 97 grenade. It contains a main charge of picric acid (weight unknown). A five to seven second delay Soviet time fuze (white) is capped on one end by a safety match compound, which protrudes from the grenade. A No. 6 detonator cap is affixed to the other end of the fuze. A spanner wrench may be fitted into the two holes at the outer diameter of the grenade cap for the removing or replacing of the cap. A tin container (2½ in. x 3 5/8 in.) houses the grenade when not in use.

4. PROBABLE EMPLOYMENT: The safety match compound can be ignited either by using a match cover striker or by fire alone. Hence, it is improbable that the grenade is employed frequently as an offensive weapon. The grenades located thus far have been found in abandoned fire sites or in piles of straw. It has apparently been the intent of the enemy to conceal the grenades in such locations in the hope that fires would be started by UN Forces or that straw piles would be indiscriminately thrown on a fire.

5. REMARKS: All troops should be cautioned in the location of fire sites or in the placing of materials such as straw or brush on a fire. The time fuze in this grenade, as in all Japanese mines or grenades, is not reliable, hence, destruction by ignition of the fuze is not advisable.

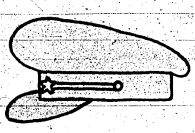


REPRO BY 8038 AU 192

APPENDIX NO. 6

SKETCHES OF UNIFORMS AND INSIGNIA WORN BY ENEMY IN KOREA

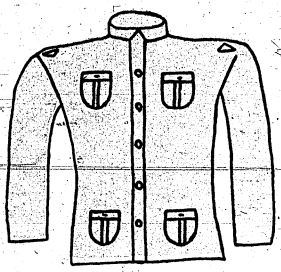
CCF SUMMER UNIFORM



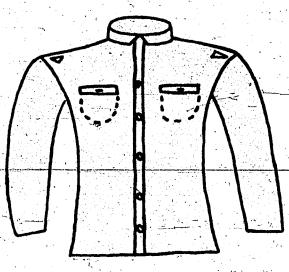
Officers and EM Cap
(Figure 1)



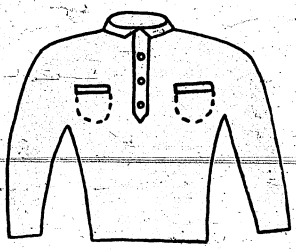
Officers' Field Cap
(Figure 2)



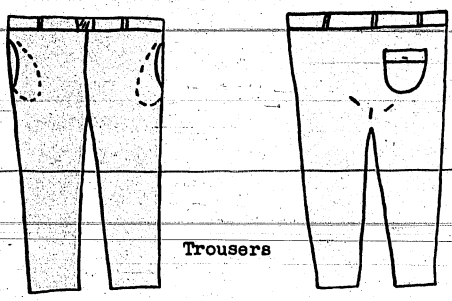
High ranking Officer Shirt
(Figure 3)



Bn and lower Officer Shirt
(Figure 4)



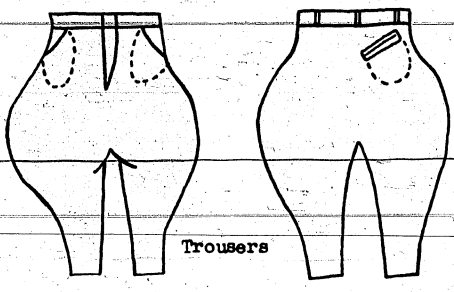
EM Shirt
(Figure 5)



Trousers

Front Rear

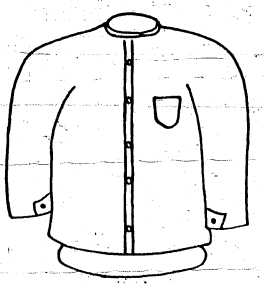
Trousers worn by Officers and EM.
No hip pockets on EM trousers.
(Figure 6)



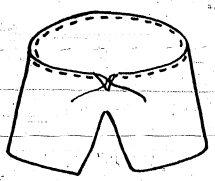
Trousers

Front Rear

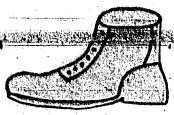
Trousers occasionally worn by Officers and EM
(Figure 7)



Undershirts
(Figure 8)



Shorts
(Figure 9)



Leather Service Shoe
Officers - Finished leather
EM - Rough finish
(Figure 10)



Canvas





Cloth
Usually worn in the field
(Figure 11)

SECURITY INFORMATION
RESTRICTED

REPRODUCED BY 62d ENGR TOPO CO (CORPS) 196



Front





Back

NKPA Summer Uniform

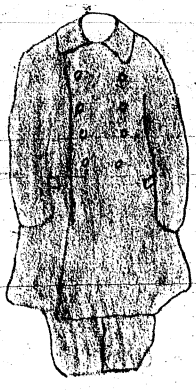
CCF Winter Uniform



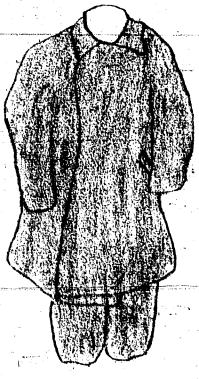
OFFICER'S JACKET
With Trousers



ENLISTED MAN'S JACKET
With Trousers



OFFICER'S OVERCOAT
(Front View)

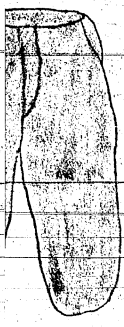


ENLISTED MAN'S OVERCOAT
(Front View)

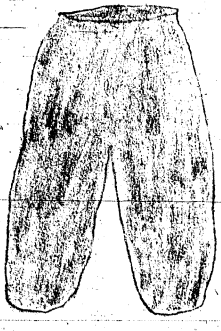
r Uniform
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ENLISTED MAN'S OVERCOAT
(back view)



TED MAN'S TROUSERS
t view)



ENLISTED MAN'S TROUSERS
(back view)

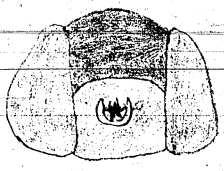
NKPA Winter Uniform



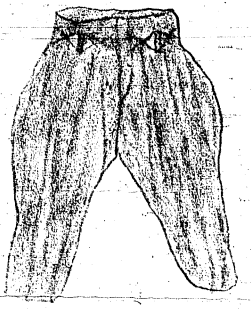
OFFICER'S JACKET
With Breeches



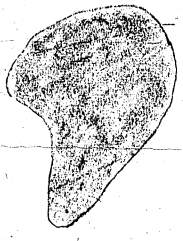
ENLISTED MAN'S JACKET
With Breeches



SOVIET TYPE CAP



OFFICER'S & ENLISTED MAN'S BREECHES

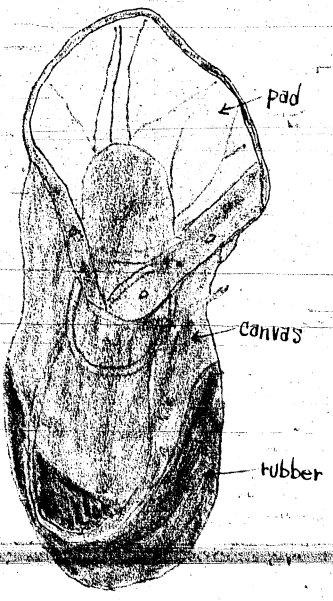


CYCLIST TYPE CAP

CCF Winter Uniform
(Cont'd)



FUR-LINED SHOE

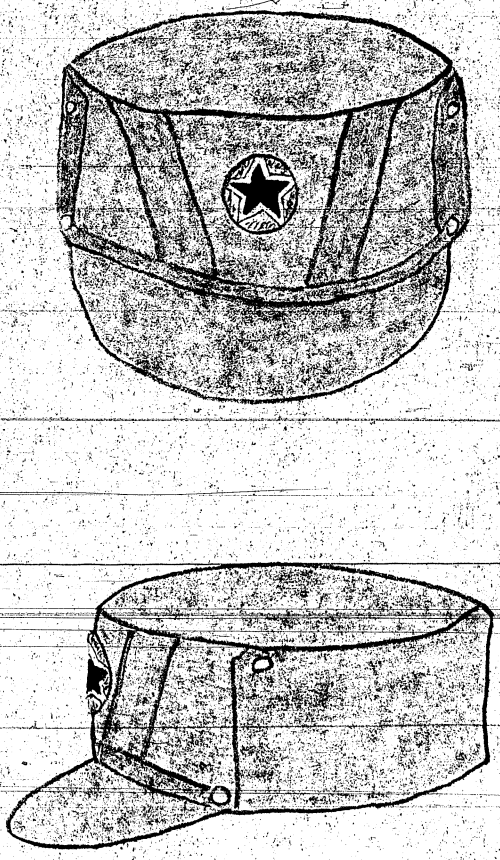


CANVAS SHOE

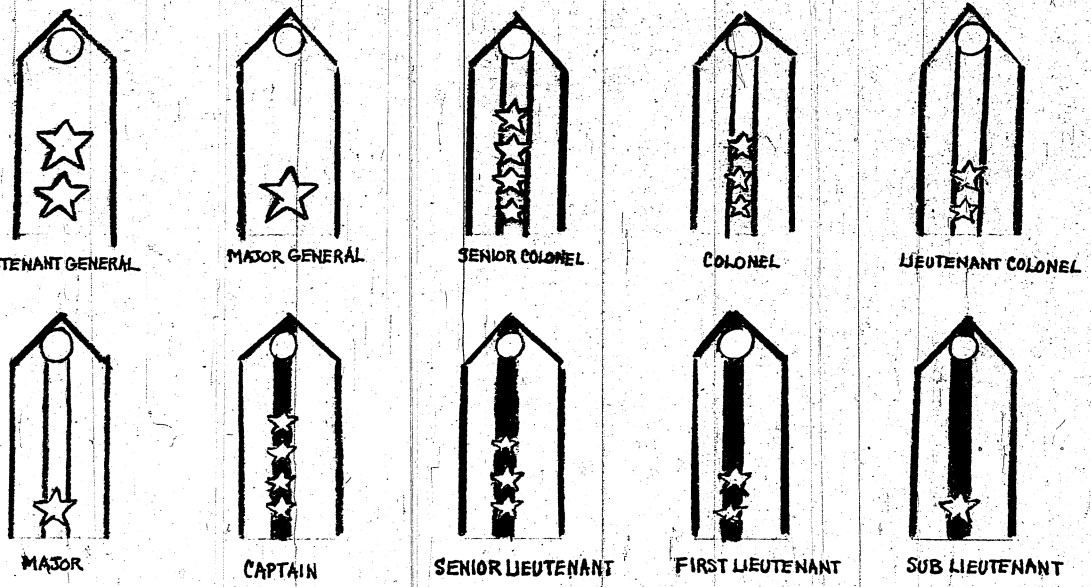
NKPA Winter Uniform
(Cont'd)



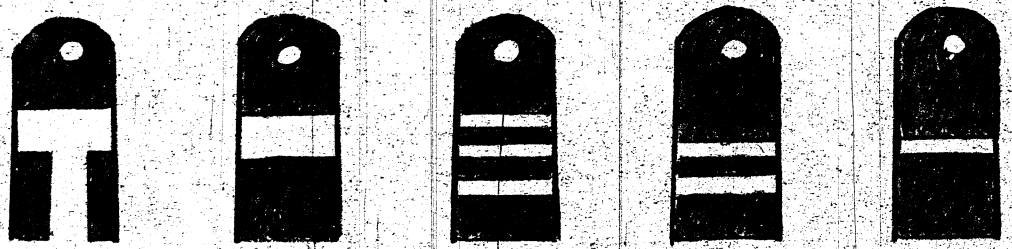
BLACK CANVAS SHOE



NKPA SUMMER HEADGEAR



NKPA OFFICIER'S INSIGNIA





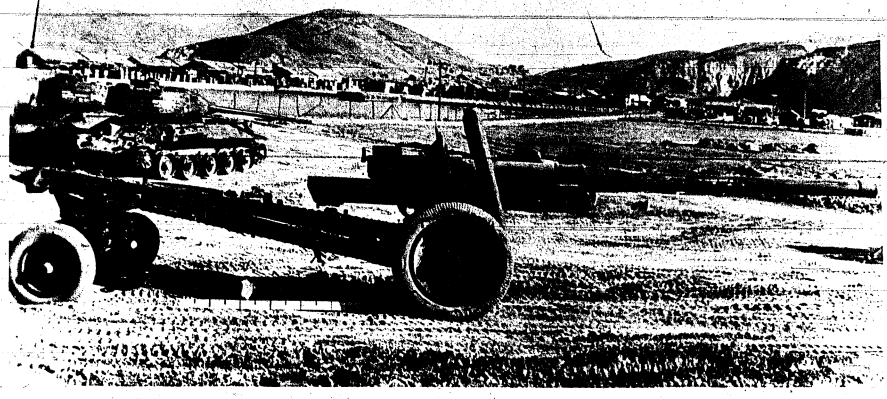
NKPA ENLISTED MEN'S INSIGNIA

APPENDIX NO. 7

PHOTOGRAPHIC SECTION

Note on Pictures

The photographs comprising this appendix have been included purely to show the reader specimens of the more important and frequently-observed items of materiel captured from the enemy in scenes indicating the state in which they were found in action in Korea. No attempt has been made to insert photographs of all the many types, makes, and models of enemy materiel observed in the campaign; now was such an inclusion considered necessary with the wealth of pictures covering all weapons and equipment seen in the Korean campaign which are extant today.



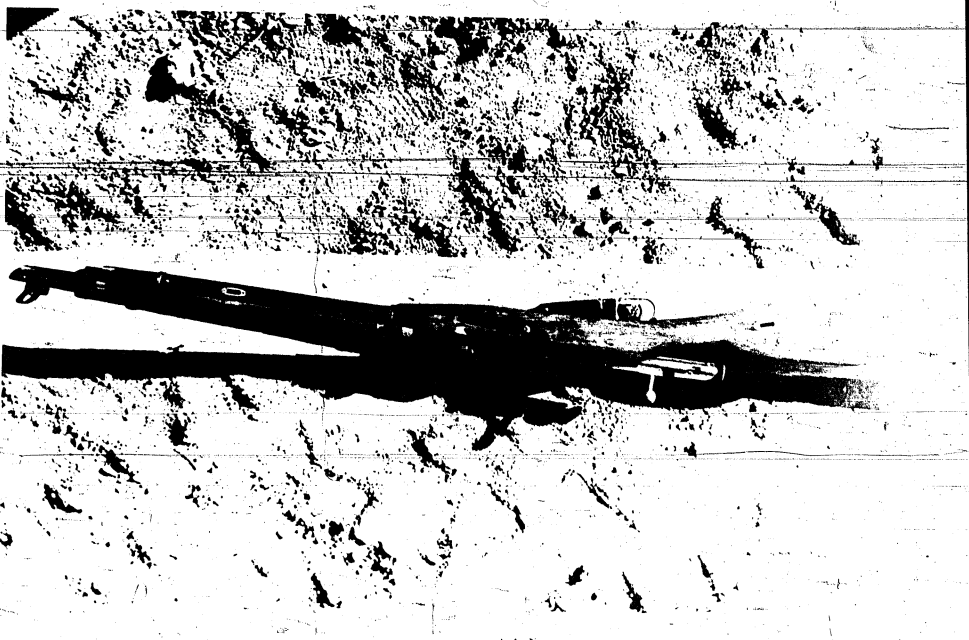
The Soviet-made 122mm Corps Gun, M1931/37, the largest Soviet-supplied weapon used by the enemy. This gun formed part of the NKPA corps artillery organization, and oftentimes part of the CCF artillery division.



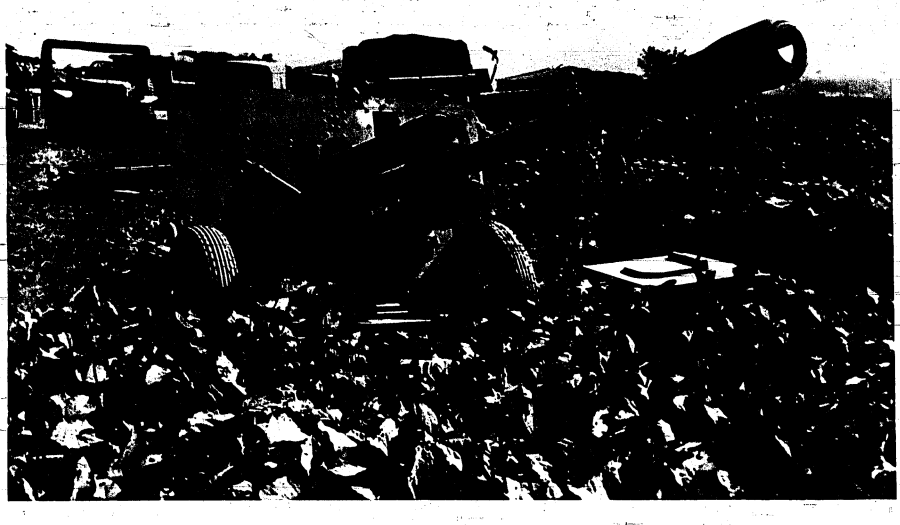
This is a Soviet-made PPSh M1941 submachine gun, one of the enemy's favorite infantry weapons. Note its coarse construction, obvious heavy weight, and evidences of rough mass production.



A 82mm M1937 Soviet-manufactured mortar, used extensively by both the NKPA and the CCF. This mortar was classified as artillery, and was used in artillery roles, by the enemy.



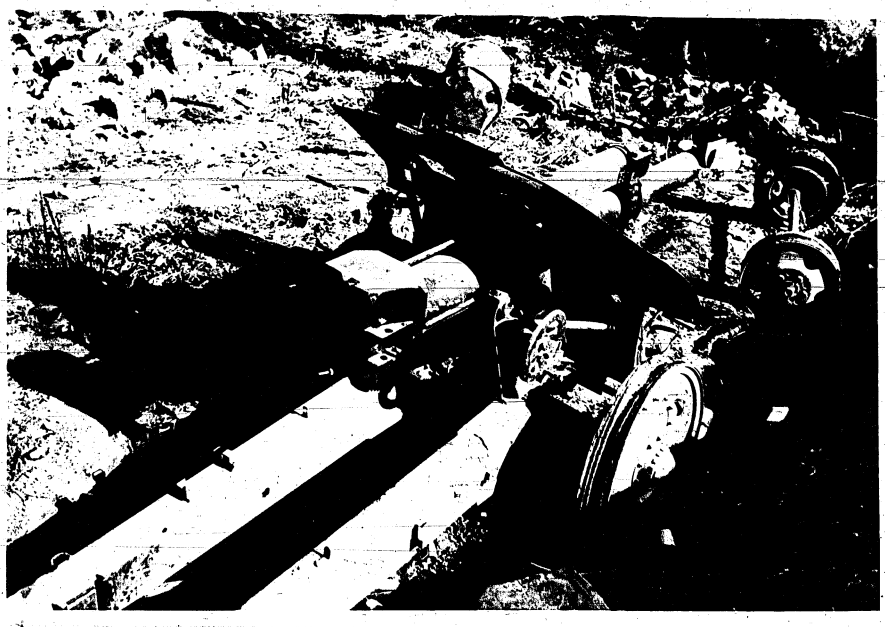
A Mossin-Nagant 7.62mm M1891/30 Soviet-made rifle, the basic small arm of the NKPA infantry division, and extensively used by the CCF. This rifle also occurred in a carbine form, but was essentially the same weapon.



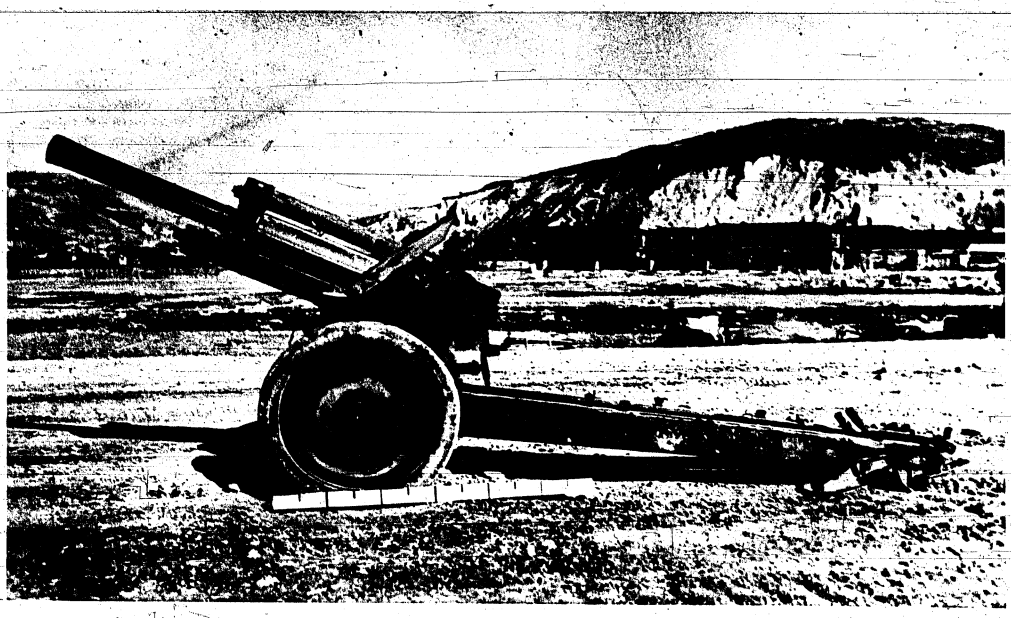
A 76.2mm M1942 Soviet Divisional Gun, captured by members of the US 2d Infantry Division. This weapon was one of the standard NKPA divisional field artillery pieces, with two battalions of same in each infantry division artillery regiment. Used in both field and antitank roles, this was one of the most effective artillery pieces in use by the CCF and NKPA.



Another view of the Soviet-made 76.2mm M1942 Divisional Gun. Located here on the YONSON River, Korea, this weapon was used in its dual mission as an antitank gun. Note that breechblock is missing.

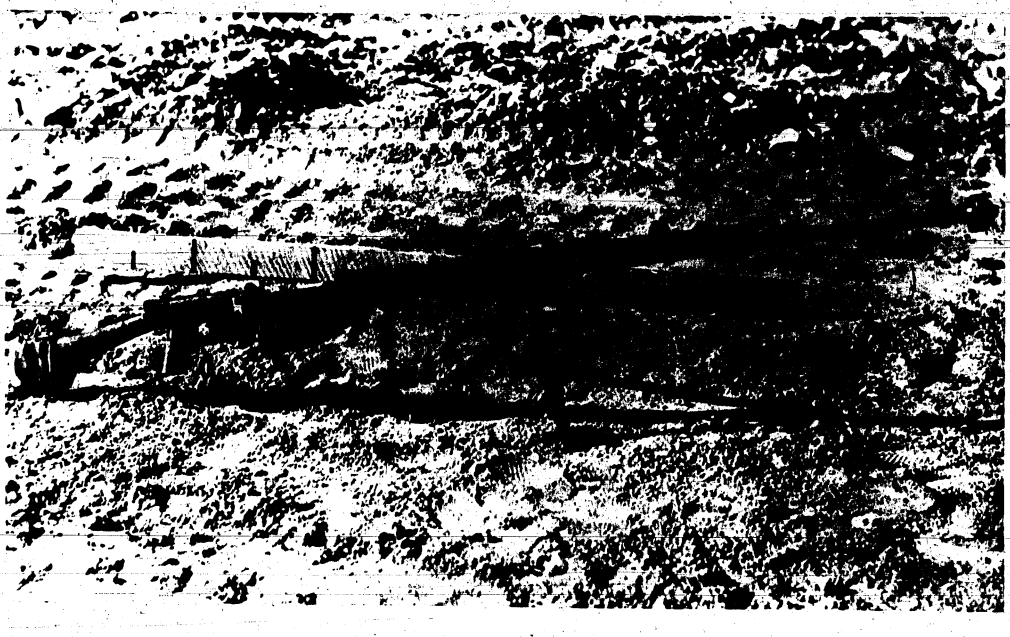


A rather beaten-up example of the Soviet 122mm M1938 howitzer, one of the largest pieces of field artillery delivered by the USSR to North Korean and Chinese Communist forces fighting in Korea. One of these battalions was organic to each NKPA infantry division and each corps and GHQ reserve artillery regiments. Also used by the CCF, this weapon was one of the major enemy pieces of ordnance.



Another picture of a Soviet 122mm M1938 howitzer, showing trails. Note hard rubber wheels.

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This is the Soviet semi-automatic PTRS-41 14.5mm antitank rifle, a ponderous two-man weapon with a five-round magazine designed to pierce the hulls of tanks. Comparatively ineffectual in Korea, the rifle could pierce up to 1.42 inches of armor at 330 yards.



A good example of the huge size of the Soviet 120mm mortar, captured from the enemy by Company L of the 65th RCT near SEOUL, Korea in March 1951. This was the largest type mortar used by either side in the Korean War.

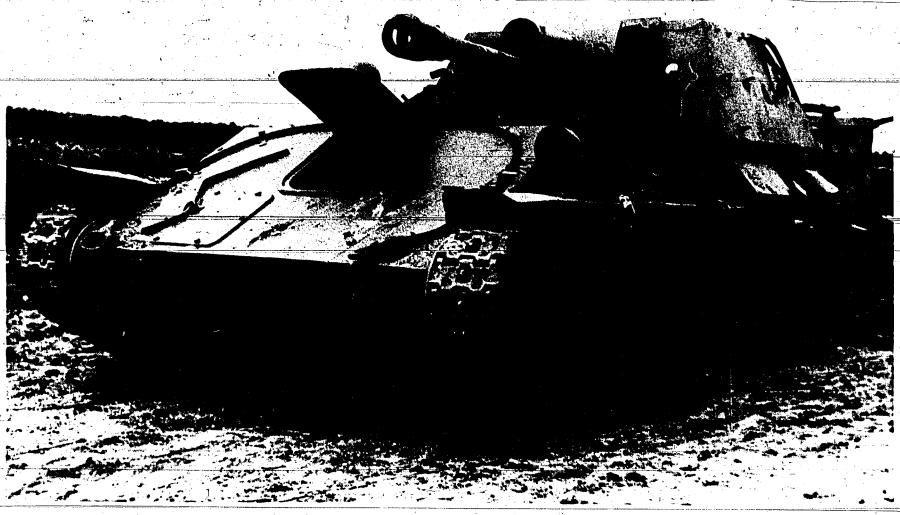


Another view of the Soviet 120mm mortar M1938



A Chinese copy of the US 60mm mortar with a stick bomb projectile.

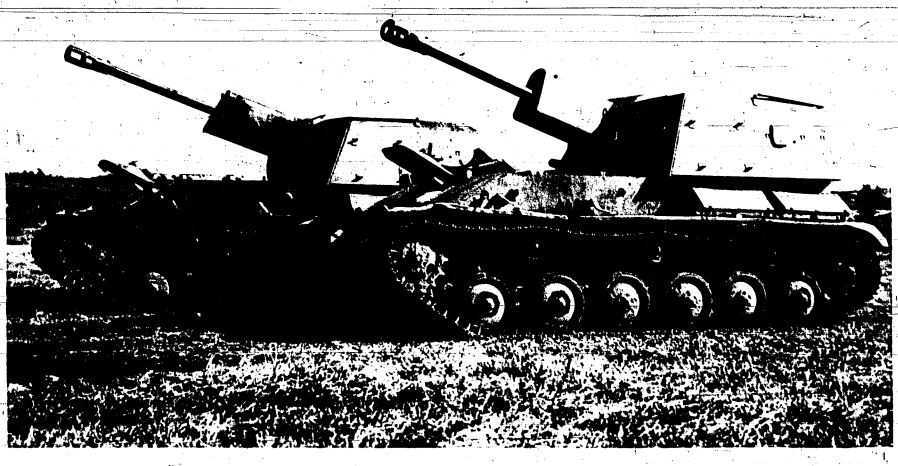
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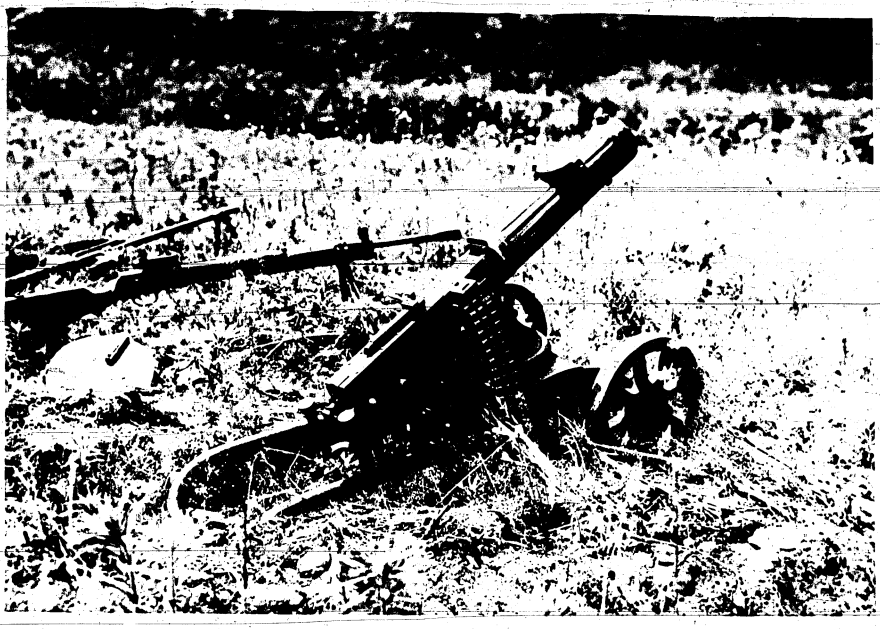
The obsolescent Soviet SU-76 self-propelled gun, mounting a 76.2mm M1942 gun on the chassis of the obsolete T-70 tank. This armored vehicle was knocked out during the US 2d Infantry Division push towards the NAKTONG River in mid-September 1950. Because of its open top and light armor, this weapon was knocked out in large numbers early in the war.

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Two more SU-76 self-propelled guns, giving a better sideview of the weapon.



This was one of the enemy's favorite heavy machine guns: the Maxim M1910 7.62mm on the old Solokov mount. More Maxims were captured than any other type HMG in the Korean campaign. The standard bullet shield is missing on this captured piece. Note how ammunition is fed from the right side of the gun."

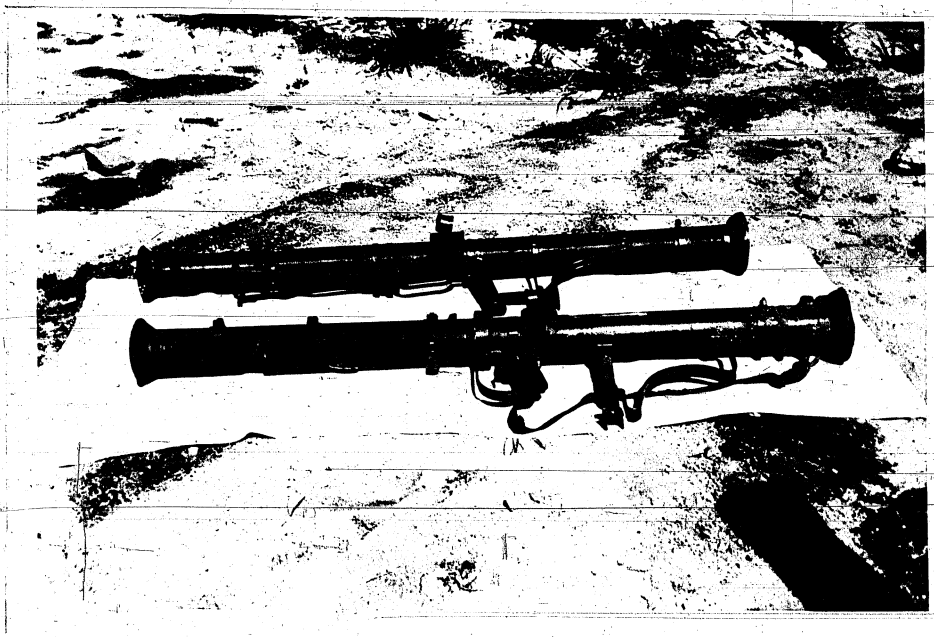
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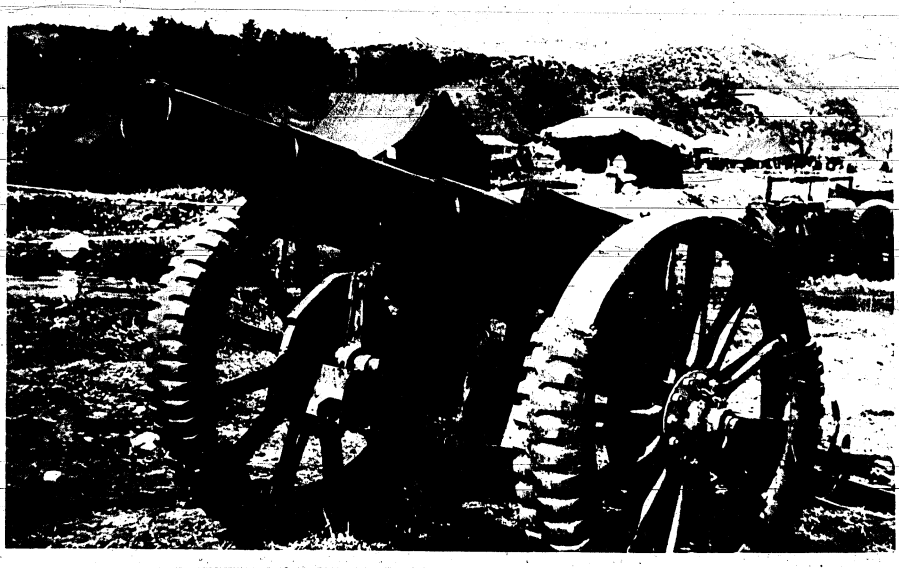
Another picture of the Soviet M1910 7.62mm Maxim heavy machine gun, this time being fired by Sgt Frank A. Moyer, 508th Technical Intelligence Detachment.

SECURITY INFORMATION

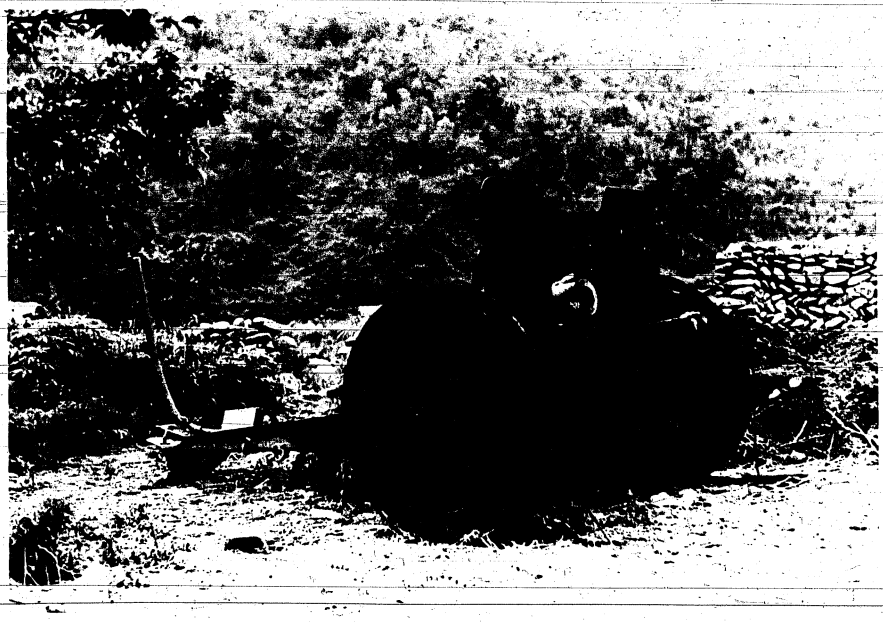
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General view showing the difference between US (bottom) and Chinese (top) 90mm rocket launcher. The Chinese piece was captured from CCF four miles north of TONGDUCHON-NI in September 1951. This Chinese weapon was an almost direct copy of the American "bozooka".

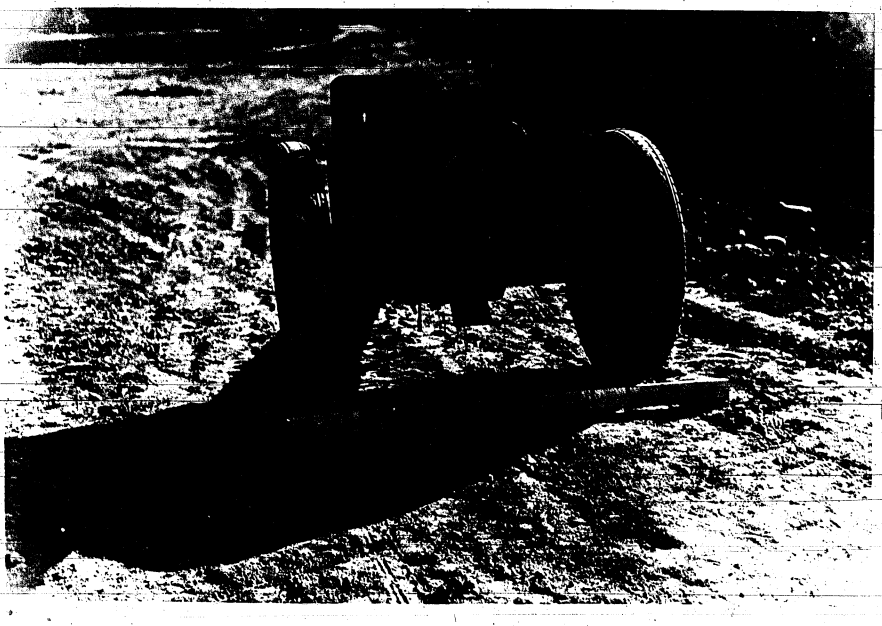


An example of the Japanese 150mm Type 4 (1915) howitzer, used extensively by the CCF and the largest non-American artillery piece used in the Korean campaign by enemy forces. The front guard on this piece is missing.



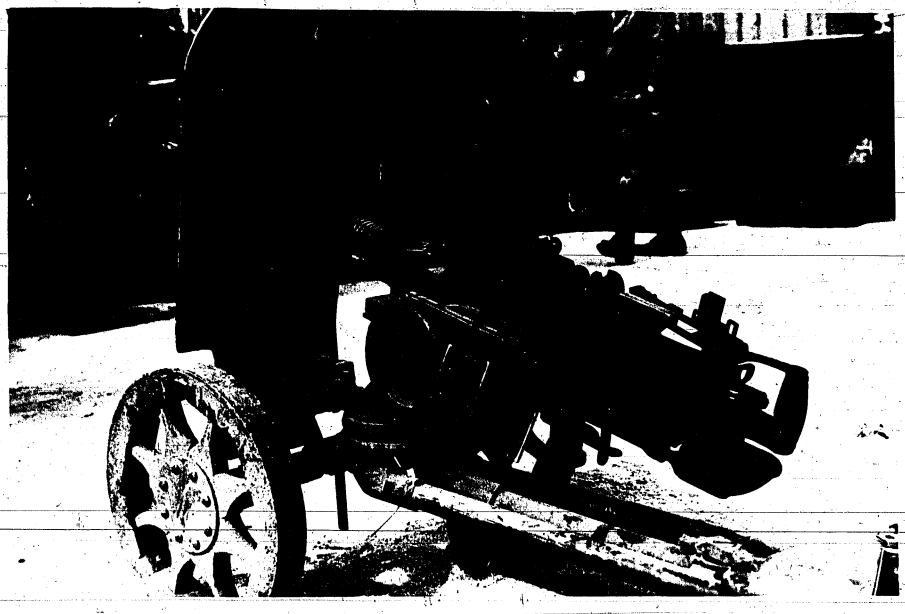
This little 76.2mm M1927 Soviet Regimental Gun (actually a howitzer), was one of the most-encountered pieces of artillery in the Korean War. Note extremely short tube and big wheels. This particular piece was put out of commission by the USAF at YUMOK-CHONG, Korea in June 1951. A battery of this type weapon was organic to every NKPA infantry regiment and was used in large numbers in the CCF infantry division and artillery division.

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Another view of the Soviet-made 76.2mm M1927 howitzer (Regimental Gun).

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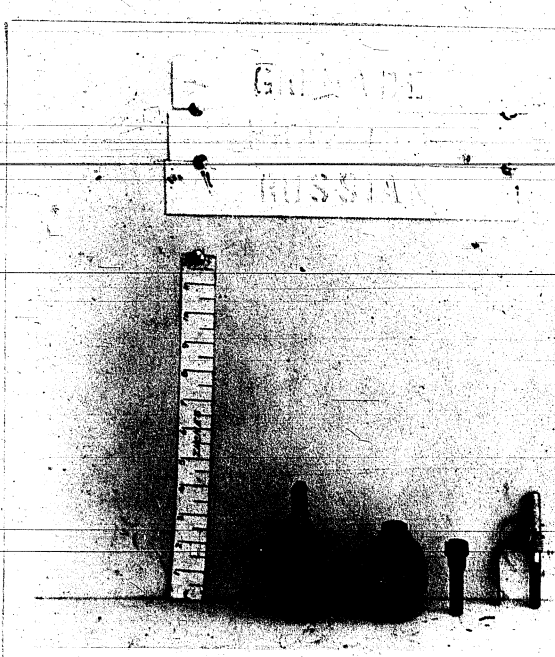
A Soviet 12.7mm DShK M1938 dual-purpose heavy machine gun on mount designed for use against ground troops. This was the heaviest caliber HMG of Soviet-make in use in Korea.



Another photograph of the 12.7mm DShK M1938 dual-purpose heavy machine gun on an antiaircraft mount. This weapon was the primary close-in AA weapon for the CCF and NKPA frontline troops.



Chinese copy of US .45 caliber Thompson M1928A1 submachine gun, one of the favorite CCF weapons.



A captured Soviet-made grenade, Frag-F-1, showing dimensions. This was one of the more often used Soviet-type grenades.

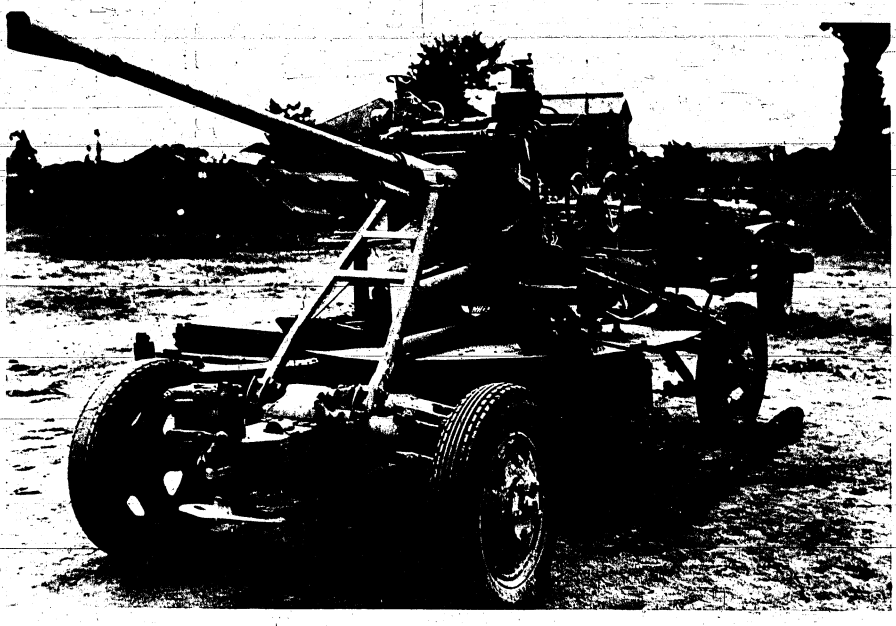


A knocked-out Soviet T-34/85; the only definitely-reported enemy tank ever to see action in Korea. This excellent medium tank enjoyed phenomeonal success during the early stages of the war, but was quickly bested when modern US tanks and antitank weapons arrived in action. The gun is an 85mm field-antitank gun, and rifle-caliber machine guns are mounted in the bow of the tank and coaxially with the 85mm gun.



A 37mm M1939 Bofors-type Soviet antiaircraft gun, captured in November 1950 by UN forces near PYONGYANG, Korea. Two 85mm M1939 Soviet medium antiaircraft guns may be seen in the background.

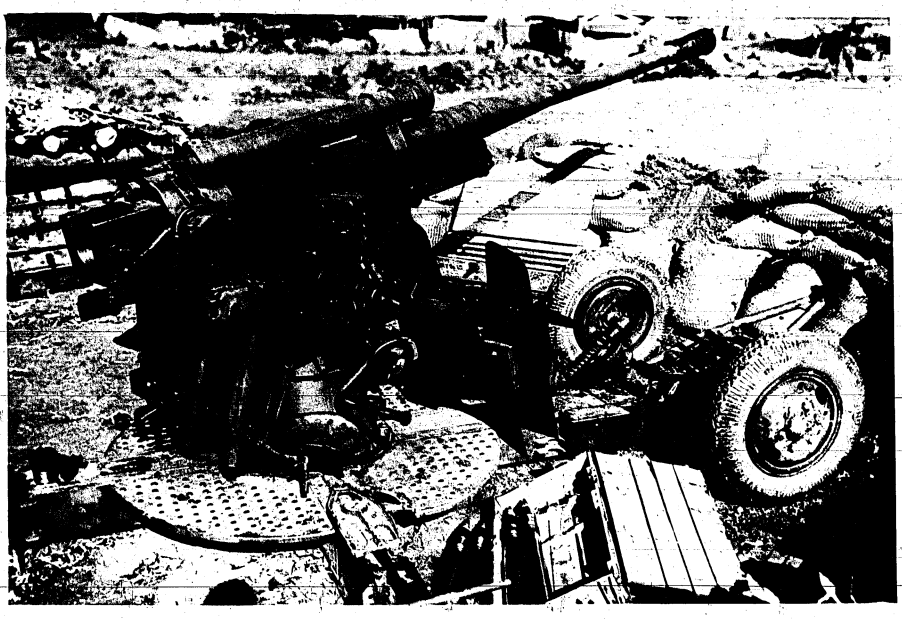
SECURITY INFORMATION



Another view of the Soviet-made 37mm M1939 antiaircraft gun. The rifle shield, often placed on the front of this gun, is missing. Note close resemblance to the US 40mm antiaircraft gun.



Lying on its side in a ditch on a road northeast of SEOUL, Korea is this crude attempt by the North Koreans to build an armored car. It has 1/4-inch plate armor throughout and is constructed on a 3/4 ton chassis. The vehicle was captured in October 1950.



A Soviet-made 85mm M1939 antiaircraft gun, one of the guns that was used against attacking UN aircraft behind the lines in North Korea. Though rarely used for front line artillery missions, this AAA piece was easily adaptable for ground fire. This particular weapons was captured near PYONGYANG, Korea in November 1950.

SECURITY INFORMATION

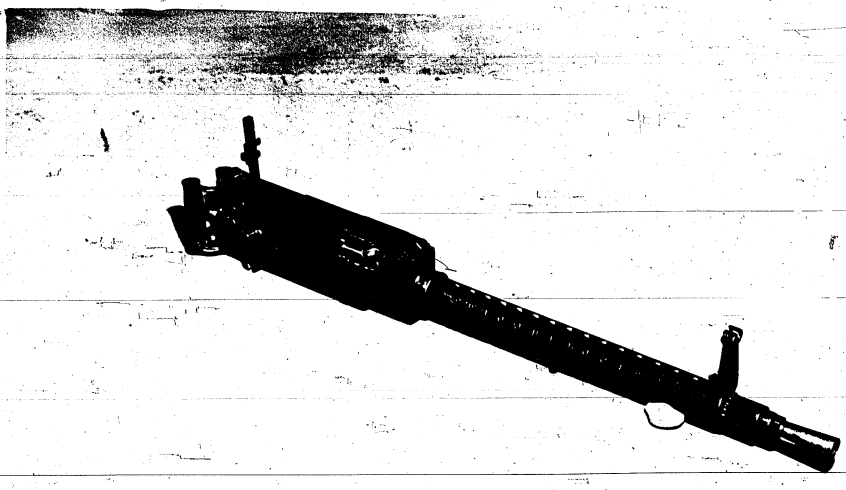


An exact Chinese duplicate of the US Army "grease gun" M3A1, used in large numbers by the CCF. American weapon is at the top.

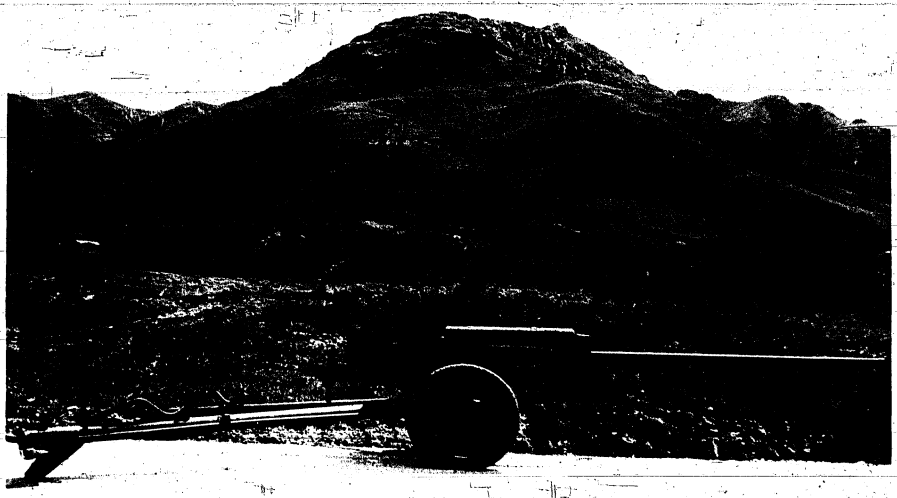


Capt O. B. Patton, left, deputy assistant G-2, and Major C. H. Cates Jr, right, assistant G-2, US 3d Infantry Division, examine a Japanese Type 41 (1908) 75mm mountain gun, captured from the CCF. This model weapon was one of several types of 75mm Japanese weapons employed by the CCF.

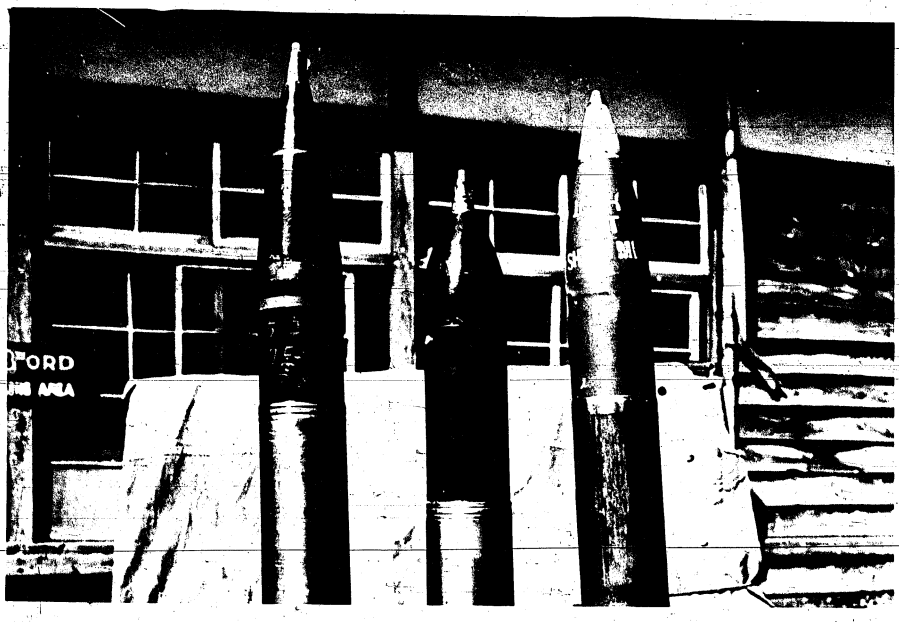
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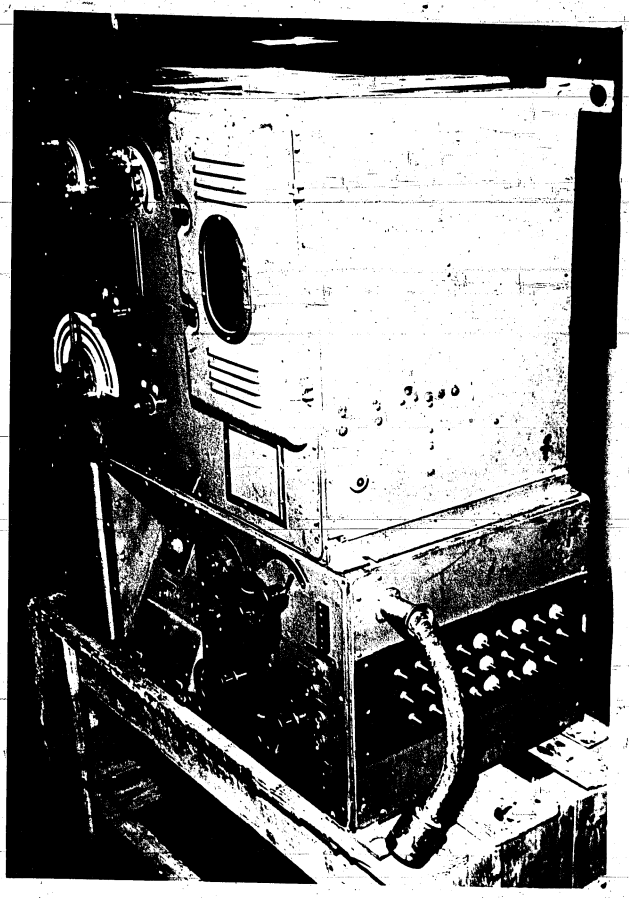
Right side of a captured 7.9mm copy of the Maxim type air-cooled heavy machine gun, made by the Chinese.



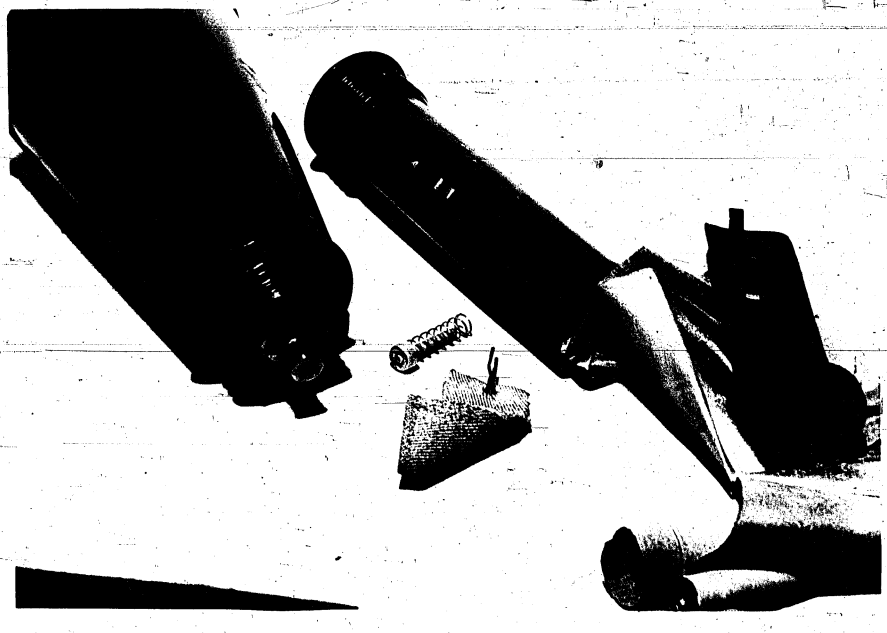
This is a 57mm M1943 Soviet-made antitank gun, oneof the better Soviet-made antitank guns used in the Korean War. Note the extremely long tube. This weapon is mounted on the same carriage as the 76.2mm M1942 Divisional Gun.



Comparison between an Japaness 105mm gun round, Japanese 105mm howitzer round, and a US 105mm howitzer round. None of the Japanese 105mm guns were captured in the Korean War, though the Japanese 105mm howitzer was widely encountered.



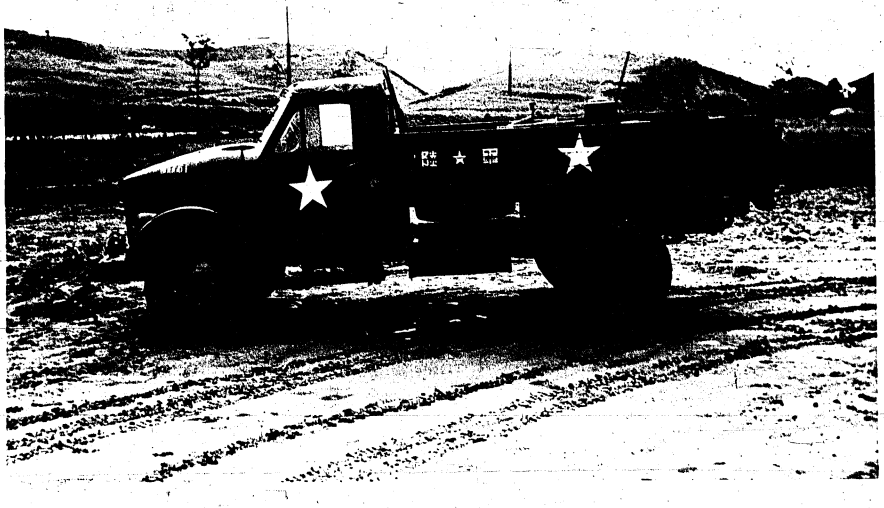
Front angle view of the Soviet radio transmitter, Type 500-K-9.



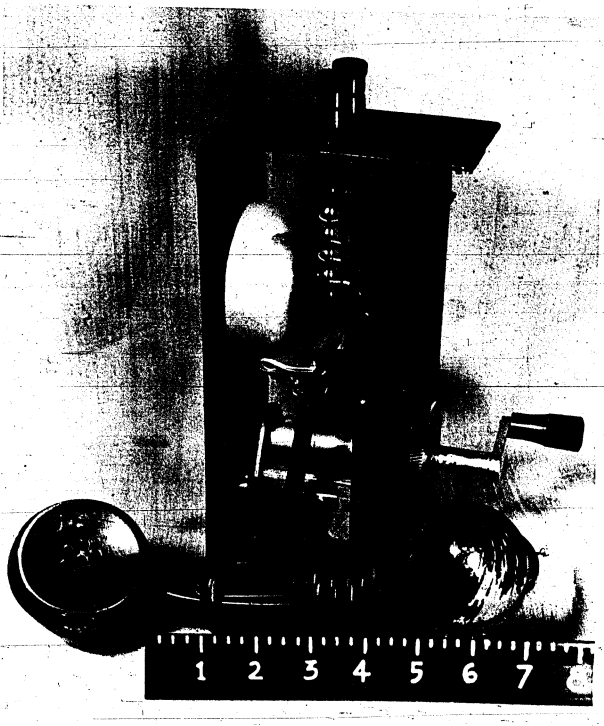
Captured Soviet antitank grenade, RPG-6.



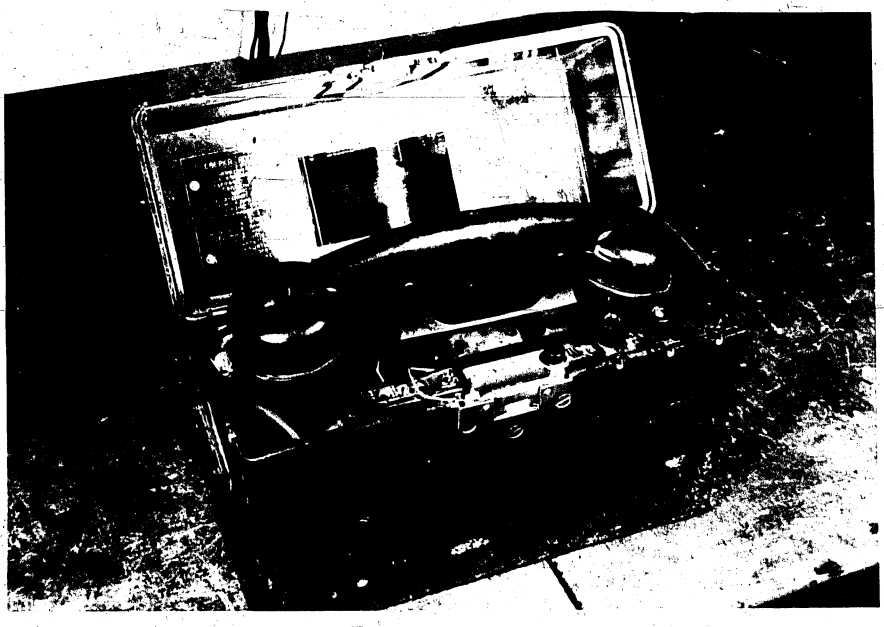
Captured Soviet TMD-B box mine, one of the most often-used mines employed by the enemy in Korea.



A Soviet-made Gaz-51 truck, one of the most-used enemy trucks in the Korean campaign.



High-angle view of chassis showing components of Chinese field telephone, manufactured by Central Electrical Equipment Factory No. 3.



A Chinese field phone, Model No, TAI-43