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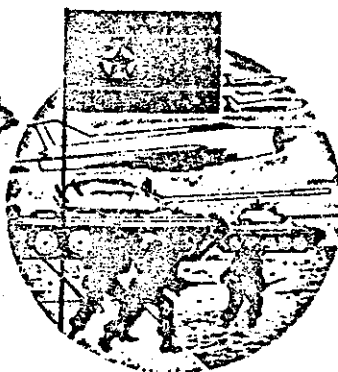
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**[NORTH KOREAN
ARMED FORCES
HANDBOOK (U)]**



JULY 1977-DIA

NICD
PDIC
ETC

*N attack + DMZ fortifications: p. 2-33.
defensive fortification / doctrine for NBC attack.
Defence 2-44 - defensive doctrine.
Offensive op'l doctrine + N attack - 2-45.*

*TD affects
weakness
in off. def.*

*logistics transport = principal weakness. 2-73
use carts. hand/oxen. 2-74
can't keep FW supplies for sustained off 2-85*

PREFACE

(U) This handbook is designed to provide a concise and readable synopsis of the armed forces of the Democratic People's Republic of Korea. It is intended for use by command and staff to the level indicated by its distribution. The contents of this handbook are based on known North Korean practice and publications up to mid-1976.

(U) An effort has been made to make the handbook as comprehensive as possible, though the material, interpretations, and conclusions are subject to modification in the light of new information and developments. Organization and equipment can change, bringing about modification of tactics and even of doctrine. Accordingly, the reader should make adjustments for any changes subsequently reported.

(U) Addressees are requested to forward information which will supplement or correct this report. Questions and comments should be referred in writing to the Defense Intelligence Agency (ATTN: DB-2C), Washington, D.C. 20301.

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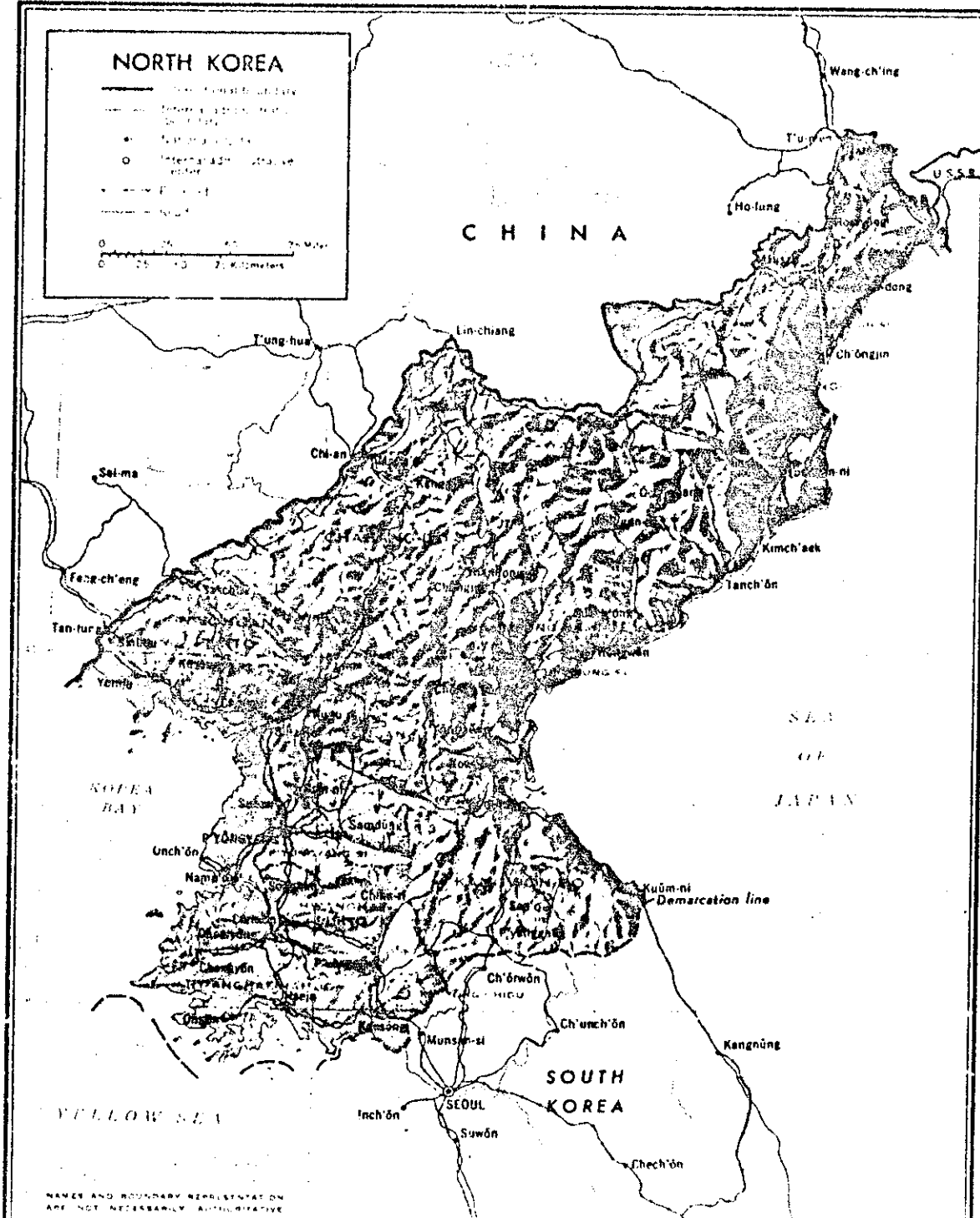
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NORTH KOREA

- International boundary
- National boundary
- Capital
- International airport
- Railway
- Road

0 25 50 75 Miles
0 25 50 75 Kilometers



CHAPTER 1

THE ARMED FORCES OF NORTH KOREA

A. HISTORICAL DEVELOPMENT

The Korean People's Army (KPA) comprises the ground, naval and air forces of North Korea. Since its inception, it has evolved into a well-organized fighting force with a personnel strength of close to 500,000 men and women.

1. The North Korean Army

The North Korean Army (NKA) that crossed the 38th parallel in June 1950 traces its origin back to 1939, and to the area in China that harbored the current rulers of the Peoples Republic of China (PRC) after their "Long March." It was in Yenan that a handful of Koreans formed the Korean Volunteer Army (KVA). The KVA's ranks were swelled by Koreans who had been conscripted into and had then deserted from the Japanese Army. Several thousands of these fought with Chinese communist forces against the Japanese, in rebellion after long years of domination, until the end of World War II. After the Japanese surrender and after subsequent limited action against the Chinese Nationalists, the cadre of the KVA began to return to Korea where, with other Korean returnees from the Soviet Union, they began to develop what was to become the North Korean Army and North Korea's internal security forces.

Recruit training centers and schools were established in North Korea under the supervision of the Soviets who had accepted the surrender of Japanese forces north of the 38th parallel and had then remained to help establish a communist regime in North Korea. From September 1945 to June 1950, the North Koreans, with full Soviet assistance in all phases of preparation, developed a ground force estimated to be 135,000 men, organized—under one army and two corps headquarters—into five Border Constabulary brigades, ten regular infantry divisions, one armored brigade, and necessary combat service support and combat support elements.

The Border Constabulary was, as its name implies, a security or frontier guard force

deployed mainly along the 38th parallel. Trained, armed, and equipped as infantry, the Constabulary emerged primarily from Koreans who, having fled to Soviet territory, returned in 1945. It was commanded by officers who were, for the most part, active communists, and its membership was drawn largely from communist youth groups. It was trained, advised, and supervised by the Soviets. At least two of the Constabulary brigades were expanded to divisions as early as July 1950.

The regular ground force, or North Korean Army, had as its core (as much as a third of its strength) a battle-tested, veteran group of soldiers who had survived combat during World War II as members of either Soviet or Chinese communist forces. Officially activated in February 1948, the NKA's organization, training, equipment, and growth actually took place during the 1945-50 period. Three of its divisions, the 5th, 6th and 7th, were composed primarily of Korean veterans of the Chinese communist forces. Two other divisions each had a regiment composed of such veterans. These North Korean units, and all those activated later, were trained (or retrained) according to the North Korean version of Soviet tactical doctrine and were armed and equipped by the USSR. At full strength each NKA division had 11,000 men, comprising three infantry regiments, an organic artillery regiment, and an assault gun battalion. An impressive weapons and equipment list included 122-mm and 76-mm howitzers, 76-mm, 82-mm, and 120-mm guns (towed or self-propelled), antitank guns and antitank rifles, as well as machineguns, submachineguns, rifles, and carbines. Although not highly mobile, the NKA did have a limited supply of Soviet trucks and jeeps. By June 1950, it also had about 150 T-34 tanks.

On Sunday, 25 June 1950, the North Korean Army invaded South Korea, steadily pushed the Republic of Korea Army and reinforcing United States units southward, and

finally bottled them up within the Pusan Perimeter. The Inchon landing on 15 September 1950 turned the tide of battle and forced the NKA to flee north in disarray. The PRC entered the war in October 1950, and it was this force that constituted the bulk of the opposition against the United Nations Command (UNC) until the end of fighting in July 1953.

Since 1953, the North Korean Army has increased in size, mobility, and firepower (see tables 1 and 2). Largely dependent on the USSR and PRC for major weapons and equipment, North Korea has attained self-sufficiency in the production of virtually all ground force weapons, except for some major items, and its army has grown to a current, estimated personnel strength of 426,000. That it is not a static organization is indicated by major reorganizations which have taken place, the activation of new units, and the acquisition of an increasingly larger and more modern inventory of weapons and equipment.

The NKA maintains a significant special warfare or commando force capable of conducting

TABLE 1.—Estimated KPA Personnel Strengths, Selected Years, 1945-76 (U)

Year	Army	Air Force	Navy	Total
1945.....	5,000			5,000
1948.....	40,000		2,000	42,000
1950.....	135,000	2,500	9,000	146,000
1954.....	344,000	15,000	11,000	370,000
1958.....	334,000	20,000	7,000	361,000
1962.....	330,000	16,000	7,000	353,000
1966.....	344,000	23,000	9,000	376,000
1970.....	360,000	23,000	10,000	393,000
1972.....	378,000	24,600	14,600	417,200
1974.....	386,000	44,400	25,000	455,400
1976.....	426,000	44,500	28,000	498,500

TABLE 2.—Estimated KPA Unit/Equipment Strengths, Selected years, 1946-76 (U)

Year	Infantry Divisions	Tanks	Aircraft
1946.....	2	--	--
1950.....	10	150	180
1954.....	19	345	340
1962.....	*18	375	530
1970.....	*20	540	720
1976.....	*23	1,900	988

*Includes three motorized infantry divisions.

diversified operations against South Korea and is constantly improving its preparations for the defense of North Korea. The bulk of its combat strength is in close proximity to the DMZ—a disposition which also facilitates an attack to the south.

2. The North Korean Navy

The North Korean Navy (NKN), an outgrowth of a small Soviet-sponsored coastal defense force organized shortly after World War II, was formally activated in late 1948. Soviet-designed craft and ex-Japanese minesweepers comprised the bulk of forces afloat between 1945 and 1950. The NKN was virtually destroyed early in the Korean War but managed to preserve a small number of vessels by withdrawing them to the territorial waters of the PRC and the Soviet Union. These vessels subsequently returned to form the nucleus of today's fleet. Since the 1953 armistice, the NKN has expanded steadily in size and capabilities as a result of Soviet and Chinese assistance, and a vigorous shipbuilding program. The acquisition of OSA- and KOMAR-class missile attack boats, SHERSHEN-class motor torpedo boats, and submarines has increased the sophistication and combat capabilities of the NKN. Since 1967 North Korea has invested heavily in its shipbuilding program. The completion of two patrol frigates of the NAMN-class has provided the navy with its largest combat vessels to date.

3. The North Korean Air Force

The North Korean Air Force (NKAF) had its origins in a group called the Sinuiju Aviation Society founded shortly after WWII with Soviet aid and supervision. The Society, which was patterned after the volunteer paramilitary aeroclubs of the Soviet Union, began its active training program in October 1945 under the supervision of Soviet advisers and Koreans trained in Japan and China. In 1946, the Society assumed military status and was moved to Pyongyang to become the Aviation Section of the newly formed North Korean Army Military Academy. In October 1948, the Aviation Section, redesignated an air regiment, became the NKAF. Between 1946 and 1949, North Korean air effort was devoted primarily to flight training.

During the first few months of the Korean War, the NKAF suffered serious losses. After

the PRC's intervention, military bases in Manchuria were made available to North Korea. In this sanctuary, the NKAF was rebuilt with Soviet technical guidance, aircraft, and related equipment.

Today the NKAF represents the fifth largest air force in the communist world with a sizeable number of fighters and fighter-bombers provided by the USSR and PRC. These include MiG 19 Farmers, MiG 21 Fishbees, and Su 7 Fitters. North Korea has also acquired a large fleet of transport aircraft and has trained five army battalions in airborne operations.

4. Paramilitary Reserve Forces

There are two distinct groupings of paramilitary forces in North Korea which could be important adjuncts to the NKA during wartime: militarized security forces and paramilitary reserve forces. It is not known if these forces constitute an organized reserve system. However, they do provide an immediately available pool of trained and, in many cases, equipped personnel who could be called upon to serve in various capacities during wartime.

B. NATIONAL CONTROL

Controls are exercised over the North Korean Armed Forces by a complex of political and bureaucratic systems.

1. Political Control

Kim Il-sung exercises strong authoritarian control over North Korea through his leadership as President of North Korea, Secretary General of the Korean Workers Party (KWP), Chairman of the KWP Central Committee, Chairman of the National Defense Commission, and Supreme Commander of the Armed Forces.

a. Factions

Individual political power in North Korea is gained through personal relations and by membership in small groups or factions. These informal elements operate within the KWP and vie for influence. Cliques may be formed around almost any common denominator (province of origin, agreement on a policy, membership in an organization, etc.). Among the many groups which have competed for power since 1945 are the Kim Il-sung Loyalists (consisting of at least two competing subelements), the South Korean Labor Party faction, the Soviet faction, and a few

Chinese-oriented groups the most significant being the Yenan faction. Because these groupings are informal, it is difficult to determine their membership, ideology, or current status.

Kim Il-sung has exploited these factional rivalries to gain power, to promote his policies, and to place in control those individuals whom he can trust to support and carry out his policies. He has successfully eliminated from the party, government, and military nearly all opposition. Also purged have been those among Kim's followers who opposed or failed to effectively implement his policies, or who achieved too much personal power. Kim's faction has clearly dominated the other groups since about 1960. Kim is apparently grooming his son, Kim Chong-il, as his successor. Whether or not this portends new factional strife is unknown.

b. Organization of Party and Government

(U) On 27 December 1972, the Supreme People's Assembly ratified a new constitution which established in law the principle of national self-reliance (*chuche*), the resolve of the North Korean people to reunify the country, and the idea that North Korea is committed to a nationwide system of defense. Significant structural changes in the government included the creation of the powerful position of President and two new bodies designated as the Central People's Committee (CPC) and the State Administration Council (SAC) (figure 1). Under the new Constitution, political power is consolidated in the hands of the President. The CPC is responsible for policymaking and the SAC is responsible for executing policy. These two functions formerly were exercised by the government body referred to as the Cabinet. Under law, the Supreme People's Assembly is placed at the apex of government. In reality this is little more than an honorific and symbolic legislative unit. CPC policymaking necessitates cooperation between the highest party leaders and top experts in other specialized areas of government. The SAC is little more than an executive body acting on the orders of the CPC and the President.

The major organs of the Korean Workers Party (figure 2) include the National Party Congress (NPC), the Central Committee (CC) and its Secretariat, and the Political Committee (Politburo) of the Central Committee. Under the Party Constitution the NPC is designated as the

highest decisionmaking body of the party, with the Central Committee directing the work of the party between Party Congresses. In actuality it is the Political Committee that controls the composition and activities of the CC and NPC. The Secretariat is the executive coordinating center of the KWP. Elected by the CC it includes the General Secretary and 14 other Secretaries

who are responsible for organizing activities designed to implement the policies and decisions of the party.

e. Interlocking Chain of Command

At the national level, KWP, government, and military leadership channels are barely distinguishable because Kim and his close associates hold high party positions as well as key CPC,

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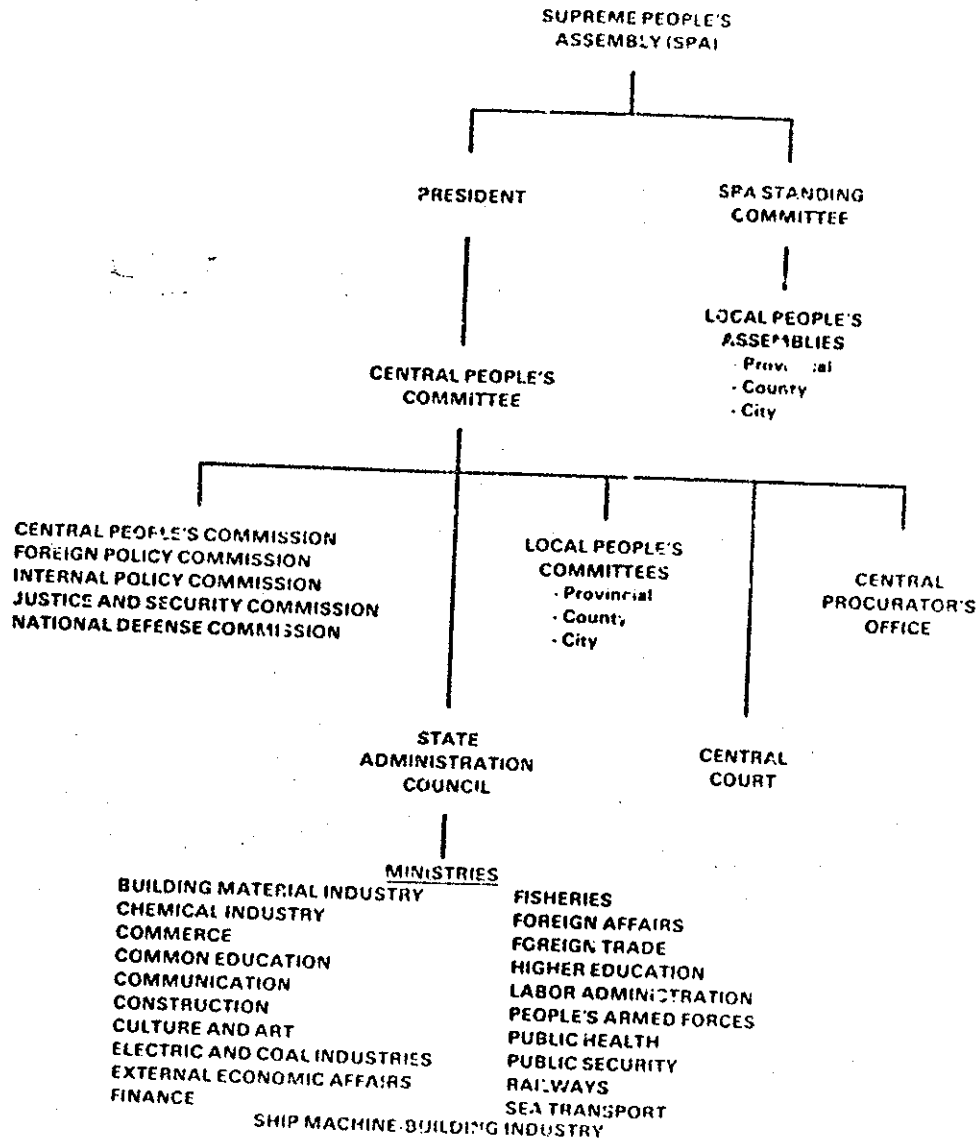


Figure 1 Government Organization of the Democratic People's Republic of Korea (DPRK) (U)

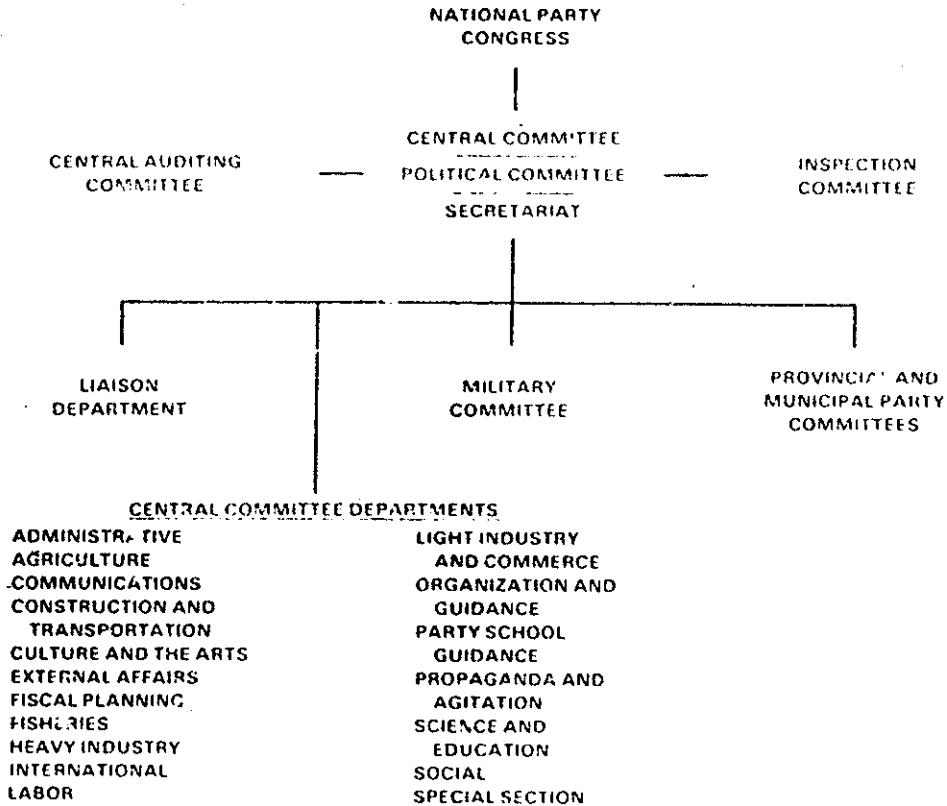


Figure 2. Korean Worker's Party (KWP) Organization (U)

SAC or military posts. The composition of the Party Central Committee is indicative of this fact; one-third of its regular membership consists of former members of Kim Il-sung's guerrilla units, another third consists of generals currently on active duty. Thus a particularly powerful individual simultaneously could be a Vice Premier, a member of the CC Political Committee, and a CC Secretary; or he might be a member of the CC Military Committee and a member of the CC Political Committee. In addition, the various departments under the KWP Secretariat provide a bureaucratic network which in turn assures that government ministries will implement party decisions. For example, the Propaganda and Agitation Department of the KWP not only supervises the Ministry of Culture and Art in the government, but also controls the mass media.

d. The KWP as the Focus of Power

Below Kim Il-sung, the Premier and most of the Vice Premiers of the State Administration Council are members or candidate members of the CC Political Committee; some are also members of the CC Secretariat. All but three of the members of the Central People's Committee are members or candidate members of the CC Political Committee. Key members of the military hierarchy, such as the Chief of the General Staff and the Chief of the General Political Bureau, are also members of the CC Political Committee. It is required that each candidate for an officers or noncommissioned officers school be a party member and come from a family having a good communist background. Promotions also depend in large part on political reliability and activity.

In addition to the standard military chain of command, the Korean People's Army is also controlled through a separate hierarchy of political officers responsible for implementing party policies and for political indoctrination of all personnel. The KPA is further controlled through a political safety structure that performs secret police functions within the military.

2. Military Control

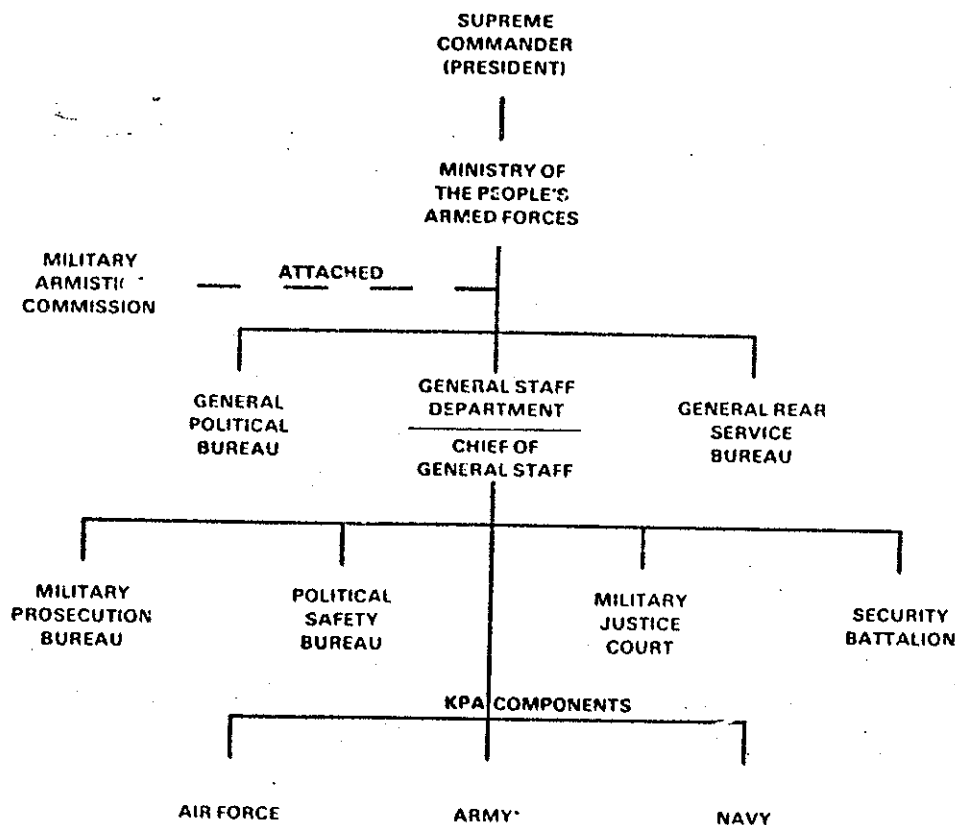
While exercising a controlling influence on military policy and strategy formulation, Kim Il-song, in his capacity as Supreme Commander of the Armed Forces (figure 3), delegates operational and administrative control of these forces to his subordinates.

a. Ministry of the People's Armed Forces

The Minister of the People's Armed Forces, immediately subordinate to Kim Il-song, is the State Administration Council officer directly responsible for the armed services. Operational and administrative control of the services is exercised by the Ministry of the People's Armed Forces (MPAF) through the Chief of the General Staff (CGS). The current Armed Forces Minister and the Chief of the General Staff are both active army officers, high-ranking party officials, and trusted associates of Kim Il-song.

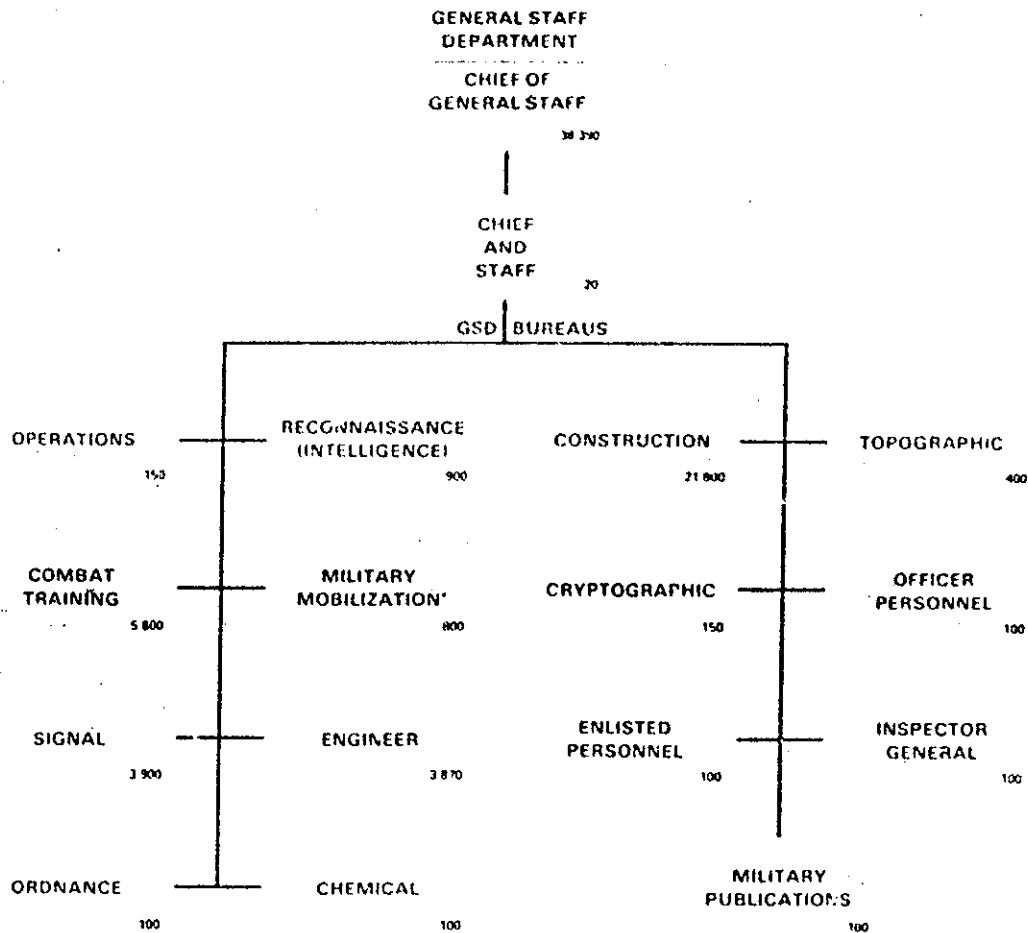
b. General Staff Department

The General Staff Department (GSD) (figure 4) is the primary agency exercising oper-



*The Ground Forces component of the Korean People's Army, referred to as the North Korean Army (NKA), is under the command and control of the General Staff Department, Ministry of the People's Armed Forces. A separate headquarters or "command" for the NKA has not been identified.

Figure 3 Staff Organization of the Korean People's Army (KPA) (U)



*Possibly controlled by Korean Workers Party

Figure 4 Organization of the General Staff Department, Ministry of the People's Armed Forces (U)

ational and administrative control of the army, navy, and air force. It is staffed by officers and men from all services and is responsible for organizing the forces, preparing the services for combat, preparing plans, and executing all operations within the KPA. The GSD controls the supply of ammunition, weapons, and maps, as well as engineer, signal and chemical equipment; it also directs personnel, cryptographic, and inspectorial services.

c. General Political Bureau

The General Political Bureau (GPB) is under the control primarily of the KWP rather

than of the Chief of the General Staff. It is responsible for such political activities within the armed services as: the organization of party committees and front organizations throughout the military hierarchy, placement of party cadre members in key positions, planning political indoctrination, and supervision of the political assistant commanders and political departments of the field forces. Other functions of the GPB include control of anti-ROK and anti-U.S. propaganda, preparation of political training aids (including motion pictures), and control of military entertainment groups. Bureaus subordinate to the GPB include: Organization, Propaganda, for

political training of KPA), Enemy Affairs (for directing psywar operations against South Korea), Statistics, Special Political, and Cadre. Other GPB elements are the Socialist Labor Youth League and such support groups as publishing offices, motion picture studios, entertainment groups, and inspection sections. The GPB supervises the Red Flag movement, a competitive training award used to stimulate combat efficiency and recognize superior units.

d. General Rear Service Bureau

The General Rear Service Bureau (GRSB) (figure 5) is responsible for many of the combat service support functions of the KPA. Bureaus subordinate to the GRSB include: Food Control, Clothing Control, Quartermaster Pro-

duction, Military Trade, Fuel Control, Military Transportation, Medical Service, Veterinary, Vehicle Control, Military Roads Control, Finance, Rear Service Political, and Building Control. [Some of these bureaus are discussed in subsequent sections of this handbook.] There is also a Maintenance Department which is responsible for military construction projects. While the General Rear Service Bureau manages the above-listed services, it should be noted that, as mentioned earlier, it is the General Staff Department that controls the supply of ammunition, weapons, and various other types of equipment.

e. Military Justice Court

The Military Justice Court of the MPAF General Staff supervises the legal ac-

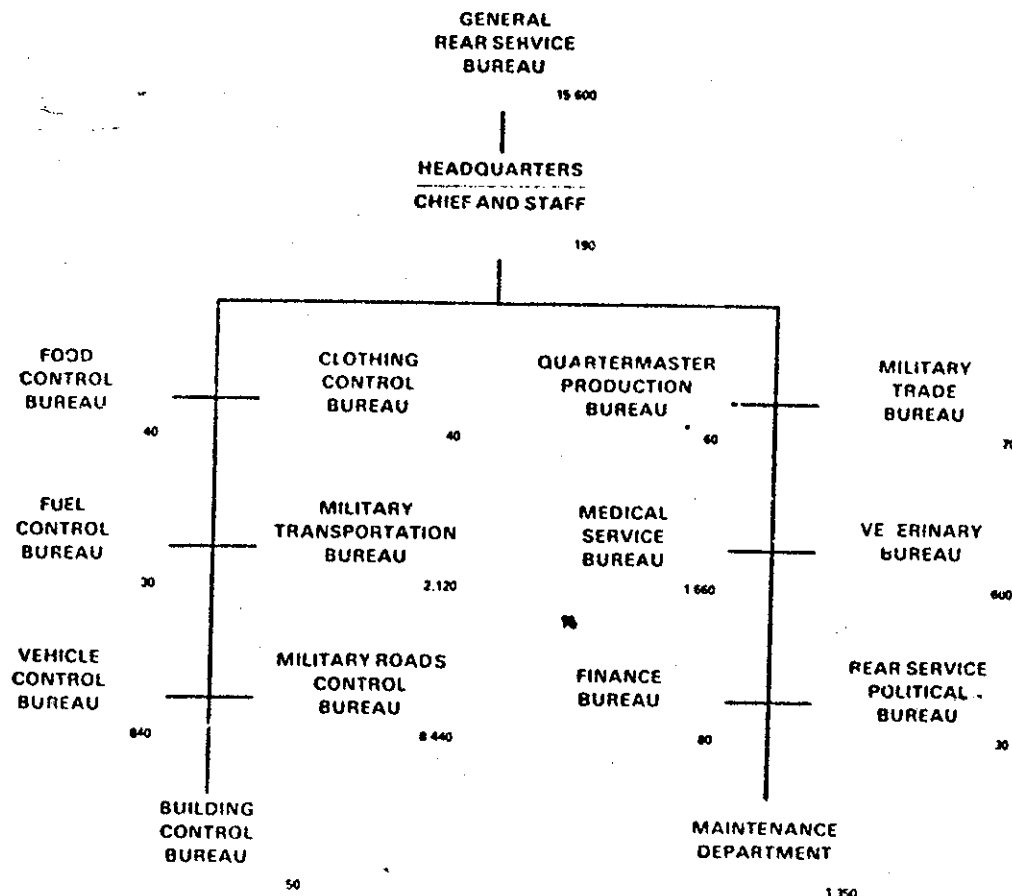


Figure 5 Organization of the General Rear Service Bureau Ministry of the People's Armed Forces (U)

tivities of lower echelon military courts, reviews their decisions, and establishes judicial policy. It also conducts trials involving high-ranking officers. The jurisdiction of military courts includes both military personnel and civilians accused of violating articles of the Military Criminal Code. Violations of many minor service regulations are handled administratively by commanders or by Officers' Courts of Honor.

f. Military Prosecution Bureau

The Military Prosecution Bureau is responsible for the investigation and prosecution of military criminal suspects. It exercises administrative control over prosecution at lower echelons and presents cases against defendants appearing before the MPAF Military Justice Courts.

g. Political Safety Bureau

The political Safety Bureau (PSB) has primary responsibility for personnel security in the armed services. It investigates the backgrounds and activities of military personnel and officers' families to uncover any antiparty or antigovernment elements. It has authority to make arrests on evidence of criminal activity or political unreliability. Results of investigations are probably also provided to the General Political Bureau for its use in selecting political assistant commanders and political department chiefs. It is believed that there is close coordination between the PSB, the Korean Workers Party, and the political security offices of the Ministry of Public Security. Political Safety Departments of lower commands are supervised by the Political Safety Bureau. Exact subordination and control of the bureau are not known.

h. Military Armistice Commission

The Military Armistice Commission of the MPAF supervises compliance with the terms of the Korean Armistice Agreement. The senior member of the commission, a general who is a political appointee, represents North Korea at the armistice meetings. North Korean buildings

and facilities within the Joint Security Area at Panmunjom, where the meetings are held, are guarded by military policemen assigned to the commission. A network reportedly operates throughout frontline divisions to report directly to the Military Armistice Commission any acts believed to be UNO violations of the armistice.

i. Military Budget

Approximately \$960 million is the dollar value of the announced military budget for the fiscal year ending 31 December 1976; this is about 16.5 percent of the total government budget. North Korean expenditure-related estimates are tenuous and may be used only with extreme caution. Allocation of funds by service is not available.

C. NORTH KOREAN INTELLIGENCE SERVICES

In addition to its regular military and paramilitary forces, North Korea maintains a large espionage and subversive apparatus. Elements of this organization--nominally referred to as the North Korean Intelligence Services (NKIS)--include regular army and quasi-military units, with a total strength of about 21,000 personnel. The NKIS is tasked with undermining the Government of the Republic of Korea (ROK) through subversion, espionage, and overt aggression. Anti-ROK operations are controlled by the Secretariat of the Central Committee of the KWP. The Secretary in charge of the NKIS accomplishes his basic mission through several agencies which he controls directly (e.g., the so-called Liaison Department) and indirectly (primarily through the MPAF and the Ministry of Public Security). NKIS activities have become more covert since mid-1969. Since that time, overt military incidents along the DMZ have decreased substantially. Current emphasis is on gradual establishment of a revolutionary infrastructure in the ROK through the infiltration of covert, long-term subversive agents.

CHAPTER 2

THE NORTH KOREAN ARMY

A. GENERAL

The North Korean Army (NKA) is the ground force of the Korean People's Army. It enjoys high esteem in the nation and a large share of the national budget. Preparation for war is considered important business in North Korea and the NKA has the major responsibility for achieving readiness. Many army generals hold high positions in the government and in the party. Though Kim Il-song has not allowed the military to become dominant in national affairs, its influence is increasing.

Tactical infantry units are well equipped with small arms and crew-served weapons. Artillery support is also plentiful and is increasing with the addition of more rocket launchers. Unit discipline, camouflage, and security are excellent. The individual soldier has a great deal of stamina and can apparently endure hard living conditions with little reduction in his combat effectiveness. NKA units have a fairly high ratio of officers and NCO's to enlisted men and, as a result, control is good. North Korean soldiers have operated effectively behind enemy lines under both wartime and peacetime conditions, and have proved to be very effective in small unit engagements.

The primary weakness of the NKA is a limited logistics capability. NKA units in general have limited organic transportation. Existing north-south main roads and railways are capable of supporting large-scale operations, but rugged terrain restricts lateral movement. Capable of

sustaining high intensity combat operations for 90 days, the NKA would subsequently be heavily dependent on outside assistance for ammunition, fuels, missiles, armored vehicles, and some artillery weapons and communications equipment.

The NKA can count upon the North Korean Air Force for combat support and upon the North Korean Navy for limited support in amphibious operations.

North Korea's special warfare forces are capable of inserting well-armed units into rear areas for sabotage, commando and special forces types of operations, either independently or in conjunction with regular NKA units.

Although somewhat restricted as to the scale and duration of operations in which it can successfully engage, the North Korean Army is ready to fight and is capable of mounting significant offensive or defensive operations.

B. ORGANIZATION

1. Chain of Command

a. Operational

Major North Korean Army tactical units are directly subordinate to the Ministry of the People's Armed Forces (MPAF) and are under the operational control of the Chief of the General Staff (CGS). The operational chain of command is:

- Supreme Commander (President)
- Minister of the People's Armed Forces
- Chief of the General Staff
- Corps Commanding General
- Division Commanding General
 - Regimental Commanding Officer
 - Battalion Commanding Officer
 - Company Commanding Officer
 - Platoon Leader
 - Squad Leader

b. Administrative

The existence of an Army Command has not been confirmed, and administrative control of the ground forces is believed to be exercised by a

staff is located within the General Staff Department of the 2nd Army. Commands responsible for administrative functions are believed to exist for artillery, armored, and SAM units. The SAM Command is manned by army personnel but is believed to be under the operational control of the air force (see chapter four).

c. Artillery Command

The Artillery Command is believed to have administrative control of all artillery units including the supply of all weapons, ammunition, prime movers, and tractors. It is responsible for the combat readiness of all NKA artillery units and controls tactical training, technical training, mobilization and deployment planning, weapons and ammunition issue, and weapon repair. It allocates fire support to corps in accordance with MPAF operations orders. It exercises administrative control over the three AAA Divisions, the Women's AAA Brigade, the three Free-Rocket-Over-Ground (FROG) Battalions, and seven to nine Rocket Launcher Regiments. Nondivisional artillery regiments and rocket launcher battalions are assigned to and are under operational control of the corps. Other elements of the command are the General Staff Department, Artillery School, and weapons and ammunition depots.

d. Armored Command

The Armored Command probably conducts armor training, operates and maintains tank depots, and provides logistical support to the NKA's two armored divisions.

e. Arms and Services

Personnel of the NKA are assigned to one of several arms or services. Very little is known of the function and organization of these service branches. The combat arms of the NKA are *infantry, artillery, and armor*. The services (equivalent to U.S. combat support and combat service support) include *engineer, signal, judge advocate general, medical, transportation, and band*. A chemical branch may also exist. Quartermaster, veterinary, and finance services are probably included in the rear service departments.

f. Political

The Korean Workers Party maintains an independent chain of command within the North Korean Army. Political officers are assigned at every level of command down through company

and are answerable only to political officers at higher echelons. In addition to insuring compliance with KWP directives, political officers also conduct political indoctrination of NKA troops and psychological warfare operations against U.S./ROK troops.

g. Territorial Command

There are no known military districts or regions in North Korea and the military organization does not parallel the civilian territorial organization. The military command structure probably has no direct effect on civil administration and it has no control of the militia. Some individual military commanders are elected to represent the local community at the Supreme People's Assembly, and some military officers have administrative and training positions in the Worker Peasant Red Guard, but their presence does not indicate military control of these activities.

2. Corps

d. Staff and Service Elements

In addition to the command section, the principal headquarters elements of a corps are the General Staff Department, Political Department, Political Safety Department, Artillery Department, Rear Service Department, Military Court, and Military Prosecution Office. A transportation battalion, two hospitals, and a vehicle repair battalion are subordinate to the Rear Service Department. Entertainment groups and possibly athletic groups are subordinate to the Political Department.

There is believed to be a noncommissioned officer training center at each corps and a DMZ police training center at each forward corps.

3. Combat Arms Units

(U) Reconnaissance brigades are believed to be trained and organized primarily for reconnaissance missions.

4. Headquarters, Support, and Service Elements

a. General

North Korean Army combat units from corps through battalion have organic staff, combat support, and combat service support elements.

The exact subordination of many of these elements is unclear. The usual breakdown of an NKA unit headquarters is: Staff, Political, Political Safety, Rear Service, Artillery, and, at division and corps, the Military Justice Court and Military Prosecution Office. Engineer, signal, and chemical units are directly subordinate to the commander and are separate from the headquarters. Some combat support and combat service support units exist as separate entities at upper echelons, but are part of the basic headquarters elements at lower echelons.

b. Command Group

The *commander* at each echelon of the NKA has control of organic and attached units except in the case of the political apparatus. The Political and Political Safety Departments

at each level receive guidance through the deputy commander for political affairs from the KWP Central Committee.

The *deputy commander for military affairs* (deputy commanding general, military; deputy or assistant commander, military) at each echelon from company through corps, assists the commander and assumes his duties in the commander's absence. He monitors subordinate units and headquarters elements to insure that each performs its functions and that coordination among various components is effected. An important responsibility of the military deputy commander during peacetime is supervision of combat training. Platoons have an assistant platoon leader, military.

There is a *deputy commander for political affairs* (deputy commanding general, political; deputy or assistant commander, political) at each echelon from company through corps; platoons have an assistant platoon leader, political. These political deputies are also the heads of the Political Department of their respective units and are responsible for the political indoctrination

Figure 17 Organization of an Artillery Regiment of a North Korean Infantry Division (U)

of the officers and men of the unit, for supporting the activities of the unit KWP committee and branch of the Socialist Labor Youth League (SLYL), and for assuring compliance with party directives.

Other officers who have the title of deputy commanding general or deputy or assistant commander are the chiefs of the Rear Service and Artillery Departments at corps, division, and regiment levels.

c. General Staff Department

The most important staff element in each headquarters is the General Staff Department (GSD) at corps and division, Staff Department at regiment, and Staff Section at battalion. Functions, which parallel those of the MPAF General Staff Department, include executing plans, orders, and directives from higher head-

quarters, and assisting in developing and coordinating staff plans from lower and higher headquarters. Each is headed by the unit chief of staff.

The General Staff Department of the corps is composed of the following thirteen sections: Operations, Signal, Engineer, Reconnaissance (MI), Officer Personnel, Enlisted Personnel, Chemical, Classified Documents, Cryptographic, Army Post Office (APO), Security (company), Medical, and Athletic (group).

The GSD of the infantry division headquarters is similar to that of the corps except that it has no security, medical, or athletic sections. At division, a cryptographic element is included in the Classified Documents Section and the APO is under the Signal Section.

A division Operations Section includes officers responsible for plans, training, topography, and air defense. The Engineer Section operates

warehouses for engineer equipment and demolitions. The Reconnaissance (MI) Section of a standard infantry division (one not deployed on the DMZ) includes a reconnaissance or observation company as well as a small staff, signal platoon, and a supply point. The divisions deployed on the DMZ have eight to twelve DMZ police companies in place of a reconnaissance company.

The regiment Staff Department is composed of the following sections: Operations, Training, Signal, Engineer, Reconnaissance, Enlisted Personnel, Chemical, Classified Documents, Athletic, and APO. The Reconnaissance Section of a standard infantry regiment has an organic reconnaissance or observation platoon.

The battalion Staff Section includes an operations officer, a medical station, a signal platoon, and a supply platoon. This small staff has no capability for reconnaissance operations or personnel administration. Since there is no rear service unit at battalion level, supply and medical elements fall under the Staff Section.

d. Political Department

Each NKA command, corps through regiment, has a Political Department; each battalion has a Political Section. Guidance is passed through the political chain from the KWP Central Committee to the MPAF General Political Bureau and down through the Political Department of each command. The primary purpose of the department is to politically indoctrinate the members of the command. Unit party members, many of whom are trained as propagandists, assist in this function.

Each Political Department is responsible for much of the administration of the unit KWP committee, e.g., recruitment, registration, organizing cells, scheduling meetings, and supervising the activities of the SLYL. It directs and assists in unit political training and is responsible for the conduct of psychological operations against ROK/U.S. troops.

Within the corps Political Department are the Organization, Propaganda, Registrar, and Enemy Subversive Operations (or Anti-Enemy Guidance) Sections. This department also has a radio repair shop and an entertainment group for dramatic presentation of propaganda.

The Political Department at division headquarters is directed by the assistant com-

manding general, political, and includes Propaganda, Organization and, perhaps, Registrar (or Cadre) Sections, and a military band. The Organization Section plans and implements political activities throughout the division, supervises subordinate Political Departments, supervises the SLYL, and exercises control of party activities, recruitment, personnel transfers and promotions, and disciplinary actions. The Propaganda Section plans and conducts both political indoctrination and psychological warfare. The Registrar Section probably maintains party and SLYL rolls and personnel files.

The regiment Political Department, headed by the deputy commander, political, has staff officers (or directors) for organization and planning, propaganda, and culture (or entertainment). The chairman of the unit SLYL is also included in the department.

The battalion Political Section consists of the deputy commander, political, a propaganda officer, and the chairman of the SLYL.

e. Political Safety Department

The Political Safety Department (PSD), about which little is known, is the political investigation unit or the secret police of the army. A PSD exists at every echelon from corps through regiment, with a Political Safety Section at battalion level. Although nominally organic to the headquarters at each level, these departments have their own channel of control and communication. The MPAF Political Safety Bureau monitors the operations of all subordinate departments and is in turn answerable to the KWP; it probably works closely with the Ministry of Public Security (MPS).

Political safety officers investigate political offenses, criminal acts, violations of regulations, and other suspicious acts or statements. Secret informants are recruited throughout the units to insure thorough surveillance. The corps PSD has a Political Safety Office, a Political Safety Company, and a Military Security Platoon. Each division has a Political Safety Platoon in addition to its Political Safety Directors. Two officers constitute the regiment PSD and there is one officer in the battalion Political Safety Section.

f. Artillery Department

The Artillery Department, a major element in every headquarters from corps through

regiment, prepares fire plans and supervises requisitioning, storage, issue, and maintenance of all weapons, ammunition, and nonvehicular ordnance equipment.

The chief of the Artillery Department is also the assistant commanding general, artillery, or deputy commander, artillery.

The corps Artillery Department is composed of the Artillery Staff (or Headquarters Section), which develops fire plans and supervises firing ranges; the Artillery Fire Control Company, which provides communications and limited reconnaissance for artillery units; and the Ordnance Section, which supplies weapons, ammunition, and bayonets, as well as helmets, binoculars, compasses, and spare parts, and operates depots and weapon repair shops.

The Artillery Department of each infantry division and regiment has similar functions and a roughly parallel organization, with an Artillery Supply Section and Weapon Repair Station instead of the corps-level Ordnance Section.

g. Rear Service Department

The Rear Service Departments (RSD) at corps, division, and regiment provide most of the logistic and administrative support to their respective units. The RSD at the corps level includes a headquarters, two rear service bases, a combined factory, a general hospital and a field hospital, two transportation battalions, and a vehicle repair factory. RSD elements at division level include a staff section, a supply depot, a vehicle repair station, a supply and service section, a transportation company, and a division hospital. Within the regiment RSD are offices responsible for plans, food, POL, clothing, finance, building control, transportation, and a medical station.

At each echelon the RSD also includes the unit messhall, barbers, and military store. The stores, similar in function to American post exchanges, are maintained down to regiment level. Battalions and companies are served by small branch stores or mobile military stores from the division.

Warehouses are maintained by food, POL, and clothing sections of each echelon for the receipt, storage, and issue of supplies. A finance section handles the unit's budget and salaries.

The RSD is not responsible for all supply functions. The Artillery Department issues and maintains weapons and ammunition. The Chemical, Engineer, and Signal Sections of the staff probably handle supplies unique to their services. The Political Department supplies musical instruments and reading material.

h. Military Justice Court and Military Prosecution Office

The Military Justice Court and Military Prosecution Office at both corps and division are concerned with the administration of military justice and provide supervision of lower echelon counterparts. The court and prosecution office conduct trials, review lower level decisions, and have primary jurisdiction in cases involving senior officers. It is possible that the court and prosecution office have been eliminated at the division level, but such a change has not been substantiated.

i. Engineer

Engineer units are organic to corps, division and regiment. Special purpose engineer units exist at the MPAF level. Engineer operations and administration at each level are directed by the Engineer Section of the GSD.

The Light Engineer River-Crossing Battalion (figure 18) provides each forward corps with an organic river and stream-bridging capability in the form of ponton bridging and amphibious cargo equipment assets. The Technical Engineer Battalion engages in general construction and repair work to include fortification construction. The Road Construction Engineer Battalion is concerned primarily with construction and maintenance of lines of communication.

Each infantry division has one organic engineer battalion with a headquarters element, a building construction and maintenance company, a road construction and maintenance company, an obstacle installation and clearance company, and an illumination squad. Infantry regiments have an organic engineer company.

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j. Signal

Signal units are found at corps, division and regiment. Each corps has a wire maintenance battalion and a radio communication battalion. The former is responsible for constructing and maintaining landline communication systems and is organized into a headquarters, receiving company, short-range radio company, medium-range radio company, and rear area receiving stations. The radio communication battalion provides mobile communications and radio relay facilities and consists of a headquarters, cable company, wire company, maintenance company, and construction company. The division signal battalion has a headquarters, a staff company, a radio company, and a wire company. The staff company includes a command element, radio platoon, messenger platoon, and telephone platoon. Each infantry regiment has a signal company.

panies, each with two chemical reconnaissance and two chemical decontamination platoons. The chemical company of the infantry division has fundamentally the same organization. The infantry regiment chemical platoon has two reconnaissance squads and two decontamination squads. These units are supervised by the General Staff Department Chemical Section.

l. Reconnaissance

Several types of reconnaissance units are found in corps through regiment. The Artillery Instrument Reconnaissance Battalion employs technical devices to provide a target acquisition capability in each corps. Each battalion has three batteries organized into a headquarters element, sound-ranging platoon, flash-ranging platoon, radio technical reconnaissance platoon, and topographic reconnaissance platoon.

All infantry divisions are believed to have one reconnaissance company which is organized triangularly into platoons and squads. The armored divisions may maintain reconnaissance battalions and each of the corps armored regiments may have a reconnaissance company. The reconnaissance companies in infantry di-

k. Chemical

Chemical units at each level from corps through regiment are similar in organization. They provide the North Korean Army with both detection and decontamination capabilities. The corps chemical battalion has three chemical com-

visions deployed along the DMZ may have been inactivated and their missions assumed by the DMZ police companies.

The DMZ police companies are subordinate to the Reconnaissance Section of the on-line division headquarters and would be converted to regular reconnaissance units in the event of hostilities. Their mission includes reconnaissance, counterinfiltration and area security. The regiment is the lowest level at which formal reconnaissance units are found. A reconnaissance or observation platoon is subordinate to the Staff Department of regimental headquarters. It is possible that the light infantry brigades also have reconnaissance duties, but these have not yet been clearly defined.

m. Medical

The Medical Service Bureau and the Veterinary Bureau of the MPAF General Rear Service Bureau are responsible for providing medical and veterinary care in the North Korean Army. In addition to its staff element (60 personnel), the Medical Service Bureau operates a Central Hospital (500), three special hospitals (600), and a medical school (500). The Veterinary Bureau has a headquarters and staff element (50), a Central Veterinary Station (250), and a veterinary school (300).

The corps chief medical officer is responsible for the medical services of the entire corps. He commands the corps field and general hospitals and maintains liaison with higher echelon medical sections. Corps hospitals are large, semipermanent facilities of about 600 beds. Medical services at the division level consist of the division hospital of approximately 50 beds. The regiment has a medical section which receives, sorts, and treats patients, and performs emergency surgery. The battalion has a medical station with first aid supplies, sedatives, and stretchers. At the company level, medical aides change dressings and administer first aid.

The total number of military hospitals operated by the NKA is unknown, although 31 with a total capacity of approximately 7,000 beds have been identified. The NKA has no known organized medical reserve forces.

C. STRATEGY AND TACTICS

1. Basic Strategy

North Korean strategic doctrine dictates

that war must be fought simultaneously on many fronts—military, political, economic, and psychological—and that these efforts must be closely coordinated. A basic concept that lends flexibility to North Korean strategy is the phasing of warfare from guerrilla action to large unit operations as the situation demands. When a favorable situation is created through propaganda and guerrilla and subversion operations, large conventional units are deployed to defeat the weakened and harassed enemy.

North Korean Army training, as reported, indicates that basic Korean War tactics are still in effect. Although improved military capabilities could have led to new methods, no significant doctrinal changes have come to light. Consequently, this section discusses strategy and tactics based, for the most part, on Korean War experience. Some speculation is included, prompted by study of the potential capabilities inherent in modernized weaponry and equipment and in consideration of Soviet tactical doctrine in which the North Koreans have been oriented by Soviet advisers, schools and manuals.

Pyongyang's strategic military plans are affected considerably by its dependence on support from the USSR and the People's Republic of China (PRC), by the strengths and weaknesses of the ROK, and by North Korean perceptions of U.S. ability and will to support the ROK.

2. Basic Doctrine and Tactics

a. Doctrine

North Korean tactical doctrine is based primarily on that of the Soviet Union and the PRC. Military operations seek to destroy enemy forces rather than to seize and hold terrain. Seizing and maintaining the initiative are considered indispensable for success in battle, and offensive action is stressed for decisive results. In the offense, basic tactical doctrine includes intensive use of sustained firepower and overwhelming infantry strength, preferably in an envelopment.

The defense is considered to be only an interim measure while awaiting an opportunity for offensive action or a means of economizing forces in noncritical areas. In the defense, basic tactical doctrine emphasizes continuous application of firepower beginning at the greatest possible range, defense of mutually supporting strong points, and use of strong counterattacks.

Combat operations during the Korean War demonstrated some modification of these borrowed principles. The doctrine of fast and deep penetration, as envisioned by the Soviets, was abandoned after the initial phase of the war for several reasons: the NKA lacked sufficient armored personnel carriers which the Soviets included in their plans for such quick thrusts; after the first months of combat in 1950, North Korea lacked sufficient air and armor capabilities for such bold operations; the rugged, narrow Korean Peninsula provided less maneuver room and had far less adequate lines-of-communication networks than did the plains of Europe; and finally, the austere and unsophisticated North Korean logistic and communication systems were unable to maintain major units in combat for more than a few days.

b. Tactics

NKA operations exploit the rugged Korean terrain and thereby reduce the advantages of more technically sophisticated enemy forces. Moving at night along the slopes of rocky, wooded ridgelines, North Korean units infiltrate through weak spots in enemy lines and attack vulnerable rear area facilities, creating destruction and confusion. The North Koreans take advantage of the channelization of road-bound enemy forces—a situation imposed by the steep hills, narrow valleys, and meager road net. Mines, obstacles, artillery fire, and swift forays are used by the NKA to discourage free use of roads and good trails. Units not engaged in combat often find refuge by bivouacking in remote mountainous areas.

High ground is usually chosen and well prepared for defensive positions. Sites are selected which provide good fields of observation and fire and suitable cover and concealment. Extensive digging and construction are accomplished to augment the natural advantages of the terrain.

North Korean units can be expected to take advantage of adverse weather and cover of darkness for purposes of attack, withdrawal and counterattack. Reconnaissance and combat patrols, ambushes, and raids are employed under the most severe conditions and normally precede any offense operation. The NKA exploits the tendency of defensive forces to drop their guard during inclement weather.

3. Command and Control

NKA commanders are called on to

exercise the following generally accepted measures in combat:

- Detailed planning and preparation for operations.
- Skillful utilization of terrain, weather, and time of day.
- Achievement of surprise both initially and at decisive times during the course of battle.
- Concentration of overwhelming forces at the decisive time and place.
- Timely, fast, and daring maneuvers.
- Maintenance of control over the actions of subordinate elements to insure bold, determined, and exact execution of plans.

Procedures within the NKA for issuing commands and exercising control of combat and administrative units are believed to be quite good. The quality of communications equipment and vehicles has improved and the quantity has increased since the Korean War. Staff procedures, including preparation, coordination, and dissemination of plans and orders, are sound. Personnel are well trained, and some have combat experience. In static periods of combat and in the current situation, the NKA uses wire communications extensively and communications security is very good. During the Korean War, radio was used constantly while units were on the offensive. Couriers were frequently used to carry messages between headquarters, and signal flags, bugles, and whistles were often used on the battlefield.

During the Korean War, the inadequate system of communications was augmented by rigid operational procedures. Prior to each action, commanders were briefed on the mission to be accomplished and alternate courses of action to be followed. In the event of loss of signal contact, commanders continued the operation within the prescribed alternatives.

The NKA's system of command posts is designed to insure continuity of control. Minimum requirements are for each large unit to have a main and an alternate command post, both fully manned and in continuous operation during wartime operations. Duplicate communication systems are maintained. If the main command post is destroyed, the alternate command post, under the direction of the deputy commander, is immediately utilized.

Three command posts were frequently organized in each division to exercise control during the Korean War. The *forward command post* was occupied by the division commander and a few of his key staff officers when combat operations required their direct supervision. Better communications and training may now allow the commander to direct operations effectively from a command post further to the rear.

The (main) *command post* was composed of the bulk of those staff officers not assigned to the forward command post. It was here that most planning and routine control procedures were accomplished.

The *rear command post* comprised administrative and technical service personnel and was responsible for controlling support elements and for directing rear area security.

Each regiment and battalion established a main command post and one or two alternates. When visibility was poor, one or two auxiliary observation posts were established. Commanders were usually required to remain as close to their units as possible during combat.

Relocation of command and observation posts was authorized only by the next higher commander.

4. Security and Surprise

NKA camouflage discipline is outstanding. Skill and patience combine to insure that maximum use is made of terrain and natural and manmade materials to *camouflage, cover, and conceal* men, equipment, and facilities. Habitually, the North Koreans dig in. North Korea, including some coastal areas, is honeycombed with tunnels. dig to cover and conceal all manner of facilities and equipment, including air raft and boats. The individual soldier works hard at camouflaging, concealing and improving his own position, particularly in static situations, as a part of the overall work of organizing the ground for combat. Another security measure is the removal of all civilians from an area of future actions to prevent information leaks about planned operations.

Although NKA units employed little flank support or security during the Korean War, current doctrine apparently stresses the use of security during tactical operations to prevent surprise attacks, to frustrate opposing reconnaissance, and to insure favorable conditions for unit deployment.

North Korean frontline units *probe constantly* to gain information on strong points, lightly held areas, avenues of approach, minefields, and enemy outposts and listening posts. Patrols may also have the mission of creating diversions, setting ambushes, and infiltrating sappers or agents.

North Koreans take great pains to achieve tactical surprise. Various ruses, both active and passive, are used to thwart the intelligence efforts of the opposing forces. Dummy troops and equipment are often constructed in and near defensive positions to deceive the enemy as to NKA strength and deployment.

In many Korean War battles, surprise was achieved by the rapid switching of complete units from one front to another or to an immediately adjacent area, using hilly terrain and wooded areas for concealment.

5. The Offense

a. Basic Forms

The North Korean Army has displayed flexibility in choice of combat formations and maneuver patterns, but favors various forms of envelopment.

During the early stages of the Korean War, when United Nations (UN) units were forced to defend isolated pieces of terrain, the NKA used double envelopment in almost every attack. A column, usually led by a few tanks, moved down the valleys to achieve contact. Whenever resistance was met, a portion of the infantry deployed quickly in a frontal attack to fix the defenders in their position while other NKA units deployed around both flanks to cut the route of withdrawal and destroy the trapped forces. Later in the war, once a continuous line was established, the North Koreans conducted a number of frontal attacks on a wide front to achieve a series of penetrations. Sometimes a concentrated effort was made to achieve a breakthrough in a single area. Openings in the defensive line were exploited with enveloping attacks.

The *frontal attack* is employed only when the enemy does not have an exposed flank. In offensive operations, the maximum division front is normally not more than 5 kilometers; during the Korean War the NKA occasionally conducted attacks on a 2.5-kilometer front. An infantry battalion usually attacks on a 350- to 550-meter front.

The North Korean task organizations and combat formations are patterned after those of the Soviet Army. Attacking units are echeloned into a first echelon, sometimes a second echelon, and a reserve. The number and size of echelons are based on the unit mission and the combat formation of the parent organization.

The most common NKA combat formation deploys two-thirds of the unit in the first echelon (i.e., two regiments of an infantry division) and the remainder (one regiment) in reserve.

The first echelon, often led by tanks, is to assault and penetrate the enemy defensive positions. This echelon is often given the bulk of the unit's combat power. In the Korean War conscripts from South Korea were sometimes used by the NKA in the first echelon.

If the first echelon fails to penetrate, it attempts to hold the ground gained and the second echelon falls on the objective as a second assault wave. The second echelon, when employed, is probably intended to add momentum to the assault, to attack strong points bypassed by the first echelon, or to exploit a penetration created by the first echelon. It follows the first echelon but at a distance so that enemy artillery fire cannot cover both echelons. The NKA second echelon is less potent than the second echelon of a Soviet motorized rifle unit which has good vehicle mobility and often has strong tank support.

The reserve contains the remainder of the maneuver units and generally does not have a predetermined mission. Piecemeal commitment of the reserve is contrary to North Korean doctrine. Reserves are employed against an enemy position that is delaying the progress of the assault, against a bypassed strong point, in exploiting a penetration created in the defensive line, or in pursuit of a retreating enemy force. In some cases, reserve units are employed as a third assault wave. They move through the enjoined forces to give impetus to the assault, into contact in the gaps between units of the assault echelon, or around the flanks.

In the later stages of the Korean War, the NKA deployed in depth and used numerous waves of troops. In mountainous terrain, in order to concentrate massed forces in successive assault waves, regiments frequently attacked in columns of battalions. Second echelon and reserve bat-

talions followed the assaulting battalions closely, ready to reinforce the attack when it met with unexpected resistance or to pass through and maintain the momentum of the attack once initial objectives had been seized.

Envelopment is employed whenever the enemy presents an open flank or when an opening has been created in the course of battle. A *close envelopment* is a shallow maneuver designed to outflank, trap, and destroy an enemy unit. The *double envelopment* (or *encirclement* in large unit operations) consists of a holding force and two converging, enveloping forces turning both flanks of an enemy position. When the two enveloping forces meet, the enemy is encircled and liquidation begins. A *deep envelopment* extends many miles into the enemy rear areas. It takes maximum advantage of battlefield confusion and attempts to encircle the enemy's strategic reserves or defeat enemy counterattacks. During the Korean War, close and deep envelopments were often attempted simultaneously. Envelopment forces bypassed enemy strong points, when possible, in order to move quickly to the enemy's flank or rear. The most extensive use of the double envelopment by the North Koreans (depicted in figure 19) occurred in southeastern Korea in the summer of 1950 just before the United Nations Command landing at Inchon. It was an attempt at a theater envelopment. The front covered almost 200 kilometers and involved a communist attacking force of more than 12 divisions. Heavy pressure was constantly maintained on Taegu, in the center of the line, while concerted attempts were made to turn the flanks of the UN forces and to break through at Pohang on the east coast and at Masan on the south coast.

So-called *mass-ware* or *human-sea* attacks will probably no longer be employed inasmuch as they demand the inefficient expenditure of inexperienced or even unarmed troops in the initial phase of an assault. The NKA will probably continue to mass its troops on main objectives.

The NKA begins its *pursuit* as soon as the enemy withdrawal begins. Pursuit is prompt, continuous, and closely pressed to prevent enemy regrouping. Pursuit is designed to cut off the enemy's escape route, to prevent the enemy reserve from joining the main body, to preclude the enemy from making a firm stand on any successive defense line, and to destroy the remaining enemy. One pursuit force may follow the route

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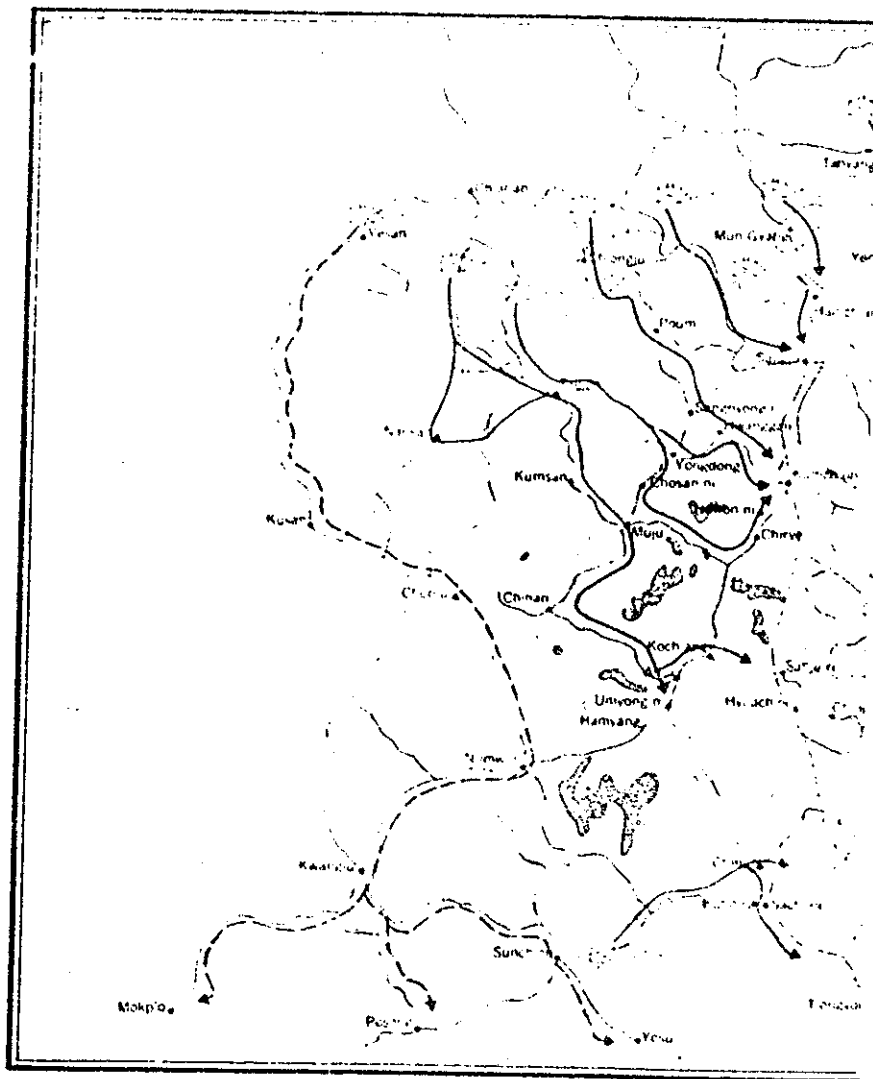


Figure 19 Attempted NK Double Envelopment

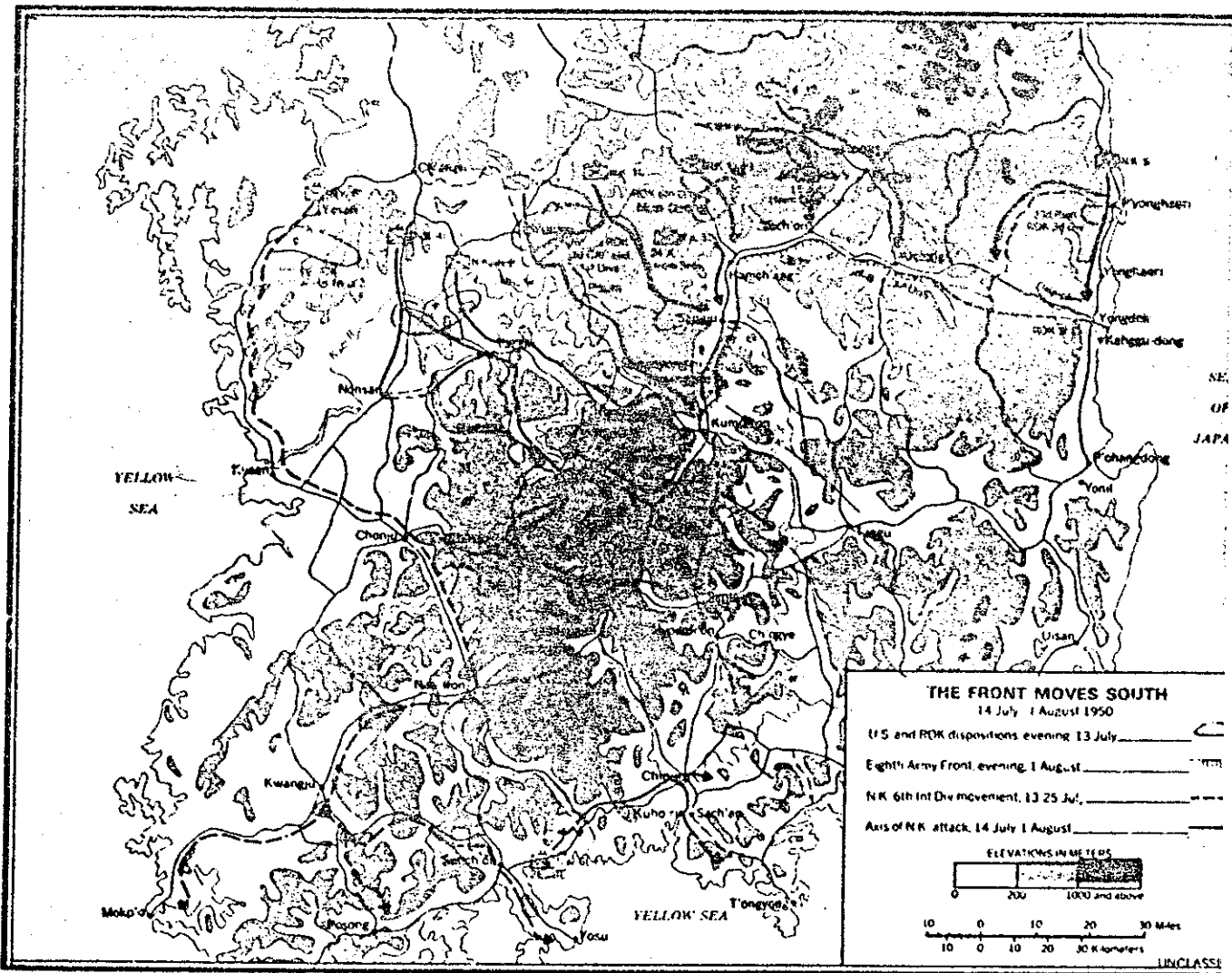


Figure 19. Attempted NK Double Envelopment. (U)

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along which the enemy is withdrawing, while another tries to flank the enemy by moving along a route parallel to the enemy's direction of withdrawal. When pursuing an enemy force, the NKA tries to reach and occupy bridges, fords, or other critical areas before the enemy reaches them, thereby forcing the enemy into combat under conditions favorable to the NKA.

b. Reconnaissance

North Korean Army units at every echelon conduct extensive reconnaissance. Below regiment—the lowest level with a formally organized reconnaissance unit—small tactical units are designated for reconnaissance. In companies, a squad is usually assigned a reconnaissance mission; three types are presented in figure 20.

Patrols are employed by a commander to obtain necessary information on the enemy and terrain. He selects an appropriate reconnaissance unit which is then briefed on the mission and route. After rigid inspection, any man who might hinder the mission is replaced. The men are taught simple phrases in the enemy's tongue in order to deceive the enemy. Before departure, the unit's political officer gives a lecture to increase motivation.

During the war, daylight patrols usually consisted of 18 men. Night patrols were slightly larger. Approximately half the patrol dressed as civilians; they were unarmed or carried concealed pistols. This group attempted to infiltrate enemy lines, while those in uniform, more heavily armed, awaited their return and provided covering fire if necessary.

NKA patrols usually assume a column formation, with the squad leader in front. If a three-column formation is used, the leader heads the center column. The interval between men is from 10 to 20 paces in daytime and 3 to 5 paces at night. Control of parallel files on each side of a crest is divided between the leader and his assistant. Prearranged signals for control usually consist of lighting matches, blinking flashlights, clapping hands, or whistling. If a patrol is forced to move through a defile, three men are usually sent in advance. If these men receive enemy fire, the remainder of the patrol either moves forward to reinforce, or withdraws, depending on the amount of fire and the urgency of the mission.

A squad is normally used to reconnoiter a ridgeline or high hill. When the squad reaches

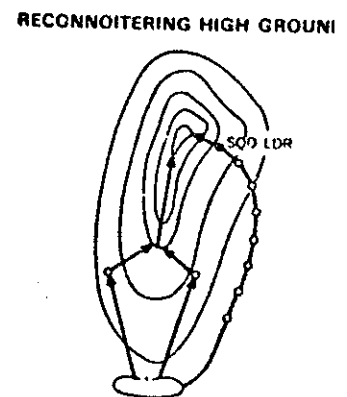
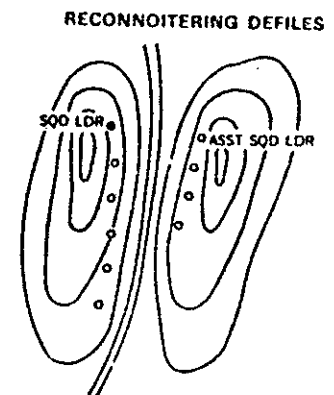
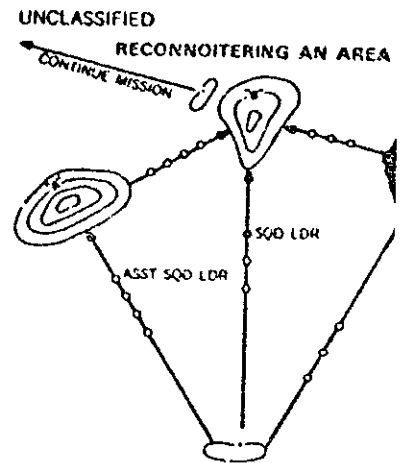


Figure 20. Reconnaissance Formations.

the base of the hill, two men take positions to observe both sides of the hill. The remainder move up one side in single file towards a point near the center of the crest and just below it. The squad then turns up the slope and moves in single file straight to the crest. If it is clear of enemy troops, and further reconnaissance is needed, the patrol continues; if not, it returns by the same route.

NKA engineers conduct special reconnaissance of roads, bridges, stream-crossing points, and hostile obstacles. Engineer patrols determine a road's load capacity and condition, the availability of repair material, and detours to bypass roadblocks and mines. The patrol examines bridges and possible fords and determines the availability of materials for bridge repair or construction of ferries. Upon completion of the mission it submits a reconnaissance sketch to the division Engineer Section.

Reconnaissance by fire frequently is used by the NKA to locate enemy strong points and weapons emplacements. Small groups go forward, fire indiscriminately at the enemy, and carefully note the positions from which fire is returned.

During the Korean War, the NKA used local civilian sympathizers to collect military intelligence and information on political trends and the system of authority within the area of proposed operations. See chapter six for a more detailed discussion of intelligence and subversion operations.

c. Concentration for an Attack

Prior to launching a major offensive, the NKA moves attacking forces into a preliminary assembly area located approximately 25 to 40 kilometers from the line of contact. Within this area, a battalion is allotted about 3.5 square kilometers, a regiment about 25 square kilometers, and a division up to 100 square kilometers. Through this dispersal, the NKA hopes to reduce casualties from possible nuclear strikes.

After the units reach the preliminary assembly area, they are ordered to march to forward assembly areas located within 12 kilometers of the frontline. Troops then move to the attack point in multiple columns of battalion strength. At about 2 kilometers from the enemy lines, the columns are halted and company commanders are issued the attack orders. Troops are then moved into position to await the signal for the attack.

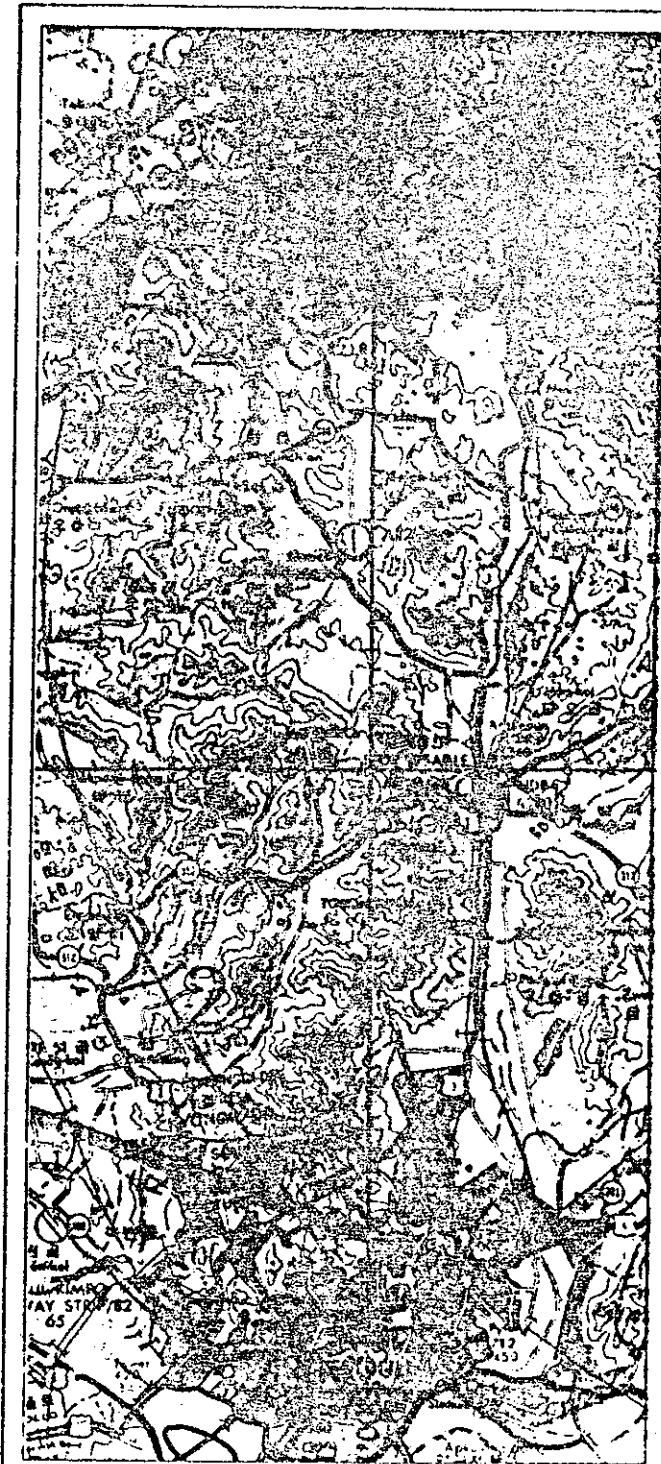
in their move forward, the attacking forces are accompanied by attached artillery, tanks, and antiaircraft artillery. The reserve corps is generally located about 40 kilometers to the rear of the attacking corps, out of range of enemy artillery fire but close enough to be available upon demand. In the Korean War, little emphasis was placed on flank security during movement into the attack position. If resistance was encountered, a small force engaged it while the main body endeavored to bypass it.

d. Example of a North Korean Attack (figure 21)

At about 0530 hours 25 June 1950, the 16th and 18th Infantry Regiments of the 4th NKA Infantry Division attacked abreast across the 38th parallel. The 16th Regiment had the major route of advance, centered on what is now Route 3. The 18th Regiment on the west was given a much wider zone (over 15 kilometers at its widest point) and had an attached tank company. Artillery, antitank, and engineer units were attached to both regiments. The 5th Infantry Regiment, minus one battalion, followed the 16th Regiment and constituted the second echelon. One battalion of the 5th Regiment, with an antitank company, followed the 18th Regiment as a second echelon. The division reserve included only one 45-mm artillery company and one engineer company which were to protect the command post from a mechanized counterattack.

According to a captured, mimeographed copy of the North Korean operation order, the division was to begin the assault after a 30-minute artillery preparation, penetrate the defensive line of the 1st Regiment of the 7th ROK Infantry Division and, after taking several intermediate objectives, advance to the Uijongbu-Seoul area. Once the main line of resistance had been penetrated the two forward regiments conducted a series of envelopments to secure critical points and eliminate enemy forces. In some cases elements of the two regiments coordinated their envelopments to encircle an objective. In one case a ROK unit was fixed by a frontal attack while another North Korean unit moved behind a hill to conduct a flank attack.

During the first day of the Korean War, elements of the 7th ROK Division fought well, considering the enemy superiority in men, tanks,



**TROOPS
18TH INF REGT**

- | ATCO-D | D S |
|----------|-----------|
| | |
| 45mm Gun | 76mm Gun |
| UH | 45mm Gun |
| | 45mm Gun |
| | 120mm Gun |
| 45mm Gun | |

**TROOPS
16TH INF REGT**

- | ATCO-D | D S |
|----------|-----------|
| 45mm Gun | |
| 50mm Gun | |
| 45mm Gun | 76mm Gun |
| | 45mm Gun |
| | 120mm Gun |
| | 92mm Gun |

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Figure 21. 4th North Korean Army Division Attack (U)

DDI 2640 17 72

and artillery, and inflicted rather heavy casualties on the 16th Regiment of the 4th NKA Division. Despite these losses the North Koreans pressed forward and by evening had captured and passed through Tongluchon. On the morning of 26 June, the 4th NKA Division and the 3d NKA Division—which attacked astride Route 3 with two regiments abreast—were poised for a converging attack on Uijongbu. ROK units counter-attacked the 4th NKA Division that morning but failed to attack the 3d. By that evening the two divisions and supporting tanks of the 105th NKA Armor Brigade had entered Uijongbu. On 28 June the 3d NKA Division and the 16th Regiment of the 4th NKA Division entered Seoul. The 4th NKA Division had suffered 219 killed, 761 wounded, and 132 missing in action during these first 4 days of the war.

e. Small-Unit Tactics

The tactics of independent small-unit operations, employed effectively by the NKA during the Korean War, closely resemble PRC doctrine in that teams are often infiltrated through enemy lines to collect intelligence; to create confusion in enemy rear areas; to harass enemy communications, supply lines, and vehicular traffic; to destroy command posts, depots, supply dumps, and key installations; and to delay enemy reinforcements or prevent the withdrawal of defending units.

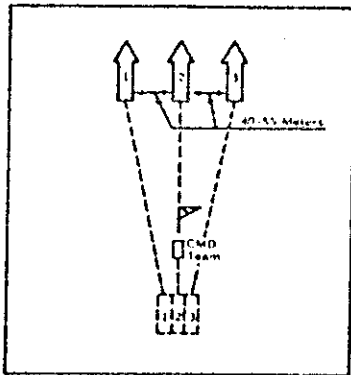
Infiltration by North Korean individuals (soldiers and male or female agents) can be accomplished by mingling with the inevitable refugee flow in fluid situations. Weapons and other contraband are easily concealed under civilian garments, and only the tightest of security measures can prevent their being successfully transported in significant numbers. Even in uniform, small groups can achieve freedom of movement by taking advantage of familiar terrain and general environmental factors.

The size of the patrol or infiltration team varies with the mission from a few men to, perhaps, a reinforced company-size task force. Teams are armed with pistols, or possibly sub-machineguns and grenades, and frequently carry automatic weapons, grenade launchers, and even mortars. Whenever possible, teams are covered by fire from adjacent terrain and their withdrawal is planned to draw pursuers into ambush.

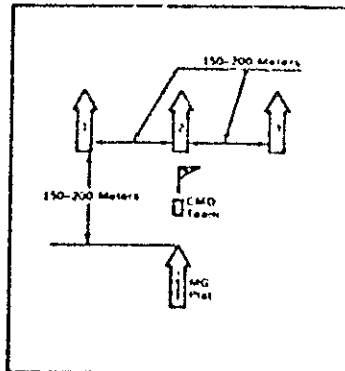
The NKA stresses the value of ambush. Approach, deployment, and withdrawal are carefully planned and maximum use is made of the terrain and knowledge of enemy habits. Lead vehicles in the enemy convoy are stopped by mines and/or weapons fire at a point where curves or hills mask the action from the rest of the convoy, creating confusion as to what has happened and from what direction. Patrols are lured into ambush position by noise, displaced markers or other ruses, or are lulled into a sense of security as they pass an ambush point safely more than one time. In virtually every case, ambush points and preplanned withdrawal routes are covered by fire. Enemy reaction forces can expect to be taken under fire or to encounter mines along the route of their approach. A North Korean practice during the Korean War was that of infiltrating and quietly dismantling unguarded wooden bridges over small streams in early morning darkness, then mining the adjacent fording area. The first convoy was virtually certain to pile up behind the demolished lead vehicle and then face the possibility of ambush.

The following example of a typical NKA infantry platoon attack illustrates North Korean small-unit offensive tactics. The platoon moves into attack position using the column, the double column, the wedge, the V, or the skirmish line (figure 22). As the platoon reaches its line of departure, which is approximately 900 meters from the objective, it is deployed in a skirmish line extending for about 150 meters. The platoon is ready to move into the attack. Three assault lines are designated between the line of departure and the objective. The third assault line is nearest to the objective and is about 100 meters from the objective. At the sound of the bugle, the platoon moves forward from the line of departure in leapfrog fashion, taking commands directly from the platoon leader. He signals one or two men forward at a time by the use of signal flags. As the platoon members reach the first assault line, they open fire on the objective and continue moving forward in leapfrog fashion. At this time, attached heavy machineguns, positioned at the line of departure, take the objective under fire. (One-third of the platoon's allotted ammunition is expended between the first and second assault lines; another third is fired between the second and third assault lines; and the remainder is used in the final assault launched from the third assault

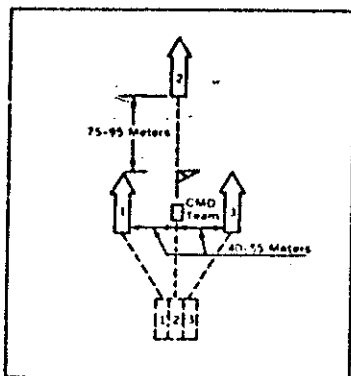
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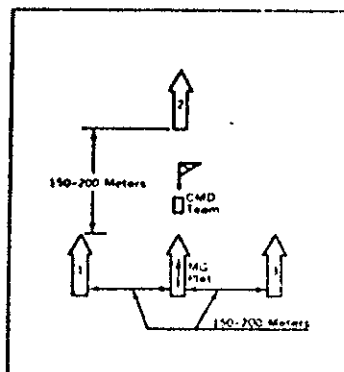
PLATOON LINE FORMATION



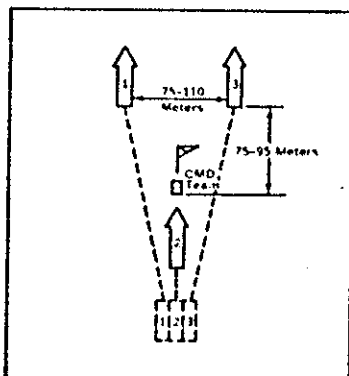
COMPANY LINE FORMATION



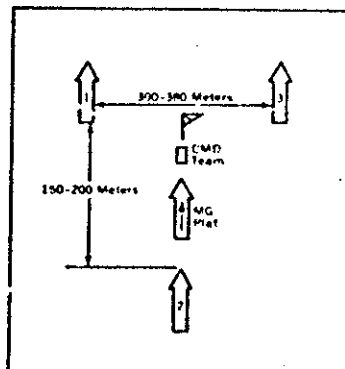
PLATOON WEDGE FORMATION



COMPANY WEDGE FORMATION



PLATOON V FORMATION



COMPANY V FORMATION

Figure 22 Company and Platoon Combat Formations (U)

line.) When the entire platoon has reached the third assault line, the platoon leader orders the final assault. As the bugler sounds the assault, the platoon rushes forward screaming, with bugles sounding and bayonets fixed. When they approach within 30 meters of the objective, the infantrymen throw handgrenades and then move in for hand-to-hand combat.

There is no turning back once the attack is launched, even though a retreat might be militarily sound; any change of plans at this stage must be approved by the political officer. Any member of the platoon turning from the attack will be shot by the political officer. Once engaged, the platoon attacks until the objective is won or the last man falls.

The NKA company attacks on line with all three platoons abreast and attempts to penetrate weak spots in the defensive line. Extensive patrolling is carried out before the attack to identify such vulnerable points. The night before the attack, teams are often infiltrated behind enemy positions to cut lines of supply and reinforcement or retreat, to seize strong points, and to attack headquarters. The company receives fire support and perhaps tank support from higher echelons depending on its mission, opposing forces, and the terrain.

6. The Defense

When forced to assume a defensive posture, NKA units employ either a flexible defense, characterized by counterattacks and withdrawals, or an inflexible, unyielding type centering on a main line of resistance (MLR). Defensive doctrine stresses that the effectiveness of a defensive position depends upon proper coordination and integration of all types of defensive fire with natural and manmade obstacles. NKA defensive operations during the Korean War evidenced excellent planning and coordination.

a. Flexible Defense

Flexible or elastic defense is similar to the U.S. Army's concept of a forced withdrawal or defense on successive positions. It is designed to allow an inferior force to trade space for time and concurrently inflict casualties on a superior force.

Each regiment occupies two lines of defense with the bulk of its forces concentrated in the forward position. The distance between the two defensive lines is great enough that the

second line cannot be covered by enemy artillery fire. The attacker must, therefore, move his artillery and mortars after occupying the first line. Security troops are deployed to the front of these positions; a reserve of one-third the regiment's strength is deployed well to the rear of the second line.

The forward unit opens fire at extreme ranges in an attempt to force the enemy to deploy and make time-consuming preparations for the assault. Before it can be pinned down by enemy fire, the forward line withdraws under the cover of supporting weapons fire. At the same time, counterattacks may be launched to throw the opposing forces off balance and inflict casualties. If the forward line is unable to disengage, a counterattack is launched against the attacker's flank by the troops in the rear position.

All withdrawals, disengagements, and counterattacks must be approved by the commander of the parent unit.

b. Inflexible Defense

The NKA inflexible defense is very similar to U.S. Army position defense. It consists of a security line, a well fortified MLR, and a reserve. The unit's small arms and automatic weapons fire is coordinated with that of adjacent units' mortar, artillery and tank fire, and with obstacles and minefields.

A battalion normally occupies a front of 1.5 to 2 kilometers with a depth of 1.5 to 2 kilometers. In mountainous terrain, a battalion often defends a front of 5 to 5.5 kilometers. A regiment sometimes extends to a depth of 10 kilometers behind the MLR; a division sometimes extends to a depth of 20 kilometers. During the Korean War the North Korean MLR had a depth of 4 to 6.5 kilometers and was divided into regiment and battalion sectors, consisting of a number of strong points protected by obstacles.

The security line, about 1.5 to 2.5 kilometers in front of the MLR, is manned by a battalion and consists of a number of individual strong points protected by a system of obstacles. It is designed to prevent surprise attacks and to act as a reconnaissance screen for the MLR. An outpost line in front of the security line usually consists of hasty emplacements manned by troops armed with small arms. This line is normally 10 to 13 kilometers in front of the MLR.

NKA reserves vary in strength from one-third to one-sixth of the main force. They are usually committed to reduce penetrations of the MLR.

Battalion observation posts are generally located 200 to 300 meters behind the MLR; those of regiments, 300 to 500 meters; and divisions, 450 to 900 meters. Command posts are located farther to the rear; those of battalions, 700 to 900 meters; those of regiments, 1.5 to 2.5 kilometers, and those of divisions, 3 to 3.5 kilometers to the rear of the MLR.

The security line absorbs the initial shock of attack. The unit holding this line attempts to force the attackers to deploy prematurely or to lure them into fields of fire along the MLR. If the attack is too strong, the unit withdraws from the security line to the MLR under cover of supporting fire from the MLR.

The approaching hostile forces are taken under fire by supporting weapons at maximum ranges. Both light and heavy machineguns are deployed on the flanks of strong points to provide oblique fire along the front of the position. Gun positions are staggered in depth to avoid simultaneous destruction by enemy air or artillery strikes. The heavy machineguns usually commence firing at ranges of 700 to 900 meters whereas light machineguns open fire at ranges of 500 to 500 meters. In some instances, both light and heavy machineguns will hold fire until assaulting forces can be caught in the crossfire of several weapons.

When the enemy advances to within 200 to 400 meters of the NKA position, the infantrymen quickly leave the bunkers and deploy to prepared trenches or foxholes and subject the enemy to a heavy volume of small arms fire. If they fail to stop the enemy and are in danger of being overrun, they return to the bunkers and call in fire from adjacent bunkers to surprise and smash the enemy as he prepares to make an assault. If a position is completely enveloped, the company commander reports the situation to the battalion commander who requests the regimental commander to order artillery fire into the enveloped area. After a heavy concentration of fire, the beleaguered unit boldly attacks from emergency exits of the bunkers and, with the help of counterattacks by the reserve units, attempts to kill the enemy troops which have entered the position. The North Koreans make every effort to retain these fortified and prestocked positions.

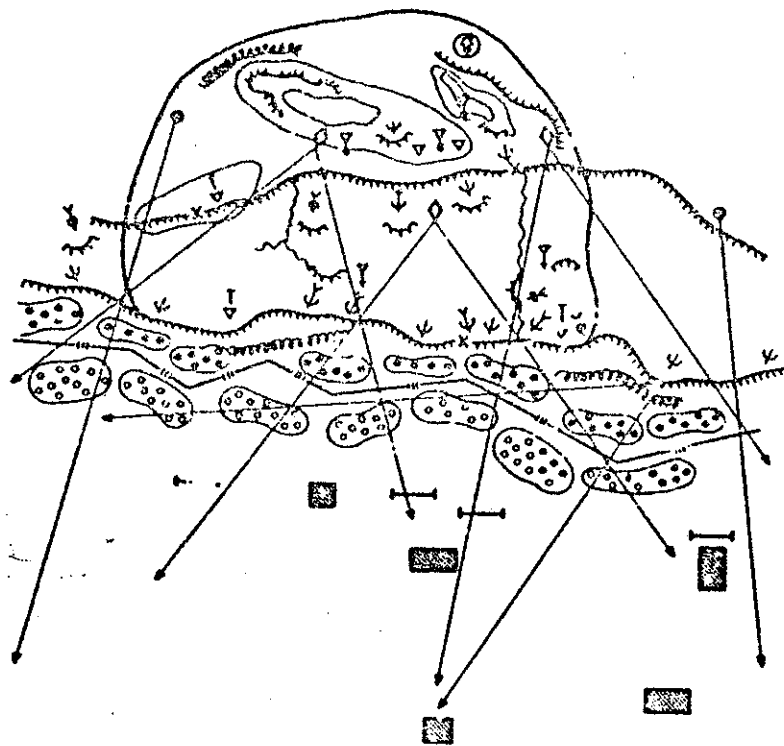
Figure 23 depicts a company in an inflexible defense position. It is defending terrain approximately 675 meters in width. Dual linear entrenchments are shown in this example, rather than the extensive fortifications and tunnels often constructed. Tanks have been attacked to the company and are disposed laterally and in depth and have overlapping sectors of fire. Concertina wire has been placed 50 meters in front of the positions to prevent the enemy from using handgrenades without having to negotiate the wire. The principal directions of machinegun fire provide intersecting bands across the front, with the intersections not closer than grenade-throwing range nor greater than the maximum effective range of the rifle. The artillery and mortar concentrations cover the main avenue of approach (to the left front).




















Currently it is believed that in static defensive positions on the DMZ most North Korean infantry units deploy two subordinate units forward and hold one in reserve. The defensive area of forward infantry divisions is divided into three zones. The first zone—the area of the forward regiments—includes the MLR and is about 4 kilometers deep. The second zone is approximately 3 kilometers deep (extending to 7 kilometers behind the forward edge of the battle area) and contains the reserve regiment and the command posts of the forward regiments. The third zone has an average depth of 5 kilometers (extending to 12 kilometers from the front) and contains the division command post and service units.

Infantry regiments deploy two battalions forward and one in reserve. Battalions often deploy two companies forward and one in reserve but sometimes put all three on-line. Companies are usually located as a unit, but some reports indicate platoons deployed separately.

c. The Withdrawal

The regiment is the lowest echelon of command authorized to order a withdrawal. Assembly areas are not predesignated, and units withdraw as far as possible during the hours of darkness under the protection of the delaying force. In a battalion withdrawal, all companies usually move as one column in a single file along the same route. Variations of column movement are dictated by the terrain and the enemy situation. One or more battalions may move in parallel.



- | | | | |
|---|-----------------------------------|---|---|
|  | Artillery Mortar Concentrations |  | Tank |
|  | Antipersonnel Mines |  | Company OP |
|  | Antitank Mines |  | 120mm Mortar Company |
|  | Heavy Machinegun |  | Plat OP |
|  | Infantry Large caliber Machinegun |  | Defense Positions |
|  | Heavy Grenade Discharger |  | 3 Row Barbed Wire |
|  | AT Gun |  | Concertina Barbed Wire |
|  | First Trajectory Gun (up to 57mm) |  | Permanent Machinegun Position (Reinforced Concrete) |
|  | OP |  | Portable Obstacle |
|  | Artillery Mortar Barrage Areas | | |

Scale 1" = 150 meters

Figure 23. Company Defense Position (U)

single-file columns, maintaining contact by radio, pyrotechnics, and runners.

NKA doctrine dictates that withdrawal from combat under heavy hostile action will be conducted under cover of artillery and mortar fire, barriers, smokescreens, and short counterattacks organized by senior commanders. So far as can be determined, however, no artillery or mortar fire supported a withdrawal of North Korean forces during the Korean War. Because of lack of mobility, heavy weapons and artillery were moved to the rear prior to withdrawal of the main body of troops. During withdrawals, counterattacks were rarely made. Since the war NKA mobility has greatly increased and artillery tractors and trucks now on hand will improve the capability for speedy withdrawal and for maneuvering artillery so it will be able to support the withdrawal.

Tactical traps are used by the NKA to lure attacking or pursuing troops into a desired area. Withdrawals are used to entice the enemy into attacking too hastily. An NKA main force is sometimes located in hidden positions from which it can hit the flanks of the advancing forces.

During the early phases of the Korean War, the communists used an inverted V formation in conjunction with a mobile force. By withdrawing to high ground, they allowed opposing forces to enter the V, at which time a large mobile force attacked the enemy column and enclosed it within the V. The first and last vehicles of the enemy column were destroyed, then the entire column was taken under fire from the ridgelines of the V and by the mobile force.

d. The Counterattack

Counterattacks, integral to the North Korean defensive system, are employed to slow the advance or annihilate a portion of the attacking force or to recapture a lost position. Counterattacks launched to delay an offensive normally begin early at night to insure mission completion by daybreak. Counterattacks designed to regain a captured position begin early enough in the evening to permit completion by midnight. The remainder of the night is spent organizing defensive positions for the next day's fighting. The North Koreans launch counterattacks when they believe the opposing forces are not sufficiently supported from the rear or are disorganized.

Counterattacking units vary in size from a company to a regiment. A thorough reconnaissance of the terrain in the vicinity of the objective is completed by late afternoon or early evening on the day of attack to obtain enemy strength figures, disposition, armament, and other needed information. Prior to counterattack all members of the unit are oriented as to routes of approach, signals to be used, and plan of attack. Squad- and platoon-size groups normally assemble on a flank 50 to 75 meters behind the forward defensive positions. On signal they quietly approach and swiftly attack the opposing forces.

Envelopments, turning movements, and penetrations are attempted by the North Koreans during night counterattacks. Infiltration is sometimes used in counterattacking the rear or flanks of an attacking enemy force. North Korean counterattacks rarely extend beyond the limit of frontal supporting fire.

e. Fortifications and Obstacles

For the most part North Korea is hilly or mountainous and is favorable to the defense. Major routes are bordered closely by rugged terrain that offers good defensive positions.

During the Korean War, either prior to a new offensive or when delaying certain terrain to United Nations forces, the NKA prepared elaborate fortifications which withstood UN air and artillery bombardment. These fortifications were usually placed on commanding terrain features which controlled the valley corridors and principal roadways. Most defensive positions were dug on or near the crest of a ridgeline or hill and usually were prepared for three sided or all-around defense. All positions were heavily fortified, well supplied with ammunition, and tied together by interlocking fire. A typical North Korean strongpoint consisted of foxholes for riflemen and automatic weapons, and mortar positions, all connected by communication trenches. All positions were constructed to afford cover from high-angle fire and at the same time permit good fields of fire. Hilltop fortifications, with forward walls from 1 to 4.5 meters thick, were covered with 3 to 12 alternate layers of logs and dirt. Ammunition storage compartments were joined to the main network of defensive positions by trenches. All brush and other inflammable materials were cleared from the vicinity of the defensive works to minimize dam-

ago from incendiary attack. Dirt mounds were placed around some bunkers to divert the flow of napalm. Two- or three-man foxholes were dug about 6 to 8 meters apart on the forward slope and were manned until hostile artillery fire was received. At this time, the troops moved through communication trenches or tunnels to underground personnel shelters constructed on the reverse slope. Once artillery fire was lifted, the troops reoccupied their former positions on the forward slope.

Fake positions, some occupied by partially clothed straw dummies representing riflemen and dummy artillery pieces and tanks, were used to draw fire from UN forces and to cause them to deploy on unfavorable terrain.

Mortar and artillery pieces were employed in well-fortified positions on or just below the reverse slope. Throughout the war, barbed wire, antitank obstacles, mines, ditches, and barricades were employed on roads and normal routes of advance and also in other sectors to channel attacking enemy forces into NKA fields of fire.

According to Korean War doctrine, in the event of nuclear attack, weapons emplacements and communication trenches would be used as the basic field defense—both dug 1.5 to 2 meters deep and covered where possible. Parapets would be constructed on both sides of all trenches. Where soil was not firm, walls would be reinforced with revetments. During winter months tamped snow would serve to increase the thickness of overhead cover. When time and materials permitted, shelters would be dug under trench parapets and reinforced with timber, concrete pipe, or other material. These shelters would be placed at near 90-degree angles from trench entrances to lessen blast effect in the shelter. Fortifications, when conditions permitted would be extended and made more secure against blast and radiation effects by increasing depth, amount of cover, and number of shelters for personnel, vehicles, horses, and equipment. Ammunition and equipment would be dispersed in caves where possible, and food and forage stored in buildings.

Current fortifications and obstacles are extensive—the result of over 20 years of careful planning and heavy construction. Fortifications, constructed of reinforced concrete, steel, and logs, contain automatic weapons, tank and

artillery positions, ammunition storage rooms, and personnel living quarters. The defensive system of frontline divisions begins with guard posts, ambush points, and DMZ police patrols. The northern edge of the DMZ is further protected by a system of obstacles and detection and warning devices. The system consists of from four to seven lines of the following types:

- brush-covered stick fence, also called a green obstacle.
- minefield, surface or buried mines.
- barbed wire fence.
- electric fence.
- sand strip, to detect infiltrators by showing footprints.
- vertical earth wall, formed by making a cut in a hill bank.
- trench, used as a defensive or ambush position.
- pitfall with bamboo stakes in bottom.
- threat obstacle (strands of thread strung between trees or poles to detect passage by infiltrators).
- tin-can bells with trip wire, to warn of infiltrators.

Tank obstacles are emplaced on main avenues of approach to NKA positions. Large rocks (1 to 2.5 tons), deep trenches, and log barricades effectively bar a rapid vehicle approach.

The current defensive positions of forward NKA divisions consist of infantry strong points, fortified artillery, tank and AAA positions, and underground command posts.

Frontline infantry companies and platoons are deployed on key terrain 200 to 1,000 meters beyond the northern edge of the DMZ. Available to a high percentage of these units are concrete tunnels for shelter against bombardment and for safe storage of food and ammunition.

A typical company-size strongpoint includes three interconnecting tunnels burrowed through the upper portion of a hill or ridge (figure 24). Within the tunnels are living quarters, ammunition storage areas, a well, and perhaps a kitchen. Machinegun pillboxes are located at the three tunnel openings. These concrete and steel pillboxes are emplaced to take maximum advantage of natural and artificial camouflage. Each has two or three firing ports and some are equipped with two machineguns. Mortar positions are prepared on the rear slope near tunnel en-

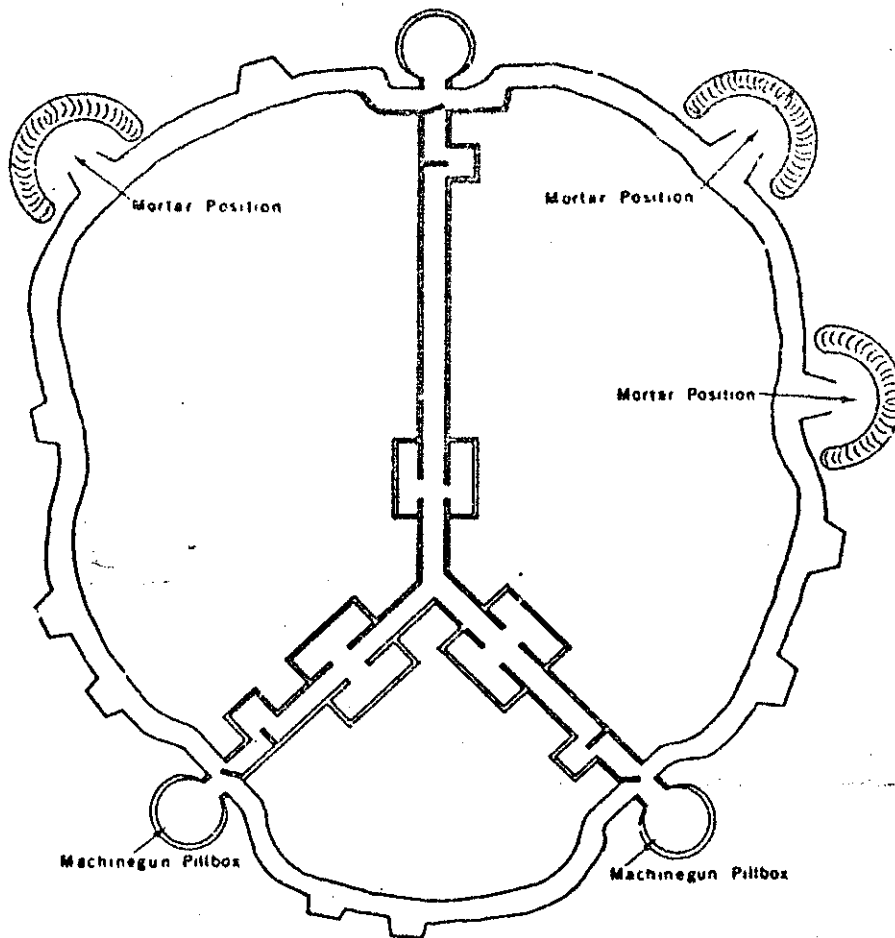


Figure 24. Infantry Company Fortification. (U)

trances. Weapons are kept in the tunnels during air or artillery attacks.

Heavy steel doors close each tunnel entrance. Each door is sealed with a rubber gasket to protect occupants from chemical, bacteriological, and radiological contamination. Open communication trenches interconnect tunnel entrances and are punctuated with two-man foxholes—the actual small arms firing position.

A typical fortified artillery position (figure 25) contains multiple firing positions (usually three or four, but as many as eight) each with its own artillery tunnel connected to a main tunnel. Tunnels constructed during the 1950's were dug at the foot of mountains but later construction has been near the top of mountains. Firing pads on the forward slope of hills are pro-

ected by earth or concrete revetments and have steel-door entrances to tunnels which lead to the rear slope. The passageways are 2 to 3 meters square and underground walls, floors, and ceilings are lined with 20 to 40 centimeters of concrete. Steel reinforcing is used in the ceilings and walls. To lessen blast effect, tunnels often follow erratic courses with steel doors located at several points within the complex. Tunnels are equipped with an exhaust fan and ventilation system to remove smoke resulting from artillery firing. Protection against ground attack is afforded by machinegun pillboxes.

Fortified tank positions, as shown in figures 26 and 27, are very similar in design to artillery positions. Multiple tank firing pads on the forward slope of a hill are connected by tunnels

to a main tunnel which leads through the hill to the rear slope. Each firing pad is fronted with a revetment which provides firing defilade for the tank; steel doors close the tunnel entrances at each pad. Steel doors are also used at several internal points to close off the tunnels. Machine-gun positions are incorporated at the flanks of the tunnel system. A ventilation system is included to remove exhaust fumes and smoke from the

tunnels. The construction of some tunnels allows tanks to enter on the rear slope and drive through the hill to a firing pad. In other cases the tanks may enter and exit the system only from the front slope because interior passages are too narrow or corners too sharp for tanks to negotiate. Infantry trenches are often dug lower on the slope, in front of tank tunnels.

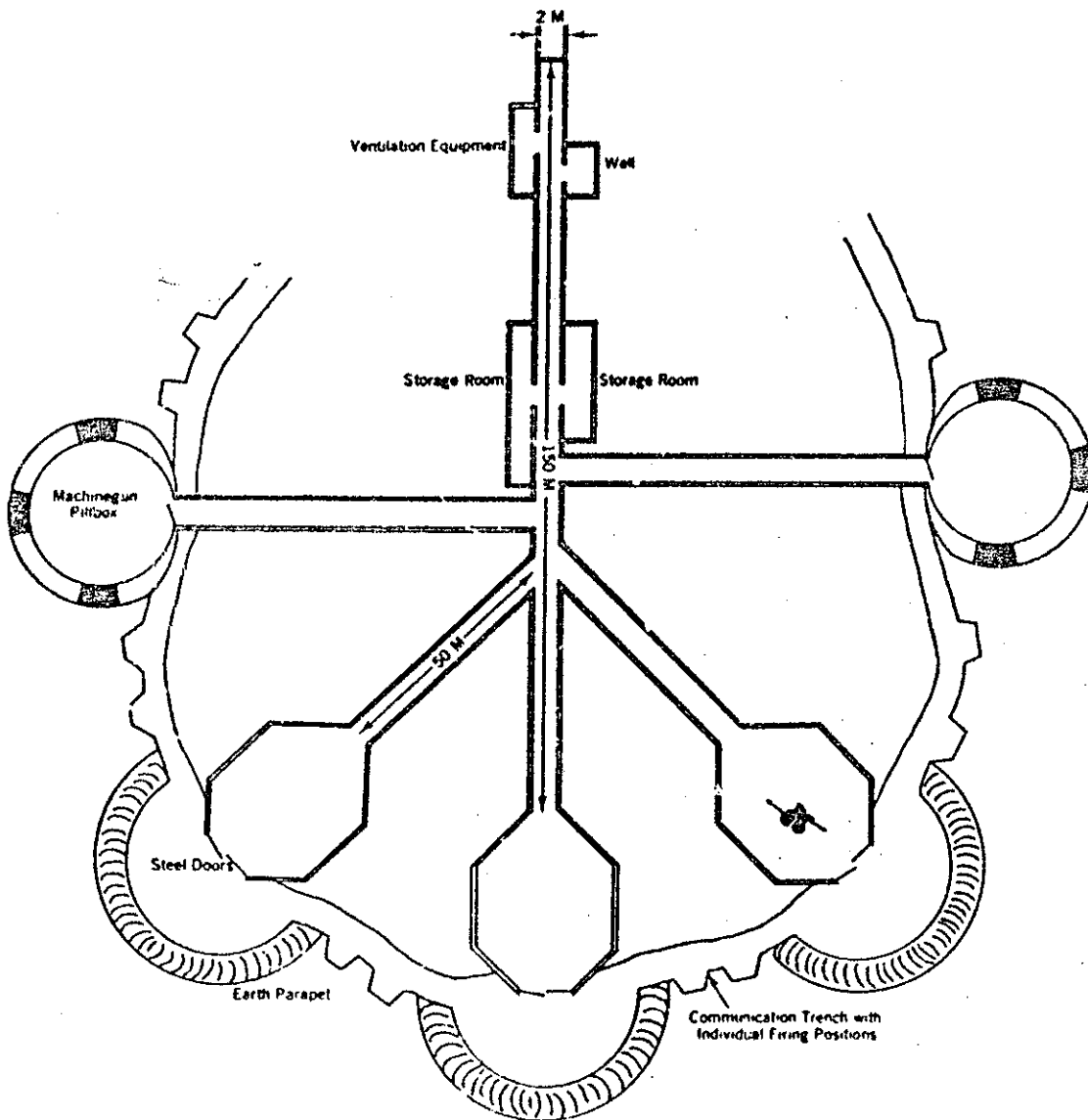


Figure 25 Fortified Artillery Position (U)

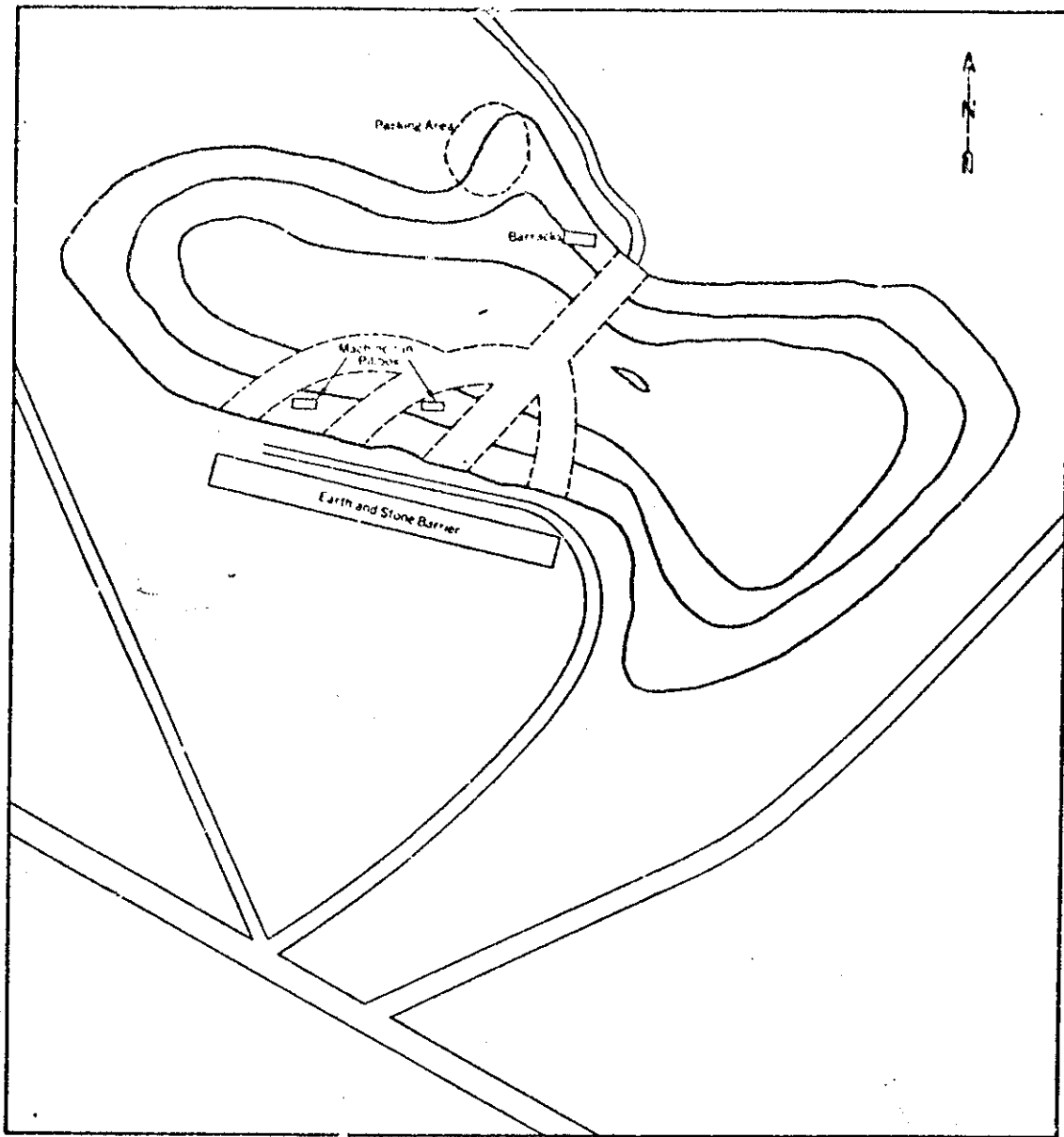


Figure 26. Fortified Tank Position with Entrance at Rear. (U)

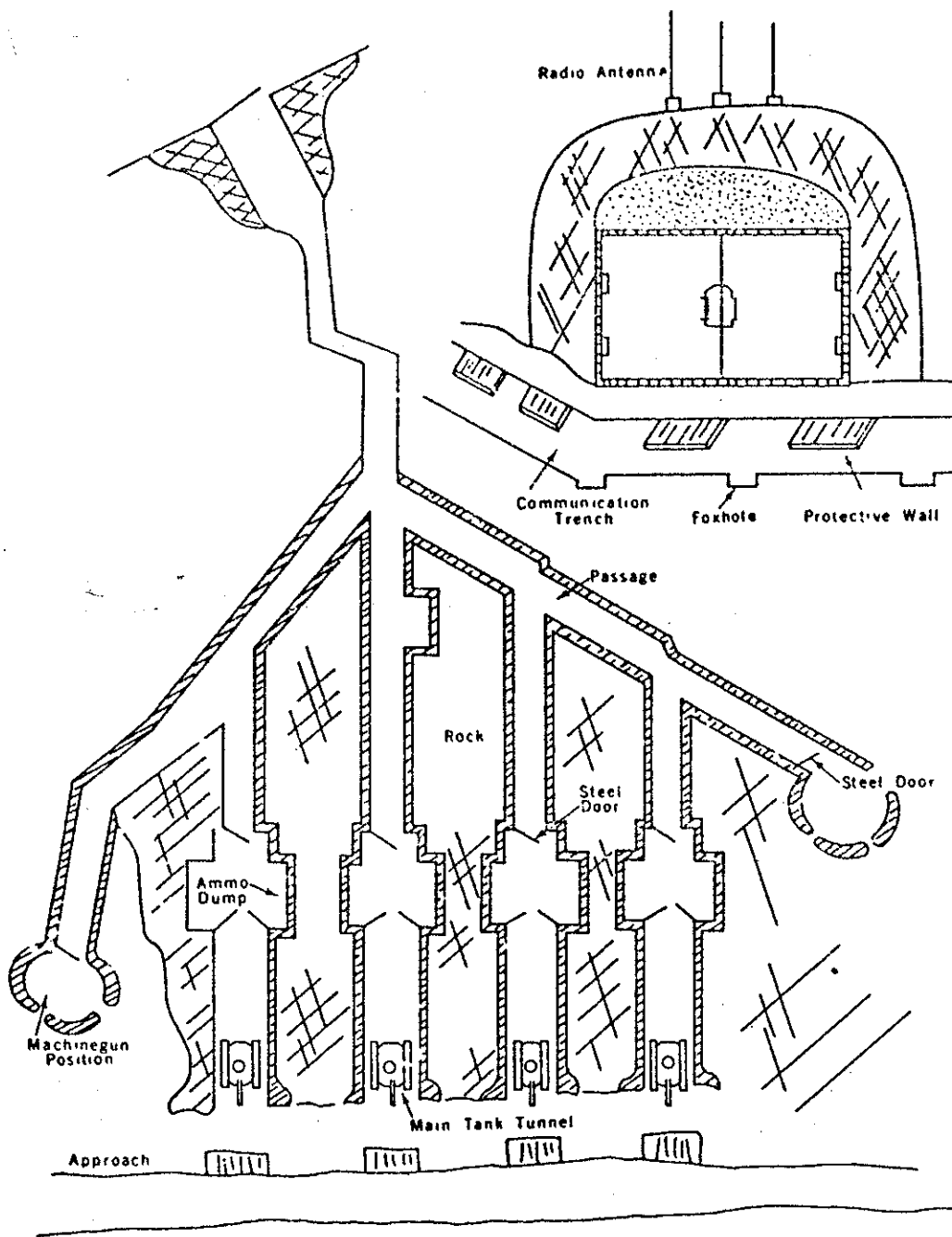


Figure 27. Fortified Tank Position with Front Entrance. (U)

Antiaircraft positions are constructed on high ground overlooking important strong points and installations. Antiaircraft guns and machineguns are placed in open, circular, concrete-lined pits. These emplacements (in groups of threes, fours, or sixes) are arranged in a line, fan, square, or triangle, depending on the terrain. Defensive trenches are often dug around them and they are connected with roads and wire communications.

Each underground command post contains extensive headquarters facilities including numerous small offices interconnected by reinforced concrete tunnels. Heating, ventilation, electricity, and communications are included.

The coasts of North Korea are extensively fortified. The heaviest concentrations of strongpoints—artillery caves, machinegun bunkers, trench works, wire entanglements, minefields, and searchlights—are located in the areas most vulnerable to amphibious attack.

7. Employment of Combat Arms

a. Infantry

Infantry is the basic and most versatile combat arm of the North Korean Army. The NKA considers infantry to be capable of employment under any condition of climate or terrain and at any time. The infantry, in conjunction with other elements of the combined-arms team, is particularly well suited for penetrating organized defensive positions and seizing and consolidating critical terrain. In defense, the infantry, supported by other arms, occupies the ground, repels attacks, and ejects enemy penetrations. North Korean infantry tactics are normally well executed and sound.

NKA infantry is seldom employed without support from artillery, armor, and engineer units organic to the infantry division. Additional support may be attached to the division to assure decisive results. During the Korean War, NKA forces were well coordinated and their attacks showed considerable planning and good judgment.

Nuclear warfare has not diminished the significance of infantry in the NKA. Infantry units have been modernized since the Korean War—mobility, communications, and firepower have been increased—but no radical alterations for nuclear combat have been introduced.

b. Armor

During the Korean War, armor was employed primarily in small groups attached to infantry units. Occasionally it was used as direct fire support for attacking infantry and in a few instances it spearheaded attacking forces. Doctrine specifies that the mission and combat formation of an assigned tank unit are determined by the gaining unit commander and are based on the enemy situation and terrain.

In a typical offensive operation, tank assembly areas are 9 to 14 kilometers from hostile positions and the line of departure is 1 to 3.5 kilometers from the front.

A small advance infantry party equipped with mine detectors reconnoiters in front of the lead tank to detect mines, warning devices, and obstacles and to seek out hostile troop dispositions. Tanks precede assaulting infantry squads by 50 meters; fire on bunkers, automatic weapons positions, and antitank guns; overrun obstacles; and attempt to achieve a penetration of the defensive position. While these forces pin down and attempt to break through the enemy defensive position, other NKA units maneuver to flank and encircle it. During the attack North Korean tanks normally operate with hatches closed.

When used for direct fire support, tanks wait for the infantry to advance about 1,000-meters past the line of departure and then move into firing positions along the line and take enemy emplacements under fire. North Korean tank fire was moderately accurate during the Korean War, but attempts to silence United Nations artillery with tank fire proved ineffective owing to the flat trajectory of tank guns and the position defilade employed by UN artillery.

In the initial stages of the Korean War, NKA tank tactics simulated the more aggressive Soviet doctrine of using tanks to exploit penetration of enemy lines, and attacking lightly held key objectives in the enemy rear. After the first few months, however, narrow avenues of advance, the inability of infantry to keep pace with the armor, the lack of air support, and an austere logistic system made the bold use of armor too risky. Thereafter, armor was restricted largely to an infantry support role.

Tanks operated in groups of three to five, in pairs, and even singly. When moving

without infantry, tanks achieved speeds of 15 to 30 kilometers per hour on roads, and 8 to 15 kilometers per hour cross-country. They were carefully concealed or camouflaged when not in use. When UN aircraft approached, North Korean tank crews lit smudge pots or oily rags near their tanks to create the impression the tanks were burning. Tanks were also crashed into houses or covered with thatched roofs for concealment. Some tanks had U.S. markings; others were parked beside destroyed trucks or tanks.

In defense, armor was normally held in reserve until it could be employed offensively in a counterattack. Large armored units were not normally deployed to defend terrain. Organic assault guns and small attached tank units were sometimes utilized in the defensive fireplan.

Several improvements which have been made in the armed forces may affect armor doctrine. A tank battalion is assigned to each infantry division in an infantry support role thus permitting independent tank units to operate en masse. The NKA's three motorized infantry divisions are capable of supporting armor exploitation of a breakthrough. The North Korean Air Force, following postwar expansion and depending on the outcome of an air war, could provide effective close air support and air defense for armor operations. The North Korean logistic capability has improved and is more likely to be able to support a breakthrough.

c. Artillery

Allocation of artillery support is based on unit missions, the need for fire support, and its likely effectiveness. In the offense, North Korean artillery is camouflaged and normally emplaced after dark about 500 to 1,000 meters behind the front line. The last batteries occupy positions about 24 hours prior to attack.

Artillery fire commences on all known enemy targets 10 to 30 minutes prior to the assault in an attempt to destroy command and observation posts, neutralize support weapons, and open gaps in the enemy lines. Depending on the ammunition available for a particular mission, false transfers of fire may be employed to mask the time and place of the impending assault. A final intense concentration of artillery fire, accompanied by the firing of all other support weapons available, including infantry automatic weapons, usually precedes the actual assault.

During the assault, artillery fire is transferred to appropriate targets in the rear and on the flanks of the enemy positions to neutralize hostile forces, to prevent counterattack, to isolate defending units from reinforcement and supply, and to deny use of withdrawal routes.

Following a successful assault, artillery units continue to support the action by promptly displacing forward. Occupation of the enemy front lines is the signal for the forward displacement of direct-support artillery. Usually, one-third of the artillery displaces forward while two-thirds remain in position to continue support fire.

During the Korean War, North Korean artillery was less responsive to the needs of maneuver units than was UN artillery. Complex fire plans were prepared to compensate for the rigidity but the NKA continued to have difficulty concentrating fire. Improvements in NKA communications have probably alleviated this problem.

Flat-trajectory support fire is used against tanks, fortifications, and other targets of opportunity in the offense and defense.

North Korean artillery and mortars in support of defensive actions have the missions of dispersing and neutralizing enemy attacks, inflicting casualties, and harassing reserves. Fire missions are designed to separate the infantry from its armored support. Fire support for the security line is provided by artillery and mortars located in the forward defensive zone. In supporting the main line of resistance, artillery units are assigned to specific zones and special attention is given to the areas between strong points. Artillery is generally employed in depth to assure that any penetration of the defense zone can be brought under fire.

During the latter part of the Korean War, artillery was positioned in almost inaccessible terrain. Sites selected were usually on slopes or at the foot of high ground. Gun positions were approximately 750 meters to the rear of the front-line troops and about 100 meters apart. Positions usually were extremely well-camouflaged bunkers. On level ground, ammunition was stored in shelters about 10 meters to the rear of each artillery piece; in mountainous terrain, 2 to 3 meters to the rear.

(C) In the flexible defense, NKA artillery units displaced by increments, rearward, after

dark, continuing to fire at maximum ranges to force deployment of attacking forces. For this movement, artillery control is decentralized by attaching artillery elements to units in the forward positions. During the Korean War, NKA units experienced difficulty moving the artillery fast enough because of a shortage of vehicles. Sometimes artillery had to be displaced in advance to allow time for its movement and thus left the infantry withdrawn unsupported.

North Korean artillery is presently deployed to support DMZ and coastal defensive positions.

Along the DMZ, division artillery in the first defense zone--the area about 4 kilometers deep which is occupied by the forward infantry regiments--is emplaced in steel-reinforced concrete tunnels which include shelter for gun crews, ammunition and food storage, and a partially shielded firing position.

The remainder of the division's artillery is deployed with the reserve infantry regiment in the second defense zone--roughly from 4 to 7 kilometers behind the front line--and in the division rear area. Some artillery in the second and rear zones is positioned in fortified tunnels.

Along the major avenues of approach, where the terrain is less defensible, artillery is more heavily concentrated in the first defense zone.

Mortar firing positions normally are located in the battalion defense area 300 to 800 meters behind the MLR. They are habitually emplaced on the reverse slope of a hill about 10 meters from the crest. This emplacement affords the North Koreans several advantages. The forward observer is within speaking distance of the gun crew. Computations for deflection are unnecessary because the observer places himself on the gun-target axis. These positions also afford the gun crew protection from hostile flat-trajectory fire.

During the Korean War, mortars were used infrequently in batteries and, for the most part, were employed singly. Except for light mortars, the North Koreans used prepared concentrations which were called for by infantry units as needed. Poor communications limited the use of observation posts and forward observers. The North Koreans normally fired 5 to

10 rounds rapidly and then deployed. Light mortars were first registered on a target and then heavier mortars using the same firing data were fired if needed.

Mortar firing positions are circular with the forward edge, or uphill side, about 1 meter deep and the rear edge, 2 meter deep. Very little effort is made to camouflage these positions since they are occupied only during actual firing.

In the future, the NKA may use tactical air support to attack targets beyond artillery range and targets of opportunity and to reinforce artillery fire on important targets. According to NKA doctrine, fire support by bombers and ground attack aircraft is coordinated with artillery fire plans. After the ground attack has begun, close support missions are flown by tactical air.

Antitank (AT) guns, deployed on likely avenues of approach, are used primarily in a direct fire role against enemy tanks and other armored vehicles. They may also be used as field artillery if no immediate enemy tank threat exists. The North Koreans normally hold some antitank weapons in reserve for repelling unexpected armor attacks.

In the North Korean rifle regiment two or three antitank teams or "hunter groups" were utilized during the Korean War in defense against tanks. Each team consisted of three or four men armed with submachineguns, antitank grenades, mines, and bangalore torpedoes. They worked with combat engineer units, planting mines and other obstacles to hinder the approach of hostile tanks. Hiding near roads or approaches which could be used by armor, the teams attacked from the rear or flank. Small-arms and machine-gun fire was directed on the tank in an attempt to demolish the periscopes and keep the tank closed up. The assaulting teams attempted to hang small bags of dynamite on the turret or gun, to throw grenades and bangalore torpedoes into the track system, or to set the tank on fire with incendiary grenades or Molotov cocktails.

North Korean air defense doctrine calls for antiaircraft artillery protection of their most important combat positions, installations, and large troop movements. The chief of staff, who is responsible for air defense, determines facilities to be protected from an enemy air strike, and organizes air defense operations.

Weapons are generally placed on high ground and are well camouflaged. Formations are linear, fan-shaped, triangular, or square. The interval between individual weapons is 50 to 100 meters, with about 200 meters between groups.

While light machineguns and rifles are used against low-flying aircraft, heavy anti-aircraft machineguns and artillery pieces are the primary air defense weapons. Antiaircraft weapons can also be used against ground troops and tanks. Surface-to-air missiles are deployed to protect North Korea's primary industrial and government centers. For a more complete discussion of North Korean air defense see chapter four.

8. Special Operations

with the initial invasion. Small craft were massed undetected and operations were well timed and coordinated though they had little military impact.

Amphibious assault capability of the North Korean Navy (NKN) has increased significantly. Since the early 1970's three classes of indigenously designed and built amphibious assault boats have been introduced into the fleet. Approximately 40 percent of the NKN—excluding service and auxiliary craft—is now composed of these craft which provide a fast, mobile, amphibious striking force that could support commando-type raids for rear area operations. See chapter three for further discussion of amphibious capabilities.

e. Nuclear, Biological, and Chemical Warfare

The North Koreans are not known to have developed CBR weapons. They have, however, established an organization for training and equipping their forces to operate reasonably well in the toxic environment created by these weapons. There is no identifiable policy or doctrine regarding employment of CBR weapons.

The few types of smoke, flame and incendiary devices believed to be on hand would probably be used in conventional fire support roles. Reportedly, the North Koreans produce and store mustard, hydrogen cyanide, phosgene, and chloropicrin in small quantities that probably suffice for use in research, instruction of troops, and testing protective equipment. There is no known production or stockpiling of BW agents; however, drug manufacturers could develop a small-scale agent-production capability. The aircraft, surface-to-air missiles, rockets, and artillery available in North Korea provide potential delivery systems, but nuclear, biological, and chemical warheads would have to be supplied by another country. North Korea does produce a limited number of flamethrowers.

The NKA trains in defensive nuclear, chemical, and biological warfare. During war, the NKA would conduct constant reconnaissance to detect contamination; immediately warn troops endangered by nuclear, biological, or chemical attacks; and construct shelters and issue masks and protective clothing to reduce or neutralize the effects of such attacks. Hardened infantry, armor, and artillery positions are elaborately designed to protect troops from unconventional weapons.

d. Amphibious

During the Korean War, the NKA launched several small-scale amphibious attacks against UN-held coastal islands and conducted a small landing on the east coast in conjunction

Smoke would be employed near North Korean units to obscure their activities from the enemy, and directly on enemy units to blind them and reduce the effectiveness of their fire. Flame and incendiaries would be used defensively in holding actions.

When necessary, special individual equipment is issued: gas masks, protective overcoats or capes, protective stockings for personnel engaged in decontaminating equipment or contaminated areas, and protective fatigue uniforms. Where special issue materials are not available, other materials are used: towels, handkerchiefs, cotton, or gauze soaked in water to protect the respiratory tract; straw or twigs mats for protection against contaminated ground; bags, heavy paper, or leggings to protect shoes and feet.

If a unit is exposed to CBR agents, decontamination is accomplished only after assigned missions are completed or when there is a lull in the fighting.

Cleansing stations to decontaminate personnel and equipment are set up in rear areas. Troops and equipment are held in one area prior to treatment and assembled in other areas after treatment. Cleansing stations are divided into substations for personnel, animals, clothing, vehicles, weapons, and technical equipment.

Equipment to be used for decontamination includes hot showers, barrels of uncontaminated hot water, soap, scrub brushes, clean clothes, a supply of clean cloth for cleaning weapons and equipment, hoses, and special-purpose brushes for animals and equipment.

Decontamination instructions dwell mainly on washing with uncontaminated water, using brushes and soapy cloths. Before washing, large pieces of equipment and weapons must be swept with brooms or improvised implements of straw, grass, twigs, or rope.

For hasty local decontamination, small units can comply by shaking, dusting, scrubbing with grass, twigs, etc., or by any other improvised methods, so that combat missions can be continued without delay.

When the North Koreans are preparing for an offensive, and it is possible for the enemy to employ nuclear weapons, NKA assembly areas and attack positions are fortified with shelters for personnel and equipment, positions are camouflaged, and constant reconnaissance is

maintained to give early warning of an attack. An enemy nuclear attack is not considered sufficient reason for the NKA to interrupt its combat operations.

When a nuclear, chemical, or biological attack warning is given during an assault operation, all troops don gas masks and continue the attack against the objective. They are instructed to advance and close rapidly, since enemy-occupied territory is more vulnerable under this condition.

If hit by a nuclear weapon the command post is immediately restored, units quickly reorganize to continue their combat mission, a reconnaissance mission is launched to determine the extent of damage, emergency teams are mobilized to treat and evacuate the wounded, and decontamination and construction teams are organized to decontaminate and rebuild damaged facilities. If a frontline unit is rendered incapable of continued action, units in reserve take over the mission and continue the attack. If a unit is threatened by nuclear warfare while it is in a defensive situation, troops are ordered to take cover in tunnels and underground fortifications, trenches, or low places on the ground. If caught in an open field, they lie prone, facing away from the point of impact, and remain that way for approximately 3 seconds. They then rise, don gas masks and protective clothing, and return to their normal defensive duties. When warning of a gas attack is received, the troops are instructed to don gas masks and protective clothing immediately and resume their duties.

If troops are on the march when a warning is received, the march is not halted but the troops take the following precautions:

- Wear masks, protective capes, and protective uniforms.
- Close windows and openings of vehicles.
- Cover weapons and equipment.
- Move through area as rapidly as possible in vehicles or on foot.
- If under fire, move in short rushes, using protective mats or capes to fall on.
- Do not eat, drink, or smoke in the area.
- Do not unnecessarily sit on, lie on, pick up, or touch anything in the contaminated area. If it is necessary to dig in a contaminated area, care is taken to scrape off the contaminated top layer of soil.



Mountain Warfare Training. (U)

f. Mountain Warfare

Mountain warfare is the rule rather than the exception in Korea and the NKA is well suited for it. The toughness and stamina of the individual soldier make him a good mountain fighter. During the Korean War, the NKA relied heavily on pack animals and human labor to transport weapons and equipment, and there is still apparently only limited dependence on motor vehicles in mountain warfare. While there are no special mountain units in the NKA, the light infantry brigades attached to the 1st, 2d, 4th, 5th and 8th Corps are apparently lightly armed and equipped and trained for special missions. These capabilities are especially well suited for mountainous terrain.

g. Winter Warfare

There are no troop units specifically trained for winter or arctic warfare. Nevertheless, the NKA has proved its ability to fight under conditions of extreme and prolonged cold, including movement in snow through rugged terrain with little or no motor transportation.

D. TRAINING

Intensive individual and unit training and political indoctrination are combined to develop the NKA into a combat-ready force. Training materials are standardized and provide a good balance of subject coverage. Instruction is centrally programmed and progresses from individual to division and higher level training during annual training cycles. Service schools have been consolidated and are centrally controlled. Intensive political indoctrination, rigorous physical training, strict discipline, and a sports and recreation program are designed to insure that the NKA soldier is well motivated, physically fit, and constantly occupied. Repetition within these areas is stressed in all stages of training with the aim of producing a fully trained, well-conditioned soldier who can compensate for shortages of vehicles, sophisticated equipment, and modern logistic support, and who, because of his motivation and knowledge, can perform his own duties well and also those of his immediate superior.

Some basic weaknesses exist in the NKA training program. The general educational level of NKA soldiers, for example, is rather low, although it is gradually improving. The extent of education is not a critical factor in basic combat training, but it does have an effect on technical training, and logistical and operational planning.

1. Basic Training

NKA recruits assigned to infantry, artillery, and armor branches receive basic training

in training companies formed usually at regiment level and are subsequently assigned to subordinate units of that regiment. Recruits selected for service and support branches receive training in companies organized within service and support battalions.

The recruits' daily schedule is long and is similar to that followed by NKA personnel throughout their careers. Instruction includes intensive political indoctrination, army regulations, close order drill, physical training, weapons familiarization, topography, hygiene, and infantry tactics. Instruction is also given in specialized subjects pertaining to each branch of service. Training cadre, both officers and NCO's, are drawn from the parent unit. They use standard NKA training manuals and directives and use unit equipment for demonstrations. Graphic training aids and cutaways are available for use in the technical service units, but combat units must fabricate their own aids. North Korean, Soviet and other communist motion pictures, military and propagandistic, are available and are often used as part of the regular unit training program.

2. Schools

The Korean People's Army operates a system of centrally controlled schools for officers and NCO's. While some are tri-service, others are branch- and service-oriented. Very little current information is available concerning NKA schools.

a. Officer Schools

Officer candidates are selected from among outstanding and politically reliable lower grade NCO's by the party committee of each battalion. Candidates must have completed primary school, be between 21 and 27 years of age, meet physical requirements, and be approved at higher echelons before being sent directly to one of the schools for entrance examinations. These four-part examinations cover: military drill; physical fitness; oral examinations on military regulations, current national and international events, and current KWP policies; and written examinations including grammar and simple arithmetic.

Officer candidates face a long daily schedule which includes class periods, study periods, news presentations, organized cultural and recreational activities, and a brief period of free time in the evening. Military subjects are predominant, but general education courses are also taught in an effort to raise the educational level of the officer corp.

Known service schools, locations, and curricula include:

Kim Il-sung Army College, Pyongyang

The highest level military school in North Korea, this college provides advanced training for senior officers of all services in division and higher level

command and staff procedures. Course lengths vary from 4 years for the standard course to 3 years for the more specialized rear service course and 1 year for an abbreviated course. Refresher courses are also given.

Combined Service Officers School, Suian

This school trains officer candidates in the following career categories: infantry, engineer, signal, chemical, rear services, and political. Officer candidate courses are 3 years in length. Advanced courses are, with the exception of a 3-month course for political officers, of 6 months' duration. Russian language courses were part of the curriculum in the early 1960's and are probably still taught.

Political Officer Training Center, Uisan-ni

The only known function of this center is that of providing a 6-month advanced course for political officers.

Artillery Officer School, Pyongyang

Specializing in training artillery officer candidates, the artillery school provides both a 3-year tactical course and a 2-year technical course. A 1-year course for artillery NCO's is also conducted at this school.

Armor Officer School, Chonju

Officer candidates are trained in a 3-year tactical course and in a technical course of unknown length. A 1-year officer advanced course and a 1-year NCO course are also conducted here.

Armed Forces Medical College, Pyongyang

A college for senior medical officers, the curriculum is believed to include a 5-year general medical course and various specialist courses.

Medical Officer School, Pyongyang

Officer candidates are trained as junior medical officers and medical administrative officers. The courses are 4 years in length.

Other Officer Schools and Training

Qualified officers from the arms and technical branches are also selected for advanced technical training at *civilian educational institutions* such as the Kim Chuk Engineer College in Pyongyang.

the Pyongyang Construction College, and the Pyongyang Transportation College. Most of these civilian colleges also offer military training for civilian students.

The Soviet Union presumably trains NKA officers and enlisted specialists in the use and maintenance of new, sophisticated weapons and items of technical equipment.

b. NCO Schools

There are NCO Training Centers attached to corps headquarters and one directly under the MPAF which is probably operated by the Combined Service Officer School. In addition to the standard NCO course, training for future company first sergeants is offered at the MPAF NCO School. Candidates for infantry NCO schools are selected from among privates and senior privates who have served 3 years or more in the NKA. Service records are thoroughly screened by the regiment command, who makes the final decision on each candidate.

NCO courses, as indicated above, are also provided at the Artillery and Armor Officer Schools. Armor and artillery NCO's are trained in 1-year courses.

General military subjects: tactics, weapons firing, methods of instruction, leadership, physical training, drill, CBR, sanitation, engineering, map reading, signal, vehicle operations—and political indoctrination are taught at these schools.

Leadership and instructor training are emphasized in keeping with the ultimate goal of



Tank Troops Receiving Classroom Automotive Instruction.

NKA training--to enable each individual to perform not only his own duties but those of his immediate superior. Normally, no leave is granted to students during the entire course at NCO schools. Supplementary NCO training is conducted during the annual training cycle.

3. Unit Training

a. General

(C) Heavy inroads are made into NKA unit training time by fortification and housing construction, and by maintenance and agricultural activities. These tasks often cause units to fall short of their training goals. MPAF orders demand continual combat readiness, superior discipline and order, and complete adherence to training directives, while NKA-wide inspections insure compliance. It is probable, however, that the NKA is still experiencing difficulty in reaching its training goals.

E. PERSONNEL

1. The Individual Soldier

The North Korean soldier is hardy, healthy, and accustomed from an early age to hardship and privation. He has the ability to endure inclement weather, long periods of activity without rest, meager rations, and a generally uncomfortable environment. He is, despite North Korea's drive for industrialization, more likely to be from a rural area than from a city and, therefore, at ease in Korea's rugged terrain.

Morale is as difficult to judge as it is important to know. On one hand, the long and uncertain period of service, lack of leave or pass privileges, long daily schedules, constant political indoctrination, harsh discipline, and low pay can be cited as detriments to high morale. On the other hand, the NKA soldier enjoys prestige among his peers, is generally better off than he was in civilian life, and usually remains in one unit during his period of service, which fosters comradeship and esprit de corps. Further, he is well motivated in the task of defending his country against the ROK U.S. attack which he is told will come. To meet this threat, he is

well led, trained, armed, and disciplined. On balance, while morale must certainly vary from unit to unit, and from time to time within units, it is probably fair to state that morale is generally good. It is significant, although not necessarily conclusive, that very few NKA soldiers desert. Of those who have defected, the number whose purpose was to avoid paying the penalty for some earlier violation is substantial. Only one in ten refused repatriation after the Korean War as opposed to the two-to-one ratio of Chinese soldiers who refused to return to the People's Republic.

During hostilities, the North Korean soldier can be expected to fight very well.

2. Conscription and Mobilization

a. Conscription

Length of service is usually from 5 to 7 years. All North Korean males are required to register for military service on or soon after their 17th birthday. Every male has an obligation to serve and all between the ages of 18 and 40 are subject to conscription. Women are allowed to volunteer. As mentioned earlier, an AAA brigade with 781 personnel is composed entirely of women. Women also serve as nurses, telephone operators, and entertainers.

Manpower requirements are determined at the national level by the Military Mobilization Bureau, General Staff Department, Ministry of People's Armed Forces. Two calls a year are issued to province (and special city) boards which, in turn, notify county and city boards as to their quotas. Meeting requirements is made difficult by North Korea's shortage of manpower, a shortage that leads to competition between military, essential industry, and agricultural programs. Pyongyang, however, does not hesitate to decree that one sector of the economy be made to contribute more heavily to the military than to another, when the need arises. Veterans, especially NCOs, with combat experience, have in the past been recalled to alleviate shortages.

Preinduction physicals and background interviews at county or city level are followed by more thorough physical examinations and inter-

views at province level. Those who pass are issued military clothing and personal items, mail their civilian clothing home, and are transported to their basic training units.

The system insures that, on the whole, the recruits who arrive at a training unit are physically sound and politically reliable. The physically unfit, persons with unfavorable family backgrounds, and others of questionable loyalty (for example, repatriates from Japan and the PRC) have been screened out. Most if not all recruits have already received basic infantry training in militia units at schools, factories, agricultural cooperatives, government offices, or other organizations.

Deferments are granted to educators, outstanding students, skilled technicians, important government officials, and selected KWP members.

3. Terms of Service and Discharge

a. Enlisted Personnel

Enlisted personnel in the North Korean Army usually serve until they are 27 years old unless discharged earlier for medical or other reasons or extended indefinitely because of their rank and position, company first sergeants, for example.

b. Officers

As far as is known, officers generally serve indefinitely, although North Korea has reportedly adopted a system of maximum age limits for officers at various ranks. Other reasons for discharge are physical disability and political unsuitability.

4. Assignments and Transfers

Assignments to desirable units and duties are reportedly influenced by an individual's standing with the Korean Workers Party, preference being given to those whose families had lost members engaged in party activities, the anti-Japanese movement, and the Korean War. Sons of NKA officers and enlisted men and of laborers and farmers are also looked upon with favor.

A soldier may not request his own transfer under any circumstances, but knowing someone in an influential position at a higher echelon is said to help. Transfers within regiments may be approved by the regiment commander; those out of the regiment require the approval of the division or corps commanding general.

5. Pay and Allowances

Despite relatively low pay the North Korean soldier is probably somewhat better off economically than he would be as a civilian. His daily requirements are issued to him, and he has little or no opportunity to spend money. In some instances his basic pay (table 3) may be augmented by allowances.

Allowances are paid for a variety of circumstances. Enlisted men in some frontline units on the DMZ receive an allowance equal to their base pay. Allowances are paid for extended service, for special duty (such as general's driver), to nonsmokers, to DMZ police, and at discharge. A special food allowance is given to all enlisted discharges in addition to the normal discharge allowance.

Officers receive allowances for positions held, for DMZ duty, and for longevity.

TABLE 3.—NKA Pay Scale (U)

Rank	Monthly Pay (estimated; in NK won*)
Private.....	2.0
Senior Private.....	2.5
Junior Sergeant.....	3.0
Sergeant.....	4.0
Senior Sergeant.....	5.0
Master Sergeant.....	7.5
Junior Lieutenant.....	75.0
Lieutenant.....	80.0
Senior Lieutenant.....	85.0
Captain.....	90.0
Major.....	95.0
Lieutenant Colonel.....	100.0
Colonel.....	130.0
Senior Colonel.....	150.0
Major General.....	180.0
Lieutenant General.....	280.0
Colonel General.....	320.0
General.....	Unknown
Vice Marshal.....	Unknown
Marshal.....	Unknown

*Approximate exchange rate: 2.15 NK won = US\$1.00.

6. Promotions, Demotions, and Direct Commissions

Promotions in the North Korean Army depend upon vacancies, merit, political suitability, and time in grade. A private with a clean record for 6 to 12 months after induction into the NKA is promoted to senior private by the regiment commander upon the recommendation of the company commander. Promotions to junior sergeant, sergeant, senior sergeant, and master sergeant are based entirely on merit. The person to be promoted is selected from among the best qualified of the next lower rank. Selection is made by the division commander upon the recommendation of the company commander. Company and field grade officers are promoted by order of the Ministry of People's Armed Forces, and general officers are promoted with the approval of the Military Committee of the Korean Workers Party Central Committee. An officer who renders special distinguished service in exposing a spy or performing various tasks and military activities is recommended by the division commander to the MPAF for merit promotion. There is no minimum length of service expressly stipulated for promotion to colonel and above. Approximate minimum

lengths of service for promotion to ranks below that of colonel are as follows:

Length of service	As	For promotion to
2 years.....	(*)	Junior Lieutenant.
3 years.....	Junior Lieutenant.	Lieutenant.
3 years.....	Lieutenant.....	Senior Lieutenant.
4 years.....	Senior Lieutenant.	Captain.
4 years.....	Captain.....	Major.

*Direct commissioning from enlisted ranks does not appear to be uncommon. Those receiving commissions are usually outstanding in their merits probably through military and post-graduate education and reported with at least a junior high school education. Not only are active duty personnel selected, but in some cases enlisted men discharged as master sergeants have been recalled and commissioned. In most cases, direct commissions as junior lieutenants are given.

Demotions are provided for in NKA regulations, some of the familiar charges being AWOL, damaging or stealing government property, disobeying orders, and striking officers. Less familiar are the charges of having a picture taken in a civilian studio or having illicit relations with a female.

7. Leaves, Passes, and Benefits

Enlisted men in the NKA can be granted up to 15 days of leave annually. Such leave is normally used only for specific occasions, such as the death of a parent. Additional incentive leaves can be granted for meritorious service.

Officers receive approximately 20 days of leave annually. Since most of them have families in quarters near their units, with the exception of bachelor officers, they do not use their leave unless special family occasions—death of a parent or a wedding, for example—make it necessary. Married officers are free to leave the unit area during their off-duty time.

Benefits in the NKA are not considerable. There are no known insurance or retirement programs. The army provides some medical services and military stores are located both on and off the post for military personnel and their dependents. All married officers and career noncommissioned officers are provided with off-post housing, built and maintained by the government.

8. Recreation

Recreation in the NKA is not designed to provide relaxation. Rather, its purpose is to insure physical and political fitness and to keep the troops occupied at all times. Both recreational time and facilities are limited. Supervised group activities are the rule and, with the exception

of infrequent escorted group outings, they are held in the unit area.

Enlisted men participate in athletics such as soccer, basketball, volleyball, handball, and track, all of which require little in the way of equipment and facilities.

Phys are presented at infrequent intervals; movies are shown more often. The occasional radio and television in a unit are set to receive only authorized programs.

At the company and battalion level, recreation rooms offer an opportunity to read magazines, newspapers, and books, and to play musical instruments. At regimental level and above, there are clubs for officers and enlisted men where musical shows and dramas are presented, movies are shown, and Korean chess and musical instruments may be played.

9. Counseling and Discipline

Enlisted men at all echelons are counseled periodically by both military and political officers. The counseling sessions are held both collectively and individually and are intended to increase productivity, heighten loyalty to the Korean Workers Party, and resolve any personal or family problems. Enlisted men are not allowed to criticize officers except at unit criticism sessions, and then only if the acts of the officers are considered detrimental to the NKA or in contravention of established KWP policies. Officers are permitted to caution their subordinates about mistakes or minor offenses. If the initial warning is ineffective, officers may threaten possible disciplinary action during open meetings or formations.

Military courts exist at each army corps headquarters. At the regiment level criminal investigations are conducted by a political safety unit which submits its report to a division political safety committee. The committee will then issue a warrant for the offender's arrest, if deemed appropriate. There is one stockade per headquarters at each echelon above division. Deserters, murderers, arsonists, those who lose or damage government property through negligence, and those who are responsible for vehicle accidents, accidental weapons firings, and accidental landmine detonations are considered to be criminals. All persons, once arrested for any reason, are eventually released from the NKA. Those found innocent are immediately released from custody and those found

guilty serve their sentence as directed by a court-martial. After their release ex-convicts remain under military jurisdiction for an unknown period of time. In the event that released personnel commit a crime in the civil sector, they revert back to military control for court-martial. The family of a person convicted of a political offense (such as expressing bourgeois sentiments or attempting to defect) or an economic offense (such as stealing or embezzling government funds) is subject to surveillance for generations.

F. WEAPONS AND EQUIPMENT

North Korean weapons and equipment are of good quality and are available in quantity. Quantities of transportation, signal, and engineer equipment are increasing. The North Korean soldier is accustomed to austere living conditions, acclimated to the weather, and adjusted to the necessity of moving on foot and digging fortifications by hand. His weapons provide the essential firepower and he improvises with whatever other equipment is available.

I. Infantry Weapons

a. General

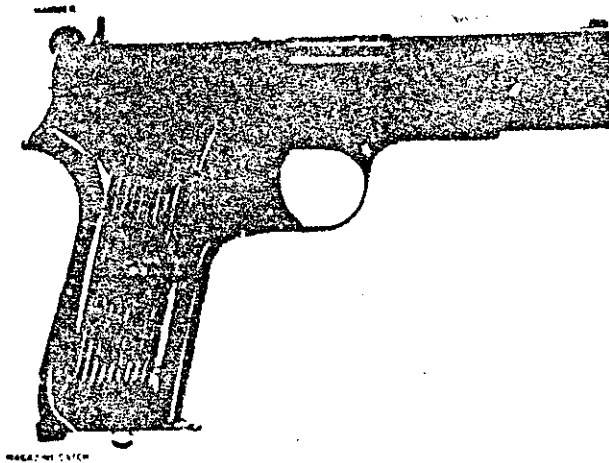
The North Korean infantry is well armed. Most of its weapons are manufactured in North Korea from Soviet designs; they are reliable and function well in combat. A generous supply of automatic and heavy crew-served weapons provides the relatively small NKA units

with good firepower. Many older weapons are being replaced with newer models.

b. Pistols

Pistols are issued to officers and a few enlisted men as personal weapons. The standard issue pistol is the 7.62-mm Tokarev M1933 (TT-33) which is a locked breech, eight-shot, semiautomatic, recoil-operated, magazine-fed, hand weapon. Its general design was copied from the U.S. .45 caliber (cal) M1911A1 automatic pistol, but its operation and manufacture have been simplified. Recognition features of the TT-33 are the knurled external hammer, blade-type front sight, and fan trigger. Its ammunition is the M1930 "P" cartridge (which is also fired by the PPSH and PPS submachineguns); muzzle velocity is 420 meters per second (m/s); effective range, 50 meters; rate of fire, 35 rounds per minute (rds/min), and weight 0.94 kilograms (kg). North Korea has also produced a modification of the TT-33 (designated Type 68) which is slightly shorter and lighter and has several other improved design features.

The Soviet 9-mm Makarov Pistol (PM) is reportedly in production in North Korea and may eventually replace the Tokarev. The PM is an eight-shot, semiautomatic, blowback-operated, magazine-fed pistol with a double-action trigger mechanism. It is chambered for a special 9-mm round developed by the USSR which is also fired in the new Soviet Stechkin (APS)



North Korean Type 68 Pistol (U)

pistol. The 9-mm ammunition fired in the PM and APS is not interchangeable with any other 9-mm ammunition. This round is less powerful than the 7.62-mm round fired in the Soviet TT-33 pistol which the PM and the APS are replacing. The Makarov pistol is a well-made, compact weapon, but its barrel length of only 93 millimeters makes it relatively inaccurate. Its muzzle velocity is 315 m.s. and its effective range is 50 meters. As with the TT-33, the rate of fire is 35 rds/min.

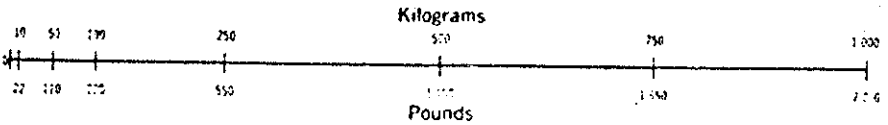
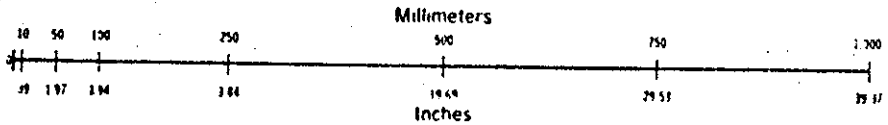
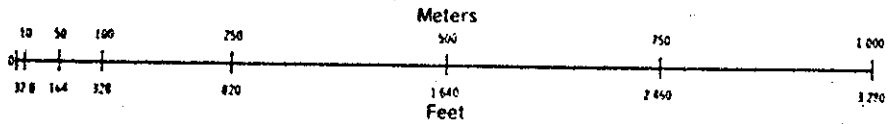
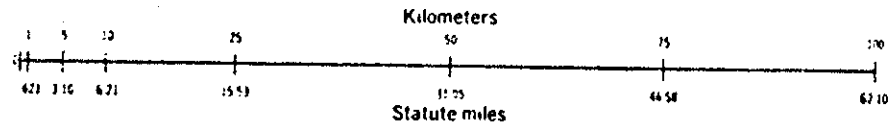
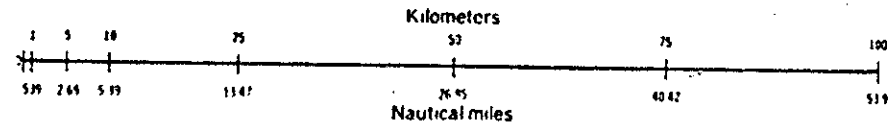
The 9-mm Stechkin Machine Pistol

(APS) was produced in North Korea in limited numbers but is no longer standard. It is capable of automatic and semiautomatic fire and features a double action trigger. The wooden holster is attached to the grip when required as a shoulder stock. The rear sight is adjustable to ranges of 25, 50, 100 and 200 meters.

The APS operates on the blowback principle and uses a relatively low-powered 9-mm cartridge making it more controllable than older machine pistols in which the barrel and slide are

METRIC CONVERSION FACTORS AND CHARTS

TO CONVERT	
FROM METRIC	TO METRIC
KILOMETERS X .539 = NAUTICAL MILES	NAUTICAL MILES X 1.85 = KILOMETERS
KILOMETERS X .621 = STATUTE MILES	STATUTE MILES X 1.6 = KILOMETERS
METERS X 3.28 = FEET	FEET X .304 = METERS
MILLIMETERS X .03937 = INCHES	INCHES X 25.4 = MILLIMETERS
KILOGRAMS X 2.2 = POUNDS	POUNDS X .453 = KILOGRAMS





7.62-mm Assault Rifle Kalashnikov (AK-47). (U)

locked together at time of firing and which use a more powerful cartridge. With its holster stock, high rate of fire, and large magazine capacity (20 rounds), it has a definite advantage over standard semiautomatic pistols.

With a loaded magazine, the pistol weighs 1.22 kg and the holster stock is an additional 0.56 kg. On automatic fire it has a cyclic rate of fire of 700 to 750 rds/min and a practical rate of 90 rds/min. The semiautomatic rate of fire is 40 rds/min. Muzzle velocity is 340 m/s. Maximum effective range is 50 meters.

c. Assault Rifles

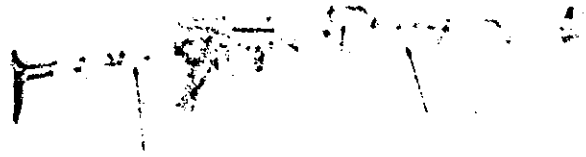
As have other communist armies, the NKA has placed considerable importance on automatic individual weapons. The 7.62-mm Assault Rifle Kalashnikov (AK-47) has been considered the standard weapon for seven of the eight members of each North Korean infantry squad. The North Korean-produced Type 58 (7.62-mm) assault rifle is a copy of the Soviet AK-47 and is also available in a folding stock version. A lighter weight model, the Type 68, has also been identified.

The AK-47 is a compact, gas-operated weapon capable of semiautomatic or automatic

fire. It fires the Soviet 7.62-mm M1943 round which, being intermediate in power between submachinegun and rifle cartridges, has a mild recoil. The same cartridge is used in the SKS carbine and in the RPD and RPK light machineguns. The assault rifle, which may have either a wooden stock or a folding metal stock, has a separate knife bayonet. Magazine capacity is 30 rounds and the cyclic rate of fire is 600 rds/min. The practical automatic rate of fire is 100 rd/min while the practical semiautomatic rate of fire is 40 rds/min. Muzzle velocity is 710 m/s and the maximum effective range is 400 meters.

d. Rifles and Carbines

A copy of the 7.62-mm Semiautomatic Carbine Simonov (SKS), a postwar Soviet weapon firing the M1943 round, is also manufactured and issued in North Korea and has been designated Type 63. It is a gas-operated, integral box-magazine-fed weapon. Although classified as a carbine by the Soviets, it qualifies as a rifle by U.S. standards. The 10-round magazine is not detachable, but cartridges can be removed, without working them through the chamber, by pushing the magazine latch to the rear and pivoting the magazine downward. A folding bayonet is permu-



North Korean Type 68 Assault Rifle (folding stock). (U)

neatly attached to the carbine by a large rivet. The rate of fire is 35 to 40 rds/min; the muzzle velocity is 735 m/s; the maximum effective range is 400 meters.

Several obsolete, manually operated, bolt-action weapons are still available in North Korea although they have been replaced in nearly all NKA and even in militia units. These old weapons—the Soviet 7.62-mm Mosin-Nagant carbine M1938 and M1944 and the 7.62-mm rifle M1891/30—fire the 7.62-mm M1891/30 round and are similar ballistically to the U.S. .30 cal Springfield Rifle M1903.

e. Submachineguns

The two submachineguns carried in the North Korean inventory are the 7.62-mm Sudayev M1943 (PPS) and the 7.62-mm Shpagin M1941 (PPSh). The North Korean-produced Type 49 submachinegun is a copy of the PPS. These weapons provide good firepower at close range and are consequently very effective for ambush and assault missions. They have been replaced in most conventional units with the AK-47 or the SKS, but are still carried by North Korean infiltration agents.

The PPS is fully automatic but the cyclic rate has been retarded to permit touching off single rounds and to increase stability during bursts. The cyclic rate is 650 and the practical rate, 100 rds/min. The stock of the PPS is hinged and folds up and forward on pressing the stock release button, thus facilitating carrying or storing. A compensator is welded on the front of the barrel jacket. Its curved box magazine holds 35 rounds and is not interchangeable with that of the PPSh. Muzzle velocity is 500 m/s and the effective range is 200 meters (short burst) or 100 meters (long burst).

The PPSh is both fully automatic and semiautomatic. If the selector lever on the trigger guard is pushed forward the weapon will fire automatically at the high cyclic rate of 700 to 900 rds/min. For semiautomatic fire the lever is placed to the rear. The barrel jacket, which extends beyond the muzzle, acts as a muzzle break and compensator. The PPSh uses either a drum magazine which holds 71 rounds, or a curved box magazine with 35 rounds. As with the PPS, the practical rate is 100 rds/min; muzzle velocity, 500 m/s; and effective range, 200-100 meters.

f. Machineguns

The standard light machinegun of the NKA infantry squad is the 7.62-mm Degtyarev (RPD), a fully automatic, gas-operated, bipod-mounted weapon, fired from the open-bolt position. This weapon fires the M1943 rimless cartridge and is fed from a nondisintegrating metallic link belt housed in a drum beneath the receiver. Drum capacity is 100 rounds, cyclic rate of fire is 650 rds/min, and the practical rate is 150 rds/min. The RPD's effective range is 800 meters and its muzzle velocity is 735 m/s. The gun weighs 8.6 kg unloaded. It has also been produced in North Korea as the Type 62 light machinegun and in the PRC as the Type 50 and 56-1 light machinegun.

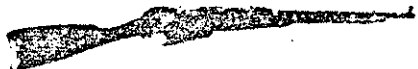
The 7.62-mm Company Machinegun M1946 (RP 46) is considered to have replaced the older heavy machineguns in the machinegun platoon of the infantry company. The RP-46 is a gas-operated, automatic, bipod-mounted weapon which fires from an open bolt. It is normally fed by a nondisintegrating metallic link belt; however, the pan magazine of the DP or DPM light machineguns can be used after the belt feed device is removed. This weapon weighs 13 kg unloaded and has a carrying handle. It fires either the M1930 rimmed cartridge or the M1908 rimmed cartridge, has a cyclic rate of fire of 600 rds/min, and a practical rate of 230 to 250 rds/min. Muzzle velocity is 840 m/s; maximum effective range, 1,000 meters. The North Korean Type 64 is a copy of the Soviet RP 46.

Other light machineguns which may still exist in some NKA units are the 7.62-mm Degtyarev (DP) and (DPM). These are pre-WWII weapons having the same ballistic characteristics as the RP-46, a postwar improvement of the DP series.

The 7.62-mm Kalashnikov Light Machinegun (RPK) is manufactured in North Korea and will probably eventually replace other magazine-fed light machineguns. Basically the RPK is an AK assault rifle with a longer and heavier barrel, a bipod, different stock, and two magazines with greater capacity. Its performance is roughly equal to that of the RPD.

The heavy machineguns currently in service as ground support weapons are the 7.62-mm Goryunov Machinegun M1943 (SG) and (SGM). The SGM incorporates a number of improvements

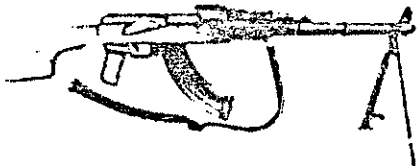
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7.62-MM CARBINE MOSIN-NAGANT M144



7.62-MM SEMIAUTOMATIC CARBINE SIMONOV (SKS)



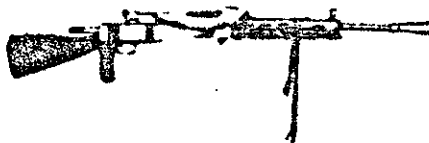
7.62-MM LIGHT MACHINEGUN KALASHNIKOV (RPK)



7.62-MM LIGHT MACHINEGUN DEGTYAREV (RPK)



7.62-MM COMPANY MACHINEGUN M1946 (RP-46)



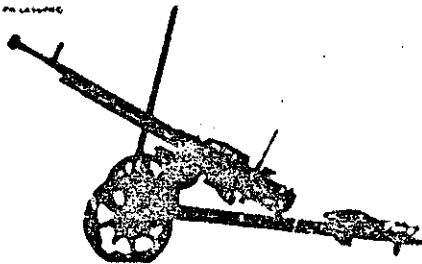
7.62-MM LIGHT MACHINEGUN DEGTYAREV (DPM)

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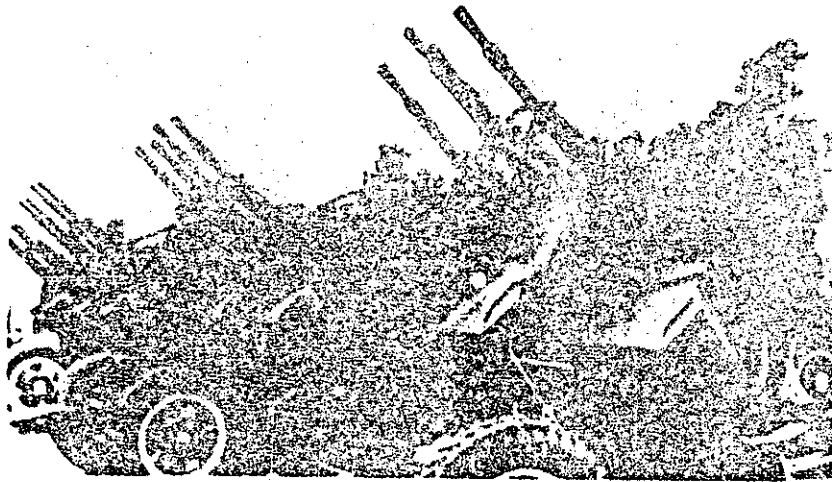
7.62-MM HEAVY MACHINEGUN GORYUNOV (SGM)

UNCLASSIFIED



127-MM HEAVY MACHINEGUN M1938, 46

North Korean Infantry Weapons. (U)



North Korean 14.5-mm AA Heavy Machinegun (ZPU-4). (U)

but has the same performance characteristics as the SG. These weapons are replacing the 7.62-mm Maxim Machinegun M1910 (SPM) in the heavy machinegun company of each infantry battalion. The SGM is gas-operated, fed by metallic link belt, and is mounted on a tripod or on wheels. The cyclic rate of fire is 600 to 700 rds/min; the practical rate, 250 to 300 rds/min; muzzle velocity, 800 m/s; maximum effective range, 1,000 meters. A modified version of this weapon, the SGMT, is used as the coaxial machinegun on the T-54 tank.

The 12.7-mm Degtyarev-Shpagin Heavy Machinegun M1938 46 (DShKM) is used primarily on tanks and assault guns as an anti-aircraft weapon. It can also be employed on a shoulder-high tripod mount for defense against aircraft or on a wheeled mount in a ground support role. It has a firing position weight of 131.5 kg (gun and tripod), fires at the rate of 540 to 600 rds/min, and has a maximum effective horizontal range of 1,500 meters and a maximum effective AA range of 1,000 meters.

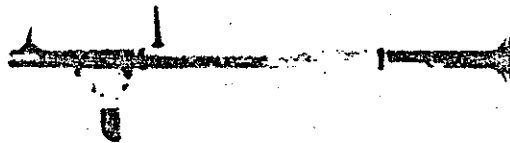
The 14.5-mm ZPU series of AA machineguns consists of single (ZPU-1), twin (ZPU-2), and quad (ZPU-4) mount versions using the same basic weapon. The ZPU-1, which is being phased out, and the ZPU-2 are mounted on a two-wheeled carriage; the ZPU-4 is mounted on a four-wheeled carriage. Optical-mechanical sights are mounted on the carriage. These weapons give the NKA a formidable defensive potential

against low-altitude aircraft flying less than 640 kilometers per hour; they are also very effective against light armor and in delivering area saturation fire in a ground support role. The cyclic rate of fire is 600 rds/min per gun; muzzle velocity is 1,000 m/s, maximum horizontal range is 7,000 meters, and maximum effective AA range is 1,400 meters.

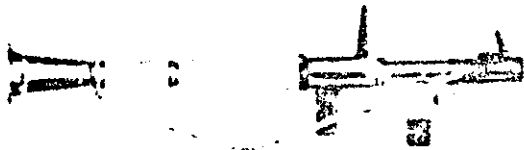
g. Antitank Weapons

Standard North Korean infantry antitank weapons include the antitank grenade launchers found in each infantry squad, the 82-mm recoilless gun (B-10) found in the recoilless gun platoon of each infantry battalion, and the AT-1 (SNAPPER) missile system.

The RPG-2 Antitank Grenade Launcher is a lightweight, portable antitank rocket launcher designed for use against armored vehicles. It is also effective against fortified positions, bunkers, and buildings. The launcher fires a fin-stabilized HEAT (high explosive antitank) pro-



AT Grenade Launcher RPG-2. (U)



AT Grenade Launcher RPG-7. (U)

jectile which has an explosive warhead larger in diameter than the launcher tube. The launcher tube is 40 millimeters in diameter while the protruding warhead has a diameter of 80 millimeters. Several unconfirmed reports indicate the North Koreans may also have fragmentation and incendiary rounds for the RPG-2. It can be reloaded and fired as many times as needed. It is usually fired from a well-protected position since fragments from the exploding shell fly from 100 to 150 meters. Within a practical effective range of 100 meters, it can penetrate 178 millimeters of armor.

The RPG-7 is similar to the earlier model but its projectile is 85 millimeters and has an additional rocket assist. Several meters beyond the muzzle the rocket assist motor cuts in, increasing the velocity from 100 m/s to 300 m/s. This gives the projectile greater range, a flatter trajectory, and increased accuracy. Penetration is increased to 330 millimeters. Other improvements are better fuzing and an optical sight. The RPG-7 also differs from the RPG-2 in that it has two hand grips and a large flared blast shield at the rear of the launching tube.

The 82-mm Recoilless Gun (B-10) is a smooth-bore, breech-loaded infantry weapon which fires high explosive antitank or antipersonnel fragmentation, fixed, fin-stabilized ammunition. A T-handle at the muzzle is used for hand towing by two men. For carrying the gun short distances, it can be disassembled into four pieces: a 40-kg breech assembly, a 9.3-kg tube; a 22.6-kg cradle and tripod assembly, and a 13.5-kg detachable axle and wheel assembly. It can also be transported inside vehicles, small aircraft and boats, or be dropped by parachute. Four men constitute the gun crew: a loader, a gunner, a loader, and an ammunition handler. Its emplacement requires 1 minute and it can be displaced in 30 seconds. The B-10 is equipped with a single sight unit that contains a telescopic sight for direct fire and

a panoramic sight for indirect fire. Both sights can be illuminated for night firing. Iron sights are also provided. A rate of fire of 5 to 6 rds/min can be achieved with the B-10; the muzzle velocity is 320 m/s. Its maximum range is 4,470 meters; with a maximum effective range against armor targets, 400 meters. Under optimum conditions a HEAT round can penetrate 240 millimeters of armor.

The AT-1 (SNAPPER) is included in the NKA inventory but is in short supply. A wire guided missile with a HEAT warhead, it is mounted on a UAZ-69 jeep modified to carry a quad-launcher. The missile is 140 millimeters in diameter, 1,140 millimeters in length, weighs 24 kg at launch, has an average velocity of 112 m/s, and has a range of between 600 and 2,300 meters. The HEAT missile weighs 24 kg and can penetrate 355 to 380 millimeters of armor. Missile control is from the forward compartment of the UAZ-69 by a crew of two.

h. Mortars

The three different Soviet-designed mortars in the NKA are the 82-mm, the 120-mm, and the 160-mm units. Only the 82-mm mortar is discussed in this section since the 120-mm and 160-mm weapons are considered artillery weapons by the NKA and are covered under that category. The 82-mm M1937 Mortar is standard in North Korean infantry units. It is found in the mortar company of a rifle battalion. Recent reports indicate North Korea may be producing or receiving 60-mm mortars to replace heavier mortars in light infantry and special warfare units.

The 82-mm mortar has been produced in three models: M1937, M1941, and M1943. All have identical tubes and firing characteristics. Since the mounts of the M1941 and M1943 proved unsatisfactory, the communist armies reverted to the use of the older model.

The 82-mm mortar breaks down into three packloads (base plate, bipod or mount, and tube) which can be carried by three men or one pack animal. Ammunition available for the weapon includes high explosive and smoke projectiles. It can also fire 81-mm mortar shells used by the United States and other countries. The mortar may be aimed by direct sighting or by azimuth sighting using an indirect sighting apparatus. Characteristics of the M1937 are: length of tube, 1.22 meters; weight, 56 kg; elevation,

+45 to +85 degrees; traverse, 6 degrees; rate of fire (maximum), 25 rds/min; muzzle velocity, 210 m/s; maximum range, 4,040 meters; minimum range, 90 meters; weight of projectile (HE), 3.05 kg; and a crew of five.

The NKA has approximately 6,700 82-mm mortars in its inventory.

I. Grenades

Antipersonnel handgrenades in the North Korean inventory include the Soviet- or North Korean copies of—RGD-5, F-1 and RG-42; the PRC stick-type fragmentation handgrenade; and a North Korean "ball bearing grenade."

The RGD-5 Handgrenade or PRC Type 59—looks much like the U.S. M26A2 handgrenade, but its casing is soft sheet steel which tends to burst into irregular fragments. The killing zone of the RGD-5 extends to 25 meters, but its effectiveness is only 25 to 30 percent that of similar grenades because of the irregular pattern of the fragments. It is armed by extracting the pull-ring and releasing the lever; it will then explode in 3 to 4 seconds. The average soldier can throw this grenade about 45 meters.

The F-1 Handgrenade is similar in appearance and function to the U.S. Mk II handgrenade. The F-1 also has a 3- to 4-second delay after the safety lever is released. The effective radius of the fragments of its cast iron body is 25 meters.

The RG-42 Handgrenade is a sheet-metal cylinder filled with TNT. Its light fragmentation is considered effective to a radius of 20 meters. It explodes 3 to 4 seconds after the safety lever is released.

The Chinese Stick-type Fragmentation Handgrenade is filled with a low velocity explosive and has a killing zone of 10 meters. It is activated by removing the wooden plug at the base of its stick handle and extracting the pull-ring. It is designed to explode from 2½ to 5 seconds later. An average soldier can throw one 40 meters.

North Koreans are producing and have issued a grenade called the Ball Bearing Handgrenade. Numerous ball bearings are embedded in its cast iron body providing better fragmentation than other NKA antipersonnel grenades. It is approximately the size of the F-1 grenade, has a 2- to 4-second delay fuze and reportedly explodes

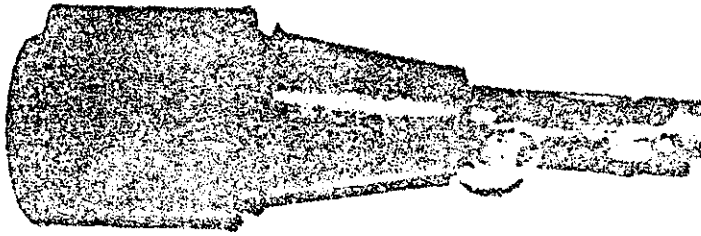
200 fragments over a 100-meter radius. North Korea may also have produced a plastic encased ball bearing grenade.

Antitank handgrenades in the North Korean inventory include the RPG-40, RPG-43, RKG-3, and the RPG-6.

The RPG-40 Antitank Handgrenade, although obsolete in the Soviet Union, is probably still found in North Korea. It was designed for close-in attack on lightly armed vehicles, machine-gun and artillery positions, and road blocks. The RPG-40 has an impact fuze and depends on the blast from its relatively heavy charge of TNT to damage a vehicle in vulnerable areas such as the suspension, engine compartment, or turret top. It will penetrate approximately 25 millimeters of armor. Because of its secondary fragmentation effect, it must be thrown from a protected position.

The RPG-43 Antitank Handgrenade was the earliest of the HEAT grenades used by communist forces. It incorporates an impact fuze and a shaped charge to achieve penetration of almost 76 millimeters of armor. Its primary targets are tanks, other armored vehicles, and pillboxes. The grenade filler is so arranged that the force of the explosion is directed at one specific point on the surface of the target. The RPG-43 has a stabilizing device which insures that the shaped charge in the head is pointed at the target on impact. This device consists of two cloth strips attached to the handle of the grenade and to the metal collar fitted over the handle. After the safety ring and pin are removed, the grenade is thrown with the head pointing towards the target. The conical collar and safety lever are forced off the grenade by a compressed spring when the grenade leaves the hand. The collar is drawn behind the grenade by the cloth strips and stabilizes the grenade in flight. As the nose of the grenade strikes the target, the firing pin is driven into the detonator which explodes the main charge. The grenade is generally thrown from a distance of 15 to 20 meters and, because of its secondary fragmentation effect, should only be thrown from cover.

The RKG-3 Antitank Handgrenade is a later model high explosive antitank handgrenade used by the North Koreans. It has a filler which is more powerful than those of earlier grenades and has an improved explosive cone design. It is stabilized in flight by a fabric, four-



RPG-43 HEAT Handgrenade. (U)

paneled parachute. This grenade is able to penetrate nearly 125 millimeters of armor.

The RPG-6 Antitank Handgrenade has probably been replaced by later models but may still be found in North Korea. It has an armor penetration capability of nearly 102 millimeters.

j. Mines

It is believed that the bulk of NKA mines are of Soviet design and include Soviet, Chinese, and North Korean manufactured versions of the following:

PMD-6 or PMD-7	Antipersonnel	Wooden box.	191 by 89 by 64 mm; 152 by 76 by 51 mm.
POMZ-2...	Antipersonnel	Serrated cast iron on stake.	61 by 135 mm, shell only.
TMD-B...	Antitank	Wooden box.	320 by 275 by 140 mm.
TM-41.....	Antitank	Cylindrical, metallic.	267 by 147 mm.
TMD-44....	Antitank	Wooden box.	378 by 279 by 140 mm.
TM-46.....	Antitank	Cylindrical, metallic.	305 by 107 mm.

The dimensions of the North Korean wooden box, antipersonnel mines are believed to vary. One North Korean version, Mine 57, reportedly measures 221 by 46 by 89 millimeters. Two other North Korean antipersonnel mines which have been reported, but cannot be associated with a Soviet type, are the Tobal Anti-infantry Mine 3 and the Fragmentation Anti-infantry Mine. The Tobal-3 is reported to be 124 millimeters high with a diameter of 13 millimeters while the fragmentation mine is said to be 107 millimeters high and has a diameter of 61 millimeters. The NKA has also improvised mines in

great quantities from available mortar and artillery shells, grenades, and demolition charges. In addition to mines, the North Koreans employed booby traps extensively and effectively during the war.

The two fuzes most commonly employed by the North Koreans are the Soviet MCV pull fuze and the MV-5 or MV-5K pressure fuze. It is believed that these fuzes are being produced in North Korea. Others used in lesser quantities are friction pull fuzes and various Chinese fuzes.

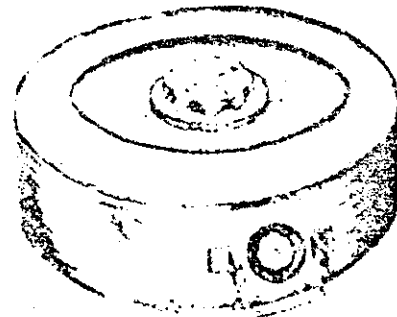
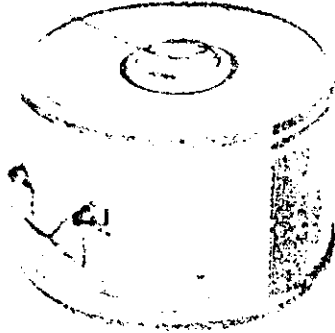
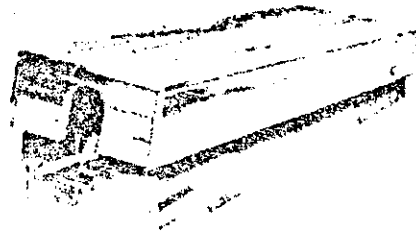
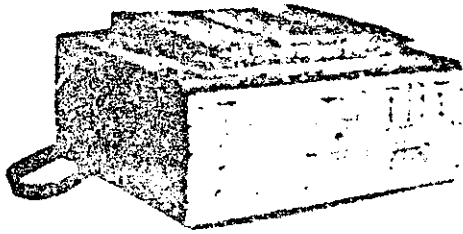
The North Koreans have been known to employ cone field mines which were either electrically or mechanically detonated from a remote position.

2. Artillery

The NKA has a large artillery inventory. It consists of World War II type, Soviet-produced and more modern type, bloc or indigenously produced pieces. Most recent artillery acquisitions have been rocket launchers, FROG's, and a well-developed system of early model surface-to-air missiles.

a. Field Artillery

The Soviet 76-mm Division Gun M1942 is the standard light artillery weapon. The Soviet 85-mm Division Gun D-44 and the Soviet 100-mm Field Gun M1944 have probably replaced some 76-mm weapons. The M1944, or possibly the Soviet 100-mm AT Gun M1955, probably is the principal weapon in corps antitank battalions. The Soviet 122-mm Howitzer M1938 is the infantry division artillery regiment's medium artillery weapon. The Soviet 122-mm Corps Gun M1931-37 provides the corps with long-range



Mines.

destruction and interdiction capabilities. The Soviet 130-mm Field Gun M-46, which has a maximum range of 27,000 meters, has enhanced the North Korean ability to provide depth to the battlefield. The Soviet 152-mm Howitzer M1943 and the Soviet 152-mm Gun-Howitzer M1937 provide the corps with medium-caliber artillery support capabilities. Other 152-mm howitzer or gun-howitzer weapons may also have been introduced into the North Korean inventory. The total number of field artillery weapons in the NKA arsenal is estimated to be between 2,600 and 2,700 units. Characteristics are shown in table 4.

The 76-mm Division Gun has a maximum range of 13,000 meters. High explosive (HE), armor-piercing high explosive (APIHE), and hypervelocity armor-piercing (HVAP) rounds are available. The maximum armor penetration, which is achieved by the HVAP round, is 91.4 millimeters at 500 meters. The 57-mm antitank gun M1943 is present in North Korea in unknown quantity. It is distinguishable from the 76-mm division gun only by a longer and thinner tube with no muzzle

brake. The 57-mm gun has a higher muzzle velocity and, with an HVAP round, can penetrate 140 millimeters of armor at 500 meters.

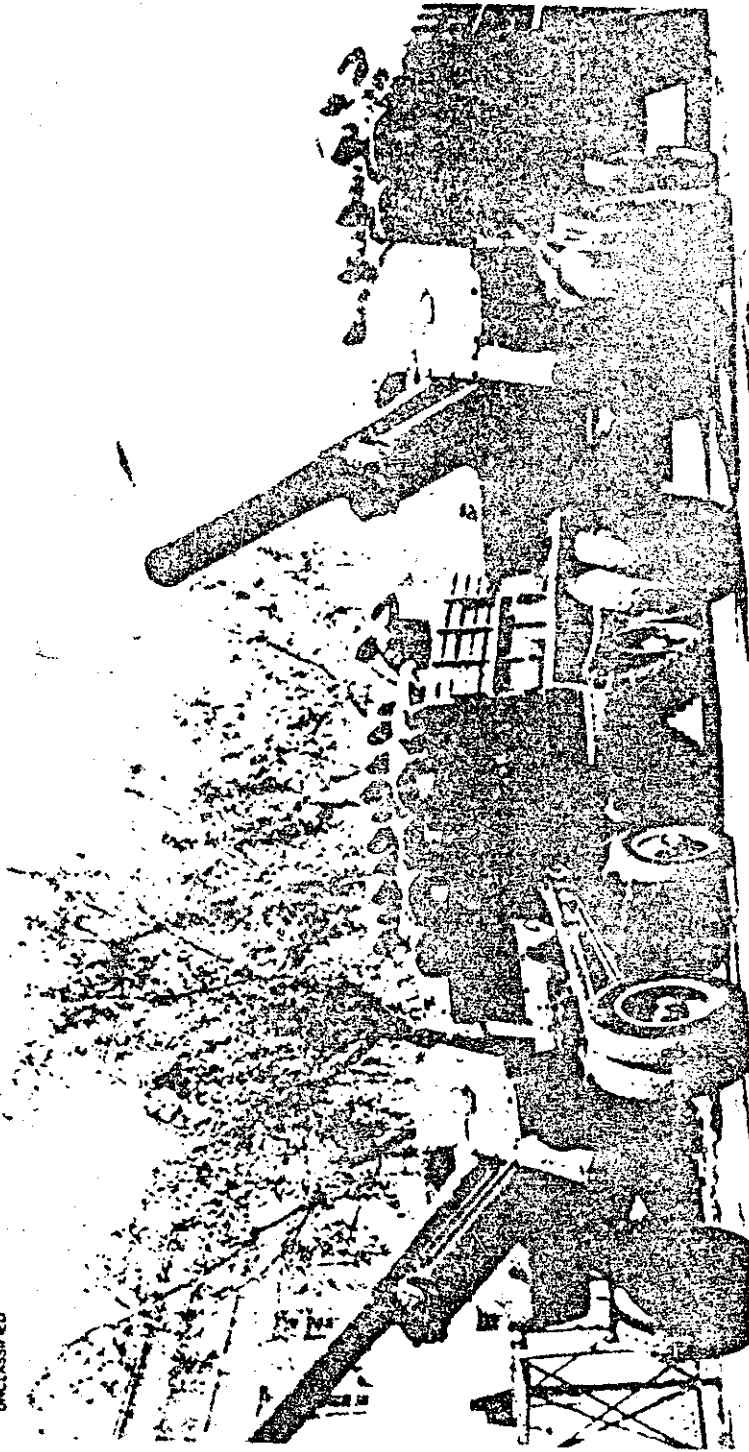
The 122-mm Howitzer M1938 is an excellent weapon that can deliver a 21.8-kg projectile 11,800 meters. It will probably remain in the North Korean inventory for many more years.

The 122-mm Corps Gun M1931 37 fires a 25-kg projectile 20,800 meters. The NKA does not have many of these guns; 152-mm weapons are apparently the predominant corps cannon.

The 122-mm Field Gun D-74 is capable of firing a 27.5-kg HE round 23,900 meters. It is probably replacing the 122-mm Corps Gun M1931 37.

The 152-mm Howitzer M1943 employs the tube of the older M1938, but it is equipped with a double-baffle muzzle brake and is mounted on the carriage of the 122-mm Howitzer M1938. This gives it the same ballistic performance as the much heavier M1938, with much greater mobility. It fires a 40-kg projectile 12,400 meters.

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152-mm Howitzers. (U)

TABLE 4.—Characteristics of Field Artillery Used by the North Korean Army (U)

Weapon	Overall Length	Weight	Rate of Fire	Maximum Range	Projectile—Armor Penetration		Crew
					from 500 Meters	from 1,000 Meters	
	(meters)	(metric tons)	(rounds/minute)	(meters)	(millimeters)	(millimeters)	
57-mm AT Gun M1943.....	6.6	1.8	20-25	8,400	HVAP—140	HVAP—95	7
76-mm Division Gun M1942.....	6.0	2.5	15	13,300	HEAT—120	HEAT—120	7
					HVAP—91	HVAP—58	
					APHE—69	APHE—61	
85-mm Division Gun D-44.....	8.4	1.7	10	15,650	AP—135	AP—122	8
					HVAP—213	HVAP—178	
100-mm Field Antitank Gun M1944.....	6.1	3.5	10	21,000	AP—221	AP—211	6
					HEAT—400	HEAT—400	
122-mm Howitzer M1938.....	6.1	2.5	5-6	11,800	HEAT—203	HEAT—203	8
122-mm Field Gun D-74.....	10.2	6.6	6	23,900	AP T—201	AP T—185	10
122-mm Corps Gun M1931,37.....	5.6	8.0	5-6	20,800	Not available	APHE—160	8
130-mm Field Gun M-46.....	11.7	8.5	5-6	27,000	AP T—249	AP T—239	9
152-mm Howitzer M1943.....	7.6	3.6	4	12,400	SAP—87	SAP—81	7
152-mm Gun-Howitzer M1937.....	4.9	8.0	3-4	17,265	Not available	APHE—124	9

Key: AP—armor-piercing HEAT—high explosive antitank
 AP-T—armor-piercing capped tracer HVAP—hypervelocity armor-piercing
 APHE—armor-piercing high explosive SAP—semi-armor-piercing

The 152-mm Gun-Howitzer M1937 is an old but highly regarded weapon. It fires a 43.6-kg HE shell 17,265 meters. The 100-mm Field Antitank Gun M1944 fires a 15.7-kg HE or a 15.9-kg APHE projectile a distance of 21,000 meters. The 85-mm Division Gun, D-44, fires a 9.5-kg HE or a 5-kg HVAP shell 15,650 meters. The 130-mm Field Gun M-46 fires a 33.4-kg HE shell a maximum of 27,000 meters.

b. Mortars

In the NKA, 120-mm and 160-mm mortars are considered to be artillery and are employed much the same as are light howitzers. These weapons have excellent mobility and performance characteristics.

The 120-mm Mortars M1938 and M1943, which have only slight physical differences and the same ballistic characteristics, are found in the mortar regiment of the infantry division and in the mortar battery of the infantry regiment. These weapons are highly mobile despite their size and, although usually towed by trucks, can be broken down into three loads for pack animal transport. They may be fired by trigger as well as by the usual drop-five method.

The overall length of the 120-mm mortar is 2.26 meters. It weighs 284 kilograms and has a maximum rate of fire of 15 rounds per minute. The maximum and minimum ranges are 5,700 and 500 meters, respectively. The types

of projectiles used are HE, Smoke, Incendiary, and HE-Frag (high explosive fragmentation). The weapon requires a crew of six.

The 160-mm Mortar M1943 is breech-loaded. It has a length of 3.28 meters and weighs 1,270 kilograms. It can deliver a 40.8-kg projectile a maximum of 5,150 meters. The 160-mm Mortar M-160 is a vast improvement over the older model and can fire a 41.5-kg projectile 8,040 meters. It has an overall length of 4.9 meters and weighs 1,471 kilograms. Both models have a maximum rate of fire of three rounds per minute and require a crew of seven.

The North Koreans have approximately 2,300 120-mm mortars and 100 160-mm mortars.

c. Rocket Launchers and Missiles

The 107-mm Rocket Launcher is a towed piece capable of firing a barrage of 12 rounds, is 838 millimeters long, weighs 19 kilograms, and has a range of 8,300 meters. Firing method is electrical. The warhead is HE-Frag with a point detonating contact fuze.

The 122-mm Rocket Launcher BM-21 is estimated to weigh 2.7 metric tons and has a reload time of 10 minutes. The standard long rocket is estimated to be 3.2 meters in length and to weigh 77.6 kilograms. It can be fired a maximum of 20.5 kilometers. The warhead is HE-Frag, weighs 19.3 kilograms, and has a point detonating fuze. The 122-mm rocket launcher has a crew of six.

The 132-mm Rocket Launcher BM-13 weighs approximately 7.8 metric tons and can be loaded in 5 to 10 minutes. The vehicle used for transport travels at a maximum speed of 64 kilometers per hour (km/h) and has a cruising range of 600 kilometers. The rocket is 1.5 meters long and weighs 42.5 kilograms. The maximum and minimum ranges are 9,000 and 3,000 meters, respectively. The warhead is HE, weighs 13.6 kilograms, and is point detonating. It requires a crew of six.

The characteristics of the 140-mm Rocket Launcher and its transporter are unknown. The rocket is 1 meter long and weighs 39.5 kilograms. Range is between 400 and 9,810 meters. The warhead is HE and weighs 19 kilograms. The crew needed is from five to seven depending upon the type of vehicle and launcher.

The 200-mm Rocket Launcher BMD-20 weighs 2.5 metric tons and has a reload time of 10 minutes. The transporting vehicle weighs 8.7 metric tons, has a maximum speed of 64 km/h, and a cruising range of 600 kilometers. The rocket is 3.2 meters long, weighs 196 kilograms, and has a range of between 2.7 and 19.5 kilometers. The warhead is HE, weighs 73 kilograms, and has a point detonating fuze. The 200-mm rocket launcher has a crew of six.

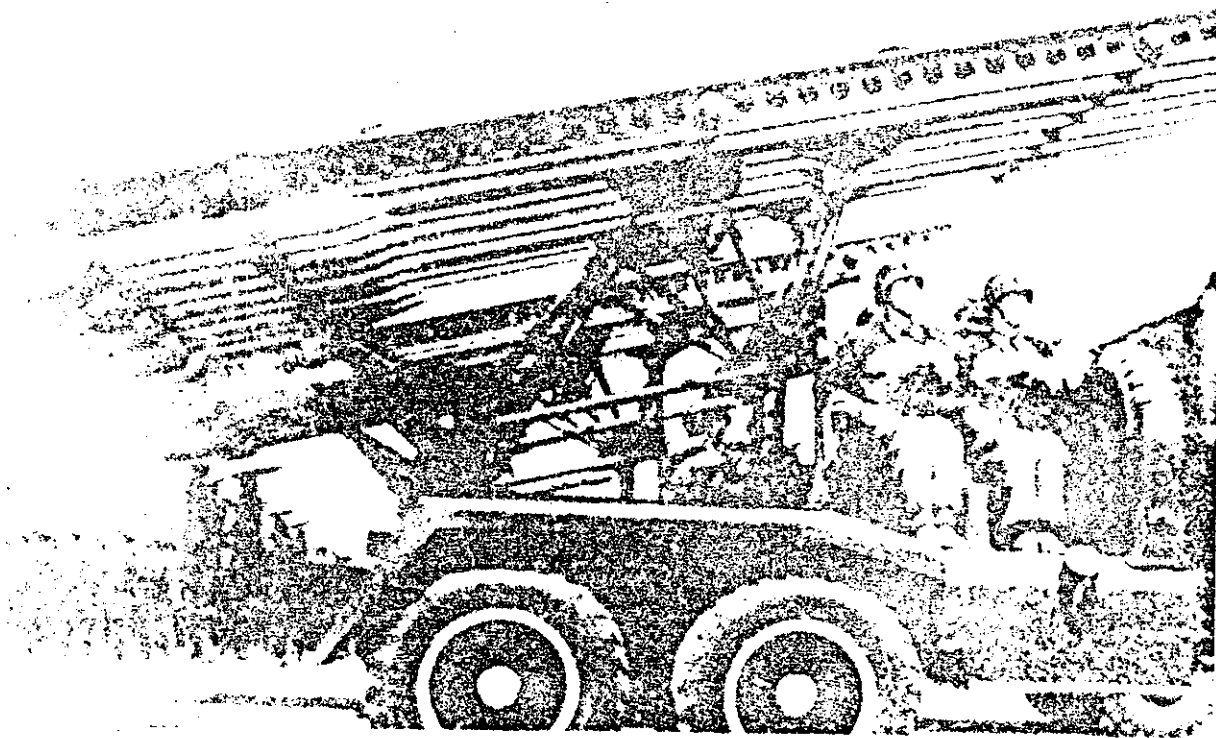
The 240-mm Rocket Launcher BM-24 weighs 1.8 metric tons and has a reload time of 15 minutes. The transporting vehicle weighs 7.6 metric tons, has a maximum speed of 64 km/h, and a cruising range of 600 kilometers. Two rockets are used: one for short and the other for long range. The short-range rocket is 1.2 meters long, weighs 113 kilograms, carries a 62-kg warhead, and has a maximum range of 6,575 meters. The long-range rocket is also 1.2 meters long, weighs 110 kilograms, carries a 47-kg warhead, and has a maximum range of 10.3 kilometers. The 240-mm rocket launcher employs a crew of six.

The SSC-2b (SAMLET) Coastal Defense Missile is 8.3 meters long, has a 4.7-meter wing span, and weighs 2.7 metric tons without booster. The maximum operational range is 5 to 50 nautical miles. It reaches a maximum height of 458 meters and is guided by autopilot with mid-course beam-rider and semiactive radar terminal homing. It takes 15 minutes to reload for firing and 5 minutes for a crew that is on alert to fire the missile.

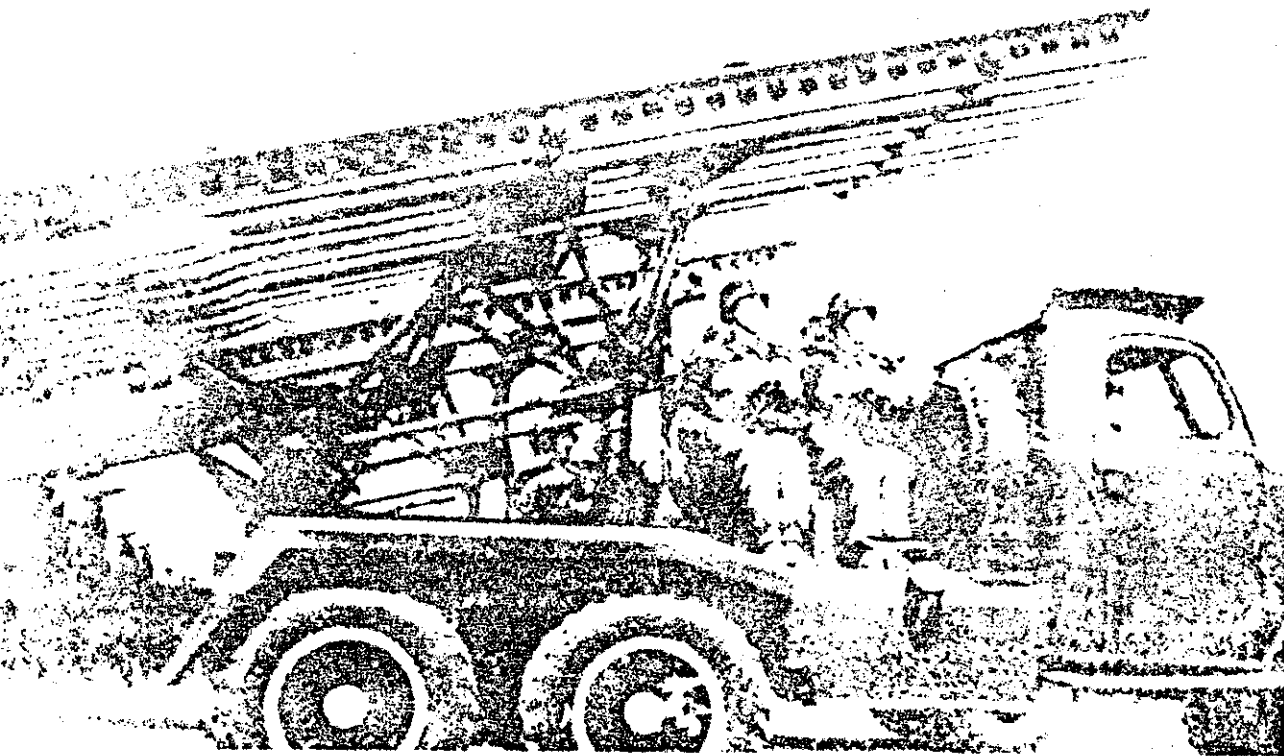
The SA-2 GUIDELINE is the primary missile used for air defense (see chapter four). North Korea is believed to have two types of this missile, the SA-2b and the SA-2c. Characteristics of both systems are shown in table 5.

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132-mm Rocket Launcher. (U)



132-mm Rocket Launcher. (U)

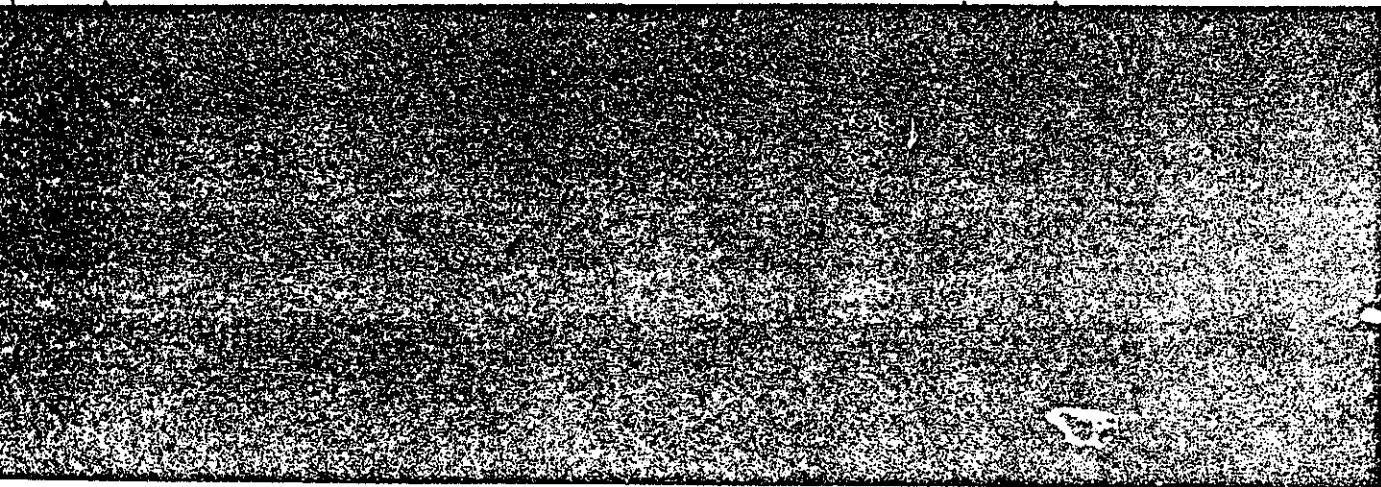


TABLE 5.—Characteristics of SA-2 GUIDELINE Missile Systems (U)

System	SA-2B	SA-2C
Missile	GUIDELINE MOD 1	GUIDELINE MOD 5
Radar	Fan Song B (E/F Band)	Fan Song F (E/F Band)
IOC	1959	1968
Maximum operational range	31 kilometers	31 kilometers
Minimum operational range	9-11 kilometers	7 kilometers
Maximum effective altitude	27 kilometers	27 kilometers
Minimum effective altitude	458 meters	91.5 meters ¹
Accuracy (at maximum operational range)	22.9-30.5 meters	22.9-30.5 meters
Guidance	Command	Command
Reaction time	About 15 seconds ²	10-15 seconds ²
Reload time	3-7 minutes ³	3-7 minutes ³
Reliability (all estimated)		
Launch	90 percent	90 percent
In flight	85 percent	85 percent
Weapon system	75 percent	75 percent
EW/acquisition	95 percent	95 percent
Availability	95 percent	95 percent
Force	70 percent	70 percent
Missile length	10.8 meters	10.8 meters
Missile diameter	500 millimeters	500 millimeters
Missile weight	2.27 metric tons	2.27 metric tons
Warhead weight and type	191 kilograms, HE	191 kilograms, HE
Maximum velocity	Mach 4.5	Mach 4.5
Propellant	Solid booster, liquid sustainer	Solid booster, liquid sustainer

¹ The SA-2C system has a low altitude capability of 91.5 meters using optical tracking in optimum conditions. If radar tracking is used, the minimum low altitude capability is 300 meters.

² Reaction time considers that the equipment is manned and operational and the Fan Song has acquired the target and determined the initial target data.

³ The missile can be transferred from the transporter to the launcher and made ready to fire in about 1 minute. It will probably take from 4 to 7 minutes to reload a site using the six spare missiles normally located in the missile-hold areas of the site. Additional missiles are available at the support facility.

North Korean-produced, Soviet-designed, 14.5-mm Antiaircraft Machineguns ZPU-2/4 are replacing the 12.7-mm M1938 DShK. The ZPU-2 mounts two 14.5-mm heavy machineguns and the ZPU-4 mounts four. The cyclic rate of fire per gun is 600 rds/min; the practical rate is 150 rds/min. The maximum range of the weapon is 7,000 meters. The maximum effective AA range is 1,400 meters.

The 37-mm Antiaircraft Gun M1939 is the current standard light automatic antiaircraft gun in the NKA. It is 6 meters long, weighs 2.4 metric tons, and fires 160 to 180 rounds per minute. It has a maximum range of 8 kilometers and fires a 0.73-kg high explosive tracer (HE T) or 0.77-kg armor-piercing tracer (AP T) shell. Armor penetration is 46 millimeters at 500 meters and 38 millimeters at 1,000 meters. It requires a crew of eight.

The 57-mm AA Gun S 60 is a modern, light AA weapon capable of being aimed by optical site or by radar. It is normally towed by a ZIL 151

3. Antiaircraft Weapons

North Korea has received considerable air defense materiel from the USSR and a lesser amount from the PRC. Antiaircraft machineguns are organic to infantry units down to company level and are also present in AAA divisions and SA-2 unit. The older 37-mm and 85-mm antiaircraft guns on hand are being replaced by 57-mm and 100-mm weapons, respectively. Some 76-mm M1938 antiaircraft guns may still be in the NKA inventory. Surface-to-air missiles are the most recent and probably the most important addition.

truck. It is 8.5 meters long, weighs 4.9 metric tons, and fires between 105 and 120 rounds per minute. The maximum range of the 2.8-kg HE-T or AP-T projectile is 12 kilometers. Armor penetration is 102 millimeters at 500 meters and 96.5 millimeters at 1,000 meters. It has a crew of eight.

The 85-mm Antiaircraft Gun M1939 provides the corps with a medium antiaircraft capability. It is 6.2 meters long, weighs 4.3 metric tons, and fires 15 to 20 rounds per minute. The approximately 9.5-kg HE or AP-T projectile has a maximum range of 15.5 kilometers. Armor penetration is 112 millimeters at 500 meters and 102 millimeters at 1,000 meters. It uses a crew of seven.

The 100-mm Antiaircraft Gun KS-19 is 9.2 meters long, weighs 9.4 metric tons, and fires 15 rounds per minute. It fires a 15.7-kg HE or AP-T projectile a maximum of 21 kilometers. Armor penetration is 193 millimeters at 500 meters and 185 millimeters at 1,000 meters. The size of its crew is unknown.

(S) North Korea has between 4,000 and 6,000 AAA weapons. The breakout by type is unknown.

4. Assault Guns

Equivalent to U.S. self-propelled artillery pieces, assault guns are considered by the NKA to be armor and are most often employed in a direct fire role. North Korea is in the process of replacing its assault guns with medium tanks.

The number of assault guns remaining in division tank battalions is probably less than 100.

The SU-76 Assault Gun is a combination of the 76-mm division gun and the chassis of the obsolete T-70 light tank. It is the primary assault gun supporting North Korean infantry. In one version the fighting compartment is fully enclosed and in another it is open at top and rear. The vehicle weighs 11.1 metric tons, is propelled by two six-cylinder gasoline engines, and has a speed of 45 km/h. Cruising range is 360 kilometers. Armor penetration with an HVAP round is 92 millimeters at 500 meters and 58 millimeters at 1,000 meters. There is no secondary armament. The SU-76 requires a crew of four.

The SU-100 Assault Gun is organic to the tank division and may be replacing the SU-76 in the infantry division. The SU-100 uses the same 100-mm shell as do the 100-mm field, AAA, and tank guns. The vehicle weighs 30 metric tons, is propelled by a 493-horsepower V-12 diesel engine and can travel at a maximum speed of 56 km/h. Cruising range is between 306 and 426 kilometers. Armor penetration using an APC-T (armor-piercing tracer) projectile is 185 millimeters at 500 meters and 170 millimeters at 1,000 meters. Using an HE projectile, armor penetration is 390 millimeters at both 500 and 1,000 meters. There is no secondary armament. The SU-100 is operated by a crew of four.



SU-100 Assault Gun. (C)



North Korean T-34 Tanks During Training Exercise. (U)

5. Tanks

North Korean tanks include the Soviet-made T-34, T-54, T-55 and PT-76 models and the Chinese Types 59 and 62. The total number of tanks in the North Korean inventory ranges between 1,800 and 2,040. The T-54, T-55, and T-59 predominate and account for 1,350 to 1,480 of the total. The remainder of the force is made up of 70 to 100 of the PT-76 and T-62 models, and between 380 and 460 T-34's.

The T-34 Medium Tank was used by the Soviets in the latter stages of WWII and was the only tank used by the communist forces during the Korean War. In its class and day it was an outstanding tank and is still formidable. The tank has a crew of five, a cruising range of 300 kilometers, and a maximum speed of 56 km/h. Its main armament is an 85-mm gun which, with HVAP ammunition, can penetrate 178 millimeters of armor at 1,000 meters. Its secondary armament consists of two 7.62-mm DT or DTM machineguns (tank versions of the DP and DPM machineguns, respectively), one coaxially mounted and the other front-hull mounted. The T-34 is vulnerable to all U.S. antitank weapons.

The newer, more powerful T-54 Medium Tank has been in the North Korean inventory since 1963. This tank is operated by a crew of four, has a cruising range of 400 kilometers and a maximum speed of 48 km/h. The 100-mm main gun on the T-54 can penetrate 390 millimeters of armor with a HEAT round from 1,000 meters.

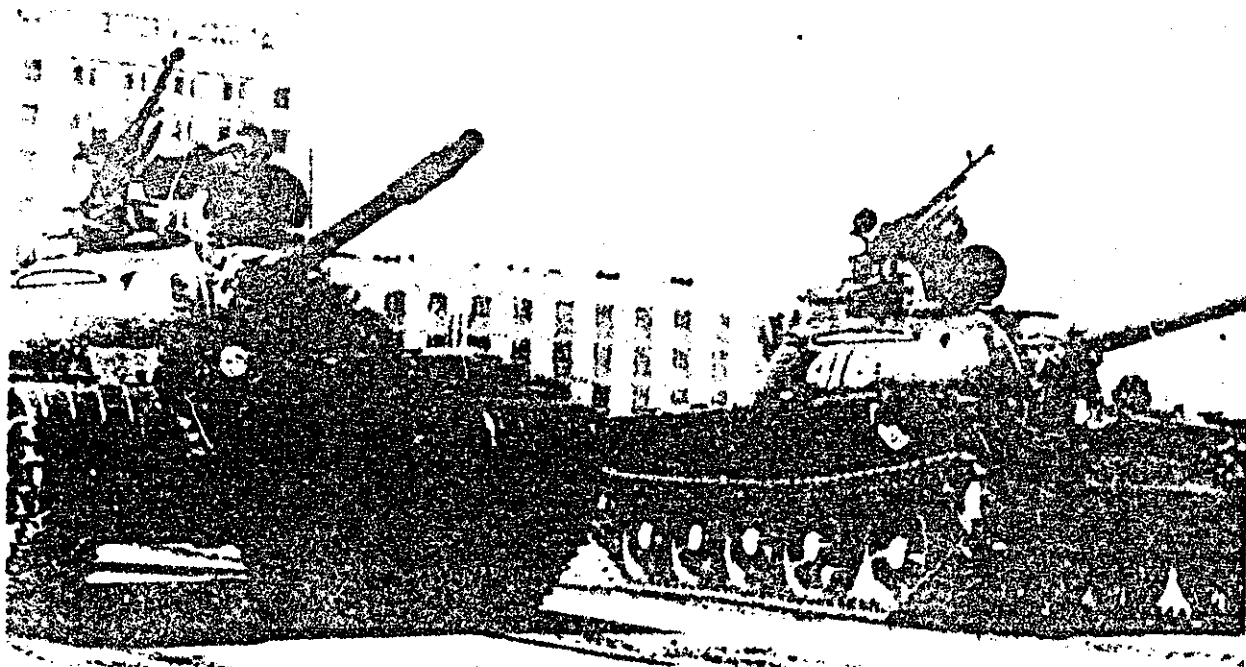
The tank also has one 12.7-mm M1938 46 DShK machinegun mounted on top of the turret and two 7.62-mm SGM machineguns (one coaxial and one front-hull). The T-54 is vulnerable to U.S. antitank weapons in its mantlet, side hull, rear hull, and track (figure 31).

The characteristics of the T-55 and PRC T-59 are not significantly different from those of the T-54. Both have slightly larger engines and cruising ranges. Speed, armament, and vulnerability to attack are identical.

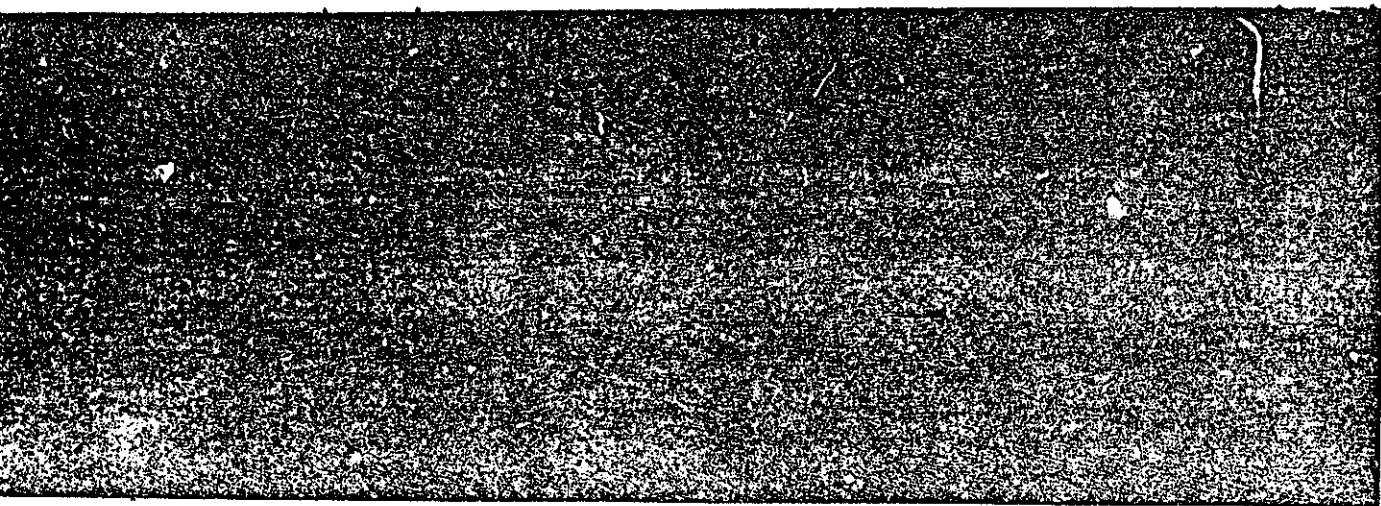
The T-62 and PT-76 represent the most recent additions to North Korea's tank inventory. The T-62 is a light tank weighing 21 metric tons and measuring 7.9 meters with gun and 5.5 meters without. It has a 512-horsepower diesel engine and a crew of four. Maximum cruising range is 510 kilometers. The main armament consists of an 85-mm gun. At 500 meters it can penetrate 112 millimeters of armor using an AP-T projectile or 213 millimeters with an HVAP-T round. Armor penetration with the same shells at 1,000 meters is 102 and 178 millimeters, respectively. Secondary armament on the T-62 consists of two 7.62-mm machineguns and one 12.7-mm heavy machinegun.

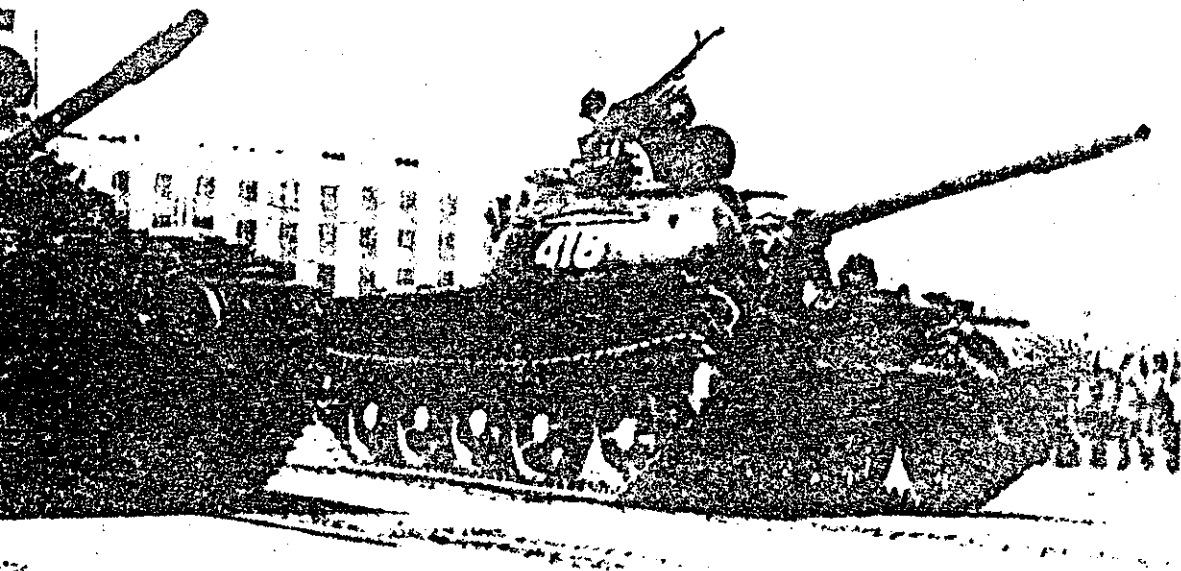
The PT-76 is a medium amphibious tank weighing 14 metric tons. It is 7.6 meters in length and is propelled by a single 237-horsepower diesel engine. Speeds over land and in water are 44 and 10 km/h, respectively. The main armament is a 76-mm tank gun. At 1,000 meters, armor penetration is 61 millimeters with an HVAP-T round and

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North Korean T-54 Tanks. (U)





North Korean T-54 Tanks. (U)

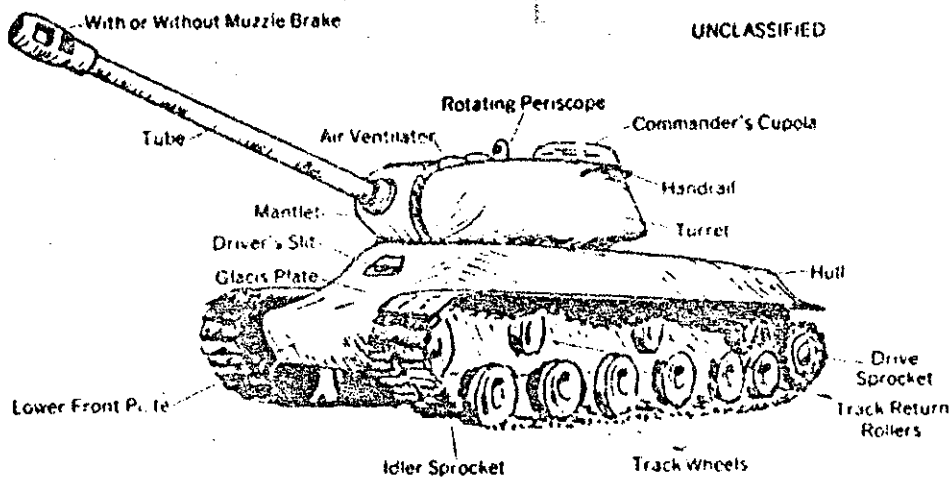


Figure 31 Tank Identification Features (U)

119 millimeters with an HEAT round. One 7.62-mm machinegun provides the only secondary armament. The PT-76 is operated by a crew of three.

6. Transportation Equipment

a. General

(U) A principal weakness of the NKA during the Korean War was its lack of motor transport. Long-distance movement was, and still is, conducted principally by rail although interdiction of rail facilities sometimes necessitated the use of trucks for long-distance hauling. To offset motor transport shortages, carts drawn by animals or by hand, and human bearers using A-frames transported many supplies, particularly in the forward areas. Since the war the Soviet Union and to a lesser extent the PRC have provided much transportation equipment, and North Korea itself produces several types of motor vehicles.

b. Command and Reconnaissance Vehicles

A number of GAZ-67 trucks, similar to the U.S. 3/4-ton "Jeep," are used as North Korean command and reconnaissance vehicles. These trucks are old and slightly heavier than their U.S. counterparts, have less power and speed, and use more gasoline. The standard Jeep-type vehicle is the Soviet GAZ-69 or its North Korean copy, the Sungui-69. This vehicle has a 55-horsepower, 4-cylinder engine and a maximum speed of 90

km/h. It can carry a payload of 500 kilograms and a towed load of 800 kilograms.

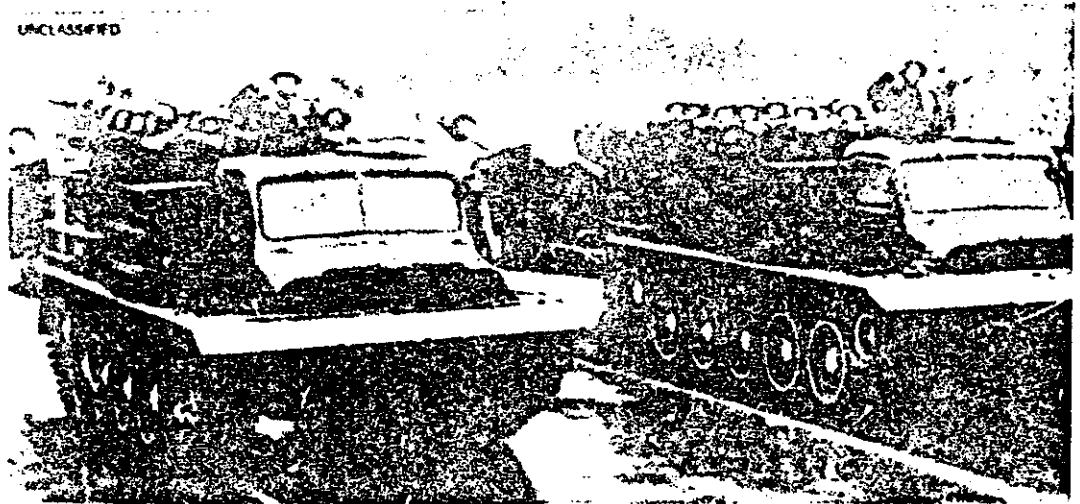
The obsolete BA-64 armored car has been used in tank units as a reconnaissance vehicle. This may be replaced with the BTS-40 armored personnel carrier, also known to be in North Korea. There is also a limited number of Soviet sedans, primarily GAZ M20 (Pobeda) and Volga. High-ranking officers use these vehicles sometimes taking them on inspection trips and visits to front-line units. The Soviet M-72 motorcycle may also be used for reconnaissance and messenger service.

c. Cargo and Personnel Trucks and Prime Movers

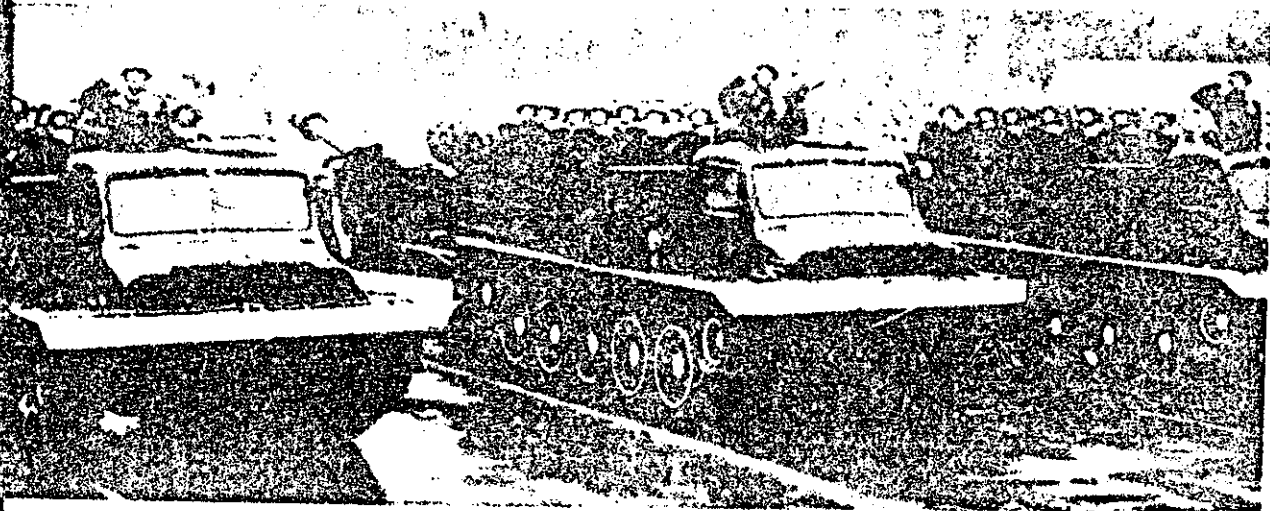
Standard trucks in the NKA include the Sungui-58, and the Soviet GAZ-51, GAZ-63, ZIL-150, and ZIL-151. The GAZ-51 is designed primarily to transport personnel and cargo but it can be used to tow light artillery pieces. The Sungui-58 is a copy of and closely resembles the GAZ-51. A heavier and similarly used version of the GAZ-51 is the GAZ-63. The ZIL-150 is primarily a cargo truck; however, it is often used as a prime mover for division artillery, antiaircraft and antitank guns, and heavy mortars. With all wheel drive, the ZIL-151 performs well in snow and mud and is probably the most serviceable truck in the North Korean inventory. The North Korean-produced Sungui 1010 has two rear axles, dual rear wheels, and a 5-metric-ton

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North Korean ATS-59 Artillery Tractors. (U)



North Korean ATS-59 Artillery Tractors. (U)

capacity. Soviet- and Korean-made trucks are supplemented by vehicles made in East Europe. The East German Robur Garant 30-K truck is one such vehicle reported in North Korea.

Tracked prime movers in North Korea include the crawler tractor S-80, crawler tractor ATZ, and the medium, tracked artillery tractor AT-S and its replacement, the AT-S 59. The S-80 is old and reportedly is being phased out.

d. Armored Personnel Carriers

North Korea has between 500 and 700 Armored Personnel Carriers (APCs). Soviet-made models include the BTR 40, BTR 50P, BTR-60P, and BTR-152. One PRC model, the M-1967, is also in the inventory. Table 6 lists characteristics of North Korea's APC's.

e. Amphibious Vehicles

All of North Korea's amphibious vehicles are Soviet-produced or North Korean copies of Soviet models. There are approximately 175 K-61 and PTS tracked amphibious vehicles and an undetermined number of two other types of vehicles: the GAZ-47 tracked transporter and the ZIL-485 (BAV) amphibious truck. The K-61

weighs approximately 9,500 kilograms, is 9.1 meters long, and has speeds of 35 km/h on land and 10 km/h in the water. It has a cruising range of 260 kilometers and carries 40 personnel. The PTS, larger and more powerful than the K-61, weighs 15,000 kilograms, is 11.6 meters long, and can travel 40 km/h on land and 10 km/h in the water. It can carry 50 personnel 300 kilometers. The GAZ-47 tracked transporter weighs 3,600 kilograms, is 4.9 meters long, and has a speed of 35 km/h on land and 4 km/h in the water. It has a cruising range of 725 kilometers and a personnel capacity of 11. Although principally used as a personnel carrier it can also function as the prime mover for the 120-mm mortar. The ZIL-485 is an older model which first appeared in 1952. It weighs 7,158 kilograms, is 9.5 meters long, and has a speed of 60 km/h on land and 10 km/h in the water. Cruising range is 480 kilometers and it carries a personnel load of 25.

f. Animals and Carts

Despite a significant increase in the number of available military vehicles since the armistice, the NKA continues to use draft and

TABLE 6.—Characteristics of NKA Armored Personnel Carriers (C)

	Armored Personnel Carriers				
	BTR-40 (USSR)	BTR-50P (USSR)	BTR-60P (USSR)	BTR-152 (USSR)	M-1967 (PRC)
Weight, combat loaded (metric tons)	5.3	14.5	10, 10.3*, 10*	8.9	9.0.
Personnel load with driver-crew	10	22, 20*	16, 10*, *	19	14.
Suspension type	Wheeled (4x4), ^d	Tracked	Wheeled (8x8), ^d	Wheeled (6x6); BTR-152V, ^d	Tracked.
Engine type	6-cyl; gasoline	6-cyl; diesel	2 6-cyl; gasoline	6-cyl; gasoline	6-cyl; diesel
Horsepower/rpm	80/3,400	237/1,800	90 each/3,400	110/3,200	260/2,000
Maximum road speed (kilometers/hour)	80	43	80	64	70.
Amphibious	No	Yes	Yes	No	Yes.
Maximum water speed (kilometers/hour)		10	10		5.5.
Normal cruising range (kilometers)	285	240	500	780	483.
Overhead cover	Some models	BTR-50PK, BTR-50PV models only.	BTR-60PA, BTR-60PB models only.	Some models	Yes.
Infrared driving aids	Yes	Yes	Yes	Yes	Yes.
Firing aids	No	No	No	No	No.
Armament, various models	(*)	(*)	(*)	(*)	(*)

* BTR-60PB, BTR-60PA, BTR-50K

^d Has tire inflation deflation device

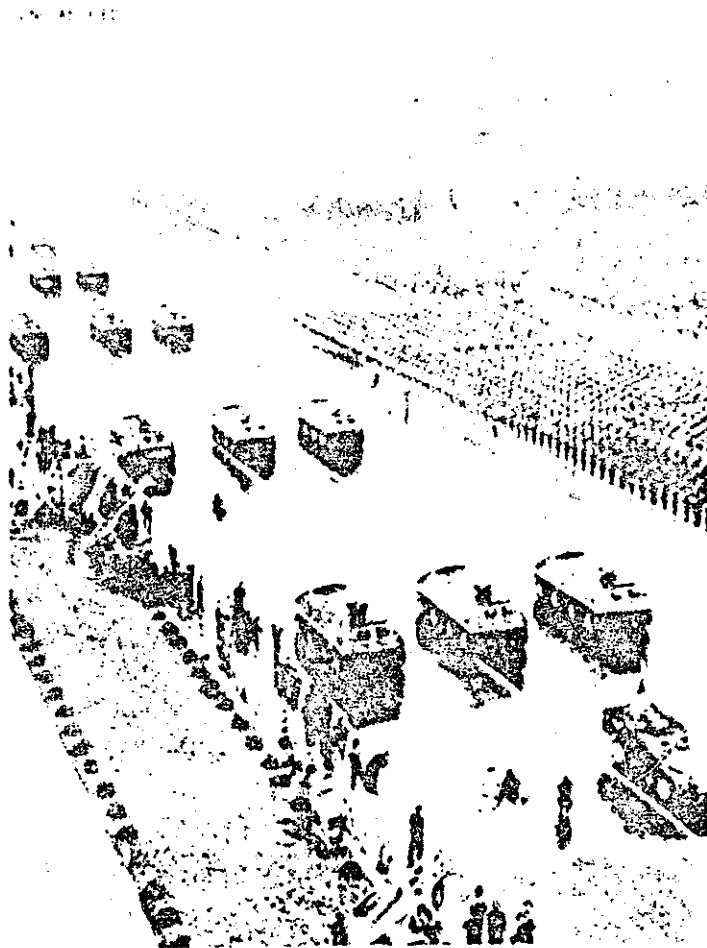
^e One 7.12 mm machine gun (MG) or two 14.5 mm AA MG

^f 12.7 mm MG and 14.5 mm MG (no armor combination) have been seen on BTR-50PA.

^g One 12.7 mm MG and two 7.62 mm MG, one 14.5 mm MG and one 7.62 mm MG (armor mounted) on BTR-60PB

^h One 12.7 mm MG, one 7.62 mm MG, or two 14.5 mm AA MG

ⁱ One 12.7 mm MG, Type 54



North Korean Armored Personnel Carriers BTR-60P. (U)

pack animals. Horses, mules, and oxen are requisitioned from local farmers as the need arises. Ox carts and horse-drawn wagons are used in rough terrain or when motor transport is not available. Two-wheeled carts have a load capacity of about 1 ton and are sometimes pushed or drawn by hand. Four-wheeled carts can carry a little over a ton and are available for pack animals. An item of great logistic importance in the NKA is the traditional A-frame, a backpack which permits the average Korean to carry a 136-kg load for short distances.

7. Engineer Equipment

Major items and quantities of engineering equipment in the engineer battalions:

technical, road construction, and river-crossing—are as follows:

Technical Battalion—18 trucks (GAZ-69, cargo, van and crane), 3 tractors, 3 bulldozers, 2 excavators, 2 graders, 27 ELEC (VIM-203) mine detectors and 216 ROD mine detectors, 5 compressors, two generators, and 2 power saws.

Road Construction Battalion—50 trucks (GAZ-69, cargo, dump, van, and POL), 7 lowboy trailers, 7 tractors, 18 bulldozers, 2 excavators, 2 graders, 2 truck-mounted power saws, 6 truck-mounted generators, 5 air compressors, and 18 drilling machines.

River-Crossing Battalion - 128 trucks (GAZ 69, amphibious, maintenance vans, cranes, and others), 25 K 61 amphibious vehicles, 48 heavy pontoons (TTP TMP), 1 KMS piledriver set, and 6 BMK 90 130 150 powerboats. A few imported items of Soviet *bridging equipment*, as well as some of Soviet design produced locally, are available in limited quantities. Such equipment includes the ponton NLP, pneumatic boat A 3, float T 21, and steel ponton bridge N2P. During the Korean War, the NKA also constructed bridges of timber.

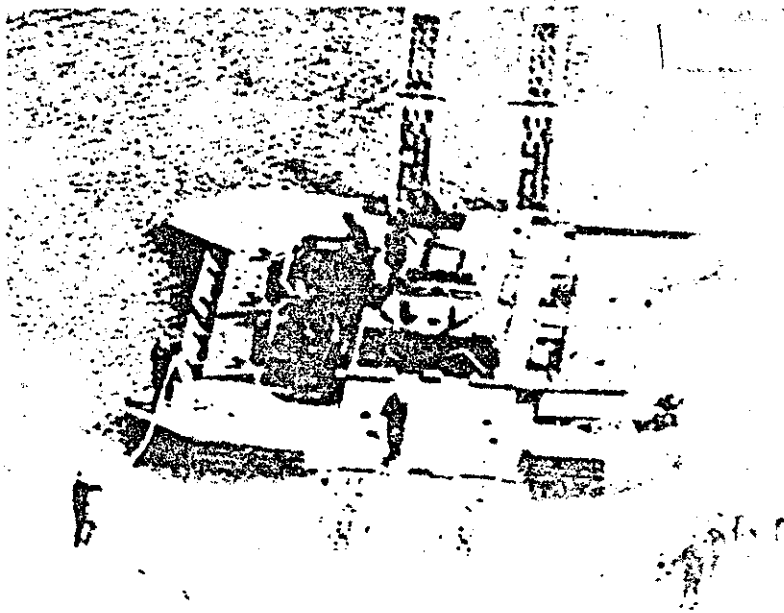
The GSP heavy amphibious ferry is the most modern bridging equipment that has been observed in North Korea. The TMM bridge-laying truck and the PMP heavy floating bridge may also be present.

The North Koreans depend on the Soviet Union for most of their electrical equipment, although they obtain some from China and Japan. Items used by the NKA include the Soviet portable generators PES-1.5 and PES-3 and mobile power stations AES-1 and AES-3. The PDES-15 generator has been reported though not confirmed in the NKA. This power equipment

is in scarce supply. The NKA also has numerous Z 15 truck-mounted searchlights and VIM 203 electric mine detectors.

The limited amount of construction equipment is a mixture of Soviet-produced items and Korean-produced copies of Soviet equipment. "Flying Horse" excavators, concrete mixers, air compressors, gantry cranes, bulldozers, graders and acetylene welders are among the North Korean-produced items of construction equipment. Soviet-made equipment includes the road-roller MK 5; tractors TTA, S 65, A 80, and K 35; air compressors KS 6 and KSE 6; power shovel TE 2; crane truck K 63 and probably the K-32; and several dump trucks including the YaAZ-210E. The majority of construction equipment in North Korean units consists of handtools such as picks, shovels, saws, entrenching tools, axes, hammers, sickles, hoes, sledge hammers, and, for hauling, A-frames.

For *camouflage* the NKA makes extensive use of local materials. A few items of Soviet artificial camouflage equipment are available and some items are produced in North Korea. The NKA has been furnished with Soviet camouflage suits. Great stress is placed on decoy field fortifications, weapons, and vehicles. Dummy troops, tanks, and artillery pieces are currently deployed



Heavy Amphibious Ferry GSP. (U)

along the DMZ. Nearly all actual vehicles and field guns are hidden in tunnels or covered with nets made of rice-straw rope into which bunches of grass and brush are interwoven in random pattern. Camouflage capes and helmet covers are locally improvised of rope.

Some construction material is provided NKA units for the preparation of fortifications and obstacles. Concrete, steel, and barbed wire have been used in great quantities but there is no known standard unit issue of such materials. Some fortification and barrier items are produced in military factories while others are constructed by tactical units by excavating, weaving stick fences, clearing sand strips, and placing strings and tin cans on likely infiltration routes.

Much of the explosive and demolition material used in the NKA has been supplied by the Soviet Union and the PRC. North Korea manufactures some of its own equipment such as demolition blocks, prepared charges, Bangalore torpedoes, detonating assemblies, and fuzes. Improvisation of demolition material is emphasized: when a demolition charge is needed, infantry and engineer troops are encouraged to use any available explosive and to detonate it by any means available. In this manner, a wide variety of charges were used against UNC tanks, vehicles, and fortifications during the Korean War.

Very little standard equipment is available for water purification and supply in the NKA. Drinking water is usually obtained individually and purified by boiling. Some 30-liter and 100-liter water tanks have been reported with kitchen equipment.

8. Signal Equipment

During the last few years the North Korean Army has obtained new communications equipment from the Soviet Union, the PRC, and Japan. The types and characteristics of this equipment cannot be confirmed, and the overall NKA communications capability is unknown.

Wire is still the primary means of communication in the NKA during peacetime and would probably remain so during defensive wartime operations because of the advantages of security and economy. During fluid situations in wartime, such as the offense or withdrawal, radio would become the primary means of communication.

The most common *field telephone* in the NKA is the TAI 43, a very good Soviet-made item. Other instruments reported are the U-NA-F1, U-NA-1 43, R-48, U-11, and the Chinese Q-97.1.

Telephones are sometimes used to transmit combat, chemical, and air raid alert and all-clear signals.

The most commonly used *telephone switchboards* in the NKA are the K-10, PK-10, and PK-30. The K-10 is the standard set at division and lower echelons and is a 10-line board. Two boards can be used in unison to provide larger capacity. The PK-10 is also a 10-line set for use at division level and below. The PK-30 is a 30-line field telephone switchboard used in communications centers at division and higher headquarters. A 50-circuit board, the Chollima-50, is reportedly produced in North Korea.

The Soviet *teletypewriter* ST-35, which is the most common set in North Korea, is a tape model having either a Soviet or Korean character keyboard. With the exception of the motor, keys, and typebar pallets, the parts of the ST-35 are interchangeable with those of the U.S. Model 14, and these machines can operate on U.S. circuits.

Radio equipment identified in the NKA includes the Soviet A-7-A, RBM and RSB-F radio sets; the North Korean version of the RBM which is known as the R-1; the Soviet R-104 transmitter, R-311 receiver, R-105 and R-108 transceivers, R-401, R-401M, and R-403M multichannel radio relays; and the PRC 702 transceiver.

9. Nuclear, Biological, and Chemical Warfare Equipment

The only smoke-producing devices known to be available in North Korea are the following Soviet items: Model PDG-1, a smoke handgrenade, which is produced in black smoke and white smoke types and burns for about 1.5 minutes; Model BSDh-5, a large smoke barrel, which produces white smoke and weighs 40 kilograms; and a smoke pot, wind-direction indicator, which weighs 1 kilogram and is manufactured in black and white smoke versions. Other Soviet smoke devices which may be available are the Model DSKh-15 and DM-11 smoke pots, Model DB-11 smoke barrel, and Model RDG-2, RDG-2Ch, and RDG-2Kh smoke grenades.

Artillery weapons including the 120-mm and 160-mm mortars can be used to deliver chemical warfare munitions. The toxic agents and munitions, however, would have to be supplied by outside sources.

Defensive chemical warfare equipment is available in North Korea in substantial quantities. Included are Soviet and, in some cases, domestically produced protective masks, mask canisters, clothing, decontamination kits, and detection kits.

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10. Individual Equipment

The North Korean soldier appears to be adequately equipped for field duty. Enlisted men are normally issued a steel helmet, knapsack, poncho tent, canteen, magazine and grenade pouches, bayonet, camouflage net, pickax or entrenching tool, messkit, cook pot, grain bandolier, weapon cleaning equipment, first aid kit, wool blanket, notebook, and pen and ink. In garrison, sheets, a rice-straw mattress, and a rice-straw pillow are also issued.

Officers receive all of the above items plus a Sam Browne belt with holster and cartridge case, binoculars, signal flags, flashlight, dispatch case, shoe polish, and brush.

11. Miscellaneous Equipment

Medical supplies and equipment in the North Korean Army are limited. The NKA has a poor capability to staff and supply fixed medical installations and field medical units in peace and war. Medical materiel shortages and a lack of adequately trained medical personnel are the principal deficiencies. In peacetime, medical care is provided for those sick in garrison; however, the North Korean soldier is unaccustomed to individual care and treatment and expects less medical service than his U.S. counterpart. Medical care for military dependents and retired military personnel is provided in conjunction with the free medical care system in North Korea.

Immunizations are required against typhoid, tetanus, cholera, and Japanese B encephalitis. No further information is available on preventive medicine programs. The Korean People's Army medical and veterinary services have a fair to poor capability to support public health services in civic action programs and disaster situations, and to participate in disease prevention and control of epidemics among the civilian population. It has a fair capability to retrieve and evacuate, and a poor capability to provide adequate medical care for, combat and noncombat casualties.

G. LOGISTICS

1. General

The North Korean Army logistics system is rather weak although many improvements have been made since the Korean War. Its dependence on outside sources of fuel, some heavy weapons, and technical equipment, and the strain on the national economy to sustain military operations are definite limitations on the North Korean Army's conduct of sustained operations. The country is capable of providing its armed forces with food, clothing, small arms, infantry crew-served weapons, artillery pieces and rocket launchers, armored personnel carriers, 82-mm and 120-mm mortars, and a variety of ammunition in quantity, and is approaching self-sufficiency in trucks. The lack of equipment and supplies is partly offset by the large storage depots in rear areas, the numerous supply dumps in forward areas, traditional austerity, and ingenuity.

The North Koreans still lack many technological skills and procedures, modern supply-

handling devices, and the large number of motor vehicles found in modern armies. Despite these deficiencies, the NKA is capable of moving over rugged terrain and enduring adverse conditions. In addition, it is willing and able to conscript civilian labor as a substitute for machines.

The logistic difficulties experienced by the NKA during the Korean War were due to inadequate planning, obsolete vehicles, a low level of technical education among maintenance men, complete dependence upon the Soviet Union and the People's Republic of China for major support, destruction and harassment by UNC bombardment and, to a lesser extent, the extremes of climate and the channelizing, mountainous terrain. During relatively static periods of the war, these problems were surmounted and logistic support was provided at adequate levels. In such operations, when lines of communication and depots are well established and can be maintained, an austere transportation system is adequate. However, in fluid operations—sustained offensive and hasty retreat—the limitations of the NKA logistic system become most apparent.

2. Supply

a. Logistic Responsibilities

The *General Rear Service Bureau* (GRSB) of the Ministry of the People's Armed Forces is the primary logistic staff element for the North Korean Armed Forces. It is responsible for coordinating logistic support activities, procuring all military supplies, repairing equipment, planning and directing unit movements, constructing and maintaining installations and lines of communication, maintaining general supply depots and military storage areas, and providing security for rear service facilities. It supplies fuels and lubricants, rations (other than those produced at unit level), clothing, personal equipment, medical and veterinary supplies, trucks and sedans, and construction material. It also controls clothing production, renders medical and veterinary services, administers military finance, and operates a system of military stores. Additionally, the GRSB supervises the rear service departments of subordinate commands.

The *Ordnance Bureau of the General Staff Department* controls the supply of all weapons and ammunition for the armed services. It controls central ordnance depots and plans and

directs Artillery and Armored Command distribution and maintenance of all weapons, ammunition, and certain items of ordnance equipment. The activities of the Ordnance Bureau, GSD, are coordinated by the GRSB.

The *Artillery Command* is responsible for supplying and maintaining all arms and ammunition as well as artillery equipment, prime movers, and tractors.

The *Armored Command* is responsible for the supply and maintenance of all tanks, assault guns, motorcycles, and armored personnel carriers.

The *Engineer, Signal, and Chemical Bureaus of the General Staff Department* are responsible for directing the supply and maintenance of their specialized types of equipment.

The *Artillery and Armored Commands* and the various technical arms and services also administer those portions of the general supply depots of the General Rear Service Bureau and the central ordnance depots of the GSD Ordnance Bureau that contain their stores.

The *General Political Bureau* of the MPAF supplies political and cultural reading material and athletic, musical, and other recreational equipment.

The *Rear Service Departments (RSD)* of corps, divisions, and regiments coordinate all logistic operations within their respective units, perform logistic services, and issue all supplies other than those furnished by technical services, the Artillery Departments, and armor depots. The Chief of the Rear Service Department at each echelon, serving in a multiple capacity, is a deputy commander of the parent unit, the primary logistic staff officer, and the commander of the logistic support units of the RSD. Included in the departments' responsibilities are: coordination of all requisitioning; operation of depots, vehicle maintenance facilities, and medical facilities; and storage, issue, maintenance, and movement of supplies to forward units.

The *Artillery Departments* of corps, divisions, and regiments are responsible for supplying and maintaining all weapons (except armor and chemical equipment), ammunition, artillery prime movers, and tractors. The Chief of the Artillery Department is a deputy commander and the primary staff officer for artillery plans, operations, and munitions supply. He maintains close coordination with the chief of

staff so that ammunition supplies will adequately support projected operations.

Engineer, Signal, and Chemical Sections of unit General Staff Departments are responsible for the supply of their specialized items of equipment. They process requisitions, prepare supply plans, and administer the handling of their particular supplies in RSD depots and supply dumps.

The Battalion Supply Platoon Leader accomplishes supply functions under the supervision of the Staff Section of the battalion.

First sergeants and company commanders perform limited supply functions in company level units.

b. General Procedures

The NKA supply system was originally patterned on the supply organization used by the Soviet Army during World War II. Early in the Korean War it became imperative to reorganize and to modify these logistic procedures. As the war progressed, logistic support to the NKA and PRC frontline units improved, and by the final months of fighting, these units were better supplied than at any previous period despite persistent UNC air strikes against supply installations.

Improvements in the supply situation were attributable to the Chinese intervention, the relatively static military situation during the later stages of the Korean War, and also to progressive improvement in logistic know-how, large-scale utilization of manpower, and an increase in the number of trucks.

—Requisitioning

Requests for company level supplies are originated by the first sergeant and forwarded to the battalion staff. Some items, such as rations and perhaps clothing, are issued on the basis of current unit strength and probably do not require formal requisitioning. Ammunition and fuel are probably made available according to the plans and allocations of higher headquarters.

The staff elements at each higher echelon submit requisitions for anticipated needs. At the national level, the General Rear Service Bureau coordinates the requirements of the armed services with the Ordnance, Signal, Chemical, and Engineer Bureaus of the General Staff Department. Coordination of foreign and domestic orders must be effected between the MPAF, the State Planning Committee of the State Adminis-

tration Council, and the ministries responsible for trade, finance, and manufacturing.

- Distribution

Most supplies are issued to troop units in large, infrequent deliveries. Supplies are transported by rail, when possible, from central depots to corps or even division facilities. The organic trucks of corps, division, regiment, and battalion are used, as necessary, to deliver them to battalion or company level. Generally the supplies must be manually packed or carried by animal-drawn carts from company to platoon positions and sometimes from battalion to company.

Although the technical services are responsible for the supply of certain items, they apparently do not actually make delivery. Supplies are distributed through the rear services system with technical service representatives at each echelon directing the supply of items appropriate to their service. Ammunition apparently is passed from Ordnance Bureau dep. through the artillery departments of the combat units.

- Storage

The North Koreans have adopted a more extensive system of stockpiling than that dictated by Soviet doctrine.

During the Korean War, the NKA forward zone became a vast supply area. Small stockpiles of supplies, mostly ammunition and food, were dispersed over a large area and placed in expertly camouflaged revetments and in innumerable caves, tunnels, and bunkers. Dispersing and concealing supplies greatly reduced the amount lost in UNC air attacks. Ammunition and food stockpiles are currently spread in this manner throughout the forward division areas.

In the immediate rear, division and corps operate more formal and more concentrated depots containing all classes of supplies.

In the distant rear, the largest supply depots and complexes containing all classes of supply are operated by the GRSB and the Ordnance Bureau of the GSD. Supply complexes are served by the main rail and road networks and are linked with the expanding industrial base. All KPA main supply complexes are located in proximity to main supply routes (MSR). Some large depots servicing army, navy, and Ministry of Public Security units are located in key coastal

areas near major troop concentrations. Since the war the number of supply installations in the distant rear has been reduced to a few major consolidated complexes. Stocks of most classes of supplies in rear area depots will provide the NKA with adequate stocks for a considerable period. Weapons and equipment are closely controlled and distributed and are not considered currently available in such quantities as to permit large stockpiling. In addition to the military depots, there are several government storage depots containing emergency stockpiles of food and other items.

During the war, the NKA could launch an attack against a prepared defense only when its supply dumps were stocked at a high level. After a short period, the offensive was halted while stocks were replenished. The capability to move supplies forward was so limited that when units advanced too far from the stockpiles for supply replenishment and when their supplies were exhausted it was sometimes necessary to relieve them with fresh units carrying a maximum load of supplies. While this system did not permit sustained offensive or exploitation operations, it was adequate for limited-objective attacks during the last 2 years of the war.

The NKA now has a much larger truck inventory and is able to replenish depleted stocks more rapidly, but it is doubtful that it could maintain forward supply dumps at sufficient levels for sustained offensive operations.

- Supply Discipline

The NKA adheres to a strict and uniform system of supply discipline, with centralized control and few variations. Strict personal accountability for weapons, equipment, and supplies, and personal responsibility for care and maintenance are enforced by unit commanders. NKA troops are required to keep individual weapons in excellent condition; failure to do so is considered a major military offense.

- Priorities

The NKA adheres to rigid and uniform priorities in logistic supply. Emulating Soviet practice in critical situations, it gives top priority to fuel and ammunition in preference to other supplies. Priorities for the main effort are maintained regardless of the requirements in secondary sectors.

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Seized and Captured Supplies and Materiel

During the war, the NKA made extensive use of locally available and captured supplies and materiel. Civilian food supplies were issued to troops; civilian facilities were made available to troop units for use as logistic installations; local bedding materiel was used for construction of obstacles and fortifications; and captured U. S. weapons, ammunition, and equipment (particularly heavy artillery and small automatic weapons) were employed by the NKA.

e. Rations

The average daily ration for the North Korean soldier provides slightly over 3,700 calories and weighs approximately 5 pounds, including packaging weight. Specialized forces (e.g., tank, aircraft, and submarine crews), high ranking officers, DMZ police, and special warfare units receive better grades of rations with higher caloric content.

Vegetables, such as potatoes, cabbage, spinach, turnips, onions, cucumbers, radishes, and leeks constitute a large portion of the Korean ration. Fresh vegetables are used in the summer, and preserved or pickled vegetables are provided in the winter.

Although the NKA units have traditionally produced most of their own agricultural goods—in the past even producing for import to the general economy or providing labor to assist the agricultural sector—there are indications that the army may be pulling back to more "professional" pursuits. While this trend has not been confirmed, it would necessitate a revamping of the logistical (subsistence) system.

In addition to food produced by units, rice, fish, grain, flour, and other commodities are obtained locally, or are supplied through rear service channels and delivered down to company level. There is some recent evidence that grain supplements may be sent from the national level. Current estimates call for a daily ration of 2.3 kilograms per man and a daily consumption rate of 21 metric tons per division.

Food is stored at several echelons. Cotton bandoliers containing a 1- to 3-day supply of rice and salt are maintained as an emergency ration for each individual. Companies store a 6-month supply of rice, flour, grain, and vegetables in a ration warehouse and also have under-

ground storage facilities for vegetables. Company ration levels are frequently replenished from higher level rear service warehouses, which are stocked twice a year. Civilian food stockpiles could also be drawn upon by the military.

Finally, there are indications that increasing use is being made of "dry rations" for survival purposes. These rations, probably similar to the dehydrated foodstuffs which constitute U.S. Long-Range Reconnaissance Patrol (LRRP) rations, have been noted to be in use by special warfare forces. Whether or not these lighter rations will find their way into general use remains to be seen.

d. Clothing and Personal Equipment

Domestic industry and available stocks of military clothing and individual equipment appear to be adequate for current and projected needs.

NKA personnel receive a complete clothing change semiannually. Summer clothing is issued in April, and winter clothing is issued in October. Two sets of fatigues, underwear, and footwrapping cloths are issued each time. One issued uniform is new; it is worn during off-duty hours and for indoor training. The second uniform has been used previously and is worn on details and for outdoor training. Items such as knapsacks, bandoliers, grenade bags, magazine bags, and canteen case are replaced by the company first sergeant whenever necessary. Lost items must be paid for by the individual soldier.

e. Weapons, Vehicles, and Organizational Equipment

Most major weapons and equipment items in the North Korean inventory have been provided by the USSR or are North Korean copies of foreign, principally Soviet, designs. The PRC is believed to have provided North Korea with limited quantities of weapons and equipment. North Korea is credited with the capability to manufacture and support its requirements for small arms, infantry crew-served weapons, some light and medium artillery, 82-mm and 120-mm mortars, and rocket launchers. North Korea's motor vehicle industry, which relies heavily on Soviet designs, is believed to be increasingly fulfilling the military's requirements for trucks. Signal, engineer, and chemical equipment is largely of Soviet manufacture or design although the

North Koreans do produce some military communications equipment.

f. Fuels and Lubricants

North Korea is almost totally dependent on the Soviet Union for petroleum, oil, and lubricants (POL). It has been reported that Soviet and Chinese technicians have helped the North Koreans conduct geological surveys for oil throughout the country; results of these surveys are unknown. In 1974 North Korea reportedly imported 900,000 tons of crude oil and another 492,000 tons of petroleum products from the Soviet Union. Although negligible amounts of POL products have been supplied by the PRC, an increase can be expected in view of the opening of an oil pipeline between China and North Korea in early 1976.

North Korea has one coal liquefaction plant which is capable of annually producing 130,000 metric tons of POL substitutes. The first major oil refinery was completed in late 1973 or early 1974 and is believed to have an annual production capacity of 2 million tons.

North Korea's total reserves and combat consumption of POL are unknown. Although reserves are believed sufficient to allow ground operations for several months, external sources would be needed to extend major military operations beyond this period of time.

Fuels and lubricants are issued to tactical units through rear service channels. Relatively small amounts of POL are generally maintained at tactical unit level to sustain day-to-day operations. However, there have been reports of POL combat reserves being located in some tactical unit areas.

Anthracite coal is issued through rear service channels for heating and cooking. No consumption rates are available.

g. Ammunition

Peacetime ammunition consumption in the North Korean Army is slight and can be met by domestic production. A supply of hand-grenades, artillery shells, and mines is believed to be produced, but at a level that would not meet sustained combat operations beyond 90 days. It would still be necessary for North Korea to procure additional amounts of munitions from outside sources to mount and sustain major operations. Daily overall ammunition expenditures for

an infantry division under varying combat conditions are estimated (in metric tons) to be:

Long-term average	72
Short-term (light combat)	48
Short-term (moderate combat)	141
Short-term (heavy combat)	304

(S) Ammunition is distributed through the Artillery Department at each echelon. Ammunition dumps are maintained at each echelon from corps through company, and ammunition depots are located in the rear areas. Reportedly, forward units have what North Koreans consider to be a 90-day supply of ammunition.

3. Transportation

a. General

During the Korean War an inadequate supply of motor vehicles and rolling stock, and rugged, mountainous terrain combined to create numerous logistic problems for the NKA. A variety of expedients was used to overcome these difficulties. Vehicles and trains were often overloaded and operated beyond normal capacities. To bypass damaged bridges, tunnels, rail sections and roads, the NKA often used a shuttle system of human and animal transport to move supplies around the breaks. Materials were positioned near important bridges to enable repairs immediately after air raids. In most cases, bridges that were blown up were temporarily repaired overnight. Where necessary, rails were laid over the wreckage to permit passage of emergency traffic despite the danger presented by flimsy structures.

Fords (also referred to as underwater bridges) were built with logs held under the water by sandbags and rocks. No true standard-equipment underwater bridge was found during the war or is known to be in the current NKA inventory. River craft were fully utilized and makeshift rafts were employed to move all types of equipment and supplies. The constant bombing and harassing by the UNC compelled the communist forces to travel at night or in overcast weather and to employ extensive camouflage tactics. Deception included such measures as running the last vehicle in a convoy with its headlights on, making it appear to be the lead vehicle and thus causing UNC air strikes to miss the convoy. To evade UNC air and naval attacks on NKA materiel, rail and road movement of supplies was restricted largely to night. During

daylight, trains were hidden in tunnels; vehicles were hidden under bridges, in woods, and in tunnels. Poorly camouflaged dummy materiel, equipment, locomotives, and rolling stock were used to attract UNC air attacks, and air raid warning systems were established along the main supply routes. The NKA expertly camouflaged river-crossing sites and employed the ruse of removing spans from bridges during daylight, replacing the spans for use at night.

Since the end of the war, North Korea has rebuilt and improved its transportation network. Due primarily to terrain consideration the North has two separate north-south transportation structures—one along the east coast, linked primarily to the USSR, and the other along the west coast, linked to the PRC. In the past few years, a third internal north-south structure has begun to emerge.

Lateral routes, running east-west to join these three main structures, have been slower to develop. Until the mid-to-late 1960's, a single road rail network (from Wonsan Kowon to Pyongyang Sunchon) existed. Since then, however, multiple highway and rail structures have emerged, providing not only for redundancy in lateral movement capability, but also for such movement in the forward area.

The distributive transportation network—used to bring raw materials from the hinterland to trunk routes, and to move finished goods and supply items from the national network to remote consumers—has been undergoing expansion and improvement. This is most evident in the forward area, where military implications are obvious, but the rate of development has been equally impressive in the northern hinterland.

Qualitative improvements to road surfaces and railroad segments have resulted in an increased load-carrying capacity throughout the entire system. On major rail routes, electrification and double-tracking of certain segments have produced localized capacity increases.

In the past, dependence upon rail transport, lack of redundancy in major structures, and difficulty of bypass due to terrain considerations have rendered the North Korean transportation system vulnerable to interdiction at a number of critical points. Recent developments in road and rail construction, however, indicate that North Korea is moving to alleviate the potential

effects of an interdiction campaign. Creation of additional lateral structures and the growth of a third north-south network should provide necessary redundancy. In addition, a shift in emphasis from rail to motor transport has been evident since 1972. As the highway structure and motor transport fleet grow, so also will North Korea's capability to bypass major interdiction points.

b. Rail Transportation

The great majority of all freight shipped within North Korea is carried by rail. Rail nets provide direct connections with China at Sinuiju, Chongsu, Mampo, and Namyang and connect with the USSR at Yonghyon-dong. North Korea and the PRC use the same standard gauge track. Rail shipments from the USSR, however, arrive on wider gauge and require transshipment before distribution can be made to the rear area general supply and central ordnance depots located near major railheads. The rail system is also the primary means of transporting supplies from these main depots to the corps depots. Movement to the forward unit supply installations is by truck transport over the main and secondary highway networks.

The existing rail system in North Korea (table 7), largely rebuilt since the Korean War, continues to undergo expansion and upgrading. Two north-south and two east-west routes form the current basis of this network. The north-south lines extend from the PRC border at Namyang/Tumen to Wonsan on the east coast (Route R9/R8) and from Sinuiju to Kaesong on the west coast (Route R1/R2). The east-west lines are Route R4 from Pyongyang to Kowon and Route R6 from Mampo to Sunchon. The total rail network is estimated to exceed 4,500 kilometers of standard (4'8½") gauge and 655 kilometers of narrow (2'6") gauge. There is some evidence that much of the narrow gauge track is being or will be converted to standard gauge as old mining and lumber routes change to distributive lines serving the northeast hinterland.

Major system changes have included electrification of the main trunk lines and double-tracking of certain high-capacity segments (where terrain permits). In all, about 22 percent, or 1,000 kilometers, of the standard gauge track has been electrified. This includes almost all of the east and west coast lines, as well as some feeder routes in the northeast portion of the country. Double-

TABLE 7.—Major Rail Lines in North Korea (U)

Route name	Route number	From	To	Length
				(kilometers)
Wolla.....	R9/R8.	Namyang/ Tumen.....	Wonsan.....	742
Kyongwon..	R7.....	Wonsan.....	Pyongyang..	104
Kyongui...	R1/R2	Sinuiju.....	Kaesong.....	412
Pyongwon..	R4.....	Pyongyang (Sopo).....	Kowon.....	213
Manpo.....	R6.....	Manpo.....	Sunchon.....	300
Pyongbuk..	R5.....	Namsan-ni..	Chongju.....	116
	R10....	Namyang/ Tumen.....	Chongjin..	129
	R101..	Musan.....	Komusan- dong.....	58

tracking from Musan to Chongjin, in the north-east, has been accomplished on rail lines R10 and R101.

The system has a very high density of bridges and tunnels which are well maintained and being improved but quite vulnerable to air attack. Most North Korean rail yards are small, and many of them constitute bottlenecks due to the inadequate trackage, inefficient classifying and handling facilities, and poor yard communications. Even with these shortcomings, the North Korean railways, if reinforced with additional rolling stock, could perform satisfactorily as the major transporter of troops and supplies in a nonnuclear war.

c. Road Transportation

The principal North Korean highways (table 8) parallel the main rail lines. They were designed to serve as supplemental and feeder routes for the railroads and to extend the transportation system to military tactical units. More recently, however, the highway system has shown signs of independent expansion—not only in a distributive role, but also as a network of trunk routes. This is most evident in the expansion of east-west avenues of movement in the central portion of North Korea. The road network also provides several junctions with China and the Soviet Union.

The highways of North Korea are generally classed I, II and III. Class I roads are the major routes and are the most important to the national economy and to the military. These are all-season, concrete-bituminous, or gravel surfaces and are 20 to 39 feet wide. Class II roads

TABLE 8.—Major Highways in North Korea (U)

Route number	From	To	Length
			(kilometers)
1.....	Sinuiju.....	Kaesong.....	410
7.....	Namyang/Tumen..	Wonsan.....	658
5.....	Wonsan.....	Pyongyang..	110
8.....	Pyongyang.....	Wonsan.....	196
3.....	Chosan.....	Pokkye-ri..	500
65/78..	Manpo.....	Sinaju.....	370
64.....	Kunu-ri.....	Hambung..	370
61.....	Namsan-ni.....	Chongju.....	110
53.....	Pyongyang.....	Koksun Valley	93
41.....	Rte S.....	Kumchon..	132

are gravel surfaced and are 20 to 26 feet wide. Class III roads are not more than 16 feet wide.

The bridge system of North Korea takes a standard construction form of the T-beam concrete style. Most bridges along the principal routes are believed to be in good condition.

Considerable emphasis is placed on the repair and improvement of existing roads, the widening of principal supply routes, the repair of bridges, and the replacement of temporary surfaces with permanent or semipermanent surfaces. The rugged mountainous terrain and adverse weather conditions, together with the shortage of mechanized equipment and processed construction materials, hamper road construction and maintenance.

Motor traffic consists primarily of 2½ to 6-ton trucks. All North Korean trucks have a dual civilian/military role. Military trucks are probably used on farms, especially at harvest, and civilian vehicles are subject to military call. Some Red Guard units could be mobilized along with their civilian trucks. Increased domestic truck production provides a steady input to the growing motor transport base. In the event of major hostilities, however, additional trucks would have to be imported.

d. Water Transportation

Although most cargo entering North Korea is transported by rail and secondarily by road from China and the Soviet Union, North Korean ports are gaining in importance as the nation expands its trading circles to include not only communist countries, but also some free world nations. Table 9 lists the primary ports of North Korea and their capacities.

TABLE 9.—Principal Ports of North Korea (C)

Port	Capacity	Servicing Rail Line
	(metric tons)	
Chongjin.....	27,710	Wolla (R8/R9)
Nampo.....	2,740	Kyongui (via R3)
Hamhung.....	7,310	Wolla (R8)
Kimchaek.....	3,660	Wolla (R8)
Najiu.....	18,470	Wolla (R9)
Wonsan.....	8,840	Wolla (R8)
Haeju.....	1,420	R12

Port improvements have centered on a continuous program of dredging existing harbor channels and construction of additional quays. Additionally, in the southwest, Haeju is rapidly being upgraded to the status of a major international port—its ultimate capacities are not yet known. In addition, the port of Unggi, in the northeast, may be expanded to facilitate seaborne movement of POWs to and from the new refinery there.

Handling facilities for each of these ports are still only marginally adequate, and delays of up to 30 days are experienced by ship discharging and loading cargo. Each port is connected to inland military and industrial sites by a major rail line. If these lines were interdicted, however, the capability of the nation to distribute seaborne cargo would be reduced significantly.

River transportation is not a significant factor in North Korea. A possible exception is the Taedong River, by which craft of up to 91 metric tons can move from Korea Bay through Pyongyang to Tokchon.

e. Air Transportation

North Korea has 22 jet-capable airfields (see chapter four), most of which are well developed and in good condition. The North Korean airlift capability is minimal, but its fields could support a limited foreign airlift.

4. Logistic Services

a. Medical

The proficiency of the NKA medical services is sub-standard when compared to that of the U.S. Army medical services. Low quality is due to a shortage of professional instructors in medical schools and to shortages of medical equipment. There have been some improvements in the standard of medical services in the post-armistice period, but services are still inadequate to maintain good health.

Systems pertaining to medical maintenance, stockpiling of medical materiel, and medical depots are patterned after those of the USSR Armed Forces. Medical supplies are issued from the Maran Military Medical Supply Depot in Pyongyang, within medical channels down to company level; the higher medical unit is responsible for providing supplies to the subordinate units. No additional information is available on stockpiling or locations of other medical materiel storage depots.

In the NKA, most major medical items are kept at corps level. Some major items are maintained at the division medical battalion; basic medical items are found at regiment level and below. Supplies at the company level are limited to bandages, aspirin, iodine, and other first aid items.

Battalion aid stations usually have sulfadiazine, camphor, morphine, and splints, in addition to the above-listed items. At the regiment medical station, supplies also include penicillin, tetanus antitoxin, and sulfa drugs. No information is available on the medical materiel maintenance capability in the armed forces.

Medical facilities are available at each echelon from the company level upward but are especially limited at the lower levels. Each company has an enlisted sanitation director (medical aid man) who administers first aid, supervises hygiene and, when necessary, escorts patients to the battalion aid station.

The battalion medical section staff includes a doctor who can treat minor ailments. Beds are available at battalion for patients requiring treatment of a few days' duration. If the patient requires more extensive care, he is walked to the regiment medical section; truck or jeep transportation is provided only in emergencies.

Doctors in the regiment medical section can perform emergency surgery and treat many common disorders. Patients who need only a few weeks' treatment and no extensive medical care are treated at this section. If specialized or lengthy treatment is needed or if required medication is not available at regiment, the patient is evacuated to the division hospital. He may again be required to walk; he may be driven in a regiment truck or jeep, or he may be transported in the division ambulance.

At division, the patient is again examined and treated, or is evacuated to a corps hospital. Facilities at the division are adequate for most ailments including those requiring major surgery, X-ray, or the services of an ophthalmologist, gynecologist or dentist.

Corps hospitals are large, semipermanent facilities of about 600 beds. Further treatment is available at MPAF-level hospitals and at civilian hospitals. During wartime, additional hospitals would probably be formed and deployed in the corps rear.

During the Korean War, the delay in treatment caused by slow evacuation and overloaded, poorly staffed facilities greatly increased the death rate. A similar if less extensive problem could occur in future combat.

b. Maintenance

Maintenance of materiel in the hands of troops is rated as satisfactory; however, the ability of ordnance personnel to repair more complex materiel is doubtful. During and after the Korean War, the lack of trained maintenance personnel, the lack of adequate equipment and facilities, and the short supply of spare parts were problems that handicapped the NKA weapons and vehicle maintenance programs.

In recent years, the NKA has placed emphasis on preventive maintenance, technical inspections, and careful operation in order to increase the life expectancy of its limited number of weapons and vehicles. Maintenance problems have been somewhat eased by the acquisition of more weapons, vehicles, equipment, and spare parts from other countries and by domestic production. Technical education programs and technical assistance from other countries (especially the Soviet Union) have helped to fill the training gap.

Small arms repair stations equipped to make minor repairs are organic to regiment Artillery Departments. These shops do minor repairs and replace worn or broken parts. They also dispatch mobile repair teams down to the platoon level at least three times a year to inspect and repair small arms. Small arms and artillery that cannot be repaired at regiment level are turned in to division weapons repair units.

Repair and technical maintenance in NKA armored units are accomplished by main-

tenance companies organic to each armored regiment and by the technical support battalion of the armored division. Individual drivers and tank crew members carry out minor maintenance. Major repair and maintenance, as well as technical assistance, are provided by the technical department at the tank depot of the MPAF Armored Command. Drivers of individual vehicles are responsible for the combat readiness of their vehicles, for performing routine servicing, and for promptly reporting malfunctions. Regular inspections and maintenance programs are conducted for both tracked and wheeled vehicles. Medium echelon repair and maintenance of motor vehicles in NKA field units are accomplished at the division vehicle repair station. Higher echelon repair is accomplished by units at the corps level.

The NKA soldier is required to maintain and clean his own clothing and personal equipment. Clothing repair stations, which make major alterations and repair or salvage clothing and equipment that cannot be mended by the individual soldier, are located at regiment and division Rear Service Departments. If the clothing is not repairable, replacement items are issued. The care and maintenance of clothing and equipment are closely supervised by unit officers. Personnel in each unit spend 2 to 3 days washing and mending their clothing prior to seasonal exchange. The unit first sergeant is responsible for picking up the new seasonal issue and turning in the serviceable clothing. He determines which clothing is serviceable.

The Military Roads Control Bureau of the General Rear Service Bureau has the mission of maintenance and repair of the military roads leading to and within military areas. Military Roads Control Bureau units attached to the corps are responsible for maintenance and repair of the roads leading from the corps areas to the front-line unit. Individual units are responsible for the roads within their supply installation area. Engineer units normally maintain and repair roads in the forward areas, and the Military Roads Control Bureau units take over when the situation requires.

During the war, railroad construction brigades composed of NKA personnel were under the control of the Railroad Recovery Bureau of the Ministry of Transportation and Communications. These NKA units, together with civilian short-

term conscriptees and thousands of Chinese military railroad workers, had the mission of repairing the North Korean railway system. Since the armistice, all railroad construction has come under the supervision of the Railroad Construction Control Bureau of the Ministry of Railroads. No NKA units are currently organized specifically for railroad construction, but GRSB heavy construction units furnish support as needed for special engineering projects such as railroad tunnels, bridges, and roadbeds. Some NKA troops may also be used at times to help make emergency repairs or to help complete railway projects that fall behind schedule.

c. Salvage

Salvage plays an important role in NKA logistic policies. Due to the inability of North Korean factories to produce most technical and heavy military equipment, all equipment is used until it is completely worn out. Disabled items are stripped for parts in order to keep as many items as possible in usable condition. As domestic production of small arms and ammuni-

tion, vehicles, and other equipment increases and as the Soviets make more modern armaments available, older model weapons and equipment are transferred from the NKA to militia and internal security units.

NKA parent units are responsible for evacuating materiel from subordinate and attached units. Evacuation up to corps is usually effected by returning supply trucks; rail is used from corps to GRSB and Ordnance Bureau facilities.

Evacuation of disabled and captured enemy weapons, equipment, and supplies is the responsibility of all unit commanders. In practice, this responsibility is delegated to the appropriate chief of arms or services. Artillery and vehicles are evacuated by the next higher repair section. If a vehicle cannot be repaired by a repair section, it is removed and repaired by the next higher maintenance unit. Equipment that cannot be repaired is usually sent back through channels to GRSB or Ordnance Bureau facilities, where it is scrapped.

CHAPTER 3

THE NORTH KOREAN NAVY

A. GENERAL

1. Mission and Capability

(U) The mission of the North Korean Navy (NKN) is to defend territorial waters, to conduct coastal surveillance, and to protect and control coastal shipping and fishing operations. During wartime, the NKN would be tasked to support offensive operations against coastal areas of the ROK, to impede enemy shipping, and to provide for rear area security.

NKN will continue to rely upon the USSR and PRC for sophisticated armament and equipment. Total vessel inventory should increase, although this expansion will be offset as older units are assigned noncombatant roles. Facilities expansion will continue, with emphasis on underground berthing areas and ship repair capabilities.

The primary role of the navy, that of coastal defense, will remain the same in the foreseeable future. However, it is becoming increasingly evident that the NKN is no longer a purely defensive force designed for rear area and coastal security during wartime. While the NKN's defensive capabilities will continue to be improved, a further enhancement of its offensive capabilities is expected, particularly in the areas of anti-shiping and amphibious warfare.

B. ORGANIZATION

The NKN is coequal with the ground and air forces as an arm of the Korean People's Army. The Ministry of People's Armed Forces (MPAF) exercises control over the three services through the Chief of the General Staff. The actual day-to-day administration of the naval forces and supervision of naval operations is delegated to the Commander of Naval Forces.

At Supreme Naval Headquarters in Nampo, the Commander of Naval Forces performs three important functions: participates in the formulation of broad military policy at the MPAF level; directs the naval establishment and operating forces via the Navy Command (composed of the Naval Staff and the Political, Technical, Rear Service, and Navigation Departments); and coordinates naval operations with the other branches of the armed forces. The Chief of Naval Staff controls naval operations by implementing naval planning and strategy formulated at a higher level. Through his staff, he exercises control over training, finance, enlisted and officer personnel, communications, and reconnaissance. Important sections in the Naval Staff are Technical Liaison,

The basic weakness of the NKN is its dependence on foreign sources for spare parts, high-speed engines, POL, and other naval materiel. Principal strengths of the navy are its firepower, good morale, and a high state of training and readiness. Other attributes include the country's growing naval shipbuilding capability, which has alleviated the dependence on foreign ship suppliers, and a continuing program to expand shore facilities, including underground installations.

2. Future Developments

The steady pace of NKN modernization is expected to continue through the near future. As in recent years, most new ship acquisitions will be from indigenous shipyards, although the

Operations, Submarine, and Cryptographic and Safety.

Each of the four departments of the Navy Command is headed by a deputy commander. The all-important Political Department is designed to insure the loyalty of personnel to the communist regime and to assist in morale and welfare activities. The Technical Department includes sections responsible for design, construction, repair, and maintenance of naval ships, munitions, and ordnance. It also administers the Navy Technical Training Center located in Najin. The Rear Service Department supports and maintains the naval establishment. It is also responsible for finance, provisions, equipment, construction, and transportation, and for support to the Naval Medical Center. The Navigation Department is charged with the maintenance and installation of hydrographic aids, surveys, charting, notices to mariners, and materiel maintenance of naval communications and observation posts.

D. WEAPONS: TYPES AND CHARACTERISTICS

Most of North Korea's naval weapons are manufactured in the USSR. They include the following:

Guns—from 12.7-mm AA machineguns up to 130-mm guns.

ASW—RGB-12 rockets and B-1, 4VB, M-1 and 4VM depth charges.

Mines—M-08, M-26, MKB and MKD

Torpedoes—45-36AN, 53-38 and ET-80(50).

Rockets—BM-21 multiple rocket launcher with 122-mm rockets.

Missiles—SS-N-2a STYX anti-ship cruise missile, SSC-2b SAMLET coastal defense missile.

Characteristics of ASW weapons, torpedoes, and mines follow.

ASW weapon characteristics:

Designation/Type	Launch Method	Maximum Depth (meters)
RGB-12 Rocket	RBU-1200 launcher	330
B-1 Depth Charge	Racks	210
4VB Depth Charge	Racks	100
M-1/Depth Charge	Racks	48
4VM Depth Charge	Manual	24

Torpedo characteristics:

Type	Length (meters)	Propulsion	Range Speed (nautical miles)
45-36AN	5.7	Airstream	4, 023/45
53-38	7.2	Airstream	3 settings: 4, 023/43.5 8, 136/34.5 13, 716/31
ET-80(50)	7.2	Electric drive, lead acid batteries	7, 040/23

Mine characteristics:

Type	Description	Depth Setting		Explosive Charge
		Maximum (meters)	Minimum (meters)	
M-08	Spherical moored; depth taking by plummet.	6.1	1.2	TNT
M-26	Ellipsoidal moored; depth taking by hydrostat in base of mine.	6.1	1.2	TNT
MKB	Ellipsoidal moored; depth taking by hydrostat in base of mine.	9.1	2.4	TNT
MKD	Large magnetic induction bottom mine.	30	N/A	Modified torpex

The SS-N-2a STYX surface-to-surface cruise missile used on North Korea's missile attack boats is 6.6 meters in length with a range of 25 nautical miles. Cruising altitude is 90 to 300 meters at a speed of 0.9 mach. It has a high explosive (HE) warhead weighing 500 kilograms. Guidance is by preset autopilot with active homing radar. Reaction time is 2 minutes.

The SSC-2b SAMLET coastal defense missile has been observed in North Korea since September 1965. It is 8.3 meters in length and weighs 2,750 kilograms. Range is estimated at 50 nautical miles. The SAMLET has a cruising altitude of 1,000 meters at a speed of 0.8 mach. Guidance is by autopilot with midcourse beam rider and radar terminal homing.

(S) Weapons by ship-type classification are described in figure 32.

E. DEPLOYMENT AND INSTALLATIONS

1. Deployment

The naval operating forces consist of the East Coast and the West Coast Fleets. Table 11 indicates the disposition of NKN ships by fleet.

2. Installations

b. Naval Construction and Maintenance

Since 1967, North Korea has invested heavily in its shipbuilding capability. This effort has made naval shipbuilding the country's largest program for producing major military items and has given it the capability to design and fabricate hulls of up to destroyer size. Despite

dependence on foreign sources for such components as electronics, weapons, and large engines, North Korean ship construction progress in recent years has enabled the country to meet almost all of its naval requirements. In the early 1960's, North Korean shipyards concentrated on converting Soviet-supplied naval units into gunboats. The yards shifted to actual construction of combatant ships in the mid-1960's with the production of 61.5-meter SARIWON-class patrol frigates, practically a copy of the Soviet T-class minesweeper. About 1967, the North began constructing torpedo boats at both of the two principal yards, Najin on the east coast and Nampo on the west. The 1969-70 period saw the beginning of a new class of 102-meter patrol frigate. Designated the NAJIN-class, the PF's are of indigenous design, and two units are now operational. Other recent achievements by the country's shipyards have been the production of locally designed CHAHO-

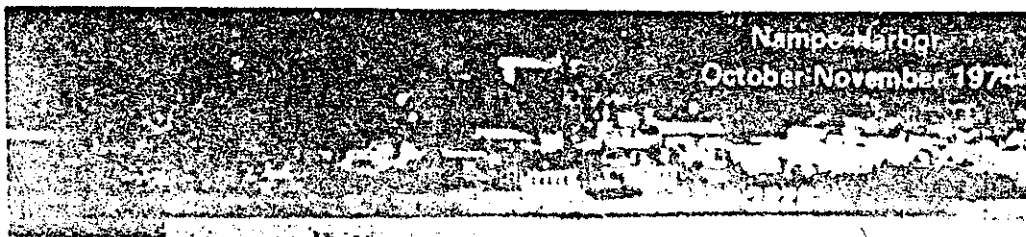
class fast fire support boats (PTFS), CHONGJIN-class motor gunboats (PGM), and NAMPO-class ramped personnel landing craft (LCPR). All utilize the basic P-6 hull. Construction of the CHAHO has ended and CHONGJIN construction is slowing. NAMPO-class construction is continuing on both coasts. Newly identified naval combatant construction includes ROMEO-class submarines, a small coastal submarine, a new larger class of fast fire support boats, a prototype missile attack boat and submarine chasers.

North Koreans perform routine maintenance and most of the hull and machinery repair on their ships. More complex repairs, particularly on submarines and missile attack boats, are probably performed with the assistance of Soviet and Chinese technicians. In addition to the limited ship-repair capability at some of the bases, three large repair yards are located on the east coast at Munchon, Mayang-do, and Najin. All of these yards have dry docks for below-waterline repairs. There are fewer repair yards on the west coast, but to date they have met the needs of the smaller West Coast Fleet. The west coast ship-repair capability has been increased to accommodate the maintenance requirements of the NAJIN class. One small dry dock is located at Pipa-got, and a large yard with a 116-meter dry dock has been reactivated at Tasa-ri, on the extreme northwest coast.

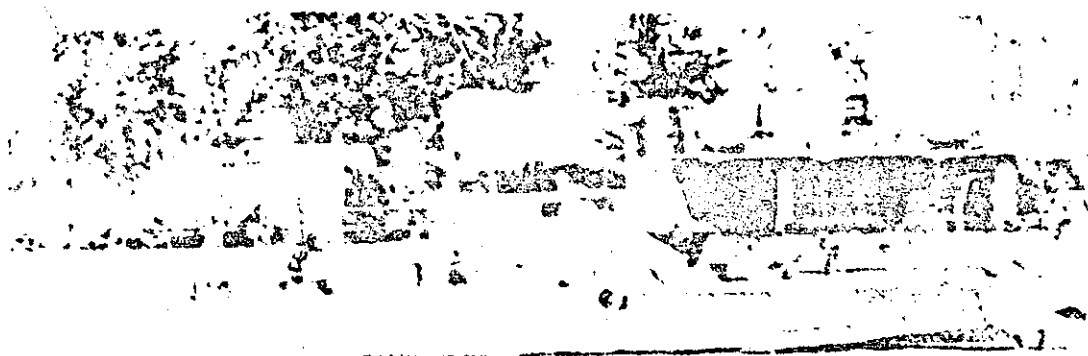
F. OPERATIONS

1. Patrol

The NKN is effectively performing its primary mission of protecting the approaches to North Korea's coasts and insuring the integrity of Pyongyang's [inferred] 12-mile limit for its territorial waters. The navy's heavily armed, high-speed craft are well suited for coastal patrol duties, and they routinely capture ROK fishing boats which stray into North Korean waters.



NAJIN-Class Patrol Frigate (PF), (U)



NAMPO-Class Ramped Personnel Landing Craft (LCPR). (U)

G. TRAINING

1. Officer Training

Officer training is conducted at the Najin Naval Academy, which is directly responsible to the Commander of Naval Forces. The 4-year line-officer course emphasizes instruction in the naval sciences, communist history, Russian language, communications, and infantry tactics. There is also a 5-year course in engineering. Promising graduates of the Naval Academy are sent to the Soviet Union for post-graduate study. The Officer Training Center conducts refresher courses in certain subjects for officers on active duty. Senior naval officers are selected for attend-

ance at the Kim Il-song Army College in Pyongyang.

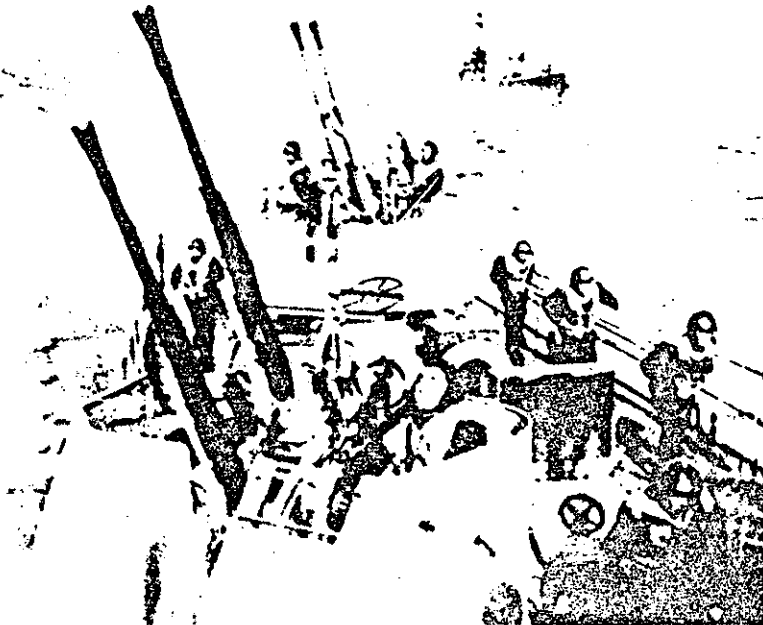
2. Enlisted Man and NCO Training

Enlisted naval training is generally patterned after that of the USSR and PRC navies. Conscripts are indoctrinated at provincial induction centers in conventional basic training subjects. Recruits assigned to the navy then go to naval training at recruit centers located at Wosan and Nampo or go directly to an afloat unit for duty. The more promising recruits, and those in service with technical aptitudes, may enter a specialized phase of enlisted training at the Navy Technical Training Center in Najin. Here trainees get 6 months' training in a technical skill such as navigation, gunnery, radio, communication, and engine maintenance.

3. Operational Training

As in other North Korean services, the navy conducts continuous training. The characteristic features of such training include extensive planning and preparations prior to exercises,

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Shipboard Anti-aircraft Exercise, (C)

emphasis on speedy and precise execution of simple tasks, repetition, training under CBR conditions, and training involving enemy air opposition.

The training tasks appear to be simple and basic, with attention to detail and realism. Naval units are noted frequently in activities that involve increasing and decreasing speeds, forming attack formations, and making attack runs. All maneuvers are apparently kept simple and are repeated to perfection. The underlying North Korean training philosophy appears to be one of building effective forces through the use of unsophisticated but relatively foolproof individual components.

Details of training above the unit level are scarce. It is known that multiple-unit training is conducted at all echelons, probably resembling individual unit training but expanded in scope. Additionally, the navy engages in joint training with the other services. Problems in the execution of even the most extensive exercises are seldom noted.

H. PERSONNEL, MOBILIZATION, AND LOGISTICS

1. Personnel

The overall quality of NKN personnel is good, due primarily to efforts on the part of the government to provide basic personal comforts, to acquire new and more modern ships, and to promote the prestige of the military services. The current personnel strength of the NKN is estimated to be 28,000 (4,000 officers and 24,000 enlisted men). Recruitment of enlisted personnel is in accordance with the triservice Conscription Law under which all males between the ages of 18 and 40 are liable for military service. A naval reenlistment program, in effect since 1959, is designed primarily to retain skilled personnel in the technical fields through offers of incentive pay,

better living conditions, and longer leave periods. Most NKN officers receive their commissions upon graduation from the Naval Academy at Najin. Some are commissioned from NCO ranks. Political officers, rear service officers, and staff officers are obtained from various schools, army units, and the enlisted ranks. NKN personnel receive pay commensurate with their table of organization position and its equivalent rank rather than their own actual rank. NKN officers reportedly receive an additional allowance for sea duty.

2. Mobilization

There is no organized naval reserve in North Korea, although personnel discharged after service in the navy could form the nucleus for such an organization. Security personnel, merchant mariners, and fishermen could also be used to augment operating forces. Augmentation of the shore establishment could be met by the transfer of personnel from the ground forces. The NKN has no ships in reserve; however, additional ships might be provided by the Soviet Union and/or the People's Republic of China in an emergency.

3. Logistics

Little is known about North Korea's naval logistic system. The Rear Service Department is responsible for procurement and distribution of most supplies to and within the NKN establishment. Technical support and munitions are provided by specialized branches of the General Staff. Dependence on foreign suppliers, principally the Soviet Union and the PRC, for spare parts and components is a basic vulnerability of the NKN. It is believed that North Korean POL stocks could sustain combat operations for 60 to 90 days. The NKN has no known capability to resupply at sea.

CHAPTER 4

THE NORTH KOREAN AIR FORCE

A. GENERAL

1. Current Status

Immediately after the Korean War, a concerted effort was begun to strengthen the North Korean Air Force (NKAF). With the assistance of the Soviet Union, it became, by Asian standards, effective, well balanced, and relatively modern. Now the fifth largest communist air force in the world after the Soviet Union, the People's Republic of China, Poland, and Vietnam, the NKAF has attained a high degree of proficiency and could make a substantial contribution in the event of war. Relatively limited in range and dependent upon outside logistic support, however, its primary role is defensive in nature.

2. Mission

The primary mission of the NKAF is to provide air defense for the North Korean mainland and territorial waters northward from the DMZ to the borders of China and the Soviet Union. Secondary missions include reconnaissance, interdiction in battle areas, destruction of key installations, airlift, and tactical support to North Korean ground and naval units.

3. Capabilities

The nucleus of North Korea's tactical strike force is its inventory of jet fighters. The tactical air capability of the NKAF has been enhanced by the acquisition of Su-7 (Fitter) fighter-bombers from the Soviet Union and MiG-19 (Farmer) fighters from the PRC. Although the NKAF's Il-28 (Beagle) light bomber force can strike targets deep in the Republic of Korea (ROK), the Beagles are slow and vulnerable to ROKAF interceptors. The principal weaknesses of the NKAF are its reliance on outside sources for aircraft, missiles and radars, and potential maintenance problems posed by the increasing age of its Beagles, Fagots and Frescos.

4. Future Developments

North Korea is not expected to develop an aircraft or missile production capability in the

near future. The September 1971 PRC-North Korea military pact has had a noticeable effect on the planned modernization of the NKAF, and the PRC, rather than the USSR, is now believed to be the primary foreign supplier of aircraft to the NKAF. Aircraft deliveries from the PRC include MiG-19 (Farmer) fighters, Il-28 (Beagle) bombers, and Mi-4 (Hound) helicopters. Pyongyang, however, is still dependent upon the Soviet Union for advanced weapon systems, particularly missile systems, and some aircraft components.

Upgrading of the NKAF will concentrate on replacing older aircraft, improving existing air facilities, and constructing additional ones. More modern aircraft, such as MiG-19's, MiG-21's, and possibly F-9 Fantans, may be added to the NKAF inventory, phasing out the older MiG-15/17's. The NKAF will continue construction of new air facilities, using them for more wide-ranging dispersal of tactical aircraft. Selected existing airfields will be upgraded, their runways lengthened and resurfaced, and their support capabilities improved.

B. ORGANIZATION

The NKAF controls and operates all aircraft in North Korea, but little is known about its organization. It is a coequal service under the Ministry of the People's Armed Forces (MPAF) with headquarters at Pyongyang. It maintains its own operational units, rear service units, schools and installations. Control of the NKAF is vested in its Commander who is responsible to the Chief of the General Staff, MPAF. The NKAF Commander is assisted by a Chief of Staff and Deputy Commanders for political matters, armaments, air defense, technical matters, and rear service.

The operational units of the NKAF are believed to consist of four or five fighter divisions, one bomber division, and one transport division. Operational units are believed to be organized like those of the Soviets, with the air regiment as the basic tactical formation. The Civil Air Bureau,

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North Korean MiG-17's and Crews. (U)

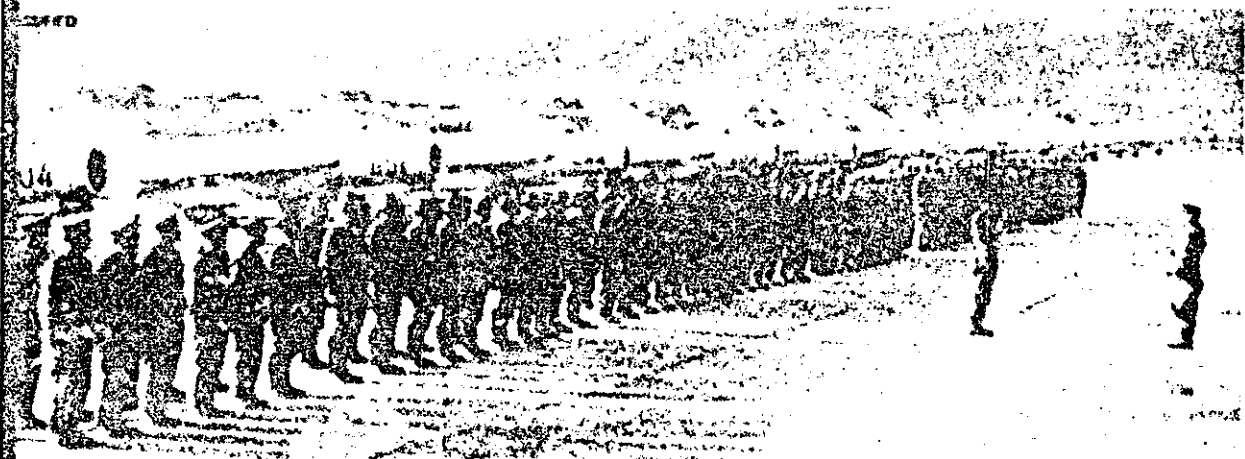
formerly under the Ministry of Transportation, was incorporated into the NKAF in 1960.

1. Organization

Air defense operations are implemented, coordinated, and controlled by the air defense command center near Pyongyang. Zonal headquarters monitor the situation in their respective areas, reporting to and receiving direction from the air defense command center. Reports from radar sites and visual surveillance posts are sent to one of the zonal headquarters, then transmitted to the air defense command center.



North Korean MiG-21's. (U)



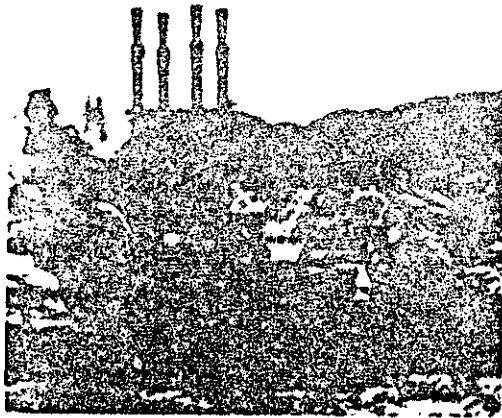
North Korean MiG-17's and Crews. (U)

TABLE 13.—Aircraft Armament & Ordnance Carrying Capabilities (U)

Selective Aircraft	Possible Armament/Ordnance
Mig-15 (Fagot).....	1 x 37-mm gun 2 x 23-mm guns 2 x 550-lb bombs 32 x 57-mm FFAR rockets
Mig-17 (Fresco A, B).....	2 x 23-mm guns 1 x 37-mm gun 2 x 550-lb bombs 16 x 57-mm FFAR rockets 2 x 240-mm rockets
MIG-19 (Farmer 1).....	2 x 30-mm gun 1 x 30-mm gun 2 x 550-lb bombs 2 x AA-2 missiles 32 x 57-mm FFAR rockets
MIG-21 (Fishbed J).....	1 x 23-mm gun 2 x 550-lb bombs or 2 x 1100-lb bombs 4 x AA-2 missiles 64 x 57-mm FFAR rockets or 4 x 240-mm rockets
Su-7 (Fitter).....	2 x 30-mm guns 2 x 550-lb bombs and 4 x 1100-lb bombs 2 x AA-2 missiles 96 x 57-mm FFAR rockets or 38 x 132-mm rockets or 6 x 240-mm rockets
Il-28 (Beagle).....	4 x 23-mm guns 12 x 110-lb bombs or 12 x 220-lb bombs or 8 x 550-lb bombs or 4 x 1100-lb bombs or 1 x 2200-lb bomb or 1 x 3300-lb bomb or 1 x 6600-lb bomb

The North Korean air defense system is composed of fighter interceptors, AAA guns, surface-to-air missiles (SAM), EW/GCI (early warning/ground-controlled intercept) radar, and visual surveillance posts. A SAM Command and an Artillery Command probably exist at MPAF level, with each providing administrative and logistical support. SAM and AAA positions are manned by army personnel but are believed to be under the operational control of the Air Force.

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Antiaircraft Gun Crew. (U)

F. TRAINING

The NKAF academy at Chongjin is North Korea's primary air force school. It enrolls approximately 200 cadets a year for training as pilots, navigators, bombardiers, radiomen, gunners, and engineer maintenance technicians. Most cadets in the pilot training program are graduates of high schools or colleges and come from families with reliable political backgrounds. Promising enlisted men from any branch of the North Korean

Armed Forces may also be selected. Pilot trainees receive about 70 hours of primary flight training in propeller-driven trainers (Yak-18) at Kyong-song SE, and about 100 hours of advanced jet-fighter training (MiG-15/17) at Hoemoun-ni and Simmu-sung Airfields. After successful completion of the 3-year course, cadet pilots are assigned to operational units and receive follow-on training before being assimilated into the unit. Navigator/bombardier and radiomen/gunner trainees receive the same instruction as pilot trainees during their ground-course phase but differ in the amount of time they devote to their specialized fields. Ground personnel training includes a 3-year course for officer engineer/maintenance technicians, and a 6-month course for enlisted personnel. Engineer cadets specialize in weapons, engines, communications, or avionics.

G. PERSONNEL, MOBILIZATION, AND LOGISTICS

1. Personnel

Table 15 shows a breakdown of NKAF personnel strength. NKAF personnel are procured through voluntary enlistment, conscription, and assignments from other services. Generally higher selection criteria than those used for the army or navy has resulted in a force which is qualitatively above the national average in the level of education, technical proficiency, political reliability, and ideological conviction. In general, NCO's and privates of the NKAF are required to serve 3 years; those with technical specializations serve 4 years. Officers serve for life and are usually discharged only for physical disability, illegal activities, or political reasons. Base pay is determined by assigned duty position rather than by rank. All officers receive longevity pay, and pilots are given several additional allowances. A battalion commander, for instance, earns each month slightly over 100 won (2.15 NK won = US\$1.00) base pay, longevity pay of 5 to 10 won, an allowance of 8 won for each dependent, and 3-won flight pay. Flight pay during adverse weather or at night is compensated for at a rate of 5 won per hour. Enlisted ground crews receive only base pay; air crews probably receive base pay plus small allowances.

2. Mobilization

Mobilization plans for NKAF personnel are unknown. The limited number of pilots would

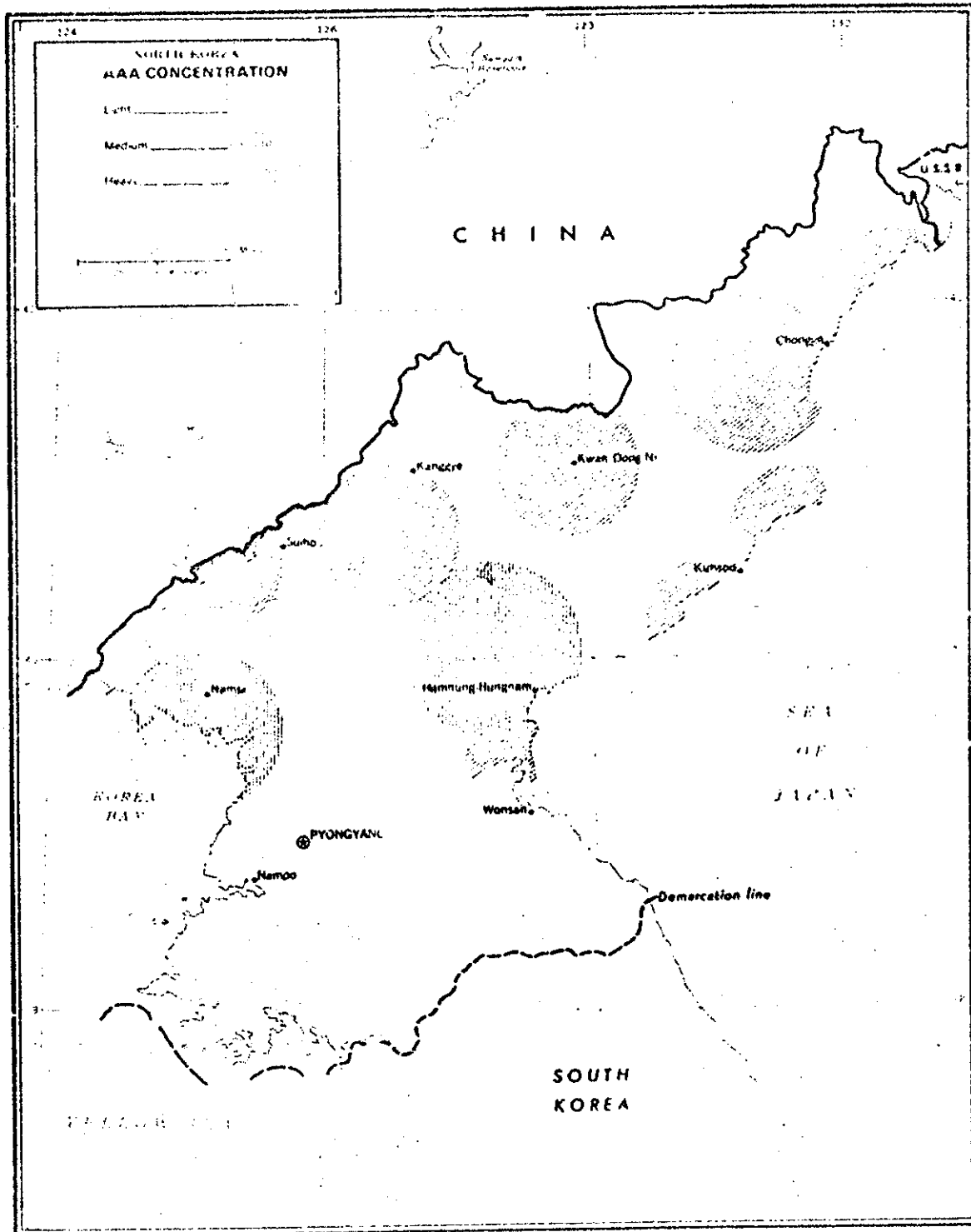


Figure 27 AAA Concentration (U)

act as the primary restraint on a major force buildup. Because officers serve for an indefinite period, the only immediately available pool of trained personnel would be former enlisted men, and they would probably be called up on an individual basis to fill critical mobilization needs.

3. Logistics

The rear service organization at NKAF Headquarters is responsible for the procurement of all technical supplies and materiel other than

complete aircraft and for the distribution and storage of these supplies. Procurement of aircraft for the NKAF is accomplished by the technical (maintenance) echelon. Each airfield is serviced by the two technical branches of the Rear Service Department: one branch handles aircraft servicing and the other performs the various rear service functions including the supply of fuel, parts, food, and clothing. The NKAF is dependent on the USSR and the PRC for POL products. Present reserves are roughly estimated at a 90-day supply.

Maintenance control is exercised by using the Soviet system of logbooks and maintenance records and by frequent inspections. Repair of minor damage to airframes, engine changes and inspections, and partial overhaul of components are accomplished within operational units at the air division level. It is believed that sufficient parts are available and that maintenance standards are high.

North Korea has no known aircraft production capability at this time. Research on aircraft parts production using foreign-made aircraft is being conducted at the Air Research Institute located outside Kusong. The Institute is capable of producing major aircraft components but precision instruments would have to be imported from foreign countries before it could actually produce aircraft.

CHAPTER 7

UNIFORMS, INSIGNIA, AWARDS AND DECORATIONS

A. UNIFORMS

North Korean Armed Forces uniforms are made of a variety of cotton, wool, vinylon and gabardine in olive drab, green, tan, brown, white, navy blue, and multicolored (camouflage). Categories include dress, service, field, fatigue, and special purpose. The dress uniform is not authorized for officers below the rank of colonel or equivalent except when assigned to special duties.

Female personnel, as far as can be determined from photographs, wear essentially the same uniforms as do male personnel with some modifications in style and with plain or pleated skirts replacing trousers.

1. North Korean Army Uniforms

a. Officers (see figure 41)

The color of the summer uniform is usually olive drab, but faded browns, olive greens, and grays have been noted. A field cap may be worn instead of the cap shown. In 1973, company grade officers and enlisted men assigned to the Joint Security Area (JSA) at Panmunjom began a changeover to a new lightweight green uniform similar to this summer uniform.

Officers are authorized several styles of winter uniforms. Another, not shown, is olive drab and similar in style (without quilting) to the khaki-colored, quilted uniform.

b. Enlisted Men (see figure 42)

The jacket of the khaki summer uniform may be worn tucked in. The optional, olive-drab summer/winter uniform becomes the winter uniform shown when worn, in moderately cold weather, with a double-breasted, olive-drab, hip-length coat. The khaki-colored, quilted winter uniform is worn in severely cold weather.

c. Special Purpose Uniforms

1. **Armor.**—Armored troops wear the uniform shown in figure 42.

2. **Camouflage.**—Two types of camouflage uniforms (not illustrated) are issued in summer.

One, olive drab and mottled brown, consists of a pullover-type jacket, with hood and face mask, and matching trousers. The other is a one-piece, mottled coverall which buttons at the neck and has a camouflage net attached at the back. Both are worn with a steel helmet similarly camouflaged. In winter, a camouflage cap is worn over the uniform (figure 41).

3. **Fatigue (not illustrated).**—Troops reportedly engaged in mining ore, hauling goods, or installing motor-operated water pumps in the immediate area of the DMZ wear dark-blue or black uniforms or coveralls. Branch-of-service insignia observed are infantry, artillery, engineer, and signal.

2. North Korean Navy Uniforms

a. Service Uniforms (see figure 43)

All navy personnel wear navy-blue wool uniforms in winter, changing to navy-blue cotton trousers (skirts for women) and white blouses or jumpers in summer. A white cover converts headgear to summer wear. Chief petty officers also wear the officer winter and summer uniforms.

b. Fatigue Uniforms (not illustrated)

In summer, a navy-blue cotton jacket and matching trousers with reinforced knees and seat are issued to appropriate afloat and shore-based personnel. In winter, personnel afloat are issued quilted uniforms, pile caps, and combat shoes or arctic boots. Olive-drab coveralls are issued to vehicle drivers and ship repair personnel on shore and to engineers aboard ships.

3. North Korean Air Force Uniforms

a. Officers (see figure 44)

Although the uniforms worn for summer and winter are identical in styling, the summer uniform is made of olive-drab cotton material and the winter uniform, of olive-drab wool. Air force officers also wear a quilted winter uniform which is identical to that worn by army officers (figure 41) and they are issued a heavy wool, double-breasted,

olive-drab overcoat (not illustrated) with wide, notched lapels and a collar which may be worn turned down or standing.

b. Enlisted Men (see figure 44)

The summer uniform shown is olive drab; it may also be made of cotton khaki. The jacket may be worn tucked in, and the waist belt is optional.

4. Paramilitary Uniforms (not illustrated)

a. Worker-Peasant Red Guard (WPRG)

The WPRG uniform is an olive-drab jacket and trousers and an oversized, soft cap with bill. The WPRG badge is worn over the left breast-pocket of the jacket.

b. Ministry of Public Security Forces

Coastal Border Security Unit personnel have been known to wear, respectively, uniforms similar to those of the navy and army, distinguished by collar tab color—blue for coastal security and green for border security.

B. INSIGNIA (ARMY, NAVY, AIR FORCE)

1. Rank Insignia (see figures 45, 46, and 47)

Insignia of officer rank is displayed on the shoulder boards of dress uniforms, dress overcoats, and winter and field coats, and on the collar tabs of service uniforms. For the army, silver stars designate officers in combat units and gold stars indicate officers in service units.

Insignia for marshal, vice marshal, and senior admiral are not shown. The insignia for marshal (a rank held only by the Supreme Commander, KPA) is a single, large, embroidered gold star; for vice marshal it is a single gold button embossed with the national emblem illustrated in figure 45. Senior admirals wear the same four stars arranged on shoulder boards and collar tabs as do army generals.

Insignia of enlisted rank is displayed on collar tabs by army and air force enlisted personnel and by navy chief petty officers. Naval ratings below that of chief petty officer are displayed on cloth shoulder tabs.

2. Headgear Insignia (see figures 45, 46, and 47)

The Red Star cap device is standard for all ranks of all three services. Ribbons worn on the cap bands of naval enlisted men below the rank

of chief petty officer and wings worn centered above cap insignia by air force flight officers and ground crewmen are shown in figures 46 and 47.

3. Branch Insignia (see figure 48)

Field and company grade army officers and all army enlisted men wear metallic branch of service devices on collar tabs. Navy and air force personnel do not, as far as is known, wear insignia indicating specialties of any kind.

C. AWARDS AND DECORATIONS (see figure 49)

Medals and badges representing awards and decorations are worn on the left breast, but only on national holidays. Service ribbons are worn above the left pocket of the dress military uniform on other occasions.

Awards and decorations for which information is available are discussed below in order of precedence. An asterisk indicates those not shown in figure.

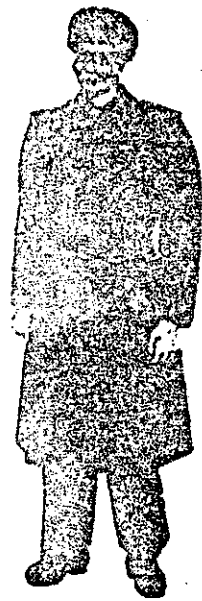
- The *Hero's Medal* (also reported as the Gold Star Medal) is conferred in two categories: Hero of the Democratic People's Republic of Korea, awarded for gallantry in action; and Labor Hero of the Democratic People's Republic of Korea, awarded for outstanding achievement in any occupational field which brings honor and credit to North Korea. Recipients of the first category are also awarded the National Flag Medal and a scroll of honor. Holders of the Labor Hero Medal* are awarded the National Flag Medal and a scroll of honor, but they also receive a gold Hammer-and-Sickle Medal.* The title "Double Hero of the Democratic People's Republic of Korea" is bestowed upon those who are awarded a second medal for gallantry in action, and a statue of the individual is erected at his birthplace.
- The *National Flag Medal* is awarded for outstanding individual bravery and for outstanding performance of military duties. It is also the highest decoration that the State can confer upon citizens, groups, organizations, and factories for outstanding accomplishments in the fields of politics, economy, culture, and national defense.

- The *Medal of Freedom and Independence* is awarded only to People's Army commanders and to partisan unit commanders who display bravery and fortitude in combat and whose military plans and operations result in a victory or make an outstanding contribution to the overall war effort. It is conferred in two classes: first class to commanders of divisions, brigades and partisan units, and second class to commanders of regiments, battalions, companies and smaller partisan units.
- The *Soldier's Honor Medal** is awarded in two classes, gold and silver, to junior lieutenants, enlisted men, and partisans for acts of individual heroism in combat.
- The *Distinguished Service Medal* is awarded to officers and enlisted personnel of all services for distinguished service other than combat.
- The *Meritorious Service Medal* is awarded to military personnel in time of war for meritorious service directly or indirectly aiding in the conduct of the war. Civilians with excellent conduct records and who consistently produce above their quota in factories manufacturing war material are also eligible for this award.
- The *Model Soldier's Badge* is awarded, usually with approval at the division level, to soldiers for good conduct at an outstanding training record.
- The *Red Flag Company Badge* is a unit award presented by the Ministry of the People's Armed Forces for meeting prerequisites established by the Ministry. A banner is presented to units which qualify and company officers and enlisted men are entitled to wear the badge.
- The *Exemplary Member of the North Korean Democratic Youth League* (now called the North Korean Socialist Labor Youth League) *Medal* is awarded to current members of the League for exemplary political activities.

- The *War Commemoration (or Victory) Medal* is awarded to personnel who participated in the war, either as military, as civilian employees of the military, or as partisans, to mark the "historic victory of the Korean War for freedom and independence."
 - The *Disabled Veteran's Honor Medal** is awarded to military personnel disabled while in the service.
 - The *Peace Medal* was at first awarded to People's Republic of China personnel who supported North Korea during the Korean War. Since 1956 it has been awarded to personnel of communist countries involved in cultural exchanges with North Korea.
 - The *Athlete's Medal* is awarded, in three classes, to both officers and enlisted men who meet standards of physical fitness. The third class medal is also awarded to civilian athletes who are under 18 years of age.
 - The *Commemorative Medal, 20th Anniversary of the Korean People's Army**, established on 8 February 1968, is awarded to all military personnel, coastal-border guards, and security forces who distinguish themselves by implementing and supporting the military policy of the Korean Workers Party.
 - The *20th Anniversary of the Democratic People's Republic of Korea Medal**, established on 9 September 1968, is awarded to those individuals who serve in official or industrial positions and distinguish themselves by implementing and supporting lines and policies of the Korean Workers Party.
- The order of precedence for the following medal is not known.
- The *Kim Il-song Medal** was established on 20 March 1972 by the North Korean Supreme People's Assembly and is awarded annually on 15 April, President Kim Il-song's birthday. It is bestowed on military personnel, civilians (national and foreign), units, and organizations for outstanding services or achievements.



DRESS UNIFORM
Summer and Winter



DRESS OVERCOAT



SUMMER UNIFORM



WINTER OVERCOAT

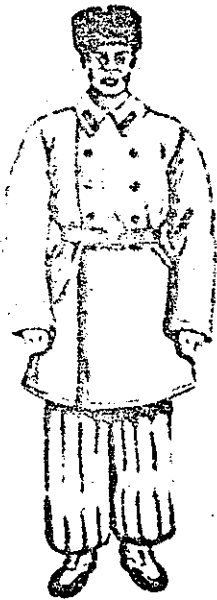


WINTER CAMOUFLAGE CAPE



WINTER UNIFORM

Figure 41. NKA Officers Uniforms. (U)



WINTER UNIFORM
Overcoat



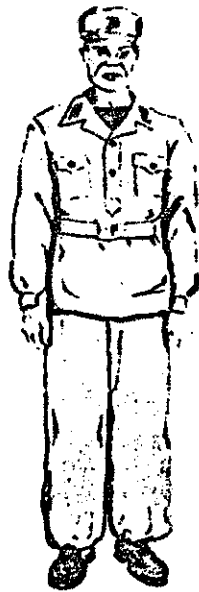
WINTER UNIFORM



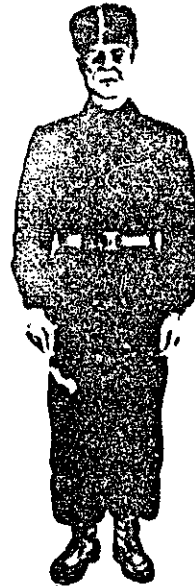
WINTER UNIFORM



ARMORED

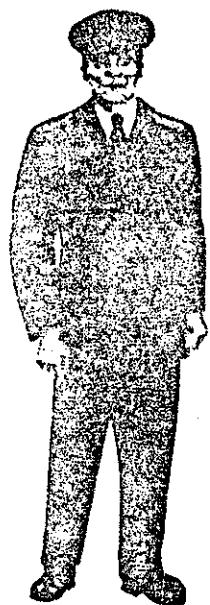


SUMMER UNIFORM



SUMMER OR WINTER UNIFORM
OPTIONAL

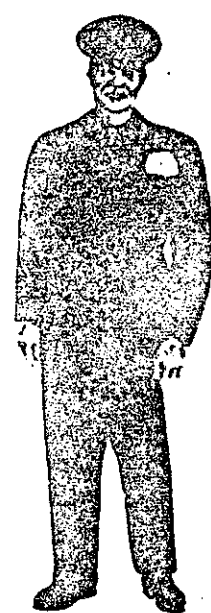
Figure 42. NKA Enlisted Men's Uniforms. (U)



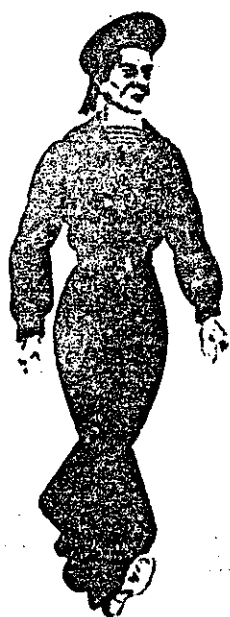
OFFICERS' DRESS UNIFORM
Winter



OFFICERS' SUMMER UNIFORM



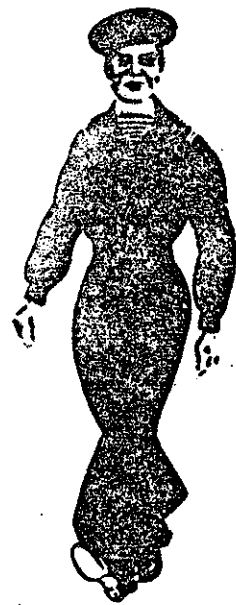
OFFICERS' WINTER UNIFORM



ENLISTED MEN'S WINTER UNIFORM



ENLISTED MEN'S SUMMER UNIFORM



ENLISTED MEN'S WORK UNIFORM

Figure 43. NKN Uniforms. (U)

CHAPTER 3

THE NORTH KOREAN NAVY

A. GENERAL

1. Mission and Capability

(U) The mission of the North Korean Navy (NKN) is to defend territorial waters, to conduct coastal surveillance, and to protect and control coastal shipping and fishing operations. During wartime, the NKN would be tasked to support offensive operations against coastal areas of the ROK, to impede enemy shipping, and to provide for rear area security.

NKN will continue to rely upon the USSR and PRC for sophisticated armament and equipment. Total vessel inventory should increase, although this expansion will be offset as older units are assigned noncombatant roles. Facilities expansion will continue, with emphasis on underground berthing areas and ship repair capabilities.

The primary role of the navy, that of coastal defense, will remain the same in the foreseeable future. However, it is becoming increasingly evident that the NKN is no longer a purely defensive force designed for rear area and coastal security during wartime. While the NKN's defensive capabilities will continue to be improved, a further enhancement of its offensive capabilities is expected, particularly in the areas of anti-shiping and amphibious warfare.

B. ORGANIZATION

The NKN is coequal with the ground and air forces as an arm of the Korean People's Army. The Ministry of People's Armed Forces (MPAF) exercises control over the three services through the Chief of the General Staff. The actual day-to-day administration of the naval forces and supervision of naval operations is delegated to the Commander of Naval Forces.

At Supreme Naval Headquarters in Nampo, the Commander of Naval Forces performs three important functions: participates in the formulation of broad military policy at the MPAF level; directs the naval establishment and operating forces via the Navy Command (composed of the Naval Staff and the Political, Technical, Rear Service, and Navigation Departments); and coordinates naval operations with the other branches of the armed forces. The Chief of Naval Staff controls naval operations by implementing naval planning and strategy formulated at a higher level. Through his staff, he exercises control over training, finance, enlisted and officer personnel, communications, and reconnaissance. Important sections in the Naval Staff are Technical Liaison,

The basic weakness of the NKN is its dependence on foreign sources for spare parts, high-speed engines, POL, and other naval materiel. Principal strengths of the navy are its firepower, good morale, and a high state of training and readiness. Other attributes include the country's growing naval shipbuilding capability, which has alleviated the dependence on foreign ship suppliers, and a continuing program to expand shore facilities, including underground installations.

2. Future Developments

The steady pace of NKN modernization is expected to continue through the near future. As in recent years, most new ship acquisitions will be from indigenous shipyards, although the

Operations, Submarine, and Cryptographic and Safety.

Each of the four departments of the Navy Command is headed by a deputy commander. The all-important Political Department is designed to insure the loyalty of personnel to the communist regime and to assist in morale and welfare activities. The Technical Department includes sections responsible for design, construction, repair, and maintenance of naval ships, munitions, and ordnance. It also administers the Navy Technical Training Center located in Najin. The Rear Service Department supports and maintains the naval establishment. It is also responsible for finance, provisions, equipment, construction, and transportation, and for support to the Naval Medical Center. The Navigation Department is charged with the maintenance and installation of hydrographic aids, surveys, charting, notices to mariners, and materiel maintenance of naval communications and observation posts.

D. WEAPONS: TYPES AND CHARACTERISTICS

Most of North Korea's naval weapons are manufactured in the USSR. They include the following:

Guns—from 12.7-mm AA machineguns up to 130-mm guns.

ASW—RGB-12 rockets and B-1, 4VB, M-1 and 4VM depth charges.

Mines—M-08, M-26, MKB and MKD

Torpedoes—45-36AN, 53-38 and ET-80(50).

Rockets—BM-21 multiple rocket launcher with 122-mm rockets.

Missiles—SS-N-2a STYX anti-ship cruise missile, SSC-2b SAMLET coastal defense missile.

Characteristics of ASW weapons, torpedoes, and mines follow.

ASW weapon characteristics:

Designation/Type	Launch Method	Maximum Depth (meters)
RGB-12 Rocket	RBU-1200 launcher	330
B-1 Depth Charge	Racks	210
4VB Depth Charge	Racks	100
M-1/Depth Charge	Racks	48
4VM Depth Charge	Manual	24

Torpedo characteristics:

Type	Length (meters)	Propulsion	Range Speed (meters/second)
45-36AN	5.7	Airsteam	4, 023/45
53-38	7.2	Airsteam	3 settings: 4, 023/43.5 8, 136.34.5 13, 716.31
ET-80(50)	7.2	Electric drive, lead acid batteries	7, 040.23

Mine characteristics:

Type	Description	Depth Setting		Explosive Charge
		Maximum (meters)	Minimum (meters)	
M-08	Spherical moored; depth taking by plummet.	6.1	1.2	TNT
M-26	Ellipsoidal moored; depth taking by hydrostat in base of mine.	6.1	1.2	TNT
MKB	Ellipsoidal moored; depth taking by hydrostat in base of mine.	9.1	2.4	TNT
MKD	Large magnetic induction bottom mine.	30	N/A	Modified torpex

The SS-N-2a STYX surface-to-surface cruise missile used on North Korea's missile attack boats is 6.6 meters in length with a range of 25 nautical miles. Cruising altitude is 90 to 300 meters at a speed of 0.9 mach. It has a high explosive (HE) warhead weighing 500 kilograms. Guidance is by preset autopilot with active homing radar. Reaction time is 2 minutes.

The SSC-2b SAMLET coastal defense missile has been observed in North Korea since September 1965. It is 8.3 meters in length and weighs 2,750 kilograms. Range is estimated at 50 nautical miles. The SAMLET has a cruising altitude of 1,000 meters at a speed of 0.8 mach. Guidance is by autopilot with midcourse beam rider and radar terminal homing.

(S) Weapons by ship-type classification are described in figure 32.

E. DEPLOYMENT AND INSTALLATIONS

1. Deployment

The naval operating forces consist of the East Coast and the West Coast Fleets. Table 11 indicates the disposition of NKN ships by fleet.

2. Installations

b. Naval Construction and Maintenance

Since 1967, North Korea has invested heavily in its shipbuilding capability. This effort has made naval shipbuilding the country's largest program for producing major military items and has given it the capability to design and fabricate hulls of up to destroyer size. Despite

dependence on foreign sources for such components as electronics, weapons, and large engines, North Korean ship construction progress in recent years has enabled the country to meet almost all of its naval requirements. In the early 1960's, North Korean shipyards concentrated on converting Soviet-supplied naval units into gunboats. The yards shifted to actual construction of combatant ships in the mid-1960's with the production of 61.5-meter SARIWON-class patrol frigates, practically a copy of the Soviet T-class minesweeper. About 1967, the North began constructing torpedo boats at both of the two principal yards, Najin on the east coast and Nampo on the west. The 1969-70 period saw the beginning of a new class of 102-meter patrol frigate. Designated the NAMJIN-class, the PF's are of indigenous design, and two units are now operational. Other recent achievements by the country's shipyards have been the production of locally designed CHAHO-

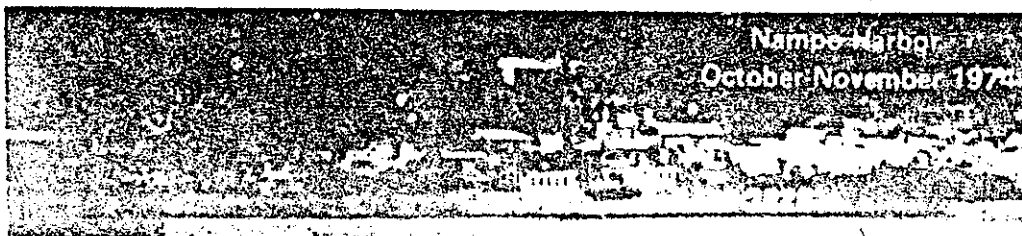
class fast fire support boats (PTFS), CHONGJIN-class motor gunboats (PGM), and NAMPO-class ramped personnel hauling craft (LCPR). All utilize the basic P-6 hull. Construction of the CHAHO has ended and CHONGJIN construction is slowing. NAMPO-class construction is continuing on both coasts. Newly identified naval combatant construction includes ROMEO-class submarines, a small coastal submarine, a new larger class of fast fire support boats, a prototype missile attack boat and submarine chasers.

North Koreans perform routine maintenance and most of the hull and machinery repair on their ships. More complex repairs, particularly on submarines and missile attack boats, are probably performed with the assistance of Soviet and Chinese technicians. In addition to the limited ship-repair capability at some of the bases, three large repair yards are located on the east coast at Munchon, Mayang-do, and Najin. All of these yards have dry docks for below-waterline repairs. There are fewer repair yards on the west coast, but to date they have met the needs of the smaller West Coast Fleet. The west coast ship-repair capability has been increased to accommodate the maintenance requirements of the NAMJIN class. One small dry dock is located at Pipa-got, and a large yard with a 116-meter dry dock has been reactivated at Tasa-ri, on the extreme northwest coast.

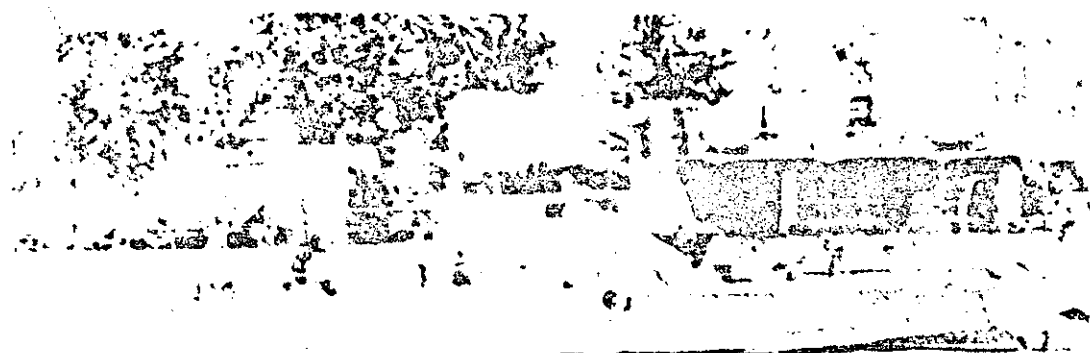
F. OPERATIONS

1. Patrol

The NKN is effectively performing its primary mission of protecting the approaches to North Korea's coasts and insuring the integrity of Pyongyang's [inferred] 12-mile limit for its territorial waters. The navy's heavily armed, high-speed craft are well suited for coastal patrol duties, and they routinely capture ROK fishing boats which stray into North Korean waters



NAMJIN-Class Patrol Frigate (PF). (U)



NAMPO-Class Ramped Personnel Landing Craft (LCPR). (U)

G. TRAINING

1. Officer Training

Officer training is conducted at the Najin Naval Academy, which is directly responsible to the Commander of Naval Forces. The 4-year line-officer course emphasizes instruction in the naval sciences, communist history, Russian language, communications, and infantry tactics. There is also a 5-year course in engineering. Promising graduates of the Naval Academy are sent to the Soviet Union for post-graduate study. The Officer Training Center conducts refresher courses in certain subjects for officers on active duty. Senior naval officers are selected for attend-

ance at the Kim Il-song Army College in Pyongyang.

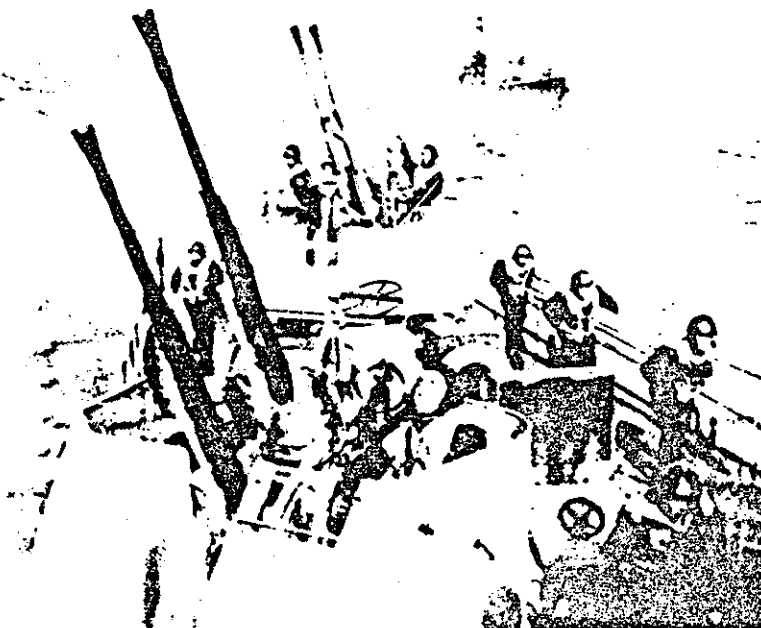
2. Enlisted Man and NCO Training

Enlisted naval training is generally patterned after that of the USSR and PRC navies. Conscripts are indoctrinated at provincial induction centers in conventional basic training subjects. Recruits assigned to the navy then go to naval training at recruit centers located at Wosan and Nampo or go directly to an afloat unit for duty. The more promising recruits, and those in service with technical aptitudes, may enter a specialized phase of enlisted training at the Navy Technical Training Center in Najin. Here trainees get 6 months' training in a technical skill such as navigation, gunnery, radio, communication, and engine maintenance.

3. Operational Training

As in other North Korean services, the navy conducts continuous training. The characteristic features of such training include extensive planning and preparations prior to exercises,

UNCLASSIFIED



Shipboard Anti-aircraft Exercise, U.S.

emphasis on speedy and precise execution of simple tasks, repetition, training under CBR conditions, and training involving enemy air opposition.

The training tasks appear to be simple and basic, with attention to detail and realism. Naval units are noted frequently in activities that involve increasing and decreasing speeds, forming attack formations, and making attack runs. All maneuvers are apparently kept simple and are repeated to perfection. The underlying North Korean training philosophy appears to be one of building effective forces through the use of unsophisticated but relatively foolproof individual components.

Details of training above the unit level are scarce. It is known that multiple-unit training is conducted at all echelons, probably resembling individual unit training but expanded in scope. Additionally, the navy engages in joint training with the other services. Problems in the execution of even the most extensive exercises are seldom noted.

H. PERSONNEL, MOBILIZATION, AND LOGISTICS

1. Personnel

The overall quality of NKN personnel is good, due primarily to efforts on the part of the government to provide basic personal comforts, to acquire new and more modern ships, and to promote the prestige of the military services. The current personnel strength of the NKN is estimated to be 28,000 (4,000 officers and 24,000 enlisted men). Recruitment of enlisted personnel is in accordance with the triservice Conscription Law under which all males between the ages of 18 and 40 are liable for military service. A naval reenlistment program, in effect since 1959, is designed primarily to retain skilled personnel in the technical fields through offers of incentive pay,

better living conditions, and longer leave periods. Most NKN officers receive their commissions upon graduation from the Naval Academy at Najin. Some are commissioned from NCO ranks. Political officers, rear service officers, and staff officers are obtained from various schools, army units, and the enlisted ranks. NKN personnel receive pay commensurate with their table of organization position and its equivalent rank rather than their own actual rank. NKN officers reportedly receive an additional allowance for sea duty.

2. Mobilization

There is no organized naval reserve in North Korea, although personnel discharged after service in the navy could form the nucleus for such an organization. Security personnel, merchant mariners, and fishermen could also be used to augment operating forces. Augmentation of the shore establishment could be met by the transfer of personnel from the ground forces. The NKN has no ships in reserve; however, additional ships might be provided by the Soviet Union and/or the People's Republic of China in an emergency.

3. Logistics

Little is known about North Korea's naval logistic system. The Rear Service Department is responsible for procurement and distribution of most supplies to and within the NKN establishment. Technical support and munitions are provided by specialized branches of the General Staff. Dependence on foreign suppliers, principally the Soviet Union and the PRC, for spare parts and components is a basic vulnerability of the NKN. It is believed that North Korean POL stocks could sustain combat operations for 60 to 90 days. The NKN has no known capability to resupply at sea.

CHAPTER 4

THE NORTH KOREAN AIR FORCE

A. GENERAL

1. Current Status

Immediately after the Korean War, a concerted effort was begun to strengthen the North Korean Air Force (NKAF). With the assistance of the Soviet Union, it became, by Asian standards, effective, well balanced, and relatively modern. Now the fifth largest communist air force in the world after the Soviet Union, the People's Republic of China, Poland, and Vietnam, the NKAF has attained a high degree of proficiency and could make a substantial contribution in the event of war. Relatively limited in range and dependent upon outside logistic support, however, its primary role is defensive in nature.

2. Mission

The primary mission of the NKAF is to provide air defense for the North Korean mainland and territorial waters northward from the DMZ to the borders of China and the Soviet Union. Secondary missions include reconnaissance, interdiction in battle areas, destruction of key installations, airlift, and tactical support to North Korean ground and naval units.

3. Capabilities

The nucleus of North Korea's tactical strike force is its inventory of jet fighters. The tactical air capability of the NKAF has been enhanced by the acquisition of Su-7 (Fitter) fighter-bombers from the Soviet Union and MiG-19 (Farmer) fighters from the PRC. Although the NKAF's Il-28 (Beagle) light bomber force can strike targets deep in the Republic of Korea (ROK), the Beagles are slow and vulnerable to ROKAF interceptors. The principal weaknesses of the NKAF are its reliance on outside sources for aircraft, missiles and radars, and potential maintenance problems posed by the increasing age of its Beagles, Fagots and Frescos.

4. Future Developments

North Korea is not expected to develop an aircraft or missile production capability in the

near future. The September 1971 PRC-North Korea military pact has had a noticeable effect on the planned modernization of the NKAF, and the PRC, rather than the USSR, is now believed to be the primary foreign supplier of aircraft to the NKAF. Aircraft deliveries from the PRC include MiG-19 (Farmer) fighters, Il-28 (Beagle) bombers, and Mi-4 (Hound) helicopters. Pyongyang, however, is still dependent upon the Soviet Union for advanced weapon systems, particularly missile systems, and some aircraft components.

Upgrading of the NKAF will concentrate on replacing older aircraft, improving existing air facilities, and constructing additional ones. More modern aircraft, such as MiG-19's, MiG-21's, and possibly F-9 Fantoms, may be added to the NKAF inventory, phasing out the older MiG-15/17's. The NKAF will continue construction of new air facilities, using them for more wide-ranging dispersal of tactical aircraft. Selected existing airfields will be upgraded, their runways lengthened and re-surfaced, and their support capabilities improved.

B. ORGANIZATION

The NKAF controls and operates all aircraft in North Korea, but little is known about its organization. It is a coequal service under the Ministry of the People's Armed Forces (MPAF) with headquarters at Pyongyang. It maintains its own operational units, rear service units, schools and installations. Control of the NKAF is vested in its Commander who is responsible to the Chief of the General Staff, MPAF. The NKAF Commander is assisted by a Chief of Staff and Deputy Commanders for political matters, aerobatics, air defense, technical matters, and rear service.

The operational units of the NKAF are believed to consist of four or five fighter divisions, one bomber division, and one transport division. Operational units are believed to be organized like those of the Soviets, with the air regiment as the basic tactical formation. The Civil Air Bureau,

UNCLASSIFIED



North Korean MiG-17's and Crews. (U)

formerly under the Ministry of Transportation, was incorporated into the NKAF in 1960.

1. Organization

Air defense operations are implemented, coordinated, and controlled by the air defense command center near Pyongyang. Zonal headquarters monitor the situation in their respective areas, reporting to and receiving direction from the air defense command center. Reports from radar sites and visual surveillance posts are sent to one of the zonal headquarters, then transmitted to the air defense command center.



North Korean MiG-21's. (U)

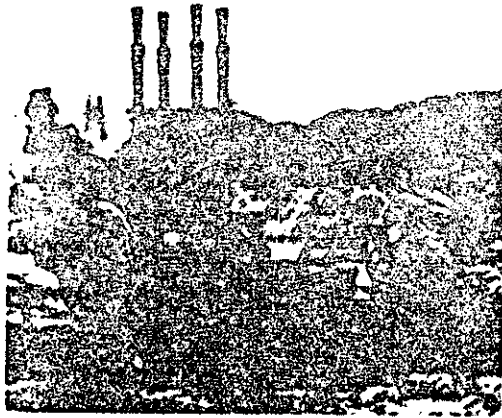


North Korean MiG-17's and Crews. (U)

TABLE 13.—Aircraft Armament & Ordnance Carrying Capabilities (U)

Selecter Aircraft	Possible Armament/Ordnance
Mig-15 (Fagot).....	1 x 37-mm gun 2 x 23-mm guns 2 x 550-lb bombs 32 x 57-mm FFAR rockets
Mig-17 (Fresco A, B).....	2 x 23-mm guns 1 x 37-mm gun 2 x 550-lb bombs 16 x 57-mm FFAR rockets 2 x 210-mm rockets
MIG-19 (Farmer D).....	2 x 30-mm gun 1 x 30-mm gun 2 x 550-lb bombs 2 x AA-2 missiles 32 x 57-mm FFAR rockets
MIG-21 (Fishbed J).....	1 x 23-mm gun 2 x 550-lb bombs or 2 x 1100-lb bombs 4 x AA-2 missiles 64 x 57-mm FFAR rockets or 4 x 240-mm rockets
Su-7 (Fitter).....	2 x 30-mm guns 2 x 550-lb bombs and 4 x 1100-lb bombs 2 x AA-2 missiles 96 x 57-mm FFAR rockets or 38 x 132-mm rockets or 6 x 240-mm rockets
Il-28 (Beagle).....	4 x 23-mm guns 12 x 110-lb bombs or 12 x 220-lb bombs or 8 x 350-lb bombs or 4 x 1100-lb bombs or 1 x 2200-lb bomb or 1 x 3300-lb bomb or 1 x 6600-lb bomb

The North Korean air defense system is composed of fighter interceptors, AAA guns, surface-to-air missiles (SAM), EW/GCI (early warning/ground-controlled intercept) radar, and visual surveillance posts. A SAM Command and an Artillery Command probably exist at MPAF level, with each providing administrative and logistical support. SAM and AAA positions are manned by army personnel but are believed to be under the operational control of the Air Force.



Anti-aircraft Gun Crew. (C)

F. TRAINING

The NKAF academy at Chongjin is North Korea's primary air force school. It enrolls approximately 200 cadets a year for training as pilots, navigators, bombardiers, radiomen, gunners, and engineer maintenance technicians. Most cadets in the pilot training program are graduates of high schools or colleges and come from families with reliable political backgrounds. Promising enlisted men from any branch of the North Korean

Armed Forces may also be selected. Pilot trainees receive about 70 hours of primary flight training in propeller-driven trainers (Yak-18) at Kyong-song SE, and about 100 hours of advanced jet-fighter training (MiG-15/17) at Hoenam-ni and Simmu-song Airfields. After successful completion of the 3-year course, cadet pilots are assigned to operational units and receive follow-on training before being assimilated into the unit. Navigator/bombardier and radiomen/gunner trainees receive the same instruction as pilot trainees during their ground-course phase but differ in the amount of time they devote to their specialized fields. Ground personnel training includes a 3-year course for officer/engineer/maintenance technicians, and a 6-month course for enlisted personnel. Engineer cadets specialize in weapons, engines, communications, or avionics.

G. PERSONNEL, MOBILIZATION, AND LOGISTICS

1. Personnel

Table 15 shows a breakdown of NKAF personnel strength. NKAF personnel are procured through voluntary enlistment, conscription, and assignments from other services. Generally higher selection criteria than those used for the army or navy has resulted in a force which is qualitatively above the national average in the level of education, technical proficiency, political reliability, and ideological conviction. In general, NCO's and privates of the NKAF are required to serve 3 years; those with technical specializations serve 4 years. Officers serve for life and are usually discharged only for physical disability, illegal activities, or political reasons. Base pay is determined by assigned duty position rather than by rank. All officers receive longevity pay, and pilots are given several additional allowances. A battalion commander, for instance, earns each month slightly over 100 won (2.15 NK won = US\$1.00) base pay, longevity pay of 5 to 10 won, an allowance of 8 won for each dependent, and 3-won flight pay. Flight pay during adverse weather or at night is compensated for at a rate of 5 won per hour. Enlisted ground crews receive only base pay; air crews probably receive base pay plus small allowances.

2. Mobilization

Mobilization plans for NKAF personnel are unknown. The limited number of pilots would

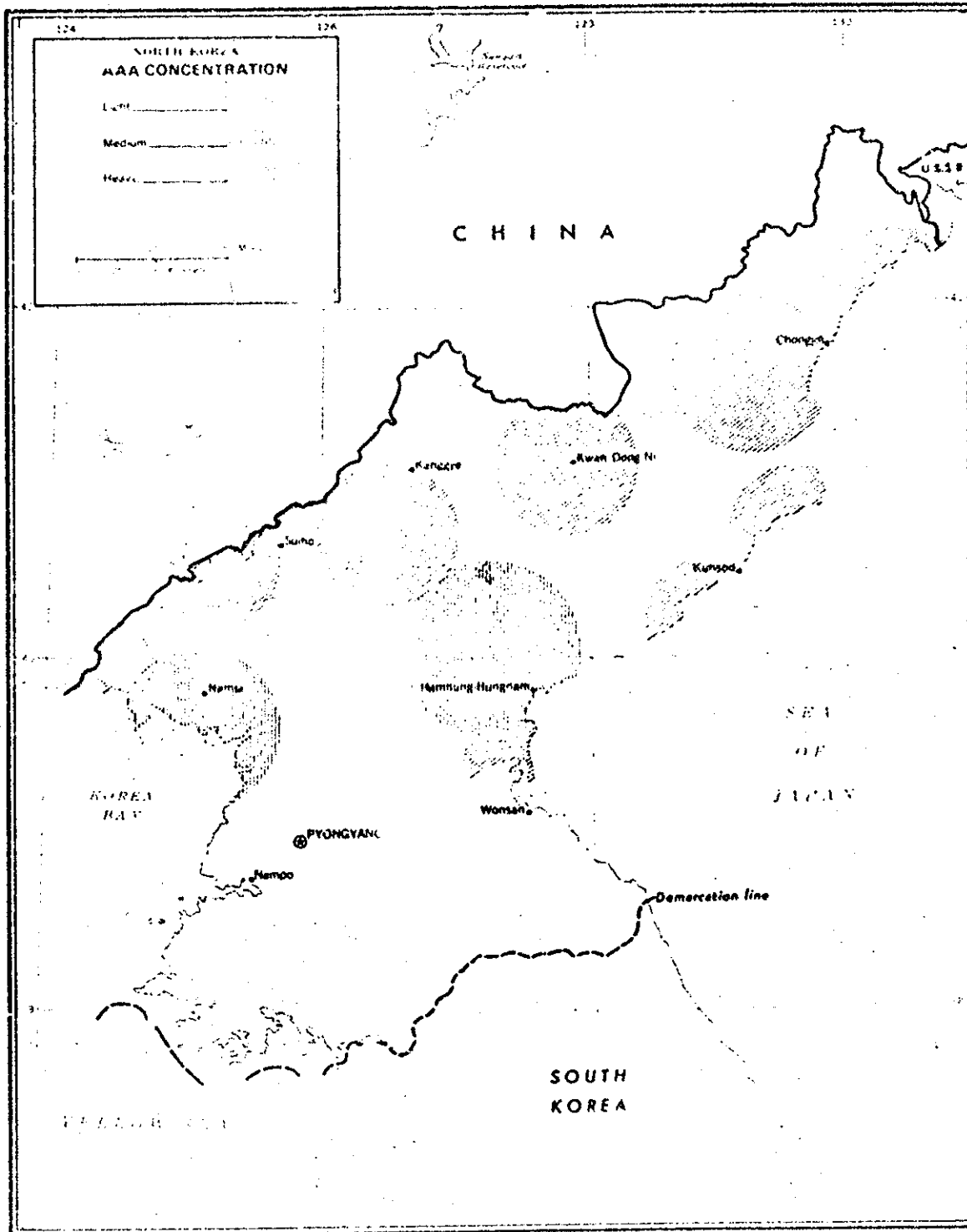


Figure 27 AAA Concentration (U)

act as the primary restraint on a major force buildup. Because officers serve for an indefinite period, the only immediately available pool of trained personnel would be former enlisted men, and they would probably be called up on an individual basis to fill critical mobilization needs.

3. Logistics

The rear service organization at NKAF Headquarters is responsible for the procurement of all technical supplies and materiel other than

complete aircraft and for the distribution and storage of these supplies. Procurement of aircraft for the NKAF is accomplished by the technical (maintenance) echelon. Each airfield is serviced by the two technical branches of the Rear Service Department: one branch handles aircraft servicing and the other performs the various rear service functions including the supply of fuel, parts, food, and clothing. The NKAF is dependent on the USSR and the PRC for POL products. Present reserves are roughly estimated at a 90-day supply.

Maintenance control is exercised by using the Soviet system of logbooks and maintenance records and by frequent inspections. Repair of minor damage to airframes, engine changes and inspections, and partial overhaul of components are accomplished within operational units at the air division level. It is believed that sufficient parts are available and that maintenance standards are high.

North Korea has no known aircraft production capability at this time. Research on aircraft parts production using foreign-made aircraft is being conducted at the Air Research Institute located outside Kusong. The Institute is capable of producing major aircraft components but precision instruments would have to be imported from foreign countries before it could actually produce aircraft.

CHAPTER 7

UNIFORMS, INSIGNIA, AWARDS AND DECORATIONS

A. UNIFORMS

North Korean Armed Forces uniforms are made of a variety of cotton, wool, vinylon and gabardine in olive drab, green, tan, brown, white, navy blue, and multicolored (camouflage). Categories include dress, service, field, fatigue, and special purpose. The dress uniform is not authorized for officers below the rank of colonel or equivalent except when assigned to special duties.

Female personnel, as far as can be determined from photographs, wear essentially the same uniforms as do male personnel with some modifications in style and with plain or pleated skirts replacing trousers.

1. North Korean Army Uniforms

a. Officers (see figure 41)

The color of the summer uniform is usually olive drab, but faded browns, olive greens, and grays have been noted. A field cap may be worn instead of the cap shown. In 1973, company grade officers and enlisted men assigned to the Joint Security Area (JSA) at Panmunjom began a changeover to a new lightweight green uniform similar to this summer uniform.

Officers are authorized several styles of winter uniforms. Another, not shown, is olive drab and similar in style (without quilting) to the khaki-colored, quilted uniform.

b. Enlisted Men (see figure 42)

The jacket of the khaki summer uniform may be worn tucked in. The optional, olive-drab summer/winter uniform becomes the winter uniform shown when worn, in moderately cold weather, with a double-breasted, olive-drab, hip-length coat. The khaki-colored, quilted winter uniform is worn in severely cold weather.

c. Special Purpose Uniforms

1. **Armor.**—Armored troops wear the uniform shown in figure 42.

2. **Camouflage.**—Two types of camouflage uniforms (not illustrated) are issued in summer.

One, olive drab and mottled brown, consists of a pullover-type jacket, with hood and face mask, and matching trousers. The other is a one-piece, mottled coverall which buttons at the neck and has a camouflage net attached at the back. Both are worn with a steel helmet similarly camouflaged. In winter, a camouflage cape is worn over the uniform (figure 41).

3. **Fatigue (not illustrated).**—Troops reportedly engaged in mining ore, hauling goods, or installing motor-operated water pumps in the immediate area of the DMZ wear dark-blue or black uniforms or coveralls. Branch-of-service insignia observed are infantry, artillery, engineer, and signal.

2. North Korean Navy Uniforms

a. Service Uniforms (see figure 43)

All navy personnel wear navy-blue wool uniforms in winter, changing to navy-blue cotton trousers (skirts for women) and white blouses or jumpers in summer. A white cover converts headgear to summer wear. Chief petty officers also wear the officer winter and summer uniforms.

b. Fatigue Uniforms (not illustrated)

In summer, a navy-blue cotton jacket and matching trousers with reinforced knees and seat are issued to appropriate afloat and shore-based personnel. In winter, personnel afloat are issued quilted uniforms, pile caps, and combat shoes or arctic boots. Olive-drab coveralls are issued to vehicle drivers and ship repair personnel on shore and to engineers aboard ships.

3. North Korean Air Force Uniforms

a. Officers (see figure 44)

Although the uniforms worn for summer and winter are identical in styling, the summer uniform is made of olive-drab cotton material and the winter uniform, of olive-drab wool. Air force officers also wear a quilted winter uniform which is identical to that worn by army officers (figure 41) and they are issued a heavy wool, double-breasted,

olive-drab overcoat (not illustrated) with wide, notched lapels and a collar which may be worn turned down or standing.

b. Enlisted Men (see figure 44)

The summer uniform shown is olive drab; it may also be made of cotton khaki. The jacket may be worn tucked in, and the waist belt is optional.

4. Paramilitary Uniforms (not illustrated)

a. Worker-Peasant Red Guard (WPRG)

The WPRG uniform is an olive-drab jacket and trousers and an oversized, soft cap with bill. The WPRG badge is worn over the left breast-pocket of the jacket.

b. Ministry of Public Security Forces

Coastal Border Security Unit personnel have been known to wear, respectively, uniforms similar to those of the navy and army, distinguished by collar tab color—blue for coastal security and green for border security.

B. INSIGNIA (ARMY, NAVY, AIR FORCE)

1. Rank Insignia (see figures 45, 46, and 47)

Insignia of officer rank is displayed on the shoulder boards of dress uniforms, dress overcoats, and winter and field coats, and on the collar tabs of service uniforms. For the army, silver stars designate officers in combat units and gold stars indicate officers in service units.

Insignia for marshal, vice marshal, and senior admiral are not shown. The insignia for marshal (a rank held only by the Supreme Commander, KPA) is a single, large, embroidered gold star; for vice marshal it is a single gold button embossed with the national emblem illustrated in figure 45. Senior admirals wear the same four stars arranged on shoulder boards and collar tabs as do army generals.

Insignia of enlisted rank is displayed on collar tabs by army and air force enlisted personnel and by navy chief petty officers. Naval ratings below that of chief petty officer are displayed on cloth shoulder tabs.

2. Headgear Insignia (see figures 45, 46, and 47)

The Red Star cap device is standard for all ranks of all three services. Ribbons worn on the cap bands of naval enlisted men below the rank

of chief petty officer and wings worn centered above cap insignia by air force flight officers and ground crewmen are shown in figures 46 and 47.

3. Branch Insignia (see figure 48)

Field and company grade army officers and all army enlisted men wear metallic branch of service devices on collar tabs. Navy and air force personnel do not, as far as is known, wear insignia indicating specialties of any kind.

C. AWARDS AND DECORATIONS (see figure 49)

Medals and badges representing awards and decorations are worn on the left breast, but only on national holidays. Service ribbons are worn above the left pocket of the dress military uniform on other occasions.

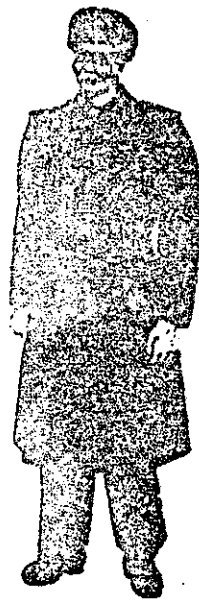
Awards and decorations for which information is available are discussed below in order of precedence. An asterisk indicates those not shown in figure.

- The *Hero's Medal* (also reported as the Gold Star Medal) is conferred in two categories: Hero of the Democratic People's Republic of Korea, awarded for gallantry in action; and Labor Hero of the Democratic People's Republic of Korea, awarded for outstanding achievement in any occupational field which brings honor and credit to North Korea. Recipients of the first category are also awarded the National Flag Medal and a scroll of honor. Holders of the Labor Hero Medal* are awarded the National Flag Medal and a scroll of honor, but they also receive a gold Hammer-and-Sickle Medal.* The title "Double Hero of the Democratic People's Republic of Korea" is bestowed upon those who are awarded a second medal for gallantry in action, and a statue of the individual is erected at his birthplace.
- The *National Flag Medal* is awarded for outstanding individual bravery and for outstanding performance of military duties. It is also the highest decoration that the State can confer upon citizens, groups, organizations, and factories for outstanding accomplishments in the fields of politics, economy, culture, and national defense.

- The *Medal of Freedom and Independence* is awarded only to People's Army commanders and to partisan unit commanders who display bravery and fortitude in combat and whose military plans and operations result in a victory or make an outstanding contribution to the overall war effort. It is conferred in two classes: first class to commanders of divisions, brigades and partisan units, and second class to commanders of regiments, battalions, companies and smaller partisan units.
 - The *Soldier's Honor Medal** is awarded in two classes, gold and silver, to junior lieutenants, enlisted men, and partisans for acts of individual heroism in combat.
 - The *Distinguished Service Medal* is awarded to officers and enlisted personnel of all services for distinguished service other than combat.
 - The *Meritorious Service Medal* is awarded to military personnel in time of war for meritorious service directly or indirectly aiding in the conduct of the war. Civilians with excellent conduct records and who consistently produce above their quota in factories manufacturing war material are also eligible for this award.
 - The *Model Soldier's Badge* is awarded, usually with approval at the division level, to soldiers for good conduct and an outstanding training record.
 - The *Red Flag Company Badge* is a unit award presented by the Ministry of the People's Armed Forces for meeting prerequisites established by the Ministry. A banner is presented to units which qualify and company officers and enlisted men are entitled to wear the badge.
 - The *Exemplary Member of the North Korean Democratic Youth League* (now called the North Korean Socialist Labor Youth League) *Medal* is awarded to current members of the League for exemplary political activities.
 - The *War Commemoration (or Victory) Medal* is awarded to personnel who participated in the war, either as military, as civilian employees of the military, or as partisans, to mark the "historic victory of the Korean War for freedom and independence."
 - The *Disabled Veteran's Honor Medal** is awarded to military personnel disabled while in the service.
 - The *Peace Medal* was at first awarded to People's Republic of China personnel who supported North Korea during the Korean War. Since 1956 it has been awarded to personnel of communist countries involved in cultural exchanges with North Korea.
 - The *Athlete's Medal* is awarded, in three classes, to both officers and enlisted men who meet standards of physical fitness. The third class medal is also awarded to civilian athletes who are under 18 years of age.
 - The *Commemorative Medal, 20th Anniversary of the Korean People's Army**, established on 8 February 1968, is awarded to all military personnel, coastal-border guards, and security forces who distinguish themselves by implementing and supporting the military policy of the Korean Workers Party.
 - The *20th Anniversary of the Democratic People's Republic of Korea Medal**, established on 9 September 1968, is awarded to those individuals who serve in official or industrial positions and distinguish themselves by implementing and supporting lines and policies of the Korean Workers Party.
- The order of precedence for the following medal is not known.
- The *Kim Il-song Medal** was established on 20 March 1972 by the North Korean Supreme People's Assembly and is awarded annually on 15 April, President Kim Il-song's birthday. It is bestowed on military personnel, civilians (national and foreign), units, and organizations for outstanding services or achievements.



DRESS UNIFORM
Summer and Winter



DRESS OVERCOAT



SUMMER UNIFORM



WINTER OVERCOAT

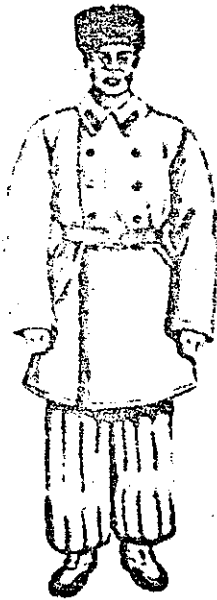


WINTER CAMOUFLAGE CAPE



WINTER UNIFORM

Figure 41. NKA Officers Uniforms. (C)



WINTER UNIFORM
Overcoat



WINTER UNIFORM



WINTER UNIFORM



ARMORED



SUMMER UNIFORM



SUMMER OR WINTER UNIFORM
(OPTIONAL)

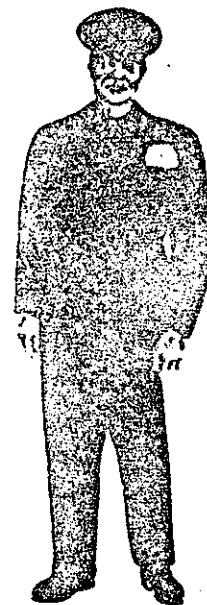
Figure 42. NKA Enlisted Men's Uniforms. (U)



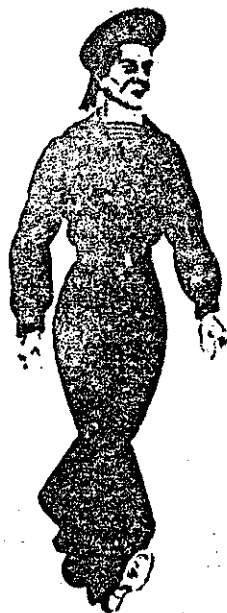
OFFICERS' DRESS UNIFORM
Winter



OFFICERS' SUMMER UNIFORM



OFFICERS' WINTER UNIFORM



ENLISTED MEN'S WINTER UNIFORM



ENLISTED MEN'S SUMMER UNIFORM



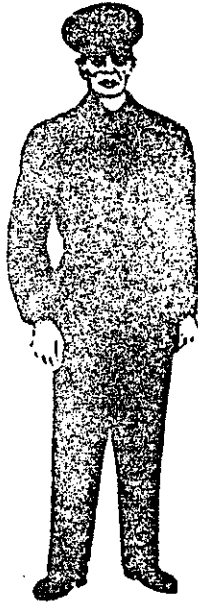
ENLISTED MEN'S WORK UNIFORM

Figure 43. NKN Uniforms. (U)

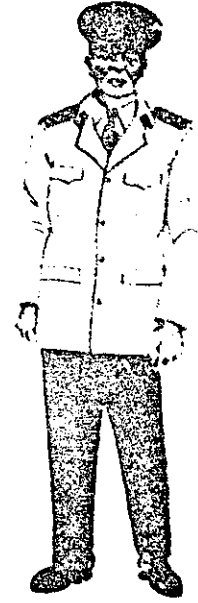
OFFICERS



DRESS UNIFORM
Winter



SUMMER AND WINTER UNIFORM



DRESS UNIFORM
Summer



SUMMER UNIFORM

ENLISTED MEN



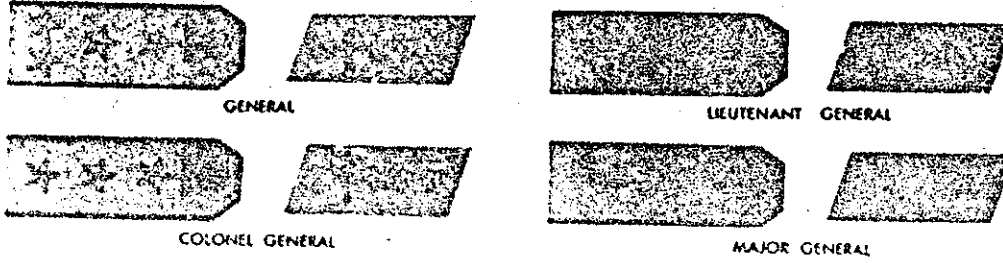
WINTER UNIFORM



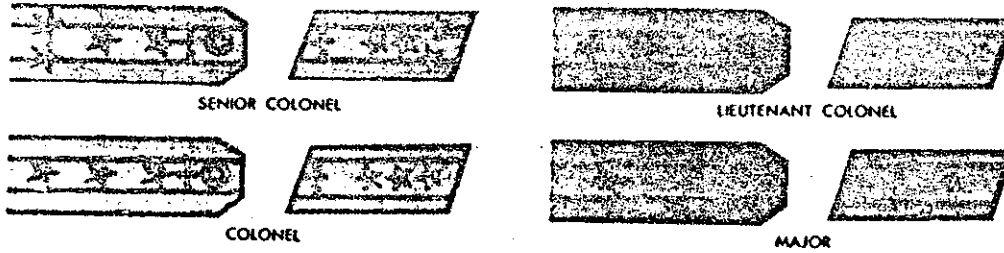
FEMALE OFFICER
SUMMER AND WINTER UNIFORM

Figure 44. NKAF Uniforms. (U)

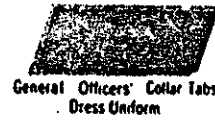
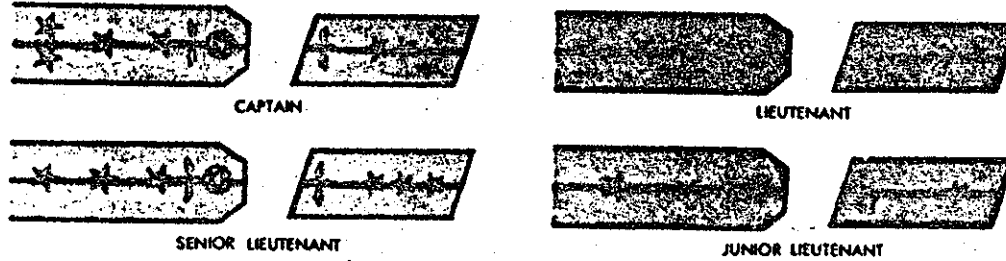
GENERAL OFFICERS



FIELD GRADE OFFICERS



COMPANY GRADE OFFICERS



ENLISTED RANKS



Figure 43. NKAF Insignia. (U)

FLAG OFFICERS



ADMIRAL



VICE ADMIRAL



SENIOR CAPTAIN

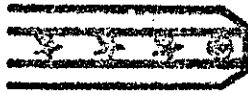
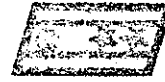
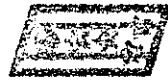
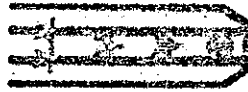


REAR ADMIRAL

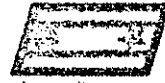
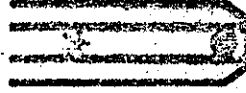
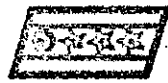


LIEUTENANT COMMANDER

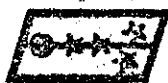
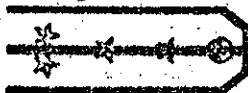
SENIOR OFFICERS



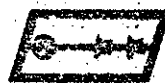
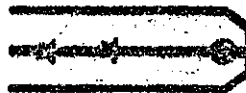
CAPTAIN



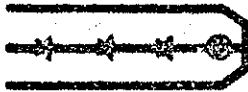
JUNIOR OFFICERS



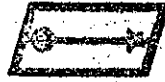
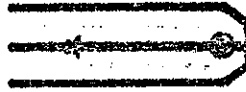
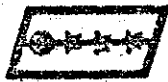
SENIOR LIEUTENANT



JUNIOR LIEUTENANT



LIEUTENANT



ENSIGN



OFFICERS' and PETTY OFFICERS' CAP



CAP DEVICE



SEAMAN'S CAP



NATIONAL EMBLEM
Worn on FLAG OFFICERS'
shoulder boards and collar tabs



SEAMAN'S CAP RIBBON

PETTY OFFICERS & SEAMEN



CHIEF
PETTY OFFICER



1ST CLASS
PETTY OFFICER



2ND CLASS
PETTY OFFICER



3RD CLASS
PETTY OFFICER



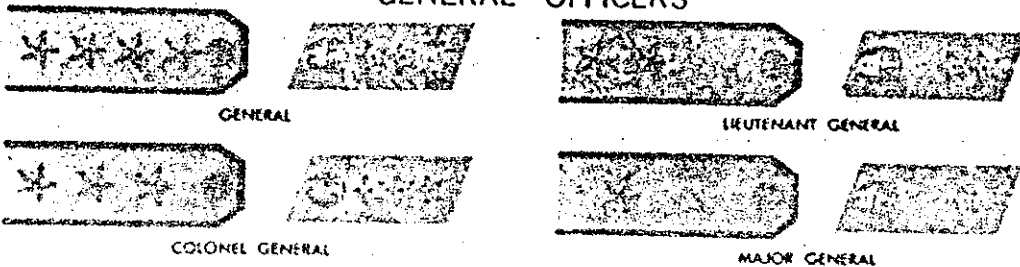
SEAMAN



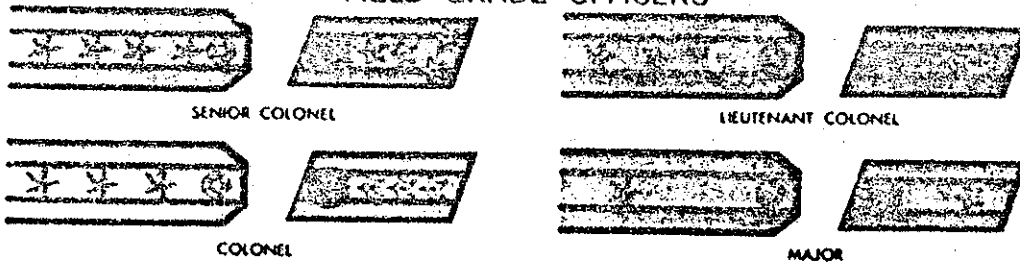
SEAMAN
APPRENTICE

Figure 46. NKN Insignia. (U)

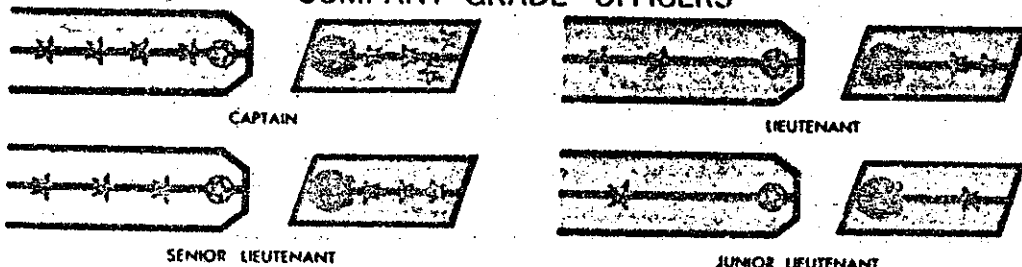
GENERAL OFFICERS



FIELD GRADE OFFICERS



COMPANY GRADE OFFICERS



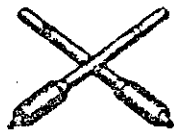
ENLISTED RANKS



Figure 47. NKA Insignia. (U)



ARMORED



ARTILLERY



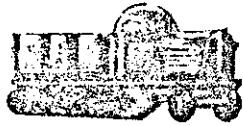
INFANTRY



ENGINEERS



SIGNAL
(Radio)



TRANSPORTATION



MEDICAL
(Unconfirmed)



VETERINARY

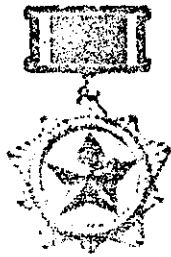


JUDGE ADVOCATE
GENERAL

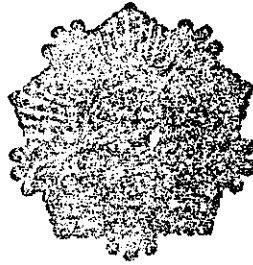


FINANCE
(May be obsolete)

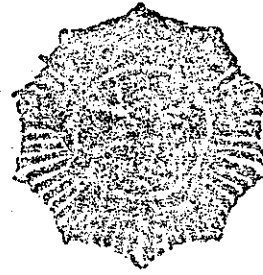
Figure 48. NKA Branch Insignia. (U)



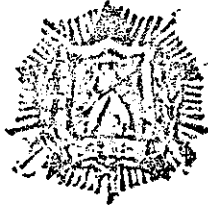
Hero's Medal



National Flag Medal
(3rd Class)



Medal of Freedom
and Independence



Distinguished Service
Medal



Meritorious Service
Medal



Red Flag Company
Badge



Model Soldiers Badge



War Commemoration
Medal - Korea



Peace Medal



Exemplary Member of NKDYL
North Korean Democratic Youth League



Athlete's Medal

Figure 49. Awards and Decorations. (U)