EVOLUTION OF THE U. S. ARMY DIVISION 1939-1968

Virgil Ney

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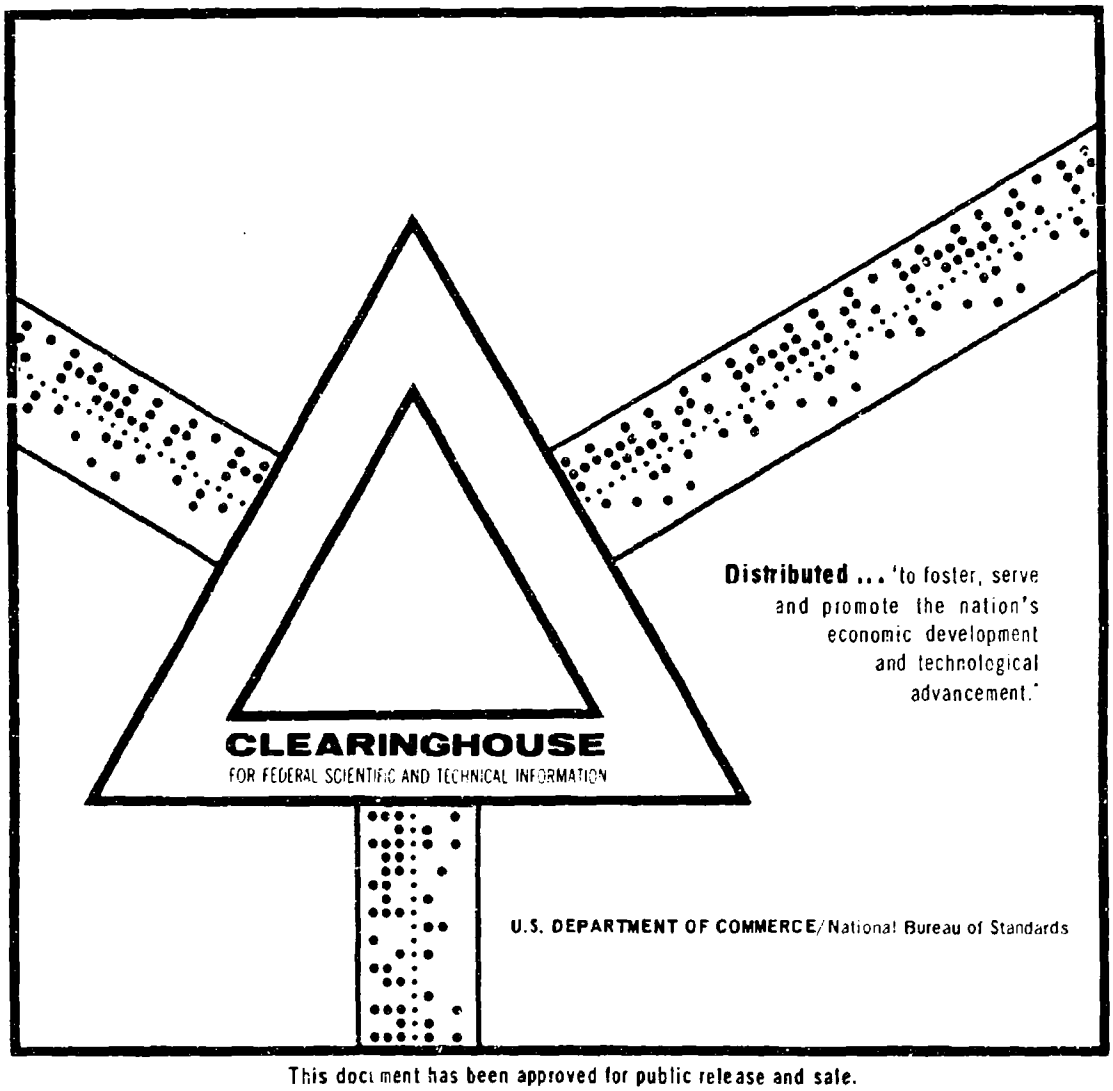
Fort Belvoir, Virginia

January 1969



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EVOLUTION OF THE US ARMY DIVISION 1939-1968

by

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January 1969

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UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
FORT BELVOIR, VIRGINIA

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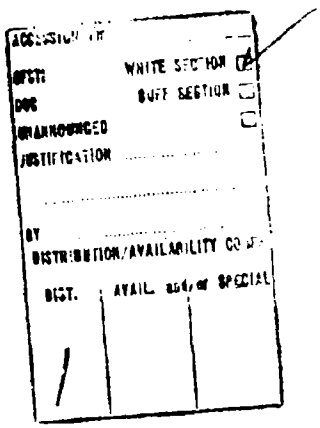

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EVOLUTION OF THE

US ARMY DIVISION 1939-1968

ABSTRACT

The division first appeared in the United States Army in the American Revolution. European military professionals established the divisional structure, which was refined during and after the French Revolution. The Napoleonic wars saw the infantry division in all armies; the French influence on divisional structure has always been strong.

The modern United States Army infantry division dates from World War I when the t of war was influenced by the tremendous firepower and lack of maneuver of opposing forces. Massive attacks against heavily fortified, limited objectives demanded strength to absorb heavy casualties. The advent of the airplane and the trench-crossing tank helped to restore movement to the war, and posed the requirement for less ponderous units for rapid maneuver.

World War II and the Korean War were fought by divisions of about one-half the strength of those of World War I. The division was triangular rather than square. Infantry, airborne, motorized, and mountain divisions were organized. Specialized divisions either survived combat or reverted to standard infantry organization. Air transport, armored vehicles, and new heavy infantry weapons influenced infantry divisional structure.

The "cold war" and the possibility of nuclear conflict forced the drastic reorganization of the US infantry division. Pentomic, or ROCID, ROTAD, and finally ROAD were the new formats. Flexible response concepts and studies of the Army helicopter and the structure of the armored division combined to establish a common division base for the attachment of battalions as building blocks, thus eliminating the regiment. In Vietnam, infantry and airmobile divisions continue to demonstrate the validity of the matching of the ancient tactical principle of fire and maneuver with the concept of flexible response.

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SUMMARY

Historical Background (1775-1939) begins with the evolution of the division in the American and French Revolutionary armies. The effect of certain European military theorists upon divisional organization in all armies is noted. Napoleon Bonaparte contributed several organizational and operational patterns to the division. The Industrial Revolution with its development of new metals, weapons, and explosives contributed to the changes in the divisions. Weapon lethality forced deployment and more dispersion upon the battlefield. The American Civil War (1861-1865) was fought on both sides with the tactics and divisional organization of the Napoleonic era. In this conflict, weaponry was far ahead of tactics. America participated in World War I with divisions patterned after those of the Allies. The machinegun ruled the battlefield and eliminated movement from the tactical formula of fire and movement. Divisions became larger in manpower to absorb the heavy casualties exacted by the fires of massed artillery and automatic weapons. The advent of the tank reduced the effect of the machinegun and partially restored mobility to warfare. The airplane further influenced the tactical formations of the infantry division in World War I and the influence continued with the evolution of fighter and bomber aircraft. The US division remained virtually unchanged until the late 1930's when US Army planners endeavored to reduce its strength and bring it into consonance with new weaponry and evolving air-power tactics.

Post-World War I and World War II, 1939-1945 covers an era of dynamic change from the old "square" divisional concepts of World War I and the post-war period to a streamlined "triangular" division with thousands fewer personnel assigned. General Lesley J. McNair, the Chief of Army Ground Forces, was a consistent and positive brake upon expensive, overmanned, and specialized divisions. His policy was that all divisional elements must be functional in combat and that manpower be utilized to the maximum. The armored division, as developed during World War II, with its separate combat commands, established a pattern of flexibility of response to combat demands.

Specialized divisions, (jungle, mountain, and motorized) were found to be unnecessary. Combat experience established that the standard infantry division was capable of operations under all conditions of environment and types of combat encountered in a global war. At the end of hostilities in the European theater of operations, a study was made by a special board of officers to evaluate the European experiences of American divisions and their subordinate units. The results of the study were to have salient effects upon the future divisional structure in the US Army.

Post-World War II and the Korean War covers the organization of the division in the period immediately following the end of World War II. The reductions made necessary by rapid demobilization and post-war economies caused the infantry division to be short in manpower, weapons, and equipment. This situation was to have a disastrous effect upon the

divisions entering combat in Korea. The divisions in Korea found that they were not fighting a European-type war but rather one of combined conventional and nonconventional tactics. This fact exerted considerable effect upon the implementation of the "flexible response" doctrine in the post-Korean War planning of divisional reorganization.

The Division of the 1950s-1960s and Vietnam continues the evolution of the modern division. The requirements of the "Cold War" and possible nuclear warfare established the Pentomic-division, in which the battalion and the regiment were abolished and the battle group instituted as an interim answer to this tactical dilemma. A return of the flexibility of the World War II and Korean War armored divisional organization was achieved by the return of the battalion in the ROAD type divisions. During this period, the divisional structure became entirely functional and many of the political and sociological aspects of the traditional Army division were lost in the desire to achieve flexibility. Vietnam serves as a "proving ground" for new divisional concepts. The helicopter, basically developed during the Korean war, prompted the organization of a maximum mobility type division--the airmobile division. The period witnessed significant development and improvement of weapons and vehicles, including both fixed-wing and rotary-wing aircraft.

Since the end of the Korean War, the infantry division of the United States Army has been in a constant state of reorganization. International tensions impose the requirement that the infantry division be one capable of a flexible response to any intensity of war: nuclear, conventional, or nonconventional. As in World War II, there have been those whose answer was: specialized units or troops. These units, in spite of heavy opposition from traditionalists, got into the organizational format as Special Forces but they were never organized on divisional levels. In addition to their departure from organizational patterns of the US Army, they were too highly committed to special type missions — many of which depended little on the tactical principles of fire and movement. Civic action and other nonviolent forms of military-sponsored activity tended to lessen the hard conventional combat mission of Special Forces. The delivery of organized violence upon the enemy and his materiel and installations still remains the primary mission of the infantry division.

The inclusion of brigades and reinstitution of battalions in the ROAD division reduced the span of control of the division commander from the Pentomic division. However, it should be noted that the brigades are performing essentially the same function accomplished by the old regiment. Further, the brigade possesses a flexibility of attachment and detachment of battalions never achieved by the regiment. The regimental structure within the infantry division of World War II and the Korean War was inflexible, i.e., battalions were permanently assigned to the regiment. Today, the brigade has no permenent battalions — with its headquarters and headquarters companies as the brigade base, it receives battalions within the division as required by the mission. The brigades of the division are, in essence power handles to which the battalions (tools) are attached for operations. The division base is essentially a master power handle to which the brigades are attached.

The mechanized division with its armored personnel carriers and other combat vehicles offers a solution to the problem of ground contamination during a nuclear conflict as well as providing mobility to the division. How effective the carriers will be against radiation and fall-out cannot be assessed accurately at this time. However, the mechanized division does seem to offer the best type of unit structure and equipment for protection of ground force personnel conducting combat operations under nuclear conditions.

How the soldier is transported into combat determines the kind of a division to which he is assigned. The soldier who parachutes into combat from a transport plane may be properly termed "airborne"; the soldier who rides into battle and fights from and in an armored personnel carrier may be designated as "mechanized"; the soldier who is lifted into combat by helicopter is "airmobile"; the soldier who is transported in a tank and fights from the tank and with its weapons system is "armored." Contemporary infantry division organization and structure is centered around the transport and weapons systems available and their adjustment to the mission. The functions of divisions are similar: close with the enemy, destroy him and his installations, and secure and occupy his territory. The means (equipment and weaponry) govern how the mission will be accomplished. Under the "flexible response" concept the trend is toward a division capable of operating under all conditions of combat. Reverting to Guibert's historical "ordre mixte," the infantry division of the next decade may be a composite type: standard infantry, mechanized, airmobile, and airborne brigades assigned to a common division base under the ROAD system of interchangeable "building block" units.

Future warfare tactical patterns and weaponry may require almost total dispersion of the division and elimination of the Army corps. Eventually, the brigade may become the larger-unit operational headquarters with the division base functioning solely in the area of administration. Maneuver battalions, with their maximized flexibility, may operate independently of brigades. They have this capability now and it will become more common-place in the future. Battalion commanders must expect to assume tasks and missions now considered within the purview of brigade commanders.

The Selected Bibliography lists books, articles, reports, official and semi-official publications, and relevant materials consulted in the study research.

The Appendixes include charts and diagrams pertaining to the evolution of the division span of control, historical development of tactical communications, miscellaneous tables of division organization, and a copy of a portion of the Division Board Report and Questionnaire published by the General Board, European theater of operations, after termination of hostilities in that theater.

EVOLUTION OF THE US ARMY DIVISION 1939-1968

HISTORICAL BACKGROUND, 1775-1939

The American Revolution

Historians of the Revolutionary War have noted that American troop organization was very informal. The patriots, guided by the British Army organizational patterns, used the battalion as the basic combat unit and the regiment as the command and administrative base for the battalions. Brigades and divisions often served as administrative units, until the influence of such foreign officers as Baron Frie[illegible]ick von Steuben, Marquis Marie Joseph de Lafayette, and Baron Johann de Kalb led to their organization as tactical units.

> The Continental Army of 1775 comprised thirty-eight regiments of greatly varying size. The Massachusetts, New Hampshire, and Rhode Island regiments stood on a basis of 590 enlisted men, while Connecticut regimental tables of organization sometimes called for 1,000 enlisted men, sometimes for 600. Washington organized these regiments into six brigades generally of six regiments each, and into three divisions of two brigades each. The brigades and divisions were primarily administrative headquarters. The key tactical unit was the battalion, which was usually the same body of men as a regiment, "regiment" being another term denoting an administrative unit, while "battalion" was the tactical term. The possibilities of employing as tactical entities units larger than battalions but smaller than an army were only beginning to be reali[illegible]d in Europe. The advent of the division as a tactical formation mainly awaited the Wars of the French Revolution. Since Washington and his lieutenants patterned the tactics of the American Army on what they knew of European armies, The Army tended to fight not by divisions or brigades but as a tactical whole, its constituent units of maneuver being the battalions. (Ref 1, p 62)

Early Theorists In France

The division was the creation of French military theorists and writers. Even before the French Revolution added the division to Napoleon's Army, military innovators had tried to solve the problems of maneuver and fire on the battlefield. Among these were Guibert (1743-1790) and Marshal Maurice de Saxe (1696-1750). Guibert was caught between two schools of thought:

> ...that of the "lineal disposition" or that of "disposition in depth." The works of Guibert introduced an intermediate formula which, through the simple movement of columns of battalions, made it possible to pass with relative speed from the column or "order of march" to "the order of battle" or lineal formation, and introduced an element of flexibility into the armed masses. (Ref 2, p 82)

Marshal of France, Maurice de Saxe (1696-1750), whose Reveries on the Art of War is a military classic, laid down the formation of the autonomous infantry division at the beginning of the 18th century (Ref 3). For mobility and firepower, de Saxe's division consisted of two infantry brigades, two cavalry brigades, and artillery units, probably of battalion size. De Saxe cited the flaws of 18th century warfare. The Marshal established mobility, maneuver, and supply as conditions for decisive success in the field and condemned military inflexibility and lack of mobility. De Saxe recommended organizing the army on a divisional basis for improving command and control. He urged that light infantry be adopted for mobility and further noted the commander must concentrate his strength against enemy weakness and be relentless in pursuit once the enemy line has broken under the pressure of attack. Marshal de Saxe's approach was a century ahead of his time. He suggested using distinctive badges for divisional and lower units to develop pride in unit identification. He advocated the use of music, cadenced marching, permanent identification of regiments, and merit promotion to boost morale and promote a sense of national service.

In 1778, du Teil propounded a plan to join artillery and infantry in battle to achieve a common mission. Briefly, the artillery was to bombard the enemy line to the front from a distance of 1,000 yards while delivering enfilade fire, from a flank, over the entire length of the enemy position. General Gribeauval, founder of a weapons system employing various caliber horse-drawn field guns in specific formations, urged that the new short-tubed guns be pushed forward and employed at close quarters. This meant a compromise between mobility and fire power which drew attention to the issue of concentration of force. Chevalier Folard, one of the great military theorists of the 18th century, advocated accomplishing this concentration by abandoning the infantry line for parallel infantry columns. On a penetration mission these columns could be supported by light infantry. This innovation complemented the theories of Guibert who had prescribed foot movements by which troops could change from line to column and back to line as required in battle. In essence, this was the beginning of a modern battle drill (Ref 4).

The Napoleonic Army

Napoleon did not invent the infantry division but he did influence its organization and operational patterns. The infantry division of Napoleon's day lacked mobility and could not maneuver rapidly in the field; its combat capabilities were greatly limited. The battalions, integral parts of the regiments of the division, were moved about the battlefield like chess pawns. They could be deployed only in columns or in a lineal formation. The latter was generally employed by the infantry division when closing with the enemy--usually on a front of 1,000 to 1,500 yards. A line of sharpshooters or skirmishers moved out ahead of the infantry and each brigade deployed its two infantry regiments in battle order and closed column, respectively. To ensure the necessary depth for an attack requiring shock action, the regiments formed their battalions in column, thus assuring adequate penetration of the enemy line or fortified position. At this point in the history of the infantry division there was little or no coordination of effort among the infantry, artillery, and cavalry; each made its independent battle effort as ordered. Liaision between the arms, when and if achieved, was initiated at army level. Communications were primitive; orders were relayed by messengers or staff officers to army, division, and brigade levels. Within the regiments, battalions, and companies, command was exercised by visual signs and voice.

Profiting from the flaws of the system he observed, Napoleon created a larger unit, the corps d' armee. This new unit enabled the Emperor to reduce his span of control and offered a system of supply for the divisions. Figure 1 illustrates the structure of the French corps of the Grand Army in 1806.

The corps

> ...by grouping the divisions, coordinating their maneuver, and combining their efforts in battle, had permitted a more centralized control to be exercised and had prevented a dispersion of efforts from taking place. It was the latter which had wrecked the division organization when it had been applied to mass armies. The corps organization facilitated and lighted the army commander's task; it possessed a certain character of permanence, and, consequently, a personality. (Ref 5, p 59)

The formation of the corps d' armee gave the Emperor an extra and most valuable link in the chain of command. The corps commander, either a general or marshal of the Empire, was directly responsible to Napoleon for the effective employment of the infantry divisions within the corps under his command. Thus, Napoleon was relieved of directly commanding a great number of division commanders. Instead, he commanded a small group of corps commanders.

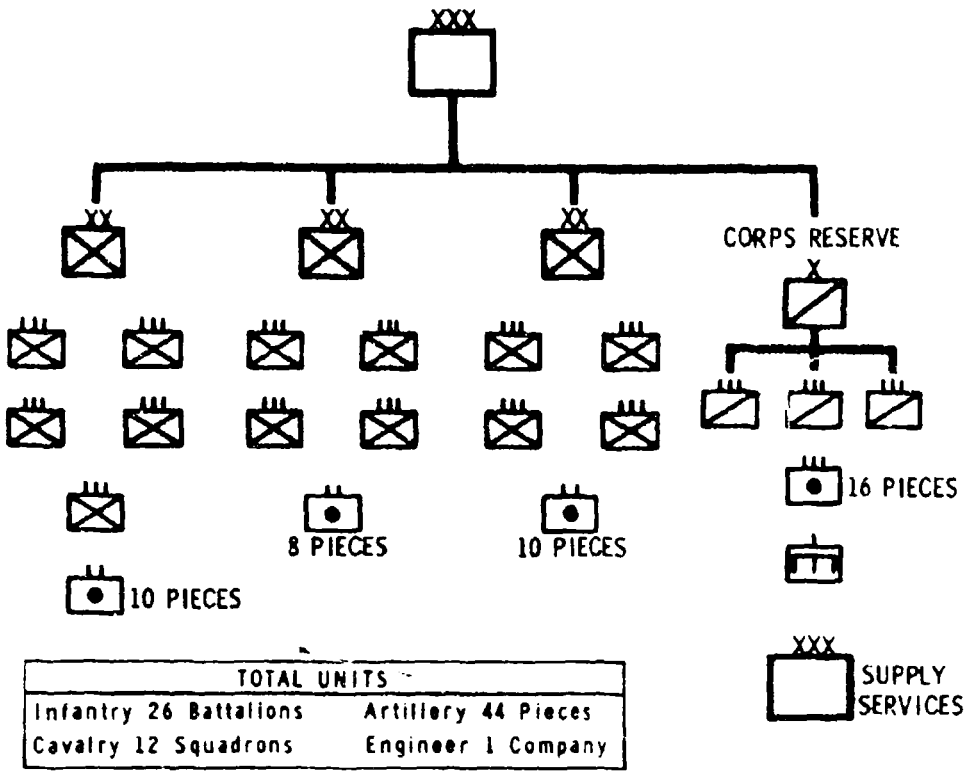


Figure 1. The Grand Army, 1806

Within four years the corps was an integral part of the French high command. The division became an organizational vehicle for incorporating the troops and their weapons for combat operations. Baron Antoine Henri Jomini, Chief of Staff to Marshal Michel Ney, commander of the Third Corps, stated categorically that the division was a combat unit and that its commanding general commanded all arms and services (Ref 6). For the first time the division commander was regarded as a generalist as well as a general. He was expected to understand the employment of the combined arms team (infantry, artillery, and cavalry). The corps commander thus became a commander of division commanders. This concept has survived until the present day.

Weapons Developments of The Industrial Revolution

The Industrial Revolution in Europe had an enormous impact on warfare. Better steel, improved explosives, and the development of weapons, (breechloaded rifles and rifled small arms and artillery) led to changes in

military concepts. In mid-19th century Germany, von Dreysee invented the needlegun, forerunner of the modern breechloading bolt-action military rifle. Primitive forms of fixed ammunition began to appear; Captain Minié of the French Army designed a gas leak-proof bullet. These improvements in weaponry meant increased range, accuracy, and lethality which, in turn, demanded dispersion of troop units in combat. Rifling of the shoulder weapons increased the range from the flintlock smoothbore musket's 300 yards to about 1,000 yards. The waterproof percussion cap gave the infantry all-weather capability. Further, with breechloading shoulder weapons, the soldier could load and fire while prone on the ground behind protective natural cover. These improvements in the tools of war meant that tactics and tactical formations had to be changed to counter the new and deadly accuracy of the foot soldier's weapons. Artillery was improved concurrently with the advances in shoulder weapons and side arms. But tactics did not keep pace with innovations in weaponry, as will be shown later.

The United States and The Mexican War

The small US Army did not become involved with the problem of large unit organization until the Mexican War. This war marked the first employment of the division as a tactical unit in American military experience. The campaign in Mexico required tactical formations larger than a regiment; the brigade and division were formally organized as units under the command of general officers. One of the greatest problems was to find officers qualified to handle large units in combat.

> The troops in Mexico were the first American soldiers to be organized systematically into divisions, the somewhat autonomous armies in miniature that had appeared with the growth of armies during the French Revolution. But it was almost as difficult to find officers capable of handling a division well as to find army commanders. Among the division commanders, William J. Worth had qualities of brilliance but was erratic and self-centered, and his quarrels with Taylor and Scott limited his usefulness to both of them. David E. Twiggs was blunt and unimaginative, devoted to the frontal assault because everything else was too sophisticated for his taste. John E. Wool may have been the best of the division commanders because he was the steadiest, but he demonstrated no capacities that were strikingly large. (Ref 1, p 182)

The American Civil War

The American Civil War (1861-1865) gave the US Army a maximum opportunity for the utilization of infantry divisions in the field. However, the advances made in metallurgy, weapons, ammunition, explosives, and transportation made obsolete the division as conceived by Napoleon. This was a period of military history when weaponry had advanced years beyond

the Napoleonic tactics then in vogue. As a result, the Civil War was the most costly in manpower of any major war up to that time.

> The infantry could no longer advance to assault distance without suffering the consequences; it needed support to advance under enemy fire. The range of artillery was increased to 3,300 yards and it was capable of firing faster. Firing over friendly troops became possible. The artillery not only laid down preparatory fire but continued its support throughout the engagement. The cavalry ceased to be a shock arm and had to leave the battlefield proper. The increase in firepower, favoring the defense, required reorganization that would permit this increased power to be used in the offense. (Ref 2, p 83)

French military doctrine was available to the US Army during the Civil War through translations and writings of American military professionals. Among these interpreters were General Winfield Scott, General Henry Wager Halleck, Colonel William J. Hardee, and General Silas Casey, whose translations of French military doctrine into manuals perpetuated Napoleonic concepts of organization and tactics (Ref 7). The chief contribution from the French doctrine was the establishment of the corps d' armee as a formation in both the Northern and Southern Armies (Fig. 2).

Although Civil War tactics lagged far behind weapon developments, some progress was made in modifying military tactics. The parade ground rigidity of line formations was eliminated from the battlefield and men were taught to take cover and to advance by bounds and small unit rushes as skirmishers. Since the division and the brigade were still mass assemblages of soldiers fighting as companies, battalions, and regiments, there was little "battle drill" for these larger units. In effect, the overall combat effort of the brigade or division was the sum of the fire and movement involved in those lesser combats being waged by the component units.

> ...it must be said that the Civil War occurred in one of those periods, common in history, when weapons have outdistanced organization and tactics. It is true that deadly fire brought about modifications in the use of infantry, one of which was the use of a succession of lines in the assault, another the regular employment of temporary field works. But even after taking these into account, it seems clear that the rifled musket was more modern than the organization of the infantry and the resultant formations used in the assault. Otherwise stated, organization and tactics were basically those of the beginning of the nineteenth century, while the weapons were fifty years more modern. This discrepancy between weapons and minor tactics accounts in part for the shocking destructiveness of the Civil War. (Ref 8, p 25)

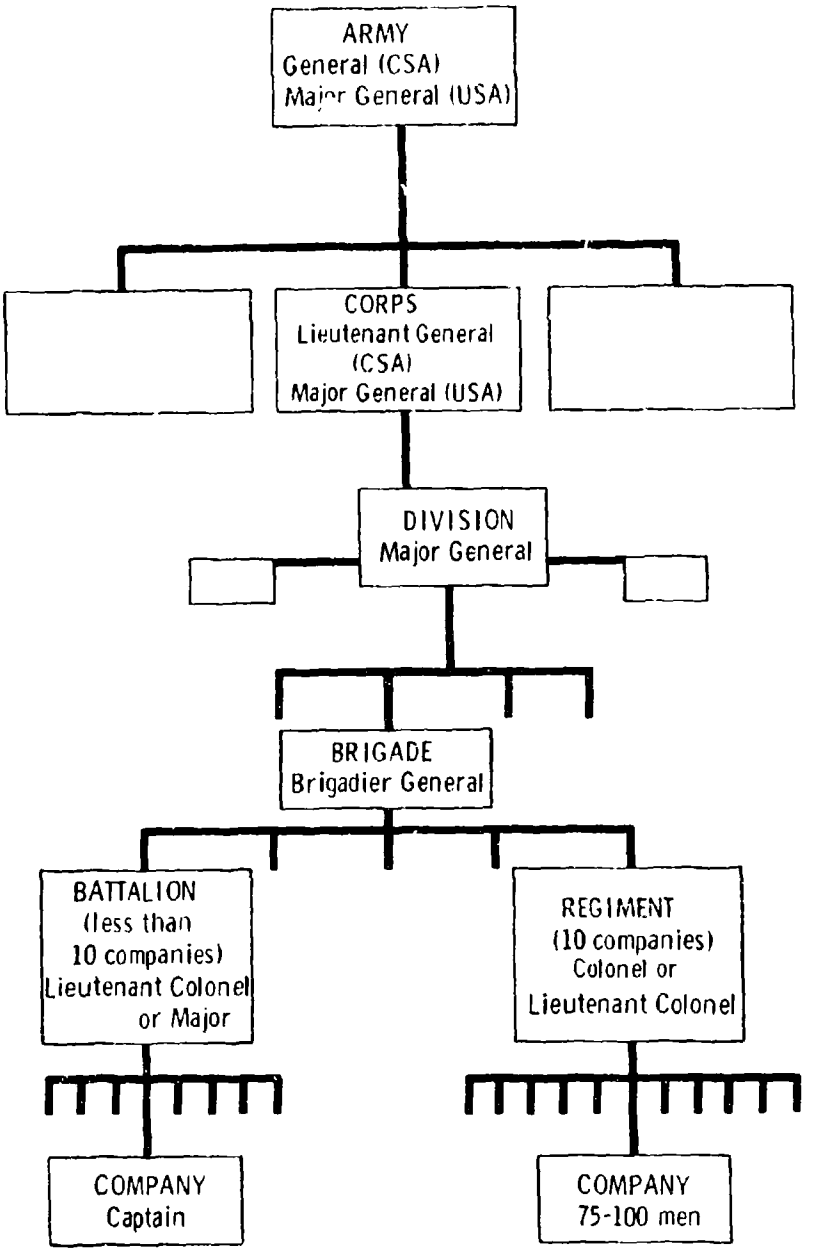


Figure 2. Civil War Army Organization

During the Civil War it was not unusual for an entire brigade or division to be led in a charge by its commanding general against the enemy positions or formations. The regulation rifled-musket bullet of 0.58-inch caliber was highly lethal at close range, and artillery fire of canister and grape tore huge gaps in the advancing lines behind the skirmishers. As casualties occurred and men dropped, the lines and ranks closed, and the advance against the enemy fire continued.

Eventually the dispersed skirmish line tactics of the French revolutionaries were employed as a partial answer to the heavy casualties inflicted upon the massive attacking formations.

> Except for being unwieldy, regiments and their components proved otherwise adaptable to wartime conditions. For example, heightened fire power more than ever before demanded skirmishers in front of the battle line. These the regimental organization was able to supply simply by assigning any of its companies to the duty. Likewise, regimental organization lent itself well to the attack formation which became characteristic of the Civil War. This was a succession of lines. Each line was composed of two ranks with a prescribed distance of thirty-two inches between them. Of course, the lines varied greatly in length, and in the distance at which they followed each other. Some were as long as a whole brigade lined up in two ranks, others only a company. If there was a usual length, it was that of a brigade, since attacks by divisions in column of brigades were most frequent. In any case, regiments as organized were easily utilized in that type of attack formation, as they were in others. (Ref 8, p 24)

There was little maneuver at brigade or division levels, except to move by the flank, to avoid terrain obstacles or artillery fire, or to intercept or halt an enemy attack. The movement of divisions and brigades on the battlefield was reminiscent of Waterloo in 1815.

During the Civil War, troops were raised in the states by regiments and later organized into brigades and divisions. No formal divisional organization was accomplished until the regiments assembled at a rendezvous point. There were no tables of organization and equipment for the brigades or divisions. Identity with the commanding general was the usual means of designation of the division.

> In the course of the war the United States raised 1,696 regiments of infantry, 272 of cavalry, and 78 of artillery. These regiments came to be gathered into higher operational organizations including brigades, divisions, army corps, and field armies. The War Department originally ordered the formation of brigades of four regiments each and of divisions

> of from three to four brigades. In practice, however, none of the units higher than the regiment was a table of organization unit in the modern sense; all of them rather were task forces, composed of varying constituent elements as circumstances and accident decreed. Brigades usually consisted of anywhere from two to six regiments, sometimes even more; divisions of two or more brigades. Perhaps the most usual alignment was five regiments to a brigade, three brigades to a division. In addition to their infantry, divisions generally had organic artillery, that is, artillery permanently allotted to them; in the Army of the Potomac from the Gettysburg campaign onward, however, artillery was organic principally to an army corps, with about nine batteries to each corps. Early in the war some infantry divisions had attached cavalry. Later, cavalry was organized mainly into divisions of its own. By the middle of the war, an infantry division averaged about 6,200 men. (Ref 1, p 227)

The concept of divisional organic artillery units and control of artillery by the corps was a modern approach for those times. The attachment of cavalry to infantry divisions for reconnaissance duties was not unusual. From the above extract, it may be noted that the standard Civil War infantry division was less than one-half as large as the present-day ROAD infantry division.

Revised Army regulations issued in 1863 provided some guidance for the organization of an army in the field as follows:

> The formation by divisions is the basis of the organization and administration of armies in the field.
>
> A division consists usually of two or three brigades, either of infantry or cavalry, and troops of other corps in the necessary proportion.
>
> A brigade is formed of two or more regiments. The first number takes the right.
>
> Mixed brigades are sometimes formed of infantry and cavalry and light cavalry especially for the advanced guards.
>
> As the troops arrive at the rendezvous, the general commanding-in-chief will organize them into brigades and divisions.

> The arrangement of troops on parade and in order of battle is 1st, the light infantry; 2d, infantry of the line; 3d, light cavalry; 4th, cavalry of the line; 5th, heavy cavalry. The troops of the artillery and engineers are in the centre of the brigades, divisions, or corps to which they are attached; marines take the left of other infantry; volunteers and militia take the left of regular troops of the same arm, and among themselves, regiments of volunteers or militia of the same arm take place by lot. (Ref 9, pp 71-72)

Approved official printed tables of organization and equipment for the brigade and division did not exist. Tables of organization for regiments of the various arms were maintained at the War Department. Larger unit organization appears to have been simply a matter of gathering subordinate units (regiments) together at the rendezvous point, forming them into brigades and divisions, and moving toward the battle zone. Training was conducted en route or in bivouac. There were few training camps for individuals and units. At this time, the French doctrine of the depot as the unit support base was carried over into the American military scene.

General F. V. A. de Chanal of the French Army served as an observer with the Federal troops during the campaigns of the Civil War. His commentary follows:

> Our methods have been copied very exactly. It will be readily seen that the American troops having been continually in a state of war, cannot in matters of drill be compared to European troops. Those organizations, however, which were drilled in the various forts and depots before joining the army, are well enough instructed. (Ref 10, p 26)

Inasmuch as brigades and divisions and corps were not formed in peacetime in the United States Army, except by express authority of the Secretary of War, the officers of the pre-Civil War US Army were not experienced in commanding large bodies of troops. Because of the Indian campaigns, the Army was scattered over the West in small company-size posts; it was a rare event to assemble a complete regiment or battalion. The following comment from the Union Commander at Bull Run, Major General Irwin McDowell, explains the situation facing a commander of that period:

> There was not a man there who had ever maneuvered troops in large bodies. There was not one in the Army. I did not believe there was one in the whole country. At least, I knew there was no one there who had ever handled 30,000 troops. I had seen them handled abroad in reviews and marches, but I had never handled that number, and no one here had. (Ref 11, pp 256-257)

The following comment is significant of the command training of the United States Army at the beginning of the Civil War:

> When the Civil War began, only the division commanders of the Mexican War had experience in leading any really sizable body of troops, and now those men were generally too old or otherwise disqualified to be considered for field command. There was no staff school, no adequate theory of staff work upon which to found adequate assistance to army, corps, and division commanders in the complex work of caring for and moving thousands of men.
>
> Thus all the techniques of command at its highest level had to be learned pretty much by doing, and men capable of exercising high command had to be sought out by trial and error. Naturally blunders occurred, some of them in matters of command and staff work that would later seem elementary. Army commanders expended their time and energies on tasks they had no business touching: Irwin McDowell personally reconnoitered roads while his army marched to Bull Run, and George McClellan personally sighted artillery pieces as his army came up to the Antietam. (Ref 1, p 241)

In the years following Bull Run, American officers learned their lessons in many hard-fought fields and campaigns. By April 1865, brigades, divisions, and corps were welded together by their battle experiences. They learned as they fought and became some of the world's finest troops. Under such skilled commanders as Grant, Sherman, and Sheridan, troops marched, rode, maneuvered, and fought decisive actions involving hundreds of thousands of men.

In the US Army, the identification of troops with a certain division was begun by the use of badges and patches during the American Civil War. This boosted morale and also helped to establish discipline and control when the troops were away from the unit. Unit pride and esprit de corps often began with the privilege of wearing a designating bit of cloth which others, outside the unit, could not wear. While unit identification is sometimes taken for granted, the Civil War was noted for pride in specific units, such as "The Iron Brigade."

> The first system of standard unit badges in the United States Army grew out of the corps organization. When Major General Joseph Hooker became commander of the Army of the Potomac in the spring of 1863, he ordered that each corps be identified with a distinctive badge, as Major General Philip Kearny had already identified the 3rd Division of the III Corps with a red

diamond. The badges were cut from flannel and were generally blue, white, or red to designate the 1st, 2nd, or 3rd division of a corps, respectively. They were worn conspicuously on the soldier's cap. They stimulated unit pride, and they incidentally eased the job of identifying stragglers. The corps of the other field armies adopted their own badges about a year after Hooker prescribed them for the Army of the Potomac. (Ref 1, pp 227-228)

The Infantry Division in the 20th Century

Post-Civil War Developments

Post-Civil War developments changed the character of infantry combat and exerted considerable influence on the organization of the infantry division. The introduction of the machinegun was one of the most decisive of these developments. A weapon of opportunity in attack and deliberation in defense, its high rate of fire could effectively stop a battalion attack. The machinegun, with its superior shock value, eliminated the cavalry from the divisional organization. Without the mobility of the cavalry, the infantry was now wholly charged with responsibility for maneuver on the ground. In 1914, the German army was equipped with machineguns and heavy siege artillery. In the employment of these weapons, the Germans were far in advance of contemporary armies. Field telegraph and wireless, carrier pigeons, and signal flags and signal flares were used by both the Germans and the Allies in conducting communications for purposes of unit control. The tactical employment of machineguns by the German army was to have marked effect upon the conduct of the war of 1914-1918. While other armies were marking time in weapons development, the Germans established doctrine and methods of employment of the machinegun which eventually changed the character of the war. By 1916, the Allies were facing the Germans in a positional, siege type of trench warfare. The machinegun ruled the battlefield and mobility had been sacrificed to safety in the trenches of the Western Front. Coordination of machinegun and artillery fires with the massive, wavelike infantry attacks was only a partial solution to the stalemate.

The infantry division became a huge mass of soldiers responsible for holding successive lines of deep, heavily-revetted trenches against devastating artillery preparations and wavelike infantry attacks (Fig. 3 and 4). The division, as such, had lost its mobile character. Without the ability to maneuver, the infantry division had to rely upon fire to hold its lines. Hence, heavier concentrations of trench mortars, automatic rifles, and light and heavy machineguns were the order of the day. These weapons were located at section and squad levels, the smallest units of the divisions and the only units with a modicum of mobility. Upon them depended the inch-by-inch, foot-by-foot, and yard-by-yard advances that were noted on the operations maps at division headquarters. The battlefield was parceled into barbed wire sectors of responsibility for the units concerned. Frontages were laid out in accordance with unit strengths--man for man.

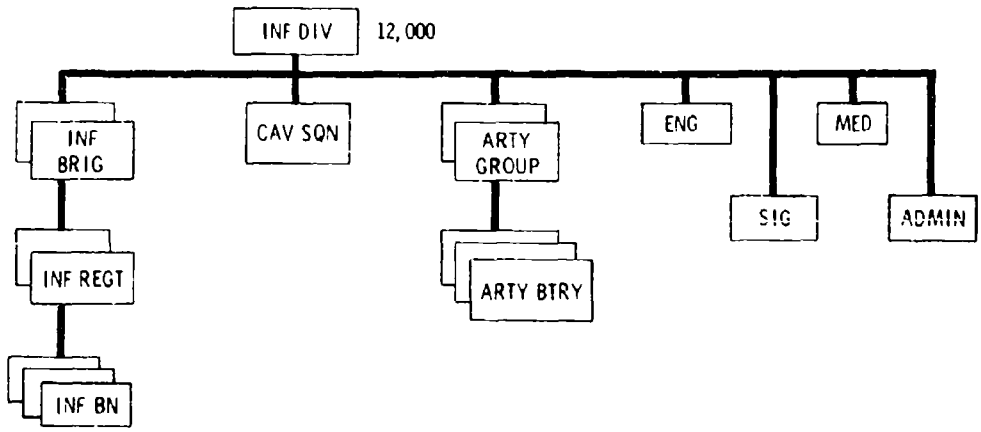


Figure 3. Typical European Division, World War I

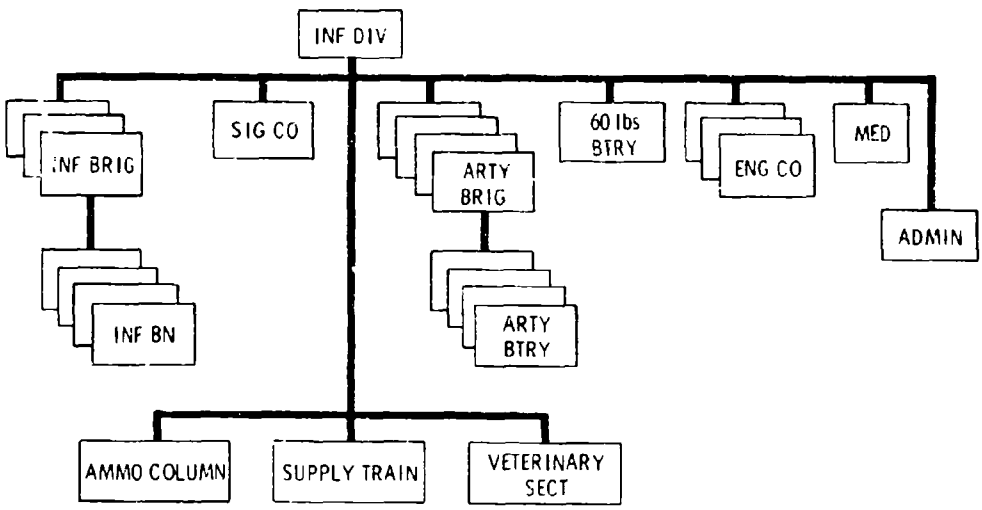


Figure 4. Typical British Division, World War I

Larger areas and gaps where men were not available to cover with their fires were covered by interlocking bands of machinegun fires. Zones of responsibility, phase lines, and delineation of terrain objectives were all indicated as new means of unit control in both defensive and offensive combat. When the latter was undertaken, it was generally in the form of a gigantic, mass movement of troops out of the trenches toward definite sections of the enemy line. Preparatory to the "jump off" or the departure from the security of the trenches, the troops were organized into "waves" consisting of echeloned lines of sections. Highly specialized tasks were allotted to the individual members of the section which had replaced the conventional infantry squad as it was known to the United States Army. Control was vested in the sergeants and chiefs of platoons; the company and battalion organization was almost purely administrative rather than tactical in its function. In the attack against the limited objective of trench warfare or in the defense, unit control was maintained basically by means of the small unit or team concept. This was forced upon the military by the nature of the war it was fighting. With mobility and maneuver almost completely negated by the advent of the machinegun and highly concentrated artillery forces, unit control was on a shoulder-to-shoulder basis.

> Improvised trenches ran from Switzerland to salt water. When these were reinforced with barbed wire and concrete, the war in the West became a war of attrition, one of the longest and the bloodiest in history (Ref 12, p 225).

> Their carefully planned war was... smashed to pieces by fire power... so devastating that... there was no choice but to go under the surface... like foxes. Then,... to secure these trenches from surprise,... each side... spun hundreds of thousands of miles of steel web around its entrenchments... Armies, through their own lack of foresight, were reduced to the position of human cattle. They browsed behind their fences and occasionally snorted and bellowed at each other. (Ref 13)

The Maneuver Division

In 1917, The United States Army faced a near-tragic situation with reference to its higher echelons of military unit organization. Divisional and brigade organization had been provided for the Regular Army but there had been little implementation. Secretary of War Henry L. Stimson was an early advocate of the "Maneuver Division."

> When Stimson took office, Wood had already embarked on the unprecedented experiment of assembling a whole division in peacetime. The "Maneuver Division" formed around San Antonio beginning in March, 1911, the onset of the Mexican Revolution providing a convenient pretext for the effort. It took almost ninety days to concentrate fewer than 13,000 troops, to make a division that was both understrength in terms of the latest

tables of organization and an organizational hodgepodge at that. Regiments throughout the country had to be skeletonized to do even that much. Officers with a knowledge of European armies blushed to imagine what the polite European military observers must be thinking.

But at least the division gave officers a tentative experience in handling large bodies of men, and especially it afforded interesting tests of new Signal Corps equipment, including telephones, wireless communications devices, and "aeroplanes" for observation and messenger service. The chief signal officers said of the latter innovation:

"If there was any doubt in the minds of individuals of this command as to the utility of the aeroplane for military purposes, that doubt has been removed by aeronautical work done in this division."

Meanwhile, the very shortcomings of the Maneuver Division served the purposes of the high command, permitting Wood to write in McClure's that the division "demonstrated conclusively our helplessness to meet with trained troops any sudden emergency," while Stimson wrote in similar vein in the Independent. (Ref 1, p 334)

Stimson persuaded Congress to authorize the first peacetime tactical US Army units larger than a regiment. These were four divisions. As noted in Weigley:

...within a few weeks the coup against Mexican President Francisco Madero by General Victoriano Huerta touched off a spreading civil war that might lap across the Rio Grande. President Taft asked Stimson whether a strong force could quickly supplement the Army's border patrols, and Stimson was able to reply that he could accomplish it with "only a single order." On February 24, 1913, he ordered the mobilization of the 2nd Division under Brigadier General Frederick Funston at Texas City and Galveston. (Ref 1, p 335)

When the Mexican episode occurred, Stimson assembled an experimental "Maneuver Division" composed of three brigades, one field artillery brigade, and one independent cavalry brigade with supporting troops.

Reorganization and The National Defense Act

In 1915 World War I was raging in Europe and the American people hoped to avoid participation in the conflict. Propaganda, incidents,

submarine warfare, diplomatic maneuvering, spying, and sabotage--all contributed their share toward pushing the United States over the brink. Stimson, realizing the possibility of United States involvement, began to reorganize the United States Regular Army on a modern divisional unit basis. The following extract shows how this most important step was taken and the result achieved:

> The Secretary and the chief of staff followed up by instructing the War College to prepare a plan for the tactical reorganization of the Army, to create a permanent divisional organization. If the "hitching post" forts could not be abolished, future concentrations might be facilitated by planning the assignments of the scattered garrisons, and division commanders might coordinate the training of all their units. If divisions were created on paper, Congress might at least agree to their occasional assembly for maneuvers. Early in 1913 Stimson brought together all the general officers who were within the continental United States to present the War Department plan to them. Some of the older ones still hesitated before so drastic a departure from what they knew, but Stimson put his experience as a barrister to good use and persuaded them of the wisdom of creating the first peacetime tactical units larger than a regiment in the Army's history: four divisions. (Ref 1, pp 334-335)

In 1916 Congress passed the National Defense Act. For the first time in American history, there was a clearcut charter for the national defense. This document was a great political and military achievement. In the creation of the modern infantry division, it is a landmark. Historically, it went farther than any previous attempt to organize the military forces of the country. Specifically, it prescribed the component parts of the infantry division in addition to establishing the strength of the various components of the Regular Army. The following outlines the broad provisions of the act:

> The National Defense Act of 1916 passed the Senate on May 17 and the House on May 20.
>
> It provided for an increase of the authorized peace strength of the Regular Army to 175,000 over a period of five years. In war the Regular Army would be expansible to 286,000 by building up the cadres of its 65 infantry regiments, 25 cavalry regiments, 21 field artillery regiments, 7 engineer regiments, 2 mounted engineer battalions, 263 coast artillery companies, 8 aero squadrons, and supporting formations. The law authorized tactical divisions and brigades, three brigades to a division, three regiments to a brigade. (Ref 1, p 348)

Inasmuch as the national military policy and suggested organization had been generally followed by the States of the Union (especially with reference to military organization and equipment), the War Department urged that the several States establish National Guard divisions based upon the pattern set forth in the National Defense Act of 1916. In view of the war overseas, the possibility of national mobilization was an ever-present fact of the national existence. However, the National Guard divisions did not become a fait accompli until America entered the war.

> The War Department urged the states to create balanced Guard divisions including cavalry and artillery as well as infantry, but neither the federal government not (sic) the states appropriated the funds necessary to finance the more expensive specialized arms. The National Guard remained almost entirely infantry, without their own supporting units. (Ref 1, p 324)

The United States military professionals observed the European conflict for over three years. The General Staff of the United States Army came to the conclusion that the US Army infantry division, as organized in accordance with the National Defense Act of 1916, was already obsolete. There were valid reasons for reaching this conclusion. Up to that time, the most recent American military experience had been against Mexican bandits and revolutionaries. This campaign was one of mobility and was primarily conducted by cavalry units. In the trenches of the Western Front in France, mobility was nonexistent and the infantry was bogged down in mud and wire. The patterns that had been developed and used successfully in operations in Flanders and France were studied. With tactical maneuver passē, fire from both small arms and artillery was a possible solution to the stalemate. But massive firepower was exacting heavy casualties on both sides. Hence, the infantry division had to be large in order to absorb heavy losses and continue to be combat operational. The Army Lineage Book states the approach taken:

> Three years of observation of the war in Europe had convinced the General Staff that American tables of organization were obsolete. Accordingly, on 14 July 1917 a series of changes in them began. The first one altered the triangular division, containing elements grouped by threes, to a square one. In this change, the three brigades of a division and the three regiments of the brigade gave way to two of each. These alterations were based on the observed fact that a square division demonstrated far greater power to penetrate the system of trenches (peculiar to World War I) than other types. The result was a much larger division and brigade than any used by the nations of Europe. As finally shaken down, an American division contained 27,123 men, nearly twice the number in European units. Fire power in both division and brigade was greatly augmented. (Ref 8, p 35)

The war in Europe had reached a stalemate because of loss of mobility, high rate of fire of the machinegun, and the lethality of artillery and trench mortars. General John J. Pershing, the designated Commander-in-Chief of the American Expeditionary Forces to be sent abroad, noted the role of the machinegun and made a vital interpretation:

> Indeed, machineguns are credited with having created the war of position, and the accompanying stalemates which prevailed during 1915, 1916, and 1917. General Pershing carried this interpretation farther. He said that trench warfare had caused the belligerents in Europe to embrace a faulty doctrine. The latter placed too great a reliance on artillery and on mechanical aids. Pershing insisted, in contrast, that the basis of a sound army remained, as it had always been, a sturdy infantry. Accordingly, he required that American foot soldiers be trained primarily for open warfare, and only incidentally for duty in the trenches. (Ref 8, p 38)

US Involvement, World War I

The Square Division

The United States of America entered the war on 6 April, 1917 and the War Department was quick to take action to begin a series of changes which would bring the US Army organization into line with that of the French and British Allies. How the planners in the War Department in Washington applied the observed and reported battlefield lessons in divisional reorganization was shown in the development of a provisional infantry division which was to be the answer to the requirement that the infantry of the US Army take its place alongside the veterans of three years of combat in Flanders and France (Fig. 5 and 6 and Table I). This was indeed a pioneer effort as designated by Pizer in the following:

> The pioneer square division, the provisional 1st Expeditionary Division, was established in 1917. It was composed of a headquarters, two infantry brigades, a field artillery brigade, a machine gun battalion, an engineer regiment, a signal battalion, and support and service units. Each of the infantry brigades included two infantry regiments and one machine-gun battalion. Each of the infantry regiments consisted of three infantry battalions and one machine-gun company. The field artillery brigade consisted of two 3-inch field gun regiments and one 6-inch howitzer regiment. (Ref 14, p 34) (Fig. 7)

Developments in Weaponry

Machineguns were used in the US Army prior to 1917, but they were not organized in specialized units, except in the infantry regimental

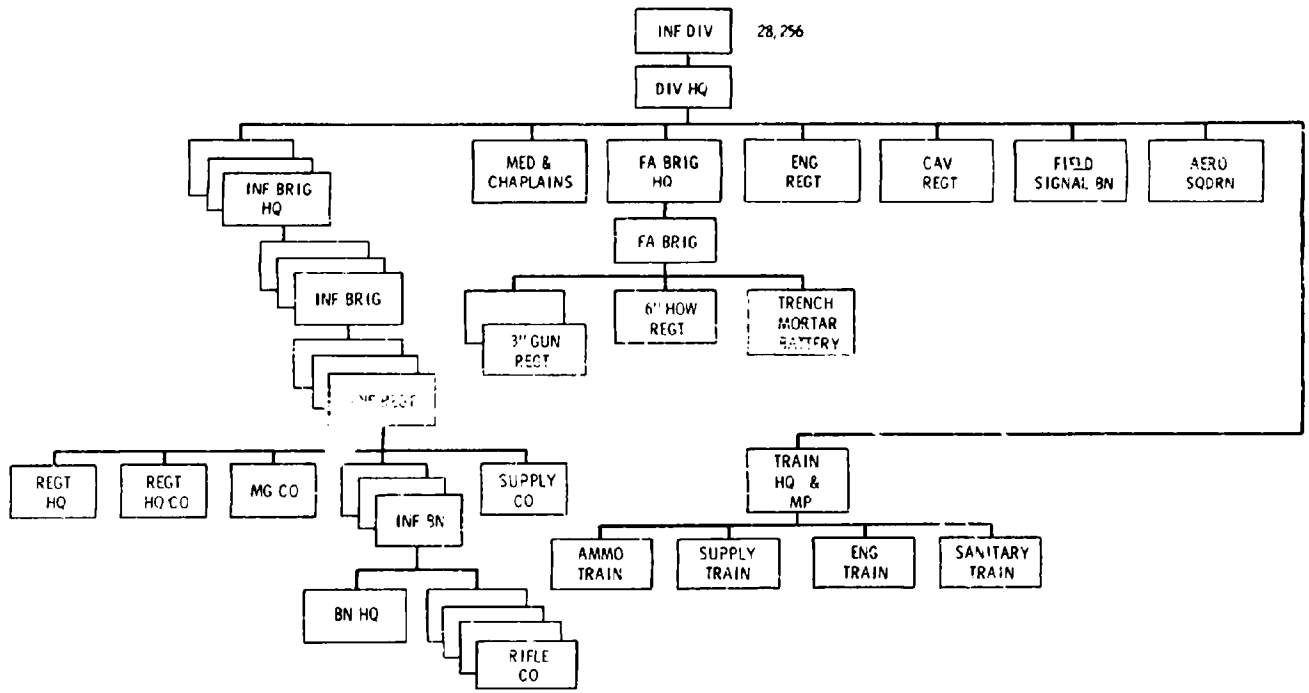


Figure 5. T/O Infantry Division, 3 May 1917

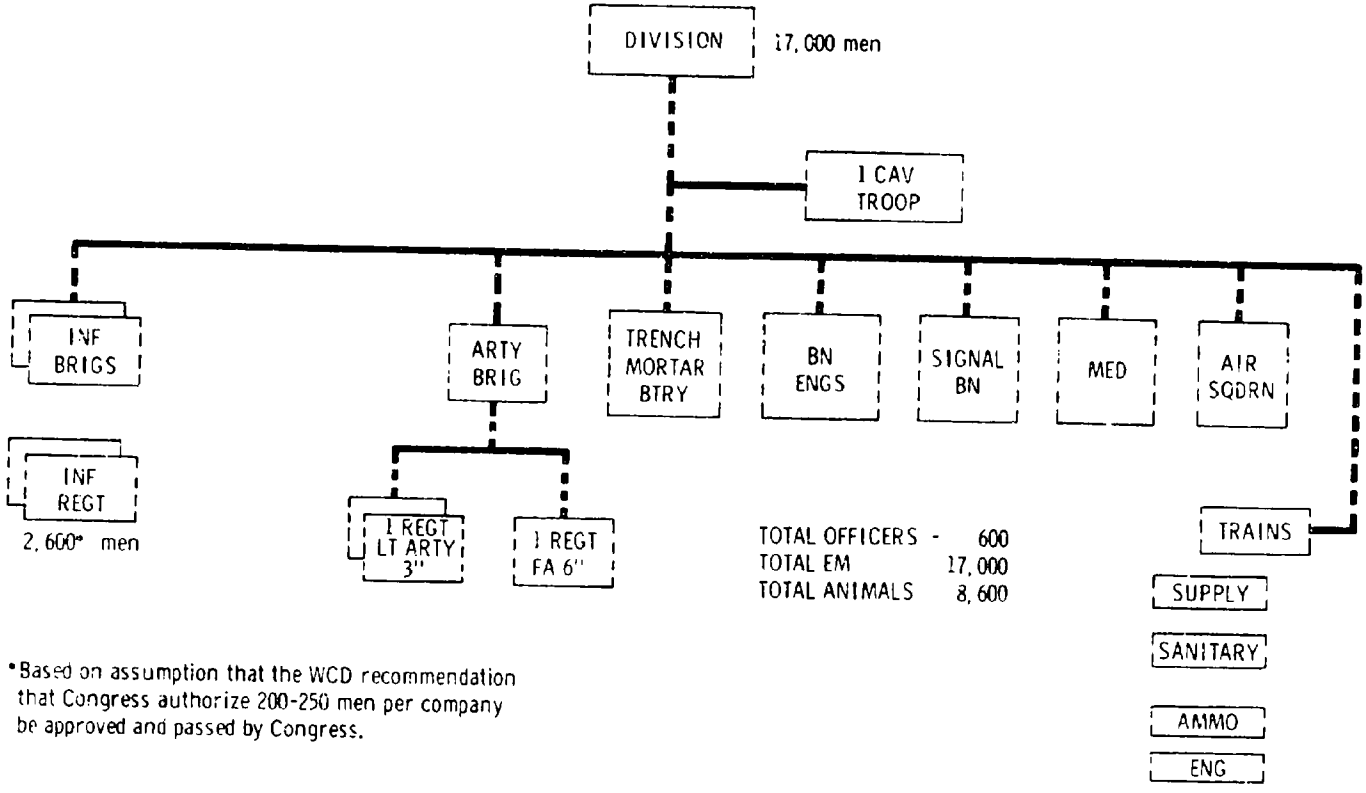


Figure 6. Division Recommended by the War College Planners, 10 May 1917

TABLE I. INFANTRY DIVISION, STRENGTH BY UNIT CATEGORY

INFANTRY DIVISION				
UNITS	Table of Organization, May 3, 1917.		Provisional Org. authorized by the W. D. and published in G. O. 14, A. E. F., July 15, 1917.	
	No. of units	Strength	No. of units	Strength
Division Headquarters	1	153	1	153
Infantry Brigades:	3 (a)		2 (a)	
Brigade Hdqrs.	3	57	2	38
Infantry Regiments:	9 (b)		4 (b)	
Regimental Hdqrs.	9	18	4	8
Headquarters Co.	9	531	4	1136
Machine Gun Cos.	9 (c)	702	0 (c)	0
Supply Cos.	9	351	4	456
Infantry Battalions:	27		12	
Battalion Hdqrs.	27	54	12	24
Rifle Cos.	108	16524	36	7344
Machine Gun Cos.	0 (c)	0	12 (c)	1824
Medical Dept. and Chaplains	for 3 Brig.	342	for 2 Brig.	152
Field Artillery Brigade	1		1	
Brigade Headquarters	1	19	1	19
3-inch Field Guns, Regt.	2	2616	2	2678
6-inch Howitzers, Regt.	1 (d)	1308	1	1514
Trench Mortar Battery	0	0	1 (e)	193
Medical Dept. and Chaplains		87		98
Cavalry, Regt.	1	1579	0	0
Engineers, Regt.	1	1098	1 (f)	1098
Field Signal Battalion	1	259	1	262
Aero Squadron	1	173	1	173
Total for Div. (less Trains)		25871		17170
Trains:	(g)			
Train Hdqrs. and Mil. Police	1	332	1 (h)	234
Ammunition Train	1 (i)	647	1 (i)	949
Supply Train	1	309	1 (j)	309
Engineer Train	1	170	1 (k)	115
Sanitary Train	1	927	1 (l)	715
Total for Trains		2386		2322
Aggregate for the division		28256		19492

ORGANIZATION CHART — WORLD WAR I SQUARE DIVISION

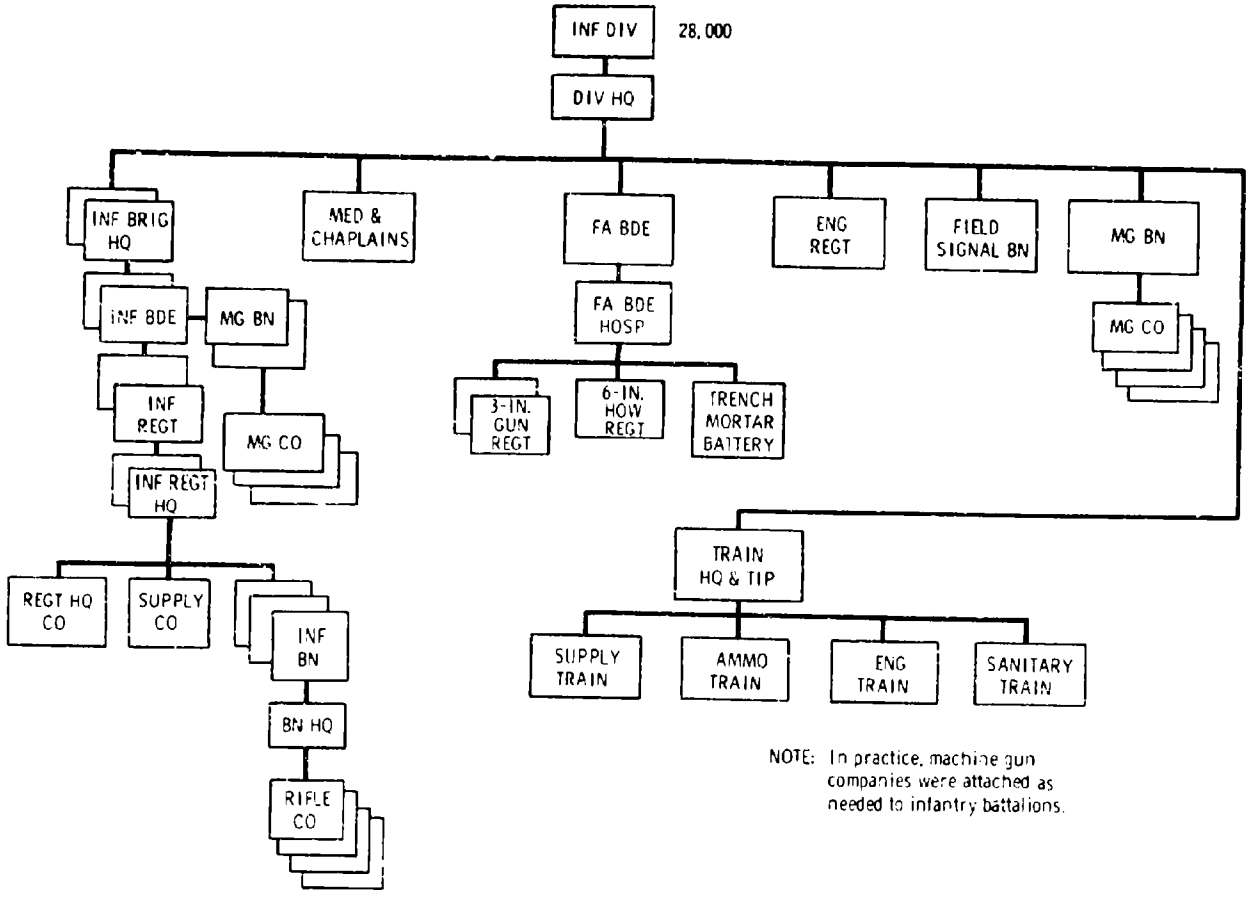


Figure 7. The Square Division, World War I

machinegun company. By July 1917, just two months after America's entry into the war, a machinegun company was assigned to each infantry battalion of the three battalions integral to each infantry regiment. Later, in France, the machinegun companies were organized into separate battalions and not assigned organically to the infantry regiments. Eventually, there were two types of machinegun battalions, as noted in the extract below:

> In May 1917 there was but one machine-gun company to each infantry regiment, while by July the number had risen to one per battalion. The ideal arrangement, after July, was to include three machine gun companies in every infantry regiment. Unfortunately, this could not be done--because of the way the National Defense Act was worded--without cutting some rifle companies out of the regiment. Accordingly, it was necessary to create machine-gun battalions that were elements of brigades and divisions, leaving just one company organic to infantry regiments...
>
> The brigade battalions of machine guns contained three companies, while the division battalion was at first organized with four. This made a very awkward arrangement since machine gun companies had to be drawn from three sources--regiment, brigade, and division--in order to work with infantry battalions. Although the arrangement remained awkward throughout the war, and brigade and divisional battalions continued in being, the division battalion was finally reduced to two companies. These were motorized and used as a highly mobile element of the divisional reserve. (Ref 8, p 36-37)

Because of the tremendous firepower of automatic weapons and the absolute requirement for enough men to reach the objective and drive out or destroy the enemy, considerable depth was required for all formations of the infantry division in the attack. Allied combat experience prior to the entry of American troops showed conclusively that it was the small tactical units that accomplished the final assault phase of the mission. To survive and reach the objective, each formation had to be echeloned in depth.

> ...depth was necessary to infantry formations. In the attack this meant successive waves of men; in defense, numerous positions, staggered irregularly one behind the other. Accordingly, all units from division down to platoon were organized to give the required depth within their respective sectors. Having mentioned platoons it is important to register the fact that the war confirmed the trend toward refining the organization of infantry units. Squads and platoons proved to be indispensible in twentieth century combat. Frequently the

> outcome of a fight depended on the integrity of those elements since they, and they alone, could be controlled personally by their leaders when under very heavy fire. (Ref 8, p 38)

The use of the new weapons, established by past operational experiences of the Allies, was rapidly learned by American infantry divisions. The French and British had reached artillery-like precision of fire with machineguns. French mortars, grenades, and automatic rifles were specialized infantry weapons and required trained specialists and teams to operate them. The infantryman was no longer only a rifleman; he was required to master numerous unfamiliar weapons.

The advent of the trench mortar had considerable effect on the tactical organization of infantry division units during World War I and thereafter. Mortars, first and foremost, gave the infantry units their own artillery. Infantry mortars were a limited but acceptable and handy substitute for the light 75mm artillery of the day, although they never displaced the heavier artillery as an integral part of each division organization. The infantry, artillery, and tank (armor) team were to emerge from World War I as permanent features of military operations. Mortars assured the infantry heavy fire support for advances in conjunction with tanks without the assistance of heavier artillery.

> In addition to being organized to give depth, units at all levels were formed to give effect to the new weapons, and to avoid losses from them in the hands of the enemy. It has been noted that the expanding use of machine guns required reorganizations which reached from divisions down to companies. The other weapons exacted changes, but they were not quite as widely disseminated. For example, infantry mortars and one-pounder guns found a place in the headquarters companies of regiments. Hand grenades, rifle grenades, and automatic rifles caused many changes in the organization of companies and their components. The fact is that the question as to their best arrangement was never definitely settled during the war. All were included in a rifle company, but sometimes the AR men were formed together, as were the grenadiers and rifle grenadiers; other times they were scattered among the squads. As late as November 1918, in the Meuse-Argonne battle, the specialists stayed together in combat groups, but the trend was toward dispersion so that every squad contained at least one AR man, one good grenade thrower, and one rifle grenadier. (Ref 8, pp 38-39)

The American Infantry Division, World War I

The historical rationale for the figure of 27,000 men and about 1,000 officers recommended for the American World War I infantry division was the decision of General Pershing (Ref 15) (Table II). European divisions

TABLE II. COMPARISONS OF DIVISION STRENGTH, 1917-1918

UNITS	TABLE OF ORGANIZATION OF 3 MAY 1917		PROVISIONAL ORGANIZATION AUTHORIZED BY THE WAR DEPT. & PUBLISHED IN GO 18, A.E.F., 15 JULY 1917		GENL. ORG. PROJ. TABLE, AS MODIFIED BY WAR DEPT., & PUBLISHED IN T. OF O. SERIES A, 8 AUG 1917		ORGANIZATION ON 11 NOV 1918	
	No. Units	Strength	No. Units	Strength	No. Units	Strength	No. Units	Strength
Div HQS	1	153	1	153	1	166	1	308
Inf Brigs	3	--	2	--	2	--	2	--
Brig Hqs	3	57	2	38	2	86	2	80
Inf Regt's	9	--	8	--	8	--		--
Regt Hqs	9	18	4	8	4	8	4	28
Hqs Cos	9	551	8	1,136	4	1,208	4	1,972
MG Cos	9	702	--	--	4	712	4	719
Supply Cos	9	351	4	456	4	560	4	688
Inf Bns	27	--	12	--	12	--	12	--
Bn Hqs	27	54	12	24	12	24	12	36
Rifle Cos	108	16,524	96	7,344	88	12,288	88	12,288
MG Cos	--	--	12	1,824	--	--	--	--
MG Bns	--	--	--	--	2	1,180	2	1,518
Medical & Chaplains	for 9 Brigs	--	for 2 Brigs	for 2 Brigs	for 2 Brigs	246	for 2 Brigs	252
Ordnance Dept	--	--	--	--	--	40	--	40
Vet Field Units	--	--	--	--	--	--	2	8
Field Artillery Brig	1	--	1	--	1	--	1	--
Brig Hqs	1	19	1	19	1	58	1	70
3" gun Regts	2	2,616	2	2,676	2	2,958	2	3,036
6" how Regts	1	1,308	1	1,514	1	1,766	1	1,616
Mortar Battery	--	--	1	193	1	184	1	177
Medical & Chaplains	--	87	--	98	--	102	--	98
Ordnance Dept	--	--	--	--	--	57	--	84
Vet Field Units	--	--	--	--	--	--	4	16
Cavalry Regt	1	1,579	--	--	--	--	--	--
Cavalry Squadron	--	--	--	--	1	--	1*	--
MG Bn	--	--	--	--	1	--	1	--
Bn Hqs	--	--	--	--	1	42	1	50
MG Cos	--	--	--	--	4	712	2	356
Medical Dept	--	--	--	--	--	18	--	7
Ordnance Dept	--	--	--	--	--	4	--	2
Engineer Regt	1	1,098	1	1,098	1	1,634	1	1,712
Medical & Chaplains	--	--	--	--	--	32	--	51
Ordnance Dept	--	--	--	--	--	6	--	6
Field Signal Bn	1	259	1	262	1	262	1	488
Air Squadron	1	173	1	173	--	--	--	--
Total Div less Trains	--	25,871	--	17,170	--	24,243	--	24,955
TRAINS								
Train Hqs & MP	1	332	1	234	--	--	--	--
Train Hqs	--	--	--	--	1	16	1	22
Cos	--	--	--	--	2	306	1	205
Medical Dept	--	--	--	--	--	15	--	7
Mobile Vet Sect	--	--	--	--	--	--	1	22
Vet Field Units	--	--	--	--	--	--	3	12
Ordnance Dept	--	--	--	--	--	6	--	5
Ammo Train	1	687	1	949	1	1,033	1	1,941
Supply Train	1	309	1	309	1	872	1	501
Engineer Train	1	170	1	115	1	83	1	84
Sanitary Train	1	927	1	715	1	--	1	--
Train Hqs	--	--	--	--	--	--	1	10
Ambul Sect								
Ambul Sect Hqs	--	--	--	--	1	--	1	7
Cos - Motor-drawn	--	--	--	--	2	258	3	381
Cos - Animal-drawn	--	--	--	--	2	316	1	158
Field Hosp Sect								
Hosp Hqs	--	--	--	--	1	8	1	7
Cos - Motor-drawn	--	--	--	--	2	176	3	267
Cos - Animal-drawn	--	--	--	--	2	178	1	88
Camp Infirmaries	--	--	--	--	4	8	8	16
Div Medical Supply Unit	--	--	--	--	--	--	1	9
Total Trains	--	2,585	--	2,922	--	2,880	--	3,150
GRAND TOTAL - DIVISION		28,256		19,892		27,123		28,105

*Attached

were much smaller (one-half as large) but Pershing believed that the infantry division should possess the personnel strength to absorb expected battle casualties. Pershing was motivated by a desire to get the troops out of the trenches and into an operational pattern where the doctrines of fire and movement (mobility) would again rule the battlefield. Casualties would be heavy in view of past operational experiences. Although the General's decision has been criticized, the judgment of history seems to be on his side. Weigley explains, in some detail, the situation confronting the American Expeditionary Forces commander as he estimated his organizational situation:

> French, British, and German divisions formally numbered about 12,000 combatants each, and when Marshal Joffre visited the United States immediately after the declaration of war he recommended the same size: European officers believed that 12,000 combatants represented the maximum number that one general and his staff could handle. Actually, French and British divisions were often down to as few as 5,000 combatants. In a debatable decision, however, Pershing fixed an American division at 979 officers, 27,082 men, with support troops making a total of about 40,000. His purpose was to achieve a capacity for sustained battle which would ensure that American divisions would not falter short of their objectives as British and French divisions so often had done. For the warfare of the Western Front, where rapid and flexible maneuver was not at a premium, Pershing's judgment may have been right.
>
> The American infantry division consisted of two brigades of infantry, one of field artillery (two regiments of 75-mm guns, one of 155-mm guns), a regiment of engineers, a division machine-gun battalion, a signal battalion, and the division supply and sanitary trains. Each infantry brigade in turn comprised two infantry regiments, each including three battalions and a machine-gun company. The battalion numbered four companies of 6 officers and 250 men each; the strength of a regiment was 112 officers and 3,720 men. The Tables of Organization and Equipment allotted to an infantry division 72 artillery pieces, 260 machine guns, and 17,666 rifles. The division was the basic, self-contained unit and could be shifted readily from one corps to another or from one part of the front to another. (Ref 1, p 386)

To effect the desired changes in the divisional organization of the Army, subordinate units were dropped, added, or reformed. Changes in weaponry and unit organization were incorporated. (Many of these were to survive the severe test of World War I combat and to reappear in Tables of Organization for World War II.) Trench warfare demanded that

specific weapons be created or revived for specific purposes and missions.

> Regimental organization underwent some changes, but the National Defense Act forbade increasing the number of companies in a regiment beyond fifteen. Among the fifteen, a headquarters, a supply, and a machine-gun company received permanent status for the first time. In any case, the changes reflected the requirements of trench warfare in Europe. As a result, an infantry regiment jumped from 2,002 to 3,720 enlisted men with an even larger increase in firepower.
>
> The increase in size resulted from the need for deep formations in both attack and defense. In the attack, two battalions abreast might make up the first wave and the companies within them would be arranged also in depth. Behind the attack wave would come a support wave, perhaps the third battalion, and behind it would be elements, withdrawn from the three battalions, operating as a reserve. Likewise successive positions in depth were the standard formation in defense. Such formations to be adequate required large regiments. As had been the case since the War with Spain, infantry regiments contained three battalions of four companies each. (Ref 8, p 36)

The war was a positional or trench war until 1918, when the American and Allied divisions broke out of the trenches and penetrated the almost impregnable enemy defense (the Hindenburg and the Argonne Forest, Chateau Thierry, and Belleau Woods). Divisions were large because of the requirement for the power of large regiments and the ability to sustain casualties in both the attack and the defense.

Aerial Warfare

The warfare of 1914-1918 opened a new dimension for combat. Aerial warfare became the most novel form of combat and the airplane became a highly specialized weapon in the arsenal of war. The function of the airplanes and pilots was, at first, reconnaissance in the manner of the old-time cavalry. This concept changed as planes waged aerial combat and heavier planes functioned as artillery in dropping bombs. The advent of the aerial warfare affected the size and operations of the infantry division. No longer was the foot unit to be free from enemy harassment; rear areas where division supplies and ammunition were stored became prime targets for airplanes of all types. A new form of defense, antiaircraft artillery, emerged, distinct from field and heavy artillery. Most important the best defense against an airplane was another airplane and soon infantry division had aerosquadrons (battalions) of airplanes and pilots attached to meet and defeat this threat from the skies. The following comment is significant of the new weapon:

> The advent of aircraft increased the vulnerability of rear areas, but it also improved reconnaissance.

> To counter this new weapon, antiaircraft units were formed, and friendly aircraft were assigned counter-air responsibilities. While "aero" squadrons were attached as far down as division, some flexibility was retained. Pershing created a separate air section for the AEF, for the purpose of over-all supervision of air activities. Training and equipping of American air units was accomplished in France. On several occasions, aircraft were massed for offensive action. The first such large-scale air action of the war took place under First Army control in conjunction with the St. Mihiel offensive. At that time nearly 1,500 aircraft were employed -- of which about one-third were attached to subordinate units. (Ref 16, p 53)

Restoration of Mobility

Another development in weaponry was the advent of the armored tank with fire superiority over machineguns. The somewhat more mobile infantry division required portable supporting heavy weapons in the attacking waves of its units.

The partial restoration by the tank of a degree of mobility to the battlefields of World War I, and the accelerated speed of the infantry rate of advance, brought forth an immediate requirement for a light, portable infantry mortar. This weapon, of necessity, had to be one that could be served by a crew of one, two, or three men and carried by hand as they displaced forward. In reality, the tank became a light artillery and machinegun, mobile, armor-covered platform. As such it was effective against troops in the trenches. It could crush wire obstacles, pillboxes, and strong points. But the number of tanks was limited and the infantryman, taking maximum advantage of the newly restored mobility, required portable mortars and machineguns. Thus, the restoration of mobility had the direct effect of causing the trench artillery (heavy mortars) to be replaced by lighter, more portable weapons, such as the Stokes. In essence, the Stokes was a highly portable, three-inch-diameter steel pipe which threw a high-explosive shell.

With the restoration of mobility and the possibility of maneuver, the command and control of the infantry division was placed where it belonged--in the hands of the division commander and his staff officers. Depending upon the type of maneuver intended, the commander could utilize his subordinate units to give weight and penetration to certain areas in the attack. Depending upon the strength of the enemy position and its troops, the division commander could adjust the frontage of his attack. Thus, from a combat pattern of small, semi-independent actions in trench warfare, a pattern of mobile, coordinated operations emerged, sweeping the division commander and his staff into direct contro and direction of the units concerned with the carrying out of the division's overall mission. By the

end of World War I:

> If the division were engaged in a breakthrough operation, the commander would concentrate his means to assure a penetration. His division, deployed in a square of three battalions abreast by three in depth, would attack supported by tanks on a front of 1.5 to 2.5 miles with the objective of effecting a penetration three to five miles deep. If enemy resistance were weak, he might operate on a front of six to eight miles, decentralizing the action of his regiments and placing direct support artillery at their disposal. He would keep a maneuvering force of one infantry regiment and his general support artillery. (Ref 2, p 85)

World War I was instrumental in the development of the first "modern" infantry division which maneuvered and delivered fire in a manner not dissimilar to the infantry division of Napoleon. But it was huge and unwieldy, retaining much of its personnel from the casualty-ridden days of frontal attack trench warfare.

World War I infantry divisions were supported logistically by a combination of organically assigned animal-drawn and motorized vehicles (see Fig. 8). The additional use of motorized infantry was not a new concept. Indeed, in the United States, Great Britain, France, and Germany there had been prewar experiments with internal combustion engine-powered vehicles, both air and ground, for military purposes. The automobile was to exert great influence on military organization and tactics.

Both the victors and the vanquished learned from their mistakes and successes. Almost immediately, the professionals were faced with preparation for the "next war." Military policy and doctrine continued to be enunciated by the war offices of all nations. France, the United States, and Great Britain, with their joint experiences on the battlefields of France, developed similar divisional organizations.

Post-War Developments

World War I ended with the signing of the Armistice on 11 November, 1918. The divisions of the National Army, including those of the Regular Army and National Guard, were shipped home from France and, in most cases, demobilized. The Regular Army and National Guard division were retained and many of the wartime National Army divisions were kept on paper in a reserve corps status. In 1920, the National Defense Act of 1916 was amended and published as the National Defense Act of 1920. The Act provided for the national defense and specifically constituted the Army of the United States (the Regular Army, the National Guard, and the Organized Reserve). Under the Act, the entire country was divided into nine corps areas (groupings of five or more states able to furnish ample personnel for an active Army corps in event of a national emergency). Within each geographical corps area, there were assigned a Regular Army division, two National Guard divisions, and

three divisions of the Organized Reserve. Further, an Officer's Reserve Corps was established. The enlisted personnel for the Organized Reserve units, in event of emergency, were to come from the operation of the Selective Service System. At last, the need for a permanent divisional organization for the three components of the Army of the United States had been recognized and incorporated in future mobilization plans. The World War I division was carefully examined with a view to needed reorganization.

> Immediately after World War I ended, the Army had begun a reexamination of the huge infantry division of that war. The 1917-18 division had possessed the great staying power that Pershing expected of it, but it was also a cumbersome division difficult to maneuver and support. Pershing himself was willing after the war to study a smaller, more nimble division, better suited to the open warfare which he himself so strongly emphasized, and to be supported with completely motorized transport. Out of the consequent studies came the plan for the triangular division of three regiments, with brigade organization omitted, to replace the square division of four regiments in two brigades. (Ref 1, p 461)

In the Regular Army service schools at Fort Benning and Fort Sill, in the Office of the Chief of Infantry, and in the Infantry Board, ideas and suggested new formations were tried out for the infantry division. Despite the limitations of the budget and the lack of weapons and equipment the small Regular Army continued to advance and test ideas. This was an age of experimentation and,

> The Chief of Infantry, The Infantry School, the Infantry Board, the Department of Experiment, the Tank Board, and the Tank School engaged vigorously in the development of infantry. The earliest fruit of their attention was a complete revision of the tables of organization. In this alteration, made during the twenties, the square division survived, but some of its infantry components were considerably modified. The most extreme change took place in infantry battalions, where one rifle company was eliminated and replaced by a machine-gun company. This alteration corrected the confusion of World War I in the use of machine-guns by placing the heavies under the control of infantry battalion commanders. Almost as extreme was the reduction of the number of platoons in a rifle company from four to three. Both these changes were in the direction of what was later called "triangularization," although it was not yet accepted as a broad principle. (Ref 8, p 42)

Participation in World War I gave the United States Army its first experience with modern 20th century warfare. As a result, improved and more lethal weapons and equipment had been made part of the equipment

of the infantry division (Table III). In the infantry division there were basic problems of organization to be solved to ensure that firepower and movement could be achieved by a smaller division. To maintain the firepower of a 28,000-man infantry division while reducing it to 15,000 men was the dilemma of military planners of the 1920's and 1930's. The improvement of firepower with more or new weapons, the reorganization of the basic units within the division, especially those smaller ones which would bear the responsibility of physically closing with the enemy in a future war--all these considerations were given due weight in the deliberations of the test boards. World War I combat-experienced members of the various boards and service schools experimental units often were not in complete agreement with the radical and drastic organizational changes proposed. Eventually, the experiments and the testers were brought into proper focus and agreement because

> ...the object sought was an infantry division that was smaller and faster than the old but with as much firepower. To obtain it the infantry establishment, from squad up to division, was given the most thorough examination it had ever received. Not everyone engaged in the examination agreed as to the means to the end. Most accepted three infantry regiments to a division, but differed as to their composition. The Chief of Infantry, for example, proposed four, instead of three platoons to a rifle company, and a fourth rifle company in each battalion

> ...in 1937, the 2d Division was formed into a provisional unit to test the various proposals. For several months it tried out the suggested arrangements in the field. The trials were remarkably thorough, although they were handicapped by shortages of weapons and vehicles. For example, no light mortars were available, while only one regiment could be completely equipped with the M1 rifle. There were not enough .50-caliber machine-guns, and, of course, no light machine-guns at all. (Ref 8, p 46)

A result of the Army experiments and studies was a new "triangular" divisional organization, approved in 1939, contrasted to old World War I "square" division (Fig. 8; Table IV). Test divisions were formed in accord with the various formations suggested; trial maneuvers on the ground were conducted under the highly professional guidance of General Lesley J. McNair, who initially served as chief of staff of one of the experimental divisions. McNair's concepts of military formations for modern warfare, were instrumental in shaping the World War II infantry division. Weigley says of McNair's policy on divisional organization:

> The new organization was approved in principle in 1935, and in 1937 and 1939 the model of the new

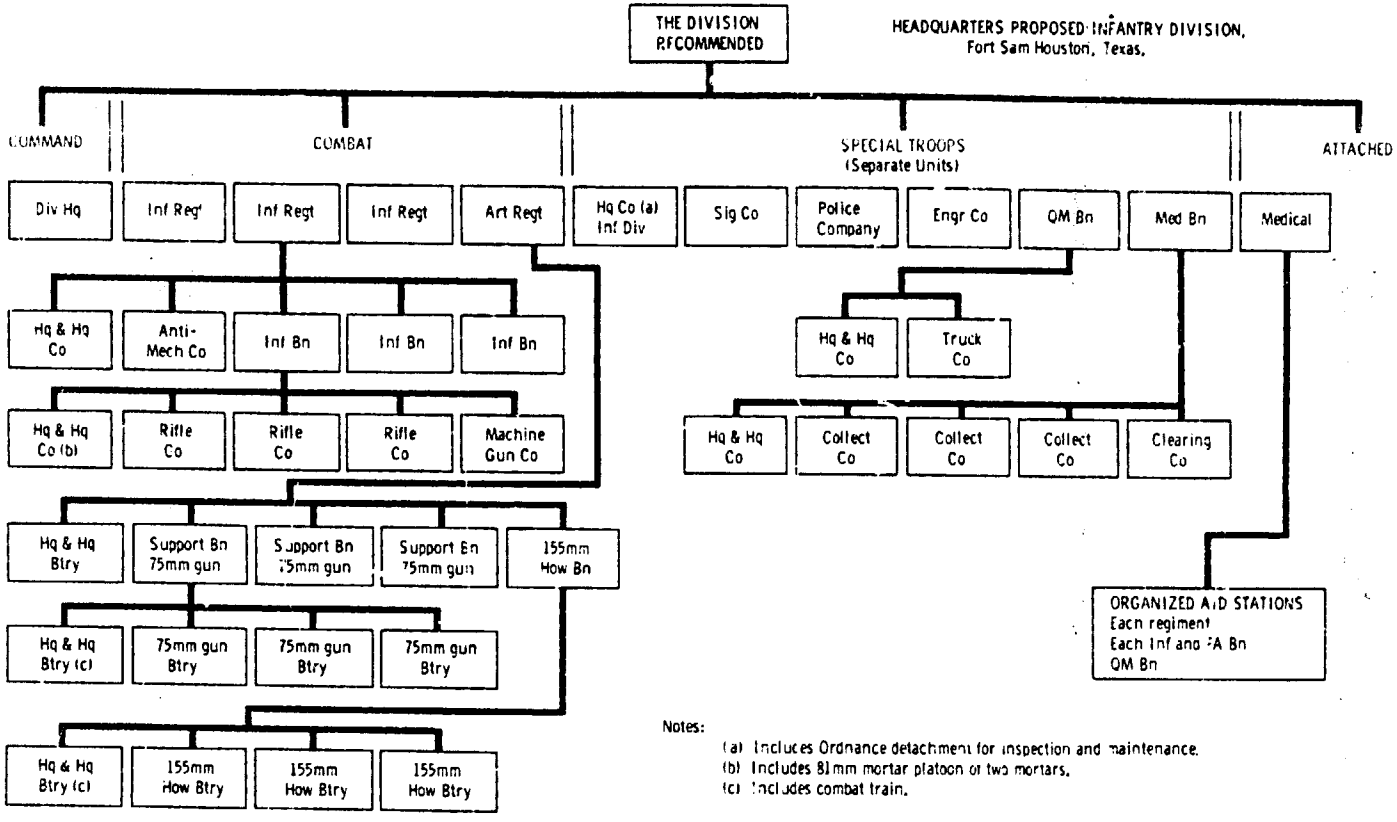


Figure 8. Infantry Division Recommended Following the Field Test, 1937

TABLE III. ORGANIC COMPOSITION OF THE INFANTRY DIVISION, 1936-1945

(Aggregate Strengths, Principal Equipment)

	I Approved for Field Test by Secretary of War 13 August 1936	II Recommended by Proposed Infantry Division After Field Test, March 1939	III T/O and Allied Tables as Changed to 1 June 1941	IV T/O and Allied Tables, 1 August 1942	V Proposed by Army Ground Forces in Revised Tables, 1 March 1943	VI T/O and Allied Tables, 15 July 1943	VII T/O and Allied Tables, 24 January 1945
Entire Division	13,552	[illegible]	15,245	15,514	13,412	14,253	14,037
Division Headquarters	[illegible]	[illegible]	102	162	133	158	166
Infantry	7,416	[illegible]	[illegible]	[illegible]	8,919	9,354	9,204
Regiment (three)	2,472	[illegible]	3,340	[illegible]	2,973	3,118	3,068
Hq & Hq Company		[illegible]	[illegible]	[illegible]	154	[illegible]	104
Service Company			[illegible]	[illegible]	112	114	111
Antitank Company		[illegible]	[illegible]	169	117	[illegible]	159
Cannon Company				124		118	114
Battalion (three)		631	[illegible]	916	[illegible]	871	860
Hq & Hq Company		[illegible]	[illegible]	139	112	126	121
Heavy Weapons Company		194	[illegible]	[illegible]	162	[illegible]	160
Rifle Company (three)		173	223	[illegible]	192	193	193
Field Artillery	[illegible]	[illegible]	[illegible]	[illegible]	1,949	2,160	2,111
Hq & Hq Battery, Division Artillery		[illegible]	[illegible]	[illegible]	111	114	114
Light Artillery Battalion (three)		464	[illegible]	[illegible]	[illegible]	[illegible]	497
Headquarters Battery		[illegible]	[illegible]	[illegible]	161	132	126
Service Battery			[illegible]	[illegible]		77	74
Firing Battery (three)		94	120	111	95	[illegible]	99
Medium Artillery Battalion		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Headquarters Battery		127	142	[illegible]	[illegible]	117	112
Service Battery			97	[illegible]		77	76
Firing Battery (three)		117	[illegible]	[illegible]	[illegible]	[illegible]	106
Antitank Battery			[illegible]				
Auxiliary Units	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Reconnaissance Troop	27		[illegible]	[illegible]	[illegible]	[illegible]	149
Engineer Battalion	[illegible]	[illegible]	[illegible]	[illegible]	647	647	620
Medical Battalion	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	442
Quartermaster Company	[illegible]	[illegible]	312	[illegible]	152	193	193
Ordnance Company	[illegible]				147	147	141
Signal Company	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	239
Military Police Platoon		103	[illegible]	[illegible]	73	73	106
Division Headquarters Company	21	51	[illegible]	144	[illegible]	[illegible]	104
Band	[illegible]				[illegible]	58	58
Miscellaneous	[illegible]						
Attached Medical	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	434	432
Infantry Regiment (three)			[illegible]	135	112	135	135
Division Artillery			[illegible]	[illegible]	[illegible]	57	57
Engineer Battalion			14	[illegible]	17	17	17
Quartermaster			[illegible]	[illegible]			
Special Troops						15	15
Attached Chaplain	9	12	13	12	12	13	13
Principal Armament							
Rifle, cal .30		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6,349
Automatic rifles, cal .30	[illegible]		[illegible]	[illegible]	247	243	[illegible]
Machine guns, cal .30	[illegible]	[illegible]	[illegible]	147	[illegible]	[illegible]	211
Machine guns, cal .50	[illegible]		[illegible]	[illegible]	224	[illegible]	[illegible]
Mortars, 60mm	[illegible]	61	61	61	[illegible]	[illegible]	[illegible]
Mortars, 81mm	[illegible]	[illegible]	[illegible]	[illegible]	54	54	54
Antitank rocket launchers					[illegible]	557	[illegible]
Antitank guns, 37mm		24	[illegible]	[illegible]	[illegible]		
Antitank guns, 57mm						57	57
Guns, 75mm		36	[illegible]				
Howitzers, 75mm	24						
Howitzers, 75mm, self-propelled				[illegible]			
Howitzers, 105mm	12		36	[illegible]	54	54	54
Howitzers, 105mm, self-propelled				[illegible]			
Howitzers, 155mm		12	1	12	12	1	12
Vehicles, all types (except boats and aircraft)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2,114

Sources: Col. I — [illegible]
Col. II — [illegible]
Col. III — [illegible]
Col. IV — [illegible]
Col. V — [illegible]
Cols. VI and VII — [illegible]

Historical Section, Headquarters, Army Ground Forces

TABLE IV. INFANTRY DIVISION RECOMMENDED FOLLOWING THE FIELD TEST, 1937

TABLE OF ORGANIZATION

NO. 7-R

(Outline, only)

Hq. Proposed Infantry Division
Fort Sam Houston, Texas,
February 8, 1938.

INFANTRY DIVISION, CONSOLIDATED TABLE

1	2	3	4	5	6	7	8	9	10	11	12	13
	COMMAND ECHELON	COMBAT ECHELON		SPECIAL TROOPS (SEPARATE UNITS)						ATTACHED		
	Division Headquarters	Three Infantry Regiments	One Field Artillery Regiment	Headquarters Company Infantry Division	Signal Company	Division Police Company	Engineer Company	Quartermaster Battalion	Medical Battalion	Attached Medical Dept. Personnel	Chaplains	Total
Commissioned Officers	18	273	102	4	5	3	7	14	23	39	10	498
Warrent Officer	1											1
Enlisted Men	47	6714	1716	50	155	100	168	183	397	246		9776
Aggregate	66	6987	1818	54	160	103	175	197	420	285	10	10275
Principal combat arms, only												
Rifle, caliber .30		4311										
Machine gun, caliber .30		72										
Machine gun, Lt. caliber .30		351										
Mortar, 47-mm.		81										
Mortar, 81-mm.		18										
Gun, 37-mm.		24										
Gun, 75-mm.			36									
Howitzer, 155-mm.			12									

division was developed through field tests, perhaps the most elaborate of their kind ever conducted in peacetime in the United States.

McNair himself did the main work of transforming the new division from theory to actuality as chief of staff of the test division. Out of the tests came a report recommending a triangular division of 10,275 men to replace the 22,000-man square division. The War Department did not approve quite so drastic a reduction even though it approved the principal organizational patterns that emerged from the tests; it adopted a division of 14,981 men. During the interval when McNair was chief of staff, GHQ, he lost direct connection with infantry reorganization, and in his opinion fat began to accumulate in the division anew. When he became commander of AGF, he created a study group to trim down the infantry division again, from its then authorized strength of 15,500 men.

"The triangular division was initiated some five years ago [he said] with the primary purpose of streamlining the organization and rendering it more effective in combat. Since the reorganization there has been a steady succession of changes, all in the direction of returning to the cumbersome and impracticable organization of the old square division. It is felt mandatory that every proposal which increases overhead must be resisted if the division is to be effective in combat." (Ref 1, pp 461-462)

Basically, the three-part infantry division consisted of the maneuver force made up of infantry, artillery, and tanks. But revolutionary technological developments were in the offing; the appearance of the airplane, the rapid-firing cannon, automatic small arms, and improved motor vehicles and high-speed tanks were to change the structure and organization of the infantry divisions of all armies. General Charles de Gaulle, General Heinz Guderian, General J.F.C. Fuller, General William Mitchell, Captain B.H. Liddell-Hart were among the military thinkers who, between 1920 and 1940, exerted tremendous influence upon military organization and tactics at all levels. General Fuller theorized on mobility and mechanized warfare; Guderian, on tank tactics; General deGaulle offered forecasts of the army of the future, and Liddell-Hart conducted profound studies on mobility. All, except the late General Mitchell, the great advocate of airpower, were to see their theses proven in the crucible of war.

POST-WORLD WAR I AND WORLD WAR II, 1939-1945

Post-World War I Developments

The period following World War I was a "Dark Age" in the history of the Army. It was evident that reorganization was needed, but military experimentation and testing had to be curtailed--first because of the pacifism of the postwar years, then because of the economic depression. The long overdue reorganization study was not begun until 1935. The Chief of Staff of the Army described the problem and offered his views in a communique circulated to commanding generals of all major commands, to branch chiefs, War Colleges, the Command and General Staff School, and the National Guard Bureau. He defined the goal of the study board with a quote from General Douglas MacArthur's final report as Army Chief of Staff.

> This process of stripping from combat units every useless impediment must go further than the mere removal of contingent supplies and equipment. It will likewise affect organization. Difficulty in movement mounts rapidly with the size of the command, and the effort must be to reduce every echelon to the smallest possible size consistent with requisite power in shock and fire action. (Ref 17, p 34)

The Triangular Division

In January 1936, a special committee was appointed to conduct a study on the modernization of the Army. Reorganization was considered in the light of the need for mobility and the advances which had been made in weaponry, transport, and communications; a particularly important consideration was the impact of air power. The committee's report, submitted six months later, proposed a triangular divisional organization. The two brigade headquarters were eliminated and one infantry regiment dropped. In place of the brigades there were three infantry regiments of three rifle battalions each.

> ...a motorized reconnaissance battalion (200 men), a signal company (197 men), an engineer battalion to include a traffic control detachment (500 men), and "service troops" (1820 men). This last category would consist of a grouping, under a brigadier general, of the quartermaster, ordnance, medical, and all other divisional supply and maintenance units. Such a grouping, the committee felt, would provide a slot for brigadier generals dispossessed of their brigade commands.
>
> All technical signal communications, except within the artillery battalions, would be provided by the Signal Corps. The former infantry and artillery brigade headquarters were eliminated. The slot in the service group accommodated one brigadier general; the job of infantry advisor was created, apparently to provide for the other. The division staff was reduced, and the G-1 section eliminated, its functions being transferred to the Adjutant General's section. (Ref 17, pp 35-36)

The plan provided for a specific support element for the division. For the first time supply and maintenance units were grouped. (This concept has survived to the present with the advent of the support command of the ROAD Division.)

The triangular division was tested successfully in the field in 1937 and 1939. But the new organization was not in the form of an approved Table of Organization until after the collapse of France in 1940. All Regular Army divisions were then reorganized in conformity with the new table (See Appendix C). After Pearl Harbor, the National Guard divisions were required to conform. This situation was fraught with political repercussions because it eliminated grades and commands and overage commanders were relieved (Ref 18). Jacobs discusses the birth of the triangular division:

> The War Department endorsed this idea in 1935; the new tactical concept was given limited tests in the field in 1937, and then tried more extensively in maneuvers in 1939. The 2d Division was the first to be made triangular, in 1939; but not until after the fall of France in 1940 did the War Department actually come up with a new table of organization.
>
> This table established a strength level of approximately 15,000 men in contrast to the 28,105 in a World War I division. The brigade headquarters were eliminated, thus doing away with an unnecessary intermediate headquarters in the chain of command. The triangular division got its name from the fact that three infantry regiments of three battalions each were its basic elements. The division had four artillery battalions. One remained under division control for general support; each of the others was normally assigned to support a specific infantry regiment. Thus each division commander had in effect three well-balanced combat teams, or regimental combat teams. (Ref 19, p 26)
>
> The new triangular organization was put into effect in the Regular Army during 1939. Within the National Guard, however, the square organization, somewhat modified, persisted even after many units had entered Federal service in 1940.
>
> All in all, the Chief of Infantry contended, and rightly, that in the years from 1937 to 1941 American Infantry had undergone a real revolution. Organization-wise, the foot establishment was arranged along lines that had been more carefully tested than ever before in peacetime. As for weapons, they were turned over completely, except for the .30-caliber heavy machine gun. In other words, the 60-mm mortar (first adopted as standard in 1937, but remaining scarce) had replaced

> the old Stokes and its successors, while a heavier mortar, 81-mm, had been introduced. A light machine gun had actually been adopted and the BAR so much improved as to be virtually made over. Finally, the Springfield 1903 shoulder rifle had yielded place to the semi-automatic M1. In addition, new small arms such as carbines and submachine guns had entered infantry armament, together with the larger machine gun, the .50-caliber. (Ref 8, pp 47-48)

Armor and Combat Cars

The groundwork had been laid for a permanent mechanized force and an armored division as early as 1928 when Secretary of War Dwight F. Davis visited England and saw a tank demonstration at the famous British training ground at Aldershot, Salisbury Plains. He was so impressed by the small battalion-size mechanized force of tanks, artillery, engineers, and signal troops that, when he returned to the United States, he ordered the development of a similar unit in the US Army. In 1930, an experimental mechanized force was assembled at Fort Eustis, Virginia (although it was later abandoned). At the conclusion of the experiment, the arms and services were directed to carry on their own experiments in mechanization. The infantry, under the National Defense Act of 1920, was charged with responsibility for the tanks. The cavalry, the most mobile arm, possessed some armored cars in addition to its horses.

In a skillful maneuver, the Chief of Cavalry had the tanks assigned to his arm designated "combat cars" in order to avoid competing with the infantry in tank development.

> To allow the Cavalry to develop armor along lines independent of the Infantry, the mechanized cavalry was formed under the Chief of Cavalry. Though not equipped with tanks, its so-called, combat cars were similar to the infantry tanks. (Ref 20, p 14)

The infantry continued its experiments with armored vehicles which were essentially designed for the support of infantry in close combat. But the cavalry

> ...forced to seek a substitute for the horse, saw the tank and its organization as organically combining all the supporting arms - infantry, artillery, air, signal corps, and engineer and other auxiliary services. Contrary to the basic infantry concept of the combat role of the tank, the cavalry concept was based upon the combined arms team idea, with great mobility, long radius of action, away from a base. The cavalry concept gave armor the independence required to enable it to conduct missions deep in hostile territory. The combat value of shock action as in the old horse cavalry was stressed by the cavalry proponents of armor. (Ref 21, p 22)

The Tank-Infantry Relationship

Modern warfare emphasized a high degree of motorized mobility and a growing airpower. Armored vehicles and tanks were capable of speed and firepower far beyond that of the lumbering World War I tanks.

The postwar period had demonstrated, beyond the shadow of a doubt, that the armored tank had a permanent place in the arsenal of war. Where it belonged, who controlled it, and its basic mission in combat were points of dispute between the military intellectuals of all forces.

American military doctrine recognized that the tank and the foot soldier were interdependent. The tank helped the infantry to advance; the soldier on the ground protected the tank as it advanced. Up to 1939, the United States Army Field Service Regulations prescribed that the infantry division include a company of light tanks in its Table of Organization. This minimal allocation indicates that the armored division had not yet progressed much beyond the "planning board stage."

The Army Lineage Book, Volume II, Infantry, offers the following comment on the matter of infantry control of the tanks:

> The World War had displayed two very pressing needs in warfare. One was for protection from devastating fires, the other for greater mobility. When applied to infantry, the two were contradictory, for the more protection the infantryman had, the heavier and slower he tended to become. After the war, as we have seen, tanks were made part of the infantry. They offered to foot soldiers some added mobility and some protection. Accordingly, infantry doctrine took tanks into account, and the American infantry division included a company of light tanks in its organic structure. Indeed, in the basic theory, expressed in the Field Service Regulations of 1939, armor was given the primary mission of helping the infantry advance. This being so, one can understand why the Chief of Infantry strongly protested when, in July 1940, armor was removed from the control of infantry. As of 1939, tanks dropped out of our infantry divisions, and never reentered organically until after the second World War. (Ref 8, p 45) (Emphasis added)

The supportive relationship of the infantry and tanks was recognized by General Lesley J. McNair, Chief of the Army Ground Forces. When the office of the Chief of Infantry was phased out, McNair took over its functions in March 1942. The organization and employment of the tank-infantry relationship were molded to his concepts. The following defines the basic position of the General,

> ...who had always doubted the invulnerability of the tank. It became clear that tanks would frequently

> have to be escorted by foot troops sent ahead to locate and destroy antitank defenses. It was recognized that the armored division, internally, required more infantry in proportion to tanks and, externally, would usually operate in closer proximity to infantry divisions than had been supposed. The increasing rapprochement between tanks and infantry raised not only the question of the internal structure of the armored division but also that of the number of armored divisions which ought to be mobilized... (Ref 22, pp 322-323)

While military planners wrestled with problems of reorganization, history-making events were taking place. The invasion of Poland by the Wehrmacht in September 1939 gave a startling demonstration of how armor had restored mobility to warfare. German armor with its tremendous shock power and breakthrough capability, created a new dimension in warfare. In the 1940 attack on France, the German "marriage" of the low-flying attack bomber to the armor attacking columns moving below added a new term--Blitzkrieg or lightning war--to the military vocabulary. The United States' immediate reaction was to plan an armored force.

World War II Divisions

Armored Division

The following commentary on the organization of the armored division during World War II is helpful in understanding the general bases of the divisional structure. There were those armor enthusiasts in the US Army who believed that the day of infantry had passed and that the fast-moving hard-hitting tank was the solution to all the tactical problems confronting the modern battle commander. General McNair had always doubted the invulnerability of the tank and subsequent events were to prove him right.

> The organization of the armored division passed through several stages during the war, largely in response to the activities of the Germans. German success in the employment of armored formations gave great weight to the views of the Armored Force. At first, the American armored division was modeled on the panzer division -- a high ratio of tanks with little infantry. However, the successful use of antitank guns and mines by the Germans, Russians, and British cast some doubts on the effectiveness of tanks operating alone. The armored divisions, introduced in September 1940, had a strength of about 15,000 with nearly 400 tanks. Six had been activated by 1942, with tentative plans for activation of a total of almost fifty. During the war a total of 16 were created. (Ref 16, pp 78-79)

Richard M. Ogorkiewicz discusses the infantry-tank relationship in Armor:

> Infantry and its relationship to tanks has been one of the thorniest aspects of the evolution of mechanized forces. For years it has been argued that the principle (sic) function of tanks is to support the infantry and that they, therefore, should be subordinate to it. For almost as long a few have argued that tanks can critically dispense with the infantry and, in general, assign a subsidiary role to the latter. The former view still finds support in tradition-bound military doctrine but arguments and counterarguments about the superiority of infantry over tanks, or vice versa, are essentially futile for the two arms are complementary and the real problem is not to decide between them but to effectively combine them together. (Ref 23, p 385)

During the period 1939-1942, new and more glamorous types of military units were involved in the combat overseas; there was a change in the general attitude toward the standard infantry division. Weigley noted that, after the 1940 Blitzkrieg, the emphasis was on armor. American planners estimated that as many as fifty to sixty armored divisions were required to be organized and fielded if the United States was to win the war. By 22 May 1942, the Operations Planning Division of the War Department, General Staff, projected a troop basis for the wartime army that called for forty-six armored divisions. After the defeat and occupation of France by the Wehrmacht and its Panzertruppen, the United States Army's armor commanders and protagonists,

> ...envisioned armored corps and divisions sweeping deep into the enemy's country, striking the vital blows of the war, while conventional infantry contented itself with mopping-up operations. The chief of the Armored Force said as late as July, 1942:
>
> "The triangular division has its place in the scheme of affairs to protect lines of communication, to hold ground, to assist the armored units in supply and the crossing of obstacles such as rivers, defiles, etc. They do not carry the spearhead of the fight and never will when tanks and guns are present." (Ref 1, p 467)

The success of British and Russian antitank weapons proved that armor without infantry support was vulnerable. As antitank weapons continued to improve and newer ones were developed, the infantry division, with its artillery, was restored to its proper place as a standard high level unit of ground combat. General McNair's concept of the role of the tank and the armored division was substantiated.

One of the contributing technological factors in the creation of the armored division was the great improvement in communications techniques. On the battlefield even the infantry squad possessed portable radios for contact with its parent unit and others. High mobility and wide dispersion on an ever-widening battlefield would have made command and control under these circumstances most difficult, if not impossible, without vehicular radios.

> Battlefield communication continued its trend toward improvement, a trend which stretched back to the Civil War. Improvements in communications equipment (small portable radios, vehicular radios) facilitated control of widely dispersed tactical elements. It seems probable that, without vehicular radios, the creation and employment of armored divisions would have been impractical. (Ref 16, p 75)

Eventually, the regiment in the armored division was eliminated for flexibility and economy of personnel. The battalion became the primary armor combat unit. The real achievement here was in the doctrine that the battalions could be added, detached, and moved about in the armored division in combinations to meet the specific tactical requirements of the combat operation involved. The standard infantry division lacked this flexibility because it still retained its regiments which were responsible for the tactical employment of the infantry battalions. (The intermediate infantry brigades had been lost when triangularization of the infantry division was accomplished in 1936.) The advent of armored infantry and the substitution of the combat commands for the regiment in the armored division were highly significant organizational developments (particularly in relation to their eventual influence on the organization of the ROAD Division in 1962). The following commentary discusses this important organizational landmark:

> Therefore the tank would have to work in close cooperation with infantry. The design of armored formations themselves changed to incorporate a growing proportion of infantry, to assist in taking as well as to hold ground. As designed in 1940-42, American armored divisions numbered 14,620 men, with 4,848 in tank units, 2,389 in armored infantry, and 2,127 in armored artillery. There were two tank regiments of three battalions each, one armored infantry regiment of three battalions, and three artillery battalions. The armored infantry was equipped to move in lightly armored half-tracks. In 1943, however, the armored division was remodeled to comprise an equal number of infantry and tank battalions, three of each, plus the three artillery battalions.

> Regiments now disappeared from the armored division, in pursuit again of McNair's goal of flexibility. With no fixed regimental formations present in the division anyway, additional battalions of tanks, infantry, or artillery could readily be added or detached in any combination as any situation required. To handle these flexible arrangements, armored division headquarters included two "combat commands," each a subheadquarters to which the division commander might assign such task forces as he chose. (Ref 1, pp 467-468)

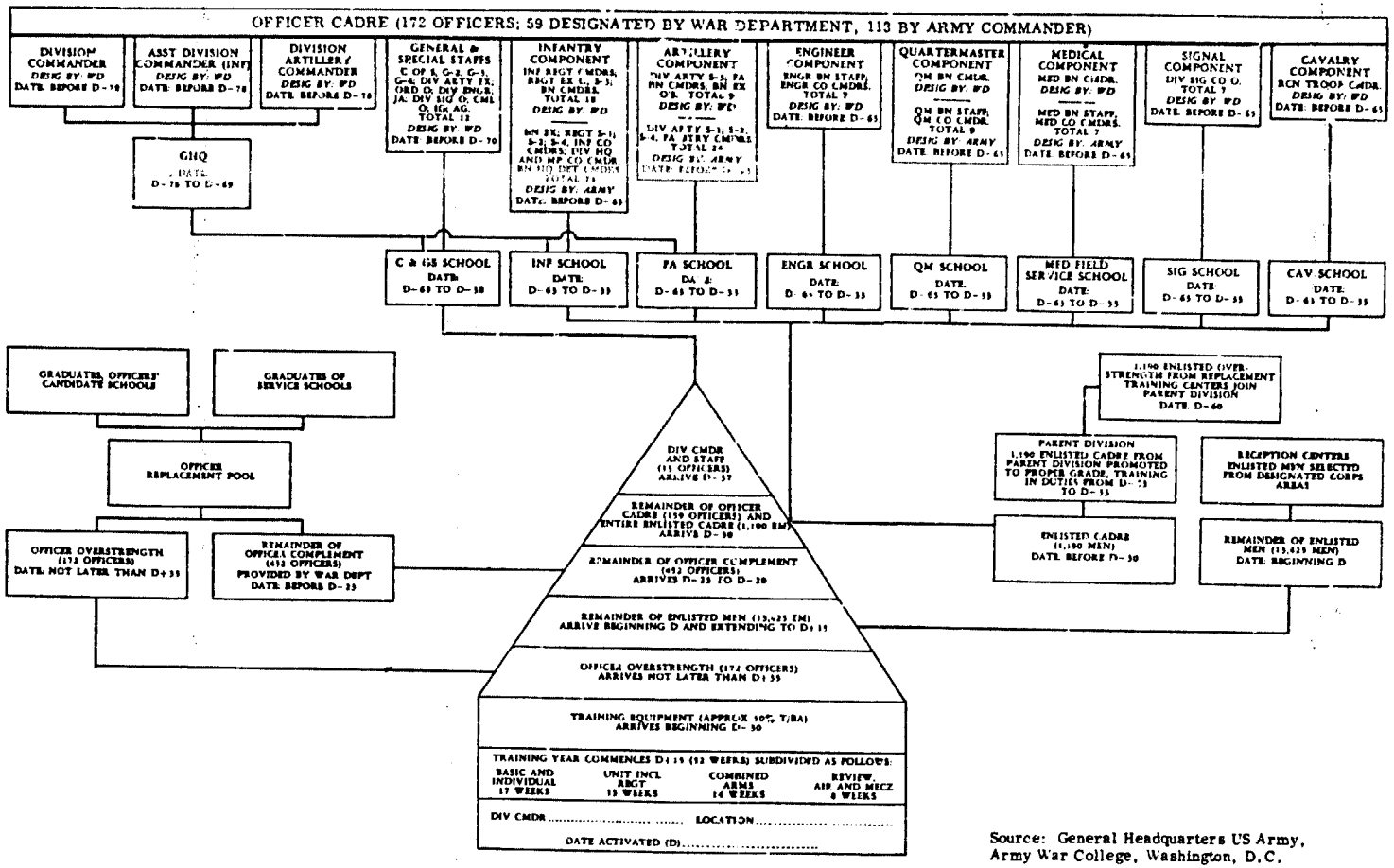
Infantry Division Assault Doctrine

In the infantry division, as in all large ground combat formations, the final success of the overall assault depends upon the smallest units under the command of the lowest-ranking combat leaders.

> The cornerstone of all infantry organization, the squad, was enlarged in wartime from eight men to twelve. This was done in spite of the evidence produced in the field tests that seven or eight men were all one corporal could hope to control in battle. The Chief of Infantry strongly urged the increase. The command weakness of so large a squad was corrected late in 1940 when the leader was made a sergeant and his assistant a corporal. With two noncoms in charge of it, the infantry squad remained at twelve throughout the coming war. (Ref 8, p 47)

The initial World War II infantry assault doctrine was based largely upon World War I experience. It was soon found that although this doctrine was based upon the sound and traditional infantry doctrine of fire and movement, it did not always work against determined resistance. Extra power was needed; the infantryman found this power in the tanks within his infantry unit, generally his company. How it was done is shown in the following extract:

> Infantry assault doctrine of World War II was based on the covering-fire tactics of the final phase of World War I. Each twelve-man rifle squad was to have a two-man scout section, a four-man fire section and a five-man maneuver and assault section. The squad leader and the scout section would locate the enemy, and the leader would then call upon the second section's fire, which included the squad's Browning Automatic Rifle. Under that fire, the third section would advance.
>
> Unfortunately, this method brought only a fraction of the squad's power to bear fully in the climactic advance; and too often the squad leader was pinned down with the scout section. Often, the infantry turned for help to the tanks. Partly for this reason,



Source: General Headquarters US Army, Army War College, Washington, D.C.

Figure 9. Plan for Building an Infantry Triangular Division, 1942

> tanks became habitually assigned to all sizable infantry formations. A favorite method of attack came to be one in which a team of three to seven, or possibly more, tanks combined with an infantry company. Sometime tanks advanced first, sometimes they advanced with an infantry skirmish line, sometimes the infantry rode them. In any case, the tanks took on centers of resistance, while the infantry eliminated antitank weapons. (Ref 1, p 471)

Organization

In March 1942, three months after the Japanese attack on Pearl Harbor, the War Department issued a directive which activated new triangular wartime divisions (Ref 24) (Fig. 9). The directive listed six types of divisions to be organized: infantry, motorized, armored, airborne, mountain, and cavalry.[1] The directive established that the infantry division would

> ...comprise approximately 15,500 men to be "a general purpose organization intended for open warfare in theaters permitting the use of motor transportation," and to have organically assigned to it a minimum of artillery and auxilliary elements,"on assumption that the division is a part of a larger force from which it can obtain prompt combat and logistical support." (Ref 25, p 274) (Table V).

Specialized Divisions

Under the directive, specialized divisions in the infantry were categorized as motorized, mountain, jungle, and light. Essentially, the motorized divisions were infantry divisions mounted in trucks for high mobility in open warfare desert-type operations. These divisions were organized for operations in such desert areas as North Africa. (The Germans used motorized infantry successfully in the Battle of France.) When the Americans were in North Africa, their combat experiences, as well as those of the British, established a concept of allotting the infantry division motor transport which would be applicable to all situations. The motorized division, with its large number of vehicles, required as much shipping space as an armored division, yet did not have the fire and shock power of the armored division. The following comment is significant of the organizational problem:

> The coming of war resulted in the largest expansion of the infantry ever undertaken. During the three years

[1] The cavalry division was no longer mounted on horses as horses had been phased out of the US Army prior to World War II. Tradition was preserved by retaining the cavalry division as the "First Cavalry Division" but actually the division fought as infantry. In the Korean War, the 1st Cavalry Division again served as infantry. Today, the 1st Cavalry Division is serving in Vietnam as the 1st Cavalry Division (Airmobile).

TABLE V. TROOPS IN DIVISIONS AND IN NONDIVISIONAL UNITS, BY BRANCH, 31 DECEMBER 1943 AND 31 MARCH 1945

[Authorized aggregate strengths: T/O units only; replacements and bulk allotments (overhead) not included]

Units	Divisions				Nondivisional troops per division					
	Infantry division		Armored division		AGF types [1]		ASF types [2]		Total	
	31 Dec 43	31 Mar 45	31 Dec 43	31 Mar 45	31 Dec 43	31 Mar 45	31 Dec 43	31 Mar 45	31 Dec 43	31 Mar 45
Adjutant general							293	537	293	537
Antiaircraft					5,150	2,914			5,150	2,914
Armored			2,117	2,100	515	607			515	607
Cavalry	155	149	0[illegible]	804	325	30[illegible]			325	304
Chemical					199	[illegible]6	182	153	381	429
Coast Artillery					1,059	425			1,059	425
Engineers	647	620	693	660	1,668	2,317	2,276	2,717	3,944	5,034
Field Artillery	2,160	2,111	1,623	1,625	1,404	2,197			1,404	2,197
Infantry	9,354	9,204	3,003	2,985	1,733	1,286			1,733	1,286
Medical	959	940	678	654	661	830	2,224	2,709	2,885	3,590
Military Police	73	106	91	87	139	187	872	960	1,011	1,147
Miscellaneous					107	139	126	243	233	382
Ordnance	147	141	762	732	1,486	1,811	430	530	1,916	2,341
Quartermaster	193	186			1,275	1,751	1,530	2,240	2,805	3,991
Signal	226	239	302	293	683	697	482	1,102	1,165	1,795
Tank destroyer					767	606			767	606
Transportation							1,405	2,298	1,405	2,298
Headquarters	339	341	663	640	75	258			75	258
Total	14,253	14,037	10,937	10,670	17,266	16,505	9,820	15,540	27,086	30,045

[1] AGF types were mainly for operation in armies and corps. [2] ASF types were mainly for operation in communications zones.
Source: United States Army in World War II Ground Forces. The Organization of Ground Combat Troops, Historical Division, Department of the Army, 1947.

Source: Army Almanac, 1950.

1941-1943, it increased 600 percent. Although this was 100 percent more than the field artillery, it fell far short of some of the newer arms, for example the anti-aircraft artillery, which expanded 1,150 percent and later had to be cut back. In any case, before the conflict ended sixty-seven infantry divisions came into being, plus one mountain and five airborne divisions. Even the creation of armored divisions expanded the infantry, since they contained substantial foot components.

There were in all, at some time during the war, 317 regiments of infantry of various kinds. Among these were types unknown before the war, such as three mountain, twelve glider, and sixteen parachute infantry regiments. In addition there were 99 separate battalions, some of which were also very highly specialized. (Ref 8, p 48)

The Directive of March 1942 created a controversy over specialization of types of higher tactical units. This was especially true on the divisional level of organization. The six type divisions authorized in March 1942 were not accepted wholly by the War Plans Division of the War Department. Writer Bruce Jacobs notes that many, including General McNair, held that with the lack of available manpower they could not afford the luxury of having units "sit around twiddling their thumbs between operations." The Chief of Army Ground Forces strongly recommended that "excessively specialized organizations which would be useful only upon occasion should be discouraged." But the controversial directive was approved and implemented despite McNair's vigorous opposition (Ref 19, p 28).

The specialized motorized division was soon found to be impracticable and, after March 1943, all motorized infantry divisions were converted back to standard infantry divisions with the prescribed allotment of organic motor transport (with the exception of the 4th Division which was not returned to standard format until a later date) (Fig. 10).

Participation in a global war, in an unfamiliar, difficult climate and terrain, led to the establishment of the light division as a solution to campaigning under unusual conditions. Traditionally, the United States Army has always been interested in what European military authorities termed "light troops." From the days of the American Revolution, light troops have been found in the regimental, brigade, and divisional organizations. Basically, these were highly mobile, lightly-armed elite troops, specially trained and equipped for attack missions requiring speed and celerity in rugged or difficult terrain. The light division of World War II was planned to carry an absolute minimum of motor and animal transport. Consequently it required less supply and maintenance personnel than a normal infantry division.

Eight light infantry divisions were scheduled initially; eventually there were ten such units programmed by the War Department (a total of six light infantry and four airborne divisions to carry out hit-and-run warfare in difficult terrain).

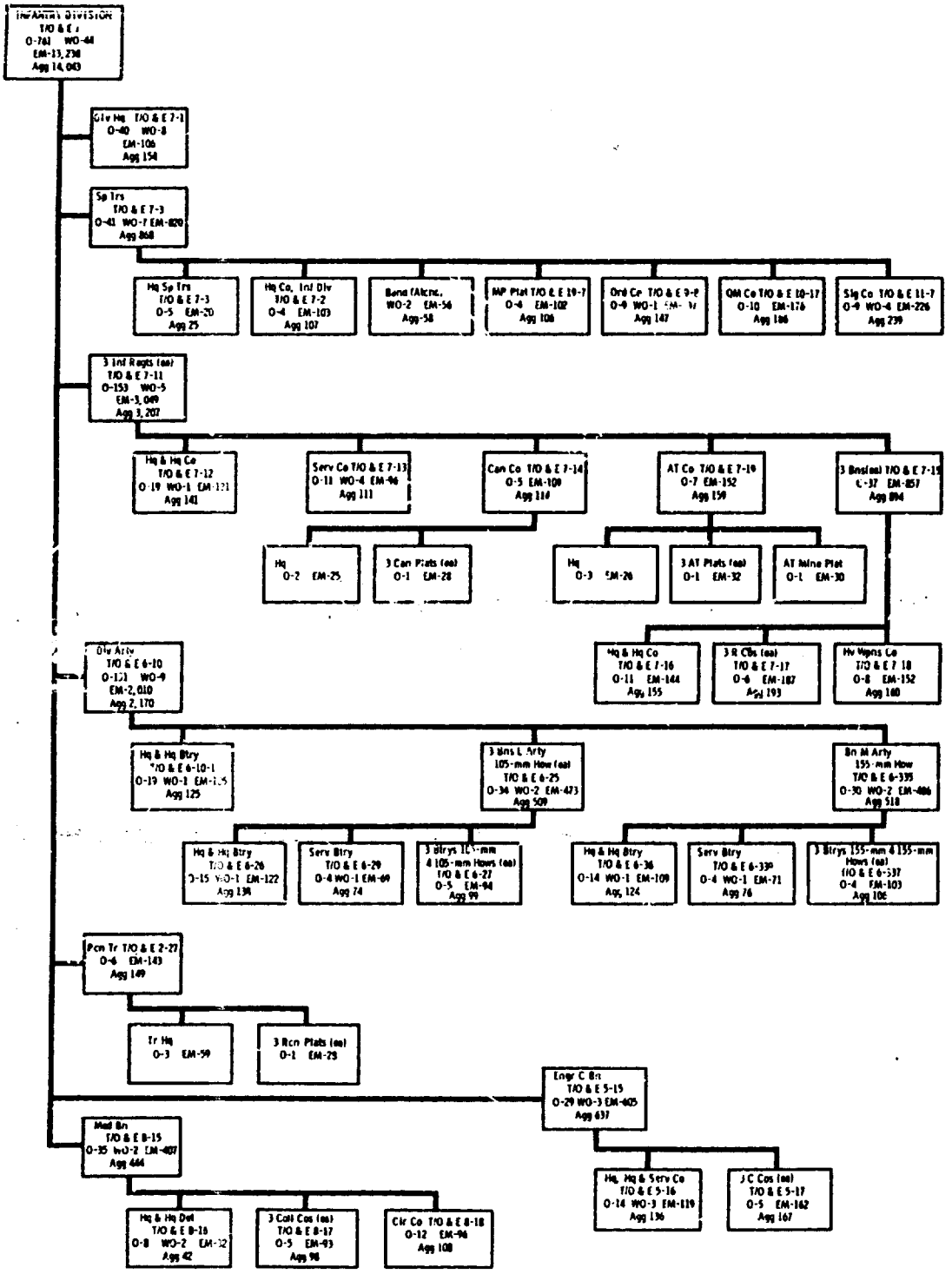


Figure 10. Organization of the Infantry Division (April 1943)

The light division was an interim solution to the vexing problem of the varied terrains and environments encountered in a global war. The three light infantry divisions that were eventually formed were the 89th Light Division (Truck), the 10th Light Division (Pack, Alpine), and the 71st Light Division (Pack, Jungle). In the Southwest Pacific, the light divisions were useless for the required amphibious operations and the Theater Commander was unwilling to accept them in his theater. During the scheduled testing periods for the divisions, the light divisions were unable to deploy their tactical elements effectively. Furthermore, presumably because of their reduced organic transport, they could not properly supply themselves. It should be noted that the mountain and jungle type divisions were almost wholly dependent on men and mules for transport of supplies. The 10th Mountain Division was the only specialized infantry division which was kept active; eventually it was deployed to Italy to serve during that campaign.

The Airborne Division

Another innovation of World War II was the airborne infantry division. The essential difference between a standard and airborne infantry division was that the latter used the airplane for transport and delivered troops by parachute or glider. Parachute and glider units in regimental strength were integral parts of the airborne division. Morale was high; the airborne soldier believed he was a cut above any other soldier in the US Army. There was esprit de corps and a sense of glamor and daring in these units. However, once they were on the ground, they operated as standard infantry. They possessed more mobility than any other infantry division at that time. They were highly effective in special missions and their presence exerted a strong psychological effect. The airborne division had the mobility which the planners wanted and modern warfare required. In essence, with proper fighter escort, they could be transported and dropped with relative impunity behind the enemy lines. They added a new dimension to warfare--the vertical assault.

Pooling

Weigley discusses the addition of the doctrine of "pooling" as applied to units and equipment. The success of this doctrine made it applicable, years later, to the standard infantry division.

> In 1943, however, the armored division was remodeled to comprise an equal number of infantry and tank battalions, three of each, plus the three artillery battalions.
>
> Regiments now disappeared from the armored division, in pursuit again of McNair's goal of flexibility. With no fixed regimental formations present in the division anyway, additional battalions of tanks, infantry, or artillery could readily be added or detached in any combination as any situation required. To handle these flexible arrangements, armored division headquarters included two "combat commands," each a subheadquarters to which the division commander might assign such taks forces as he chose. "Although the division organically probably will aggregate something like

11,000," McNair said, "you may make it 20,000 if you so desire, simply by adding armored or infantry battalions."

In practice, the armored division did not become quite that flexible. Usually there was no pool of infantry battalions from which to draw, since the need for infantry divisions forced the incorporation of virtually all battalions into the divisions. Usually there was no pool of tank battalions either; while the reduction of the organic tank strength of each armored division seemed to create a pool, the requirements of infantry-tank cooperation drew practically all tank battalions out of it into more or less permanent attachment to infantry divisions. (Ref 1, p 468)

Pooling of equipment was always controversial. During and up to the middle of World War II the controversy centered on the pooling of major items of equipment such as tanks, tank destroyers, and antiaircraft artillery (Table I). Many high-level field commanders wanted these weapons assigned organically to divisions. But the high degree of mobility of this equipment called for more flexible combat assignments, although battlefield conditions created uncertainty as to their optimum employment. Variations in

...enemy armor and air capabilities, coupled with wide differences in terrain combined to favor an organization which could concentrate those weapons or disperse them depending on the local situation. Two reasons were advanced for resisting demands for making such weapons organic to divisions. First, experience indicated that when the enemy attacked with air or with tanks he employed them in massed formations. Dispersed friendly weapons could not handle such attacks. Secondly, it was believed that there was a danger in encouraging a "defensive" psychology which surrounds "anti" weapons. As a result of much study and discussion, a decision was made not to assign the weapons organically to infantry divisions. (Ref 16, p 77)

There were other cogent reasons for the adoption of pooling as a solution to the problem of weapon assignment and optimum usage in battle. A planner's formula existed governing the organic assignment or the pooling of weapons. The formula was based on the range of the weapon and width of front it could cover. The 60mm mortar could cover a wider front than the rifle platoon; hence the mortars were pooled at one level above — the company level. Fisher rationalizes the concept in the following extract:

Similarly, the 81-mm. mortar, heavy machine gun, antitank guns, and field artillery weapons were pooled above company level--even though lower levels were fully capable of servicing and operating the weapons and, presumably, of exploiting their effect. If such reasoning is valid, then it may be concluded that if

> lower units had had wider planned frontages, according to 1942 doctrine, then such weapons as discussed above might well have been pushed down the chain toward the lowest echelon whose frontage corresponded to the range capabilities of the weapons. (Ref 16, p 76)

Pooling was one of the most important factors in reducing the size of the infantry division (World War I division strength: 28,000; World War II division strength: 15,000). To accomplish this reduction, it was necessary, from a supply and equipment viewpoint, for the division to be under the command and control of a larger unit, the corps and the army. With pools of personnel and equipment and weapons established by the next command, the division and component units could retain only that organic equipment essential for normal combat operations. This was a step in the direction of flexibility, mobility, and economy of equipment and shipping space. Within the regiment, an integral unit of the infantry division, pooling was accomplished by the organization of a battalion heavy weapons company where all heavy and crew-served weapons were grouped. Similarly, they were grouped in the weapons platoons of the rifle companies. The antitank weapons of the infantry regiments were pooled in an antitank company; the heavy weapons (heavy mortars, etc.) of the battalions were placed in heavy weapons companies. The light .30-caliber machineguns and the 60mm and 81mm mortars were located in the weapons platoons of the rifle companies of the infantry battalions. The principle of pooling, as enunciated by the Chief of the Army Ground Forces during World War II, was a notable influence on the type of organization found within the infantry--from the division down to squad level.

Analysis of World War II Developments

After the 7 May 1945 armistice, a board was convened to study the infantry division. This board, officially known as the General Board, United States Forces, European Theater, was established by General Order 128, Headquarters, European Theater of Operations, US Army, dated 17 June 1945; amended by General Order 182, dated 7 August 1945, and General Order 312, dated 20 November 1945, Headquarters, United States Forces, European Theater. Its broad mission was "to prepare a factual analysis of the strategy, tactics, and administration employed by the United States Forces in the European Theater." (Ref 26)

One of its specific missions was to prepare a detailed report and make recommendations on the organization, equipment, and tactical employment of the infantry division. Innumerable division and corps commanders were asked to serve as consultants to the Board. The Board interviewed hundreds of combat-experienced officers of all ranks. Among those interrogated were officers with command experience with the division artillery, armored division commanders, and regimental and battalion commanders of the combat arms. Their recommendations were included in the overall report.

The Board made a thorough factual study of the combat performance of the infantry division. "Combat Lessons" from After Action Reports of the units were carefully extracted and studied; questionnaires were sent to commanders at all levels. (See Appendix D) An all-out comprehensive effort was made to

> ...obtain the views of experienced combat leaders available in the European Theater. Questionnaires completed by over 50 officers were received and a summary of their opinions...charted...After action reports of combat units with outstanding records were studied and analyzed. Full consideration was given to other records... Finally, a group of combat leaders who had fought throughout the European Campaign were assembled in conference and their views obtained...(Ref 26, p 1)

The committee conducting the study consisted of 19 officers, graded from brigadier general to captain. During the examination, the committee

> ...kept in mind the great advantage of preserving flexibility in the employment of supporting units such as artillery, engineers and others by retaining them in higher echelons rather than assigning them organically to divisions. It also has been impressed with the loss of mobility and maneuverability of the division as units and numbers are added to it. The committee therefore has been reluctant to add units to the division.
>
> On the other hand, ...there are over-riding advantages in assigning organically to the division supporting units which habitually had to be attached to it. The committee is supported in this view by the almost unanimous opinion of the combat leaders it has questioned. The advantages result principally from greater esprit de corps and teamwork, better understanding of standing operating procedures and an increase in morale of the attached units. These units want to wear the division shoulder patch and to feel that they have a home. (Ref 26, p 1)

The Board began the study with certain preconceived ideas and used well-established standards in judging the infantry division. These ideas and standards were the product of more than 150 years of US Army military experience in peace and war. The concept of an infantry division and its organization was derived from historical American military experience and doctrine. Traditionally, much of this doctrine had its roots in the foreign concepts used by the American Army in the Revolutionary War and subsequent conflicts. But there was also a distinct American adherence to General Pershing's World War I doctrines of fire and movement and

combined arms. The Board defined the role of the infantry division in the United States Army at that period of our military history:

> The infantry division is the basis of organization of the field forces. It is the smallest unit that is composed of all the essential ground arms and services, and which can conduct, by its own means, operations of general importance. It can strike or penetrate effectively, maneuver readily and absorb reinforcing units easily. It can act alone or as a part of a higher unit. Its combat value is derived from its ability to combine the action of the various arms and services to maintain combat over a considerable period of time (FM 100-5 par 1010). Experience in the European Theater indicates that the major subordinate units of the infantry division were insufficient in strength and general composition to insure the division's ability to conduct offensive and defensive operations independently with maximum efficiency. The absence of tanks in the division organization was especially felt. (Ref 26, p 2)

> While operations in the Western European Campaign have indicated no necessity for changes in our present tactical doctrines, it can be expected that these doctrines will require modification with the future development of improved weapons and equipment. It is pertinent to remark at this point that the tactical methods employed in World War II were vastly different and improved over those used in World War I. The fact that the United States Army had developed these modernized tactical methods during the years of peace permitted it to start with doctrines and methods that proved successful in battle. The tactics and techniques of the various arms, and of the combined arms, must be reviewed continuously in the light of new developments. The ever increasing trend toward armor protection to reduce casualties, lighter weapons, improved as to fire power, range and destructive capabilities, and speedier means of transportation, demand continuous adjustments in tactical methods and techniques in order to fully exploit the improvements in the weapons of war. Only by this means can we hope to be fully prepared for the next war. (Ref 26, pp 14-15)

The Board concluded that:

> a. The command and staff organization of division headquarters is satisfactory.

b. The service units are deficient in men and equipment for adequate support of the combat elements; the ordnance and quartermaster units should be increased to battalion size and the other units considerably augmented by additional personnel.

c. The cannon company is necessary for the close support of the infantry regiment, but the present cannon is unsatisfactory and should be replaced by the 105mm howitzer mounted on the medium tank (assault gun) pending development of a lighter, smaller, self-propelled cannon, having equivalent ballistic qualities.

d. The present anti-tank company weapon (57mm towed gun) is unsatisfactory and should be eliminated. Since the medium tank is recognized as the best anti-tank weapon at present the anti-tank company should also be eliminated and its mission taken over by the organic tank unit of the division.

e. Infantry weapons should be lighter and more maneuverable; the automatic rifle is preferred to the light machine gun in the rifle squad; the 81mm mortar is preferred to the 4.2" mortar in the heavy weapons company; the heavy machine gun must be improved, retaining its sustained fire power but reducing its weight and increasing its flexibility.

f. The rank of the infantry regimental commanders should be raised to brigadier general.

g. Except for minor additions of personnel to regimental headquarters company, battalion headquarters company and service company for communication, military police, intelligence and reconnaissance and administrative duties, the general composition of the other units of the infantry regiment is adequate.

h. The division artillery is deficient in 155mm howitzer power and an additional battalion should be assigned organically. All batteries, 105mm and 155mm, should be increased to six guns. The 105mm howitzers should be self-propelled and the 155mm howitzer should remain towed pending development of a self-propelled 155mm howitzer possessing the ballistic characteristics of the towed weapon. All self-propelled mounts should be lightened, should be capable of high-angle fire and should be provided with overhead cover.

i. An anti-aircraft artillery battalion should be an organic part of the infantry division.

j. Armored units should be organic in the infantry division. A medium tank regiment comprising three battalions of three companies each should be an organic part of the infantry division for the purpose of accomplishing both tank and anti-tank missions.

k. The reconnaissance troop should be replaced by a mechanized cavalry squadron.

l. The engineer battalion should be increased to a two battalion regiment.

m. A reinforcement (replacement) cadre, consisting of six officers and 30 men, should be made an organic part of the infantry division for the purpose of providing a nucleus to handle an organic reinforcement battalion within the division.

n. Every effort should be made to improve our present weapons and equipment and at the same time continue research for new and better weapons and equipment. While preliminary tests of recoilless weapons were favorable, more extensive tests should be conducted.

o. No material changes to our tactical doctrines as prescribed by Field Service Regulations and field manuals were brought out as result of combat experience in the European Theater. Tactical doctrines, methods and techniques of the various arms and of the combined arms must be continuously reviewed in the light of new developments. (Ref 26, pp 15-16)

The Board recommended:

a. That the revised infantry division as presented in Appendices 2-12 inclusive be adopted.

b. That pertinent Tables of Organization and Equipment be amended by appropriate agencies of the War Department.

c. That the rank of brigadier general be authorized for the infantry regimental commander.

d. That continuous research be conducted toward the development of lighter, more mobile and more powerful weapons.

e. That our tactical doctrines and methods be the subject of continuous study so that tney may be kept abreast of new developments in the weapons and means of making war. (Ref 26, p 16)

The Board also stated:

> The basic concept of the division requires that it be self-sufficient at all times. To maintain this self-sufficiency, it must have available constantly means for its own defense against any threat which may normally be expected and which cannot be anticipated in time to obtain the necessary defensive weapons from a source outside of the division. With the trend towards higher-speed aircraft, this threat from the air is a major one, especially against divisions in an attack. A division, therefore, must be ready at all times to protect itself from any air attack. (Ref 26, Incl 1 to App 14, p 2)

POST-WORLD WAR II AND THE KOREAN WAR

The infantry division of the post-World War II period was subjected to personnel cuts and other economies. Essentially, between the end of World War II in 1945 and the beginning of the Korean War in 1950, the US Army did little more than maintain a status quo infantry division for training and occupation duties. The reduced-strength divisions, which originated as "Redeployment Divisions" in the middle of World War II, were all that the US Army possessed.

Postwar Organization

On paper, the division was the World War II infantry division. It consisted of a headquarters, a division headquarters company, a military police company, an ordnance maintenance company, a quartermaster company, a replacement company, three infantry regiments, four division artillery battalions, an engineer combat battalion, a heavy tank battalion, and a medical battalion. The full strength of the division was 17,752 officers and men (Fig. 11).

The divisions had been stripped of regiments, battalions, and supporting artillery to the point where they were not strong enough to function in combat as they had during World War II. This reduction in strength was to pose a serious problem when the skeletonized infantry division faced a determined, strongly manned enemy in Korea.

The North Korean Army invaded the Republic of South Korea without warning on 25 June 1950. In accordance with previous agreements, the United States sent a small task force to help buttress the South Korean Army's attempt to stem the tide of tanks and men pouring down on them from the North. Task Force Smith was an interim measure to secure time for the deployment of the combat divisions then stationed on occupation duty in Japan. The Regular Army divisions in Japan were the first to reach battle in the Korean campaign under the United Nations Command.[2] The Selective Service System inductees and voluntary enlistees were used as individual replacements in the Regular Army divisions. Eventually eight National Guard divisions were ordered to active duty for the Korean War. All divisions in Korea served under the Eighth US Army (see Appendix E for table of US Army divisions in Korea).

The combat strength of the United States Army at the beginning of the Korean War consisted of ten divisions. These units had been severely

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[2] Members of the United Kingdom, Netherlands, New Zealand, Canada, France, Philippines, Sweden, Union of South Africa, Turkey, Thailand, India, Greece, and Belgium. Later Ethiopia and Colombia also came in. The Republic of Korea furnished large numbers of troops but it was not a member of the United Nations. These UN units were attached by battalions to the US divisions in Korea. The Commonwealth brigades were combined into an independent division.

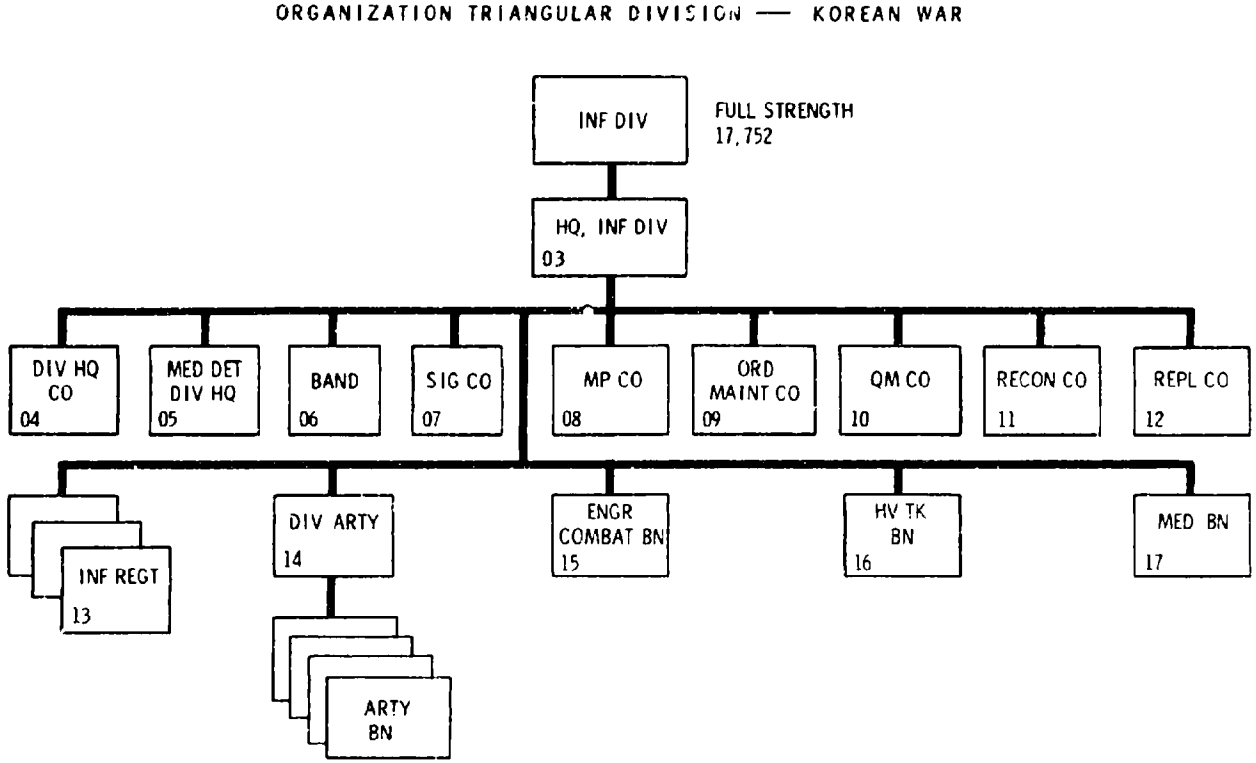

Figure 11. Organization of the Triangular Division, Korean War

reduced in strength. Many of their essential combat elements had been assigned to corps or army pools. Among these were the division tank battalion and the antiaircraft battalion that had played a vital role in World War II. The only Army infantry division remaining at full strength was the 1st Division, assigned to occupation duty in Germany. In the other divisions, one rifle battalion was eliminated from each infantry regiment, making a regiment of two battalions. In the artillery, one battalion was dropped and, within the battalions, there were now two batteries instead of the usual three.

These radical reductions exerted a considerable handicap upon the functioning of a tactical system that traditionally assumed three-battalion regiments. Practically, this meant that the commander of the regiment in combat would have to operate with a single battalion in the line, if he wished to keep out a reserve. The alternative was to assign both battalions in line and fight without a reserve. This violated the tactical doctrine of retaining a reserve to deal the final blow or repulse counterattacks. The absence of organic armor in the division was a serious deficiency. In the rifle battalions one rifle company had been eliminated; thus, the battalion commander was deprived of his reserve and mobile striking force. Further, no division was in possession of its full combat allotment of weapons, and ammunition supplies were small. The units that were in support of the divisions were often in worse condition, logistically, than the divisions themselves (Ref 27).

Korea - A New Kind of War

Limitations of Tactical Units

The US infantry division was prepared to fight the war in Korea in World War II style--with reduced and partially equipped units of division size and smaller (see Appendix E for division organization). Shifted hurriedly from occupation duty in Japan, the infantry divisions were undermanned and undergunned in comparison with the Soviet-armed and -trained North Koreans.

> ...deficiencies in training, toughness, unit cohesion, and psychological readiness were graver weaknesses in Korea than the tactical deficiencies resulting from an unaccustomed type of war. The retreat to the Naktong River in the summer of 1950 was less a display of faulty tactical concepts than of faulty execution by troops who were too lightly trained, too loosely disciplined, and too lacking in motivation to match the determination of the enemy. (Ref 1, pp 519-520)

The infantry division of the Korean War period faced a different kind of enemy, waging a mixture of conventional and unconventional war. The North Korean used infiltration and penetration guerilla-type tactics; his ultimate weapon was terror. Unarmed American prisoners were shot; prisoners of war were subjected to ruthless, brutal treatment. The North Korean had received excellent tactical training under Soviet advisers. The fanatic willingness of the Oriental to die in battle was one of his great strengths.

Initially, American divisional units were not equipped with weapons heavy enough in caliber and power to counter the Soviet tanks and weapons. It was soon discovered that the American divisions had been reduced to the point of combat ineffectiveness (insufficient personnel to maneuver, absorb casualties and firepower, and continue to fight). "Limited war" required full-strength World War II type divisions.

One of the first divisions deployed to Korea from Japan was the 24th US Infantry Division under the command of Major General William F. Dean. This unit made a gallant stand against overwhelming odds until it was overrun and disintegrated. Its commander was finally taken prisoner by the North Koreans.

This serious defeat of the first division of US troops sent to Korea convinced the United States that it was up against a tough, well-organized, efficiently commanded enemy. It indicated further that the reduced US divisions were not able to function well in war.

Flexible Response--A New Concept

Historian Weigley offers an explanation for the inflexibility of the American infantry division at the beginning of the Korean War. He compares the tactics of the Communists with those of the American Indians and the insurgents of the Philippines. He notes that the North Koreans used guerilla tactics and that the American divisions initially lacked the flexibility for effective response. At this point in our history a new military concept was born--the concept of a requirement for flexible response in the infantry division. The following extract offers a rationale for reorganizing the infantry division for a flexible response capability:

> The Asian Communists, their tactics conditioned by guerrilla warfare, placed great emphasis on penetration of weak points and encirclement of detachments. The Korean terrain facilitated their encircling tactics. The Americans, accustomed to the relatively neat linear battlefields of Europe, never wholly adjusted to a chaotic sort of warfare in which the enemy continually insinuated himself into flanks or rear and in which attacks repeatedly came from several directions at once. The Americans never wholly adjusted to an enemy who not only infiltrated their lines by stealth and at night but who usually attacked at night. The old Indian-fighting Army had habituated itself to fluid tactics with elements of guerrilla-style war; the Army of 1950 had long since forgotten the tactics of the Indian wars. The Army of 1950 had become roadbound, while the North Koreans and Chinese could move across roadless hills that the Americans customarily thought impenetrable. The Army had become dependent upon artillery support that could not always be available in the Korean hills. The Army had become dependent on elaborate radio and telephone communications that could not always function in the Korean mountains. Its habituation to European war

> sometimes put the American Army in Korea approximately in the condition of Braddock's Regulars on the Monongahela. (Ref 1, p 519)

Examination of the infantry TOE reveals that the infantry division was basically a reorganized 1943 World War II infantry division (see App E). The tactics and formations were essentially those of World War II. The combat strength resided in ten divisions, the European Constabulary of division size, and nine separate regimental combat teams patterned after those of World War II fame.

The Rotation System and KATUSA

One of the most serious problems confronting the Army division in Korea was the continual weakening of the unit strength through a rotation system based on points for service in Korea.[3] On the surface, the system appeared to be equitable as far as spreading the burden of combat service among the Regular Army, National Guard, and Army Reserve personnel ordered to Korea. But its internal operation kept the ranks of all units in the division in such a state of flux that it was almost impossible to develop esprit de corps. Since the men concerned did not develop a sense of unit membership and pride, there was a lack of teamwork in the lower units (squads, platoons, and companies). This lack of cohesion reduced their effectiveness in combat.

The ample supply of manpower of the Republic of Korea was either in Korean Army divisions or in training centers. A plan was developed to increase US division strength by integrating Korean troops into US units. Entitled "Korean Augmentation to the United States Army" (KATUSA), it was, in many respects, a brilliant plan. The Korean recruits constituted the first instance, in modern times, of foreign troops serving within the ranks of a US unit. The following extract from Appleman indicates how this novel step was accomplished:

> Concurrent with the steps taken in August to rebuild the ROK Army, the Far East Command planned to incorporate 30,000 to 40,000 ROK recruits in the four American divisions in Korea and the one still in Japan but scheduled to go to Korea. This was admittedly a drastic expedient to meet the replacement requirement in the depleted American ground forces. As early as 10 August, Eighth Army began planning for the Korean augmentation, but it was not until 15 August that General MacArthur ordered it- General Walker was

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[3] Rotation was based on a system in which each soldier received four points a month for service in combat, three points for service anywhere in the combat zone, two points for service anywhere in Korea. Upon attainment of 36 points the soldier was rotated out of Korea.

to increase the strength of each company and battery of United States troops by 100 Koreans. The Koreans legally would be part of the ROK Army and would be paid and administered by the South Korean Government. They would receive US rations and special service items. (Ref 28, pp 385-386)

The following extract from Appleman's Table 3, Estimated UN Strength as of 30 September 1950, illustrates the effect of attaching Koreans to the infantry divisions.

Organization	UN Forces	Attached Koreans
Total Ground Combat Forces	198,211	22,404
Total US Ground Combat Forces	113,494	22,404
Combat		
Eighth Army	1,120	
I Corps	4,141	267
1st Cavalry Division	13,859	2,961
24th Infantry Division	15,591	3,606
IX Corps	4,224	1,009
2d Infantry Division	14,122	2,756
25th Infantry Division	14,617	3,230
X Corps	8,344	600
7th Infantry Division	15,865	7,975
1st Marine Division (reinforced)	21,611	
ROK Army	81,644	
British Ground Combat Forces	1,704	
Philippine Ground Combat Forces	1,369	

(Ref 28, p 605)

The Command

On 23 December 1950 General Walton H. Walker, Commanding General of the Eighth Army, was killed in a jeep accident while on the way to the front. His replacement was Lieutenant General Matthew B. Ridgway, distinguished airborne troop commander in World War II. General Walker had exploited the principles of fire and movement to the maximum. He

employed his divisions and subordinate units as "fire brigades" moving them when and where they were needed to plug gaps in the UN defenses.

His excellent tactical leadership, particularly in his brilliant defense of the Pusan-Taegu Perimeter, has accorded him a place in history as a great commander. He was ingenious at "making do" with his undersized and undermanned divisions. He covered vast frontages with what he had available and prevented another Dunkerque or evacuation of the US divisions to Japan.

Major General Charles A. Willoughby, General MacArthur's Intelligence Chief during World War II and in Korea, described in detail the frontages which the reduced US and Republic of Korea divisions were required to occupy in the defense of the Pusan Perimeter.

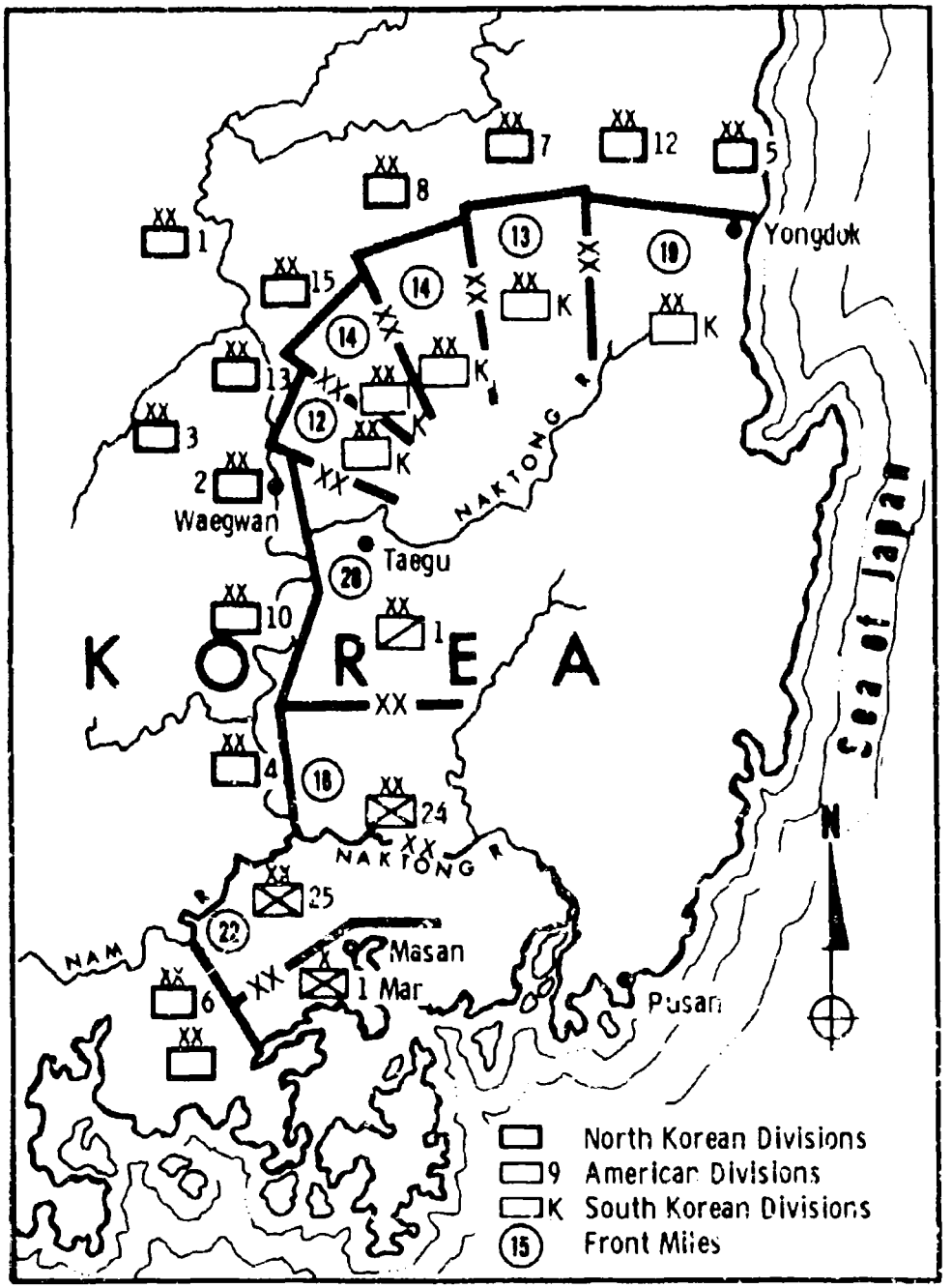
Date	Location	Div.	Front Yds.	Infantry
Aug. 1950	Yongdok	3rd ROK	70,300	5/6,000
Aug. 1950	Kusangdong	Cap ROK	38,100	4/5,000
Aug. 1950	Uisong	8th ROK	41,800	5/6,000
Aug. 1950	Kurwi	6th ROK	41,800	6/7,000
Aug. 1950	Hajang	1st ROK	34,400	5/6,000
Aug. 1950	Waegwan	1st US (Cav)	103,600	6/7,000
Aug. 1950	Naktong	24th US (Inf)	59,200	6/7,000
Aug. 1950	Masan	25th US (Inf)	81,400	6/7,000

> The density per yard factor represents an average of one or two riflemen every ten yards and nothing behind them; of course, there is no such rubber-band distribution; there were miles of gaps through which the enemy infiltrated...It is a miracle that the perimeter held at all, though caving in locally, here and there, to be patched up by General Walker shuttling his weary reserves from one crisis to the next. (Ref 29, p 364) (Fig. 12)

Further, General Willoughby compared the frontages occupied by World War I US infantry divisions with the frontages covered by the US divisions in defense of the Pusan-Taegu Perimeter:

Date	Location	Div.	Front Yds.	Infantry
Aug. 1918	St. Die	5th	32,500	12,000
July 1918	Baccarat	77th	18,500	12,800
Aug. 1918	Lucey	89th	17,500	12,000
Aug. 1918	Alsace	29th	15,500	12,800
Aug. 1918	Sazerais	1st	11,500	13,000

(Ref 29, p 362)



Source: Reference 29

Figure 12. The Pusan Defense Perimeter

General Ridgway, Walker's successor, infused his divisions with a new spirit. He toured the frontline units, was an inspiration to his corps and divisional commanders. Ridgway set an example of basic battle leadership that filtered down through the higher levels of command. His insistence on unit discipline eventually improved the professional quality of the Eighth Army units in spite of the rotation system.

General Ridgway recalls his remarks as Eighth Army commander on his first visit to the battlefront:

> Then I talked a little about leadership. I told them their soldier forebears would turn over in their graves if they heard some of the stories I had heard about the behavior of some of our troop leaders in combat. The job of a commander was to be up where the crisis of action was taking place. In time of battle, I wanted division commanders to be up with their forward battalions, and I wanted corps commanders up with the regiment that was in the hottest action. (Ref 30, pp 206-207) (Emphasis added)

Ridgway was essentially an airborne infantryman and his tactics were different from those of General Walker. Weigley points out that General Walker, who had served under Patton in World War II, "preferred to concentrate American forces in relatively good tank country of the valley invasion routes." On the other hand, Ridgway "increasingly committed his troops to the mountains." (Ref 1, p 521)

> He made the Americans learn to fight there in what had been the enemy's chosen ground, and thus he minimized the possibility of deep Chinese penetrations like the one that had put them into the ridges between the Eighth Army and the X Corps in the North. His tactical system called for the maximum exploitation of firepower, including air and artillery, to soften up the enemy in methodical attacks, in place of the swift but vulnerable movements of mechanized columns that had approached the Yalu. In the idiom of his troops, he introduced the tactics of the meat grinder, to chew up Chinese manpower at a rate even the Chinese could not afford. (Ref 1, pp 521-522)

Limited War

The Korean War was a "limited war," in terms of limited terrain and limited political and national objectives. It called forth the first limited mobilization of the US Army in modern history. Before the end of the war, the Army mobilized a total of 2,834,000 men and twenty divisions. Eventually, eight Army divisions and one Marine Corps division participated in the Korean campaign. While no Army Reserve divisions were mobilized, additional National Guard divisions were ordered to active duty as the Chinese came into the war. These units were the 31st Division

(Alabama and Mississippi), 37th (Ohio), 44th (Illinois), and 47th (Minnesota and North Dakota). The 49th and 45th National Guard Divisions were sent to Korea, and the 28th and the 43d were sent to Germany.

Weaponry

The weaponry available to the infantry division at the beginning of the Korean War was essentially that of World War II--the M1 rifle, the famous Browning automatic rifle of World War I, Browning machineguns of .30 and .50 calibers, a 2.36-in. rocket launcher (bazooka), and 60 and 81 mm mortars. (These were supplemented in firepower by the 4.2-inch former chemical mortar, which had been so effective in the Southwest Pacific against the Japanese-held caves in the island-hopping campaigns).

General Matthew B. Ridgway, Commander of the 82d Airborne Division in World War II, describes the condition of the divisions of the Eighth US Army in Japan prior to the North Korean attack:

> Every one of the Eighth Army's four infantry divisions (including one called the 1st Cavalry Division) was below its authorized make-shift strength of 12,500, a figure itself dangerously below the full wartime complement of 18,900. Every division was short 1500 rifles and all its 90-mm. antitank guns, missing three infantry battalions out of nine, lacking one firing battery out of every three in the divisional artillery, and all regimental tank companies. Only the 1st Cavalry Division had retained its organic medium tank battalion. There were no corps headquarters and no vital corps units such as medium and heavy artillery, engineer and communications troops. (Ref 31, p 34)

From the first, American combat troops faced a difficult task. In the division the two-battalion regiments were unable to furnish and use strong maneuver and reserve elements against a force that had the advantage of momentum and numbers. The highly successful 2.36-in. bazooka of World War II fame was no match for the armor of the Soviet T-34 tanks. The 105mm artillery could "kill" the tanks but there was not sufficient ammunition on site. Further, there were no antitank mines available in Japan and no Sherman tanks closer than America.

In some respects, Korea was considered an artillery war. The artillery developed and improved the delivery of close support fire missions for the infantry units. These close fires, delivered fifty yards in front of supported infantry units, were reminiscent of World War I. In addition, harassing and interdiction fires and fires of opportunity were delivered against enemy targets by the artillery.

In Korea superior firepower was eventually established by the infantry division, the artillery, and by tactical air support. It is doubtful that the American infantry division in Korea could have stood firm without the first rate tactical air support of the US Air Force. In spite of the fact that the

infantry division weapons were mostly those of World War II, larger caliber bazookas (3.5-inch) and 105mm recoilless rifles were added to the infantryman's armament. When the veteran Sherman tanks carrying a 76mm gun arrived, they were highly maneuverable in the rough Korean terrain. The M-26 Pershing tank mounting a 90mm gun was a most powerful weapon.

Air Power

Air power played an important part in supporting the infantry division in Korea. General Ridgway notes that:

> There were those who felt, at the time of the Korean War, that air power might accomplish miracles of interdiction, by cutting all the flow of reinforcement and supply to the embattled enemy. The fact that it could not accomplish these miracles has not yet been accepted as widely as it should have been. No one who fought on the ground in Korea would ever be tempted to belittle the accomplishments of our air force there. Not only did air power save us from disaster, but without it the mission of the United Nations Forces could not have been accomplished. (Ref 31, p 244)

General Ridgway's commentary lends credence to the idea that the modern infantry division must depend heavily upon air power of every variety. This is especially true of mass air transport which is adaptable to the present day infantry division. Obviously, General Ridgway was referring to the transport and attack facilities of the Air Force which were available to the infantry division in combat.

One of the revolutionary developments to come out of the Korean War was Army Aviation. While the US Air Force rendered assistance to the ground forces in Korea, the Army was evolving its own air support. This branch of the Army developed as an aviation unit, integral to the Army organization and separate and distinct from the Air Force.

The light airplane (L-5) had been used in spotting and directing artillery fires during World War II. It also performed an important service in liaison and command activities. In Korea, light aircraft (L-19 and L-20) functioned as transport, supplementing the work of the ground vehicles. The rotary-wing aircraft, or helicopter, was a natural vehicle for duty in the mountainous and rugged terrain of Korea. Its primary missions were the evacuation of the wounded and command missions for isolated units in combat. These new vehicles, proven in combat, were to play a most important role in post-Korean experiments in infantry division organization.

In a sense, Korea became a combat laboratory for the study of battle tactics and techniques. All units, from corps, division, and regimental levels, were studied closely to evaluate and improve their combat performance. These studies were to have salient effects on the shape and size of the post-Korean military organization of units of the US Army.

The Cease-Fire Period

When General Ridgway took over General MacArthur's post, he was succeeded by General James A. Van Fleet as Eighth Army commander. Under Van Fleet's command, the divisions of the Army fought to positions north of the 38th parallel and held them. At this point the US and the Peiping government were in the preliminary talk stages of a cease-fire negotiation. From the point of view of the evolution of the UN infantry division, the cease-fire period of the Korean War represented a return to defensive tactics. In essence this meant that, for the first time since World War I, US infantrymen were in stabilized trench warfare.

Weigley comments on the static situation of the war in Korea.

> The American government believed that whatever the apparent futility of ground battles for outpost hills, the ground battles had to be won if Communist prestige and power were to suffer sufficiently to force the Communist truce negotiators to a cease-fire. Therefore the American infantry still had to fight, the hill battles continued, and American casualties persisted at a rate of thirty thousand a year. All this occurred while the American rotation system came into full effect. (Ref 1, p 524)

The US divisions stabilized along lines, such as Line Kansas, a fortified area. The following extract illustrates the resemblance to World War I living and combat conditions.

> By 1 July the main fortifications of Line KANSAS were nearly complete. To expedite the work, Van Fleet had sent three South Korean National Guard divisions forward to serve as labor troops, one to each U.S. corps. The log-and-sandbag bunkers and deep, narrow trenches along the KANSAS line resembled World War I entrenchments. Bunkers, usually adjoining and forward of lateral trenches, housed automatic rifles and machine guns. Most of the bunkers were dug into hillsides or saddles on the military crests with the larger ones on the higher hills serving as forward command and observation posts. (Ref 32, pp 74-75)

Historical accounts of the heavily fortified positions show that the infantry divisions of the Eighth US Army had lost their movement capabilities. With the loss of movement, the division was forced to depend on fire for successful tactical defense. In effect this was a return to the World War I situation, with the heavy weapons of the infantry sited on final protective lines of fire. Mortar and mine concentrations were prepared in advance in case of attack. Barbed wire was used as it had been in 1918 with one slight difference--it was also used to funnel the attackers into the mine fields and defensive fires. Without movement, the US divisions held their positions by delivery of massive fires, destroying even the Chinese "human wave" attacks. Other weapons, such as tanks, were also employed as noted in the following.

> Along the lateral trenches, the riflemen and rocket-launching crews notched revetted bays for firing their weapons and slightly behind them recoilless rifle emplacements were dug in and revetted with sandbags. In defilade on the reverse slope of the hills, protected mortar firing positions were constructed and roads were cut to permit tanks to move up and fire from parapeted front-line positions. Camouflage nets and shubbery were used extensively to conceal the bunkers and prepared positions.
>
> To delay enemy offensives barbed wire fences were laid out and mines were planted in patterns that would funnel attackers into the heaviest defense fires. In the U.S. I and IX Corps sectors, where WYOMING positions were occupied rather than KANSAS, the troops plotted mine fields and dug the holes, then stored the mines nearby to be buried when and if a retreat from Line WYOMING should prove necessary. (Ref 32, p 75)

Trench warfare, patrolling, and fighting for key hills occupied the Eighth Army until the Korean War ended with the signing of the armistice on 27 July 1953. Unit histories are full of names like Heartbreak Ridge, Pork Chop Hill, and the Punchbowl. Hermes describes how the smaller units of the divisions were situated and armed.

> Since I Company defended an extended front, it had additional automatic weapons on hand to cover the enemy approach routes. One .50-caliber, six .30-caliber heavy, and twelve .30-caliber light machine guns were backed by fifteen automatic rifles in the bunkers. Three 57-mm. recoilless rifles, three 3.5-inch rocket launchers, and two M2 flame throwers were located in open emplacements. The .50-caliber machine gun, five of the heavy .30's, and six of the light .30's, sited to provide interlocking bands of fire, were sector weapons and I Company would leave them in place when it left the area. The added strength in automatic weapons permitted Lieutenant Duerr to throw "a sheet of steel" at the enemy when he attacked.

Three tanks from the regimental tank company with firing positions on the ridge line and on the reverse slopes provided antitank defense from approximately the center of the company front. The tanks were M4's with 76-mm. rifles. Besides the 60-mm. company mortars, the 60-mm. mortars of L Company, the 81-mm. mortars of M Company, 4.2-inch mortars of the 27th Infantry Regiment, and the 105-mm. howitzers of the 64th Artillery Battalion could be called upon for direct support. (Ref 32, pp 371-372)

After Korea--Reorganization

The Korean campaigns demonstrated conclusively that the US triangular infantry division needed complete reorganization to enable the division to respond to any and all conditions of ground combat. The triangular division had fought its last war. Soon after the war, planners began to take steps to give the US Army a more flexible all-purpose infantry division. But this was not accomplished overnight. The problem of the best divisional organization caused much debate and controversy at the highest levels of command. Cutbacks in Army appropriations resulted in the resignation or retirement of several of the strongest advocates of reform and reorganization. In the meantime, the Army continued to test, analyze, and compare various organizational forms that could meet the flexible response requirements of organic interchangeability, firepower, air mobility, ground mobility, dispersion, control, and communications.

The international tensions of the Cold War made planners aware of the possibility of the infantry division having to operate in a tactical nuclear environment. Nothing from past experience could furnish guidelines for the formulation of such a unit. In 1956, three years after the end of the Korean War, the Army introduced a new division--the Pentomic infantry division. The organization and development of this division will be covered in detail in the following chapter.

Korea added another category of war to the classification usually employed by the US Army, that of "limited war." Korea was our first modern limited military operation and it demonstrated that limited war cannot be conducted with limited resources. Politically it was termed a "police action" until the disaster at Taejon. Korea proved conclusively that an interim peacetime type of military organization was inadequate when the country entered war. Further, Korea showed that there was no shortcut to effective tactical organization in the matter of personnel and unit organization. Finally, Korea demonstrated, without question, that in the warfare of the future the tactical organization of the infantry division of the US Army must possess every kind of flexibility to successfully wage modern war.

THE DIVISION OF THE 1950's-1960's AND VIETNAM

The Cold War, which continued throughout the 1950's, exerted considerable influence on US Army organization. Military planners had to reorganize for the probability of a future war of tremendous destructive potential. Other forces also affected the organization of the modern division. Contemporary technological advances in weaponry and fixed and rotary-wing light aircraft had completely changed the face of modern war. Infantry weapons were totally different from those of World War II and Korea. A reduced caliber rapid-firing, semi-automatic shoulder weapon, a new machinegun and grenade launcher, and improved mortars of heavier caliber were now in the infantryman's arsenal. New vehicles, such as the M113 Armored Personnel Carrier, had been added to the inventory and other load carriers were being developed and tested. Innovations in tactical airmobile units were to become the subject of exhaustive trials and tests.

The Pentomic (ROCID) Division--An Interim Measure

The period from 1956-1961 might be termed the pentomic period in the history of the infantry division. The triangular concept of three units had proven to be effective for attack in World War II but, on the defensive, threes were not as adaptable as four or five subordinate units in an overall divisional structure. In the matter of numbers there were planners who, harkening back to Clausewitz, believed that an even number of units did not lend itself well to control in offensive operations. Five, as an odd number, was preferred as a logical compromise for both offense and defense.

The five-unit division concept was advanced as the one most capable of giving the Army a highly flexible and powerful divisional organization for nuclear or nonnuclear warfare. Of necessity, as an infantry division, it had the ability to attack or defend by fire and maneuver. The "pentomic" (ROCID) organization was adopted as the one offering the highest degree of response to the doctrine of flexibility.

Army planners believed that the battlefield of the future would be broader and deeper than any ever encountered in previous military operations.

Organization

The structure of the pentomic division was almost entirely different from that of the triangular organization (Fig. 13, 14, and 15). Instead of regiments and battalions, there were five of the new battle groups. In numbers and strength, the battle group was a self-contained, combined-arms unit which possessed a capability of independent combat operations. Organically, the pentomic infantry division contained artillery and missile units capable of delivering either conventional fires or nuclear explosives. Heavier artillery support for the pentomic division was to be found in missile commands sited in the combat zones of future theaters of operations.

The structure of the armored division of World War II and the Korean War had permitted maximum mobility and dispersion. Since the shift from triangular to pentomic was aimed at achieving these capabilities,

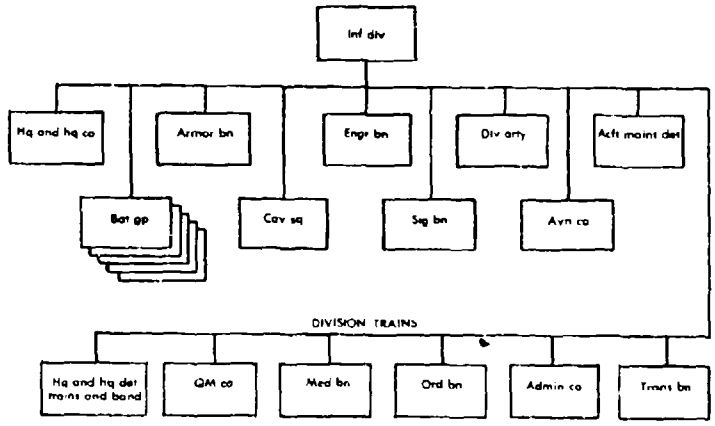


Figure 13. Organization of Pentomic Infantry Division

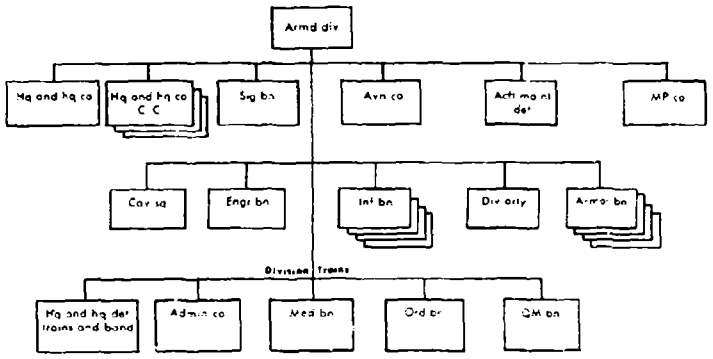


Figure 14. Organization of Pentomic Armored Division

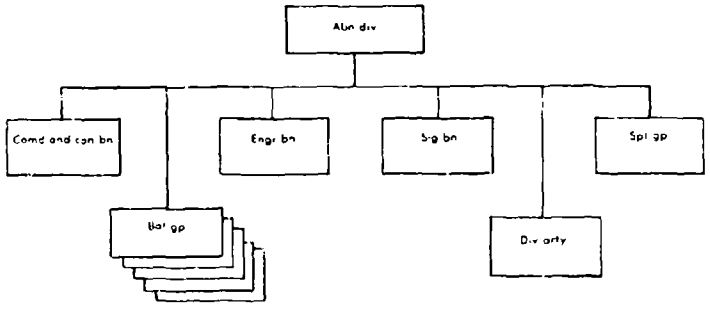


Figure 15. Organization of Pentomic Airborne Division

Source for Fig. 13, 14, and 15. Army Information Digest, September 1965

there was a minimal amount of restructuring needed in the armored division. The armored division structure survived the pentomic period and the later conversion of the pentomic to the ROAD division. The combat commands that were so successful on the battlefields of World War II were to reappear in the ROAD infantry divisions as brigades. (Infantry division brigades had been dropped when the square division went triangular in 1939).

The most significant change was found in the battle group itself (Fig. 16). This group, which was midway between the regiment and battalion, achieved an increase in fighting strength over the battalion. But the battle group was smaller than the regiment it replaced. Army planners hoped that the battle group would be a less profitable target on an atomic or nuclear battlefield than the infantry regiment of the old triangular infantry division.

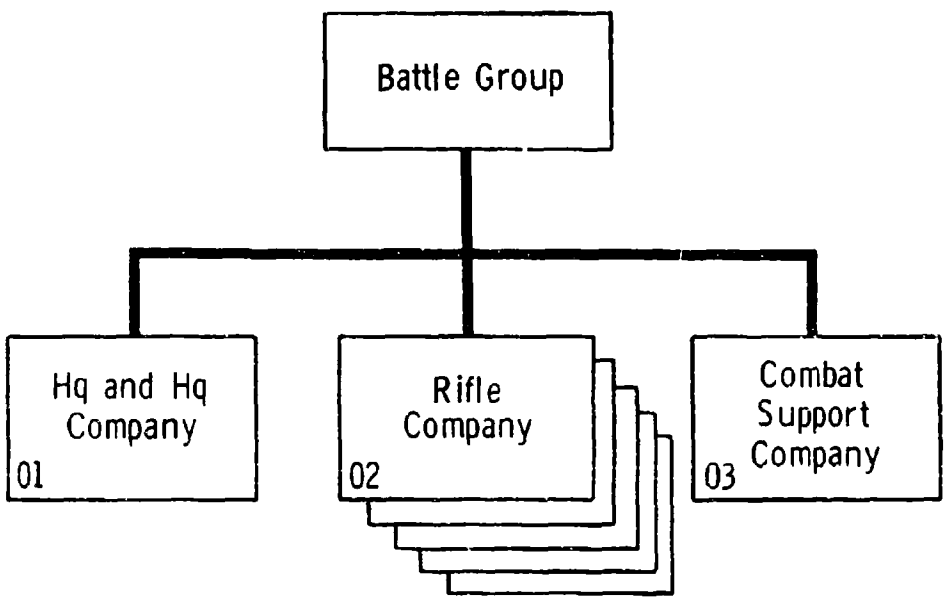


Figure 16. Infantry Division Battle Group

Limitations

The first US Army infantry division to be reorganized under the ROCID (Reorganization Objectives, Current Infantry Division) or pentomic concept was the 101st Airborne Division. This was effected by the Army Chief of Staff, General Maxwell D. Taylor, who had commanded the 101st Airborne Division in Europe during World War II. Testing commenced almost immediately and continued as flaws were uncovered. The 1st Infantry and the 1st Armored Divisions were also included in the tests of the new divisional concept. Field test results demonstrated conclusively that there was a

marked imbalance between the unit's nuclear and nonnuclear capabilities. Basically, the unit's role was predicated on the national security policies that existed in 1956, when the new concept was to be tested. Continuing changes in broad national security strategies indicated that "massive retaliation" was out and "flexible response" was in. Inherently, massive retaliation was a rigid and inflexible solution to a nuclear situation. A divisional structure was needed that could solve the tactical dilemma by increasing the nonnuclear firepower of the division without weakening its nuclear firepower delivery potential. The pentomic divisions were relatively inflexible, without specific tailoring to adapt them to widely varying environments. Because of the elimination of the echelons between the company and divisional commanders, the latter's span of control was increased to an unmanageable sixteen.

Intensive field maneuvers in the late 1950's and early 1960's indicated that the pentomic division was better for the defensive that for the offensive. The division's heavily weighted firepower, in the form of artillery and heavy mortars, made it an unlikely unit to conduct offensive warfare or aggressive defensive operations in a conventional nonnuclear combat situation. Numerically, the battle groups were not large enough to carry out sustained attacks. Further, it was expected that the Army's missions would be broad and in the areas of nuclear and nonnuclear warfare. Hence, the division's structure, firepower, and mobility had to be reconstituted for maximum flexibility and adaptability in war.

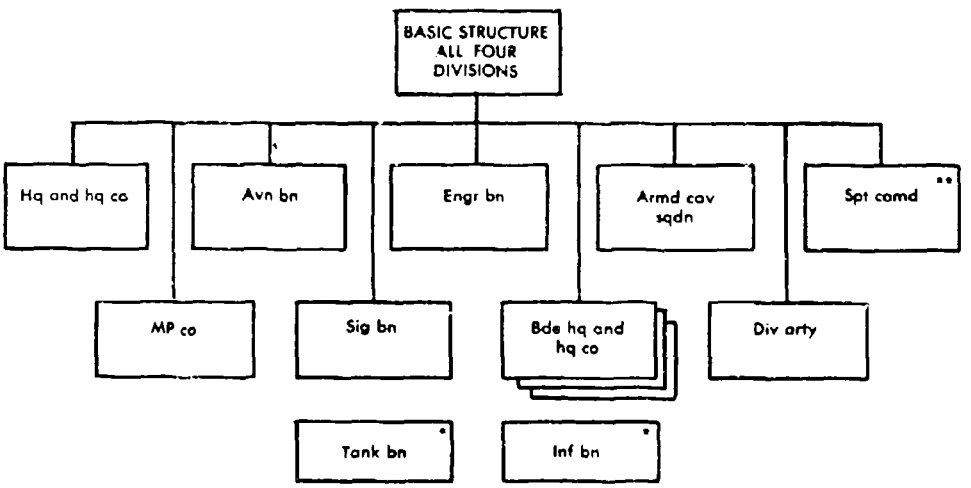
The pentomic division, adopted as an interim measure for the Cold War, pointed the way to reconciling the need for dispersion with fire and maneuver capabilities. The pentomic concept was a step toward de-emphasizing the emotional, traditional, and institutional aspects of military organization, and creating new functional units that would meet the requirements of modern conventional or nuclear warfare. The elimination of the battalion and the substitution of the battle group was a basic step toward the eventual elimination of the regiment from the divisional structure and the later return of the battalion. Pizer comments upon the pentomic division as follows:

> The pentomic division was not intended to be a permanent or even a long-term solution. It was intended from the outset as a workable, interim measure to fit the division framework to the demands of both conventional and nuclear warfare. Meanwhile the search for a better division structure continued.
>
> One factor that Army planners meant to retain and to extend in the new division was the combat command format peculiar to the armored division. Both in its earlier triangular form and now in its pentomic configuration, the armored division included three so-called combat commands. They were nothing more than small, tactical headquarters to which the division commander could allocate any combination of the division's combat elements for an operation or a series of operations.

> The combat command provided the means of exercising control over the tactical units, and it gave the division commander a vital link for coordinating and maneuvering his combat elements. The combat command concept made for the kind of flexibility that is necessary on a modern battlefield without sacrificing the control that prevents a combat operation from deteriorating into a number of uncoordinated little actions. The combat command system was built into the new division concept that was developing rapidly. (Ref 14, p 38)

The ROAD Division

Maxwell D. Taylor, former Army Chief of Staff, Chairman of the Joint Chiefs of Staff, and an advocate of "flexible response," served as military advisor to President John F. Kennedy. In 1961 Taylor urged further reorganization of the Army and its divisions to meet the challenge of the international power struggle. In that year the Army adopted a new organizational concept, the "Reorganization Objectives Army Divisions 1965" (ROAD). The basic structure of the ROAD division is shown in Figure 17.



*Number and type of maneuver battalions may vary.

**The support command commander's responsibilities for the administration company are limited to tactical, security and movement aspects.

Figure 17. ROAD Division Basic Structure

Organization

In a sense, the Army's reorganization was a return to the triangular division format that had been so effective in World War II and the Korean War. The new concept, "The Reorganization Objectives Army Division" (ROAD), was a radical departure from traditional US Army divisional organization. Briefly, the new ROAD division consisted of a common division base, three brigades including headquarters, and assigned supporting units. Unlike the brigades of the earlier square divisions, the new brigades were highly flexible headquarters; the battalions, infantry, mechanized, armored, or airborne units could be attached and made operative by the brigade headquarters. In addition, the ROAD division was prepared to mix and operate nuclear and conventional weapons if required. The rationale for the basic pattern for the flexible brigades was found in the old combat commands of the World War II armored division. While an almost unlimited number of battalions could be assigned, the overall division strength was held to about fifteen thousand men. This made the ROAD division heavier than its predecessor, the pentomic division. Basically, the ROAD division was triangular--three brigades were, in effect, headquarters for highly adaptable and flexible task forces

The ROAD division headquarters contains, beside the commanding general and staff, two assistant division commanders with the rank of brigadier general (Fig. 18 and 19). Their duties are divided between the direction of the maneuver elements (the battalions) and logistical support activities (the support command). In addition to the headquarters and headquarters company, the division comprises:

- An armored cavalry squadron of three armored cavalry troops mounted in tanks, armored personnel carriers, and self-propelled mortars and an air cavalry troop.
- A signal battalion of three companies, equipped with telephones, teletypes, and long-range radios for communications.
- An engineer battalion containing five companies, one of which is an engineer bridge company.
- An aviation battalion, including a headquarters company; a general support aviation company, equipped with airplanes and helicopters for reconnaissance and liasion missions, and an airmobile company consisting of three airlift platoons, each equipped with eight troop-carrying aircraft. (In addition, there is a service platoon).
- A military police company.
- A division support command. All technical and supply elements are in a single unit, not established along separate technical branches, but instead organized to operate functionally.

The artillery which is organic to the division consists of three battalions (with 105mm howitzers, towed) with a total of eighteen guns to the battalion. The 155mm and 8-inch howitzers are organized into a composite

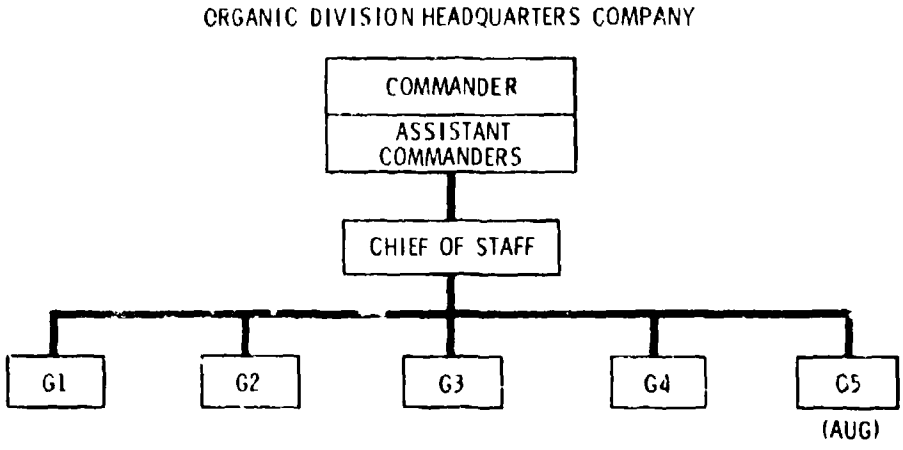


Figure 18. ROAD Division Command and General Staff Organization

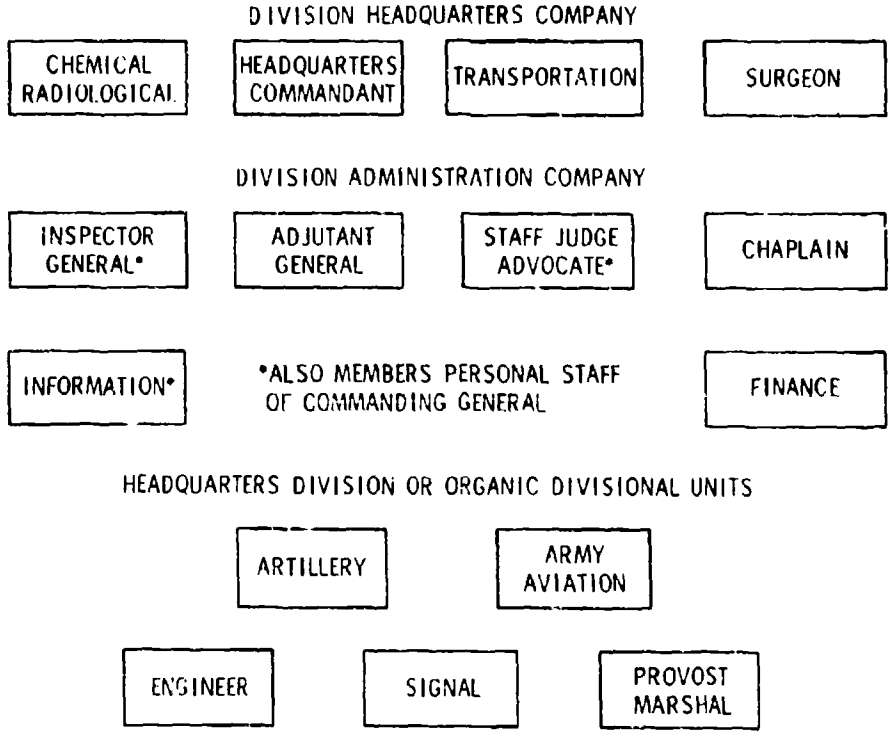
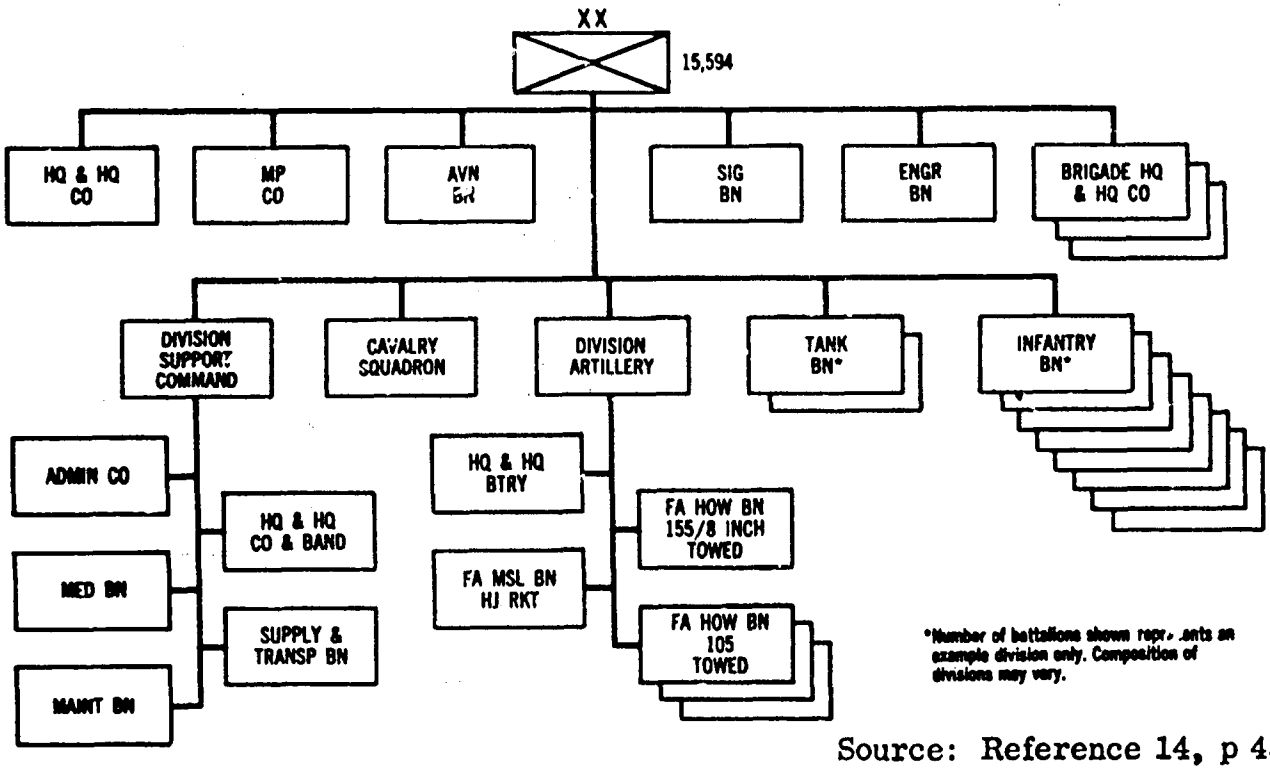


Figure 19. ROAD Division Special Staff Organization

battalion; additionally, there is a missile battalion assigned. Three brigade headquarters are permanently assigned to the above division base, each commanded, not by a brigadier general, but by a colonel. At the end of World War II, it had been recommended that infantry regimental commanders be accorded the rank of brigadier general (Ref 26). This was never approved.

The maneuver elements of the ROAD infantry division usually include eight infantry and two armored battalions (Fig. 20). The armored ROAD division contains six armored and five mechanized infantry battalions (Fig. 21). The airborne division includes nine airborne infantry battalions and an airborne gun battalion (Fig. 22). The infantry division (mechanized) consists of the standard ROAD division base plus at least three tank battalions and seven or more mechanized infantry battalions attached or assigned (Fig. 23).

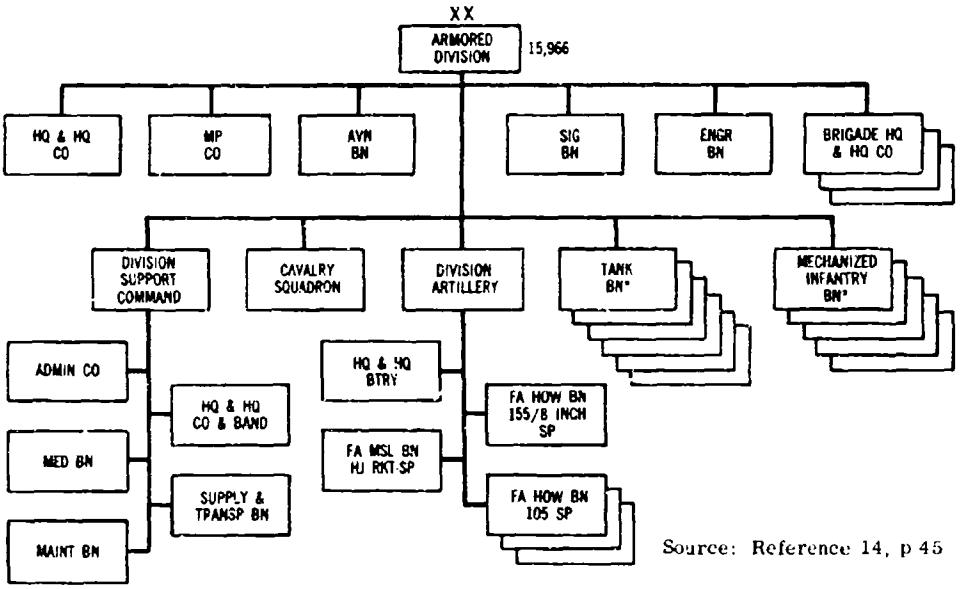


Source: Reference 14, p 43

Figure 20. ROAD Infantry Division

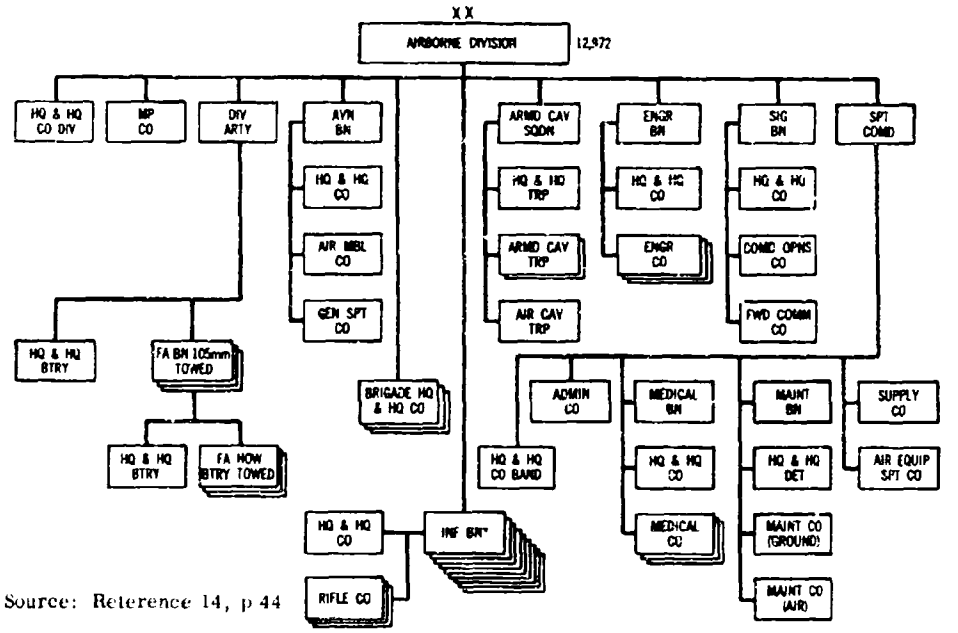
The ROAD Support Command

Basically the ROAD division is an advanced form of military organization for solving the bulk of the command and logistical problems encountered in training or in combat. Supply, in combat or campaign, has always presented a complex problem of logistics. Without ammunition, food, and equipment the soldier is ineffective. The solution to the problem of logistics in combat was the creation of a "Logistical Division," a supply division organized to serve the armies, corps, and divisions in the field. In essence, it was a smaller, mobile version of the Logistical Command of the Korean War period.



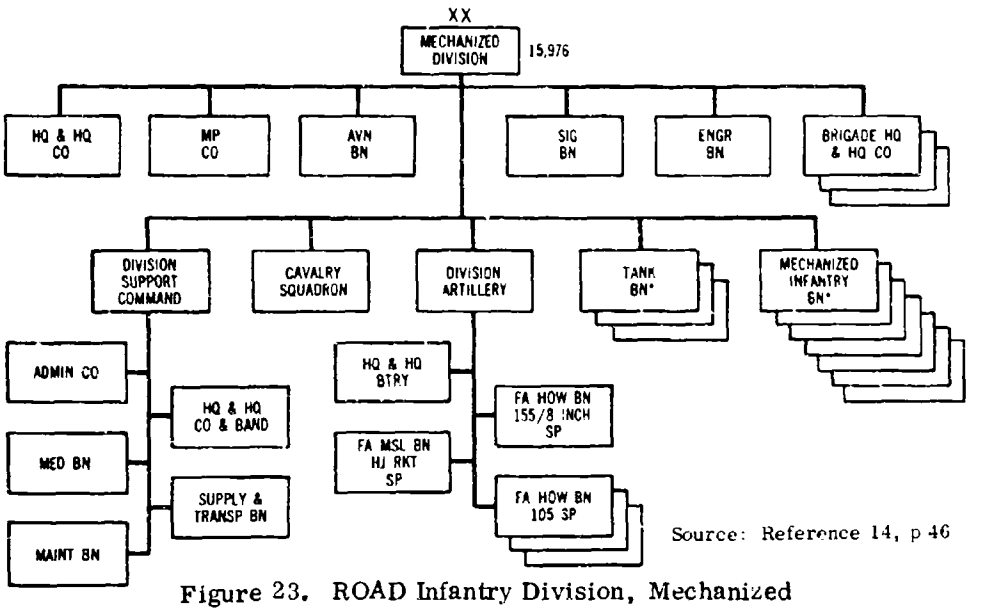
Source: Reference 14, p 45

Figure 21. ROAD Armored Division



Source: Reference 14, p 44

Figure 22. ROAD Airborne Division



Source: Reference 14, p 46

Figure 23. ROAD Infantry Division, Mechanized

Colonel (now Major General) Willard Pearson, a brigade and division commander in Vietnam, notes that

> The best known example of a trains organization is the armored division trains. In World War II the trains organization provided the flexibility required for the division staff to coordinate the mobility inherent in armor units. In addition, the trains commander became responsible for rear area security. The armored division had a pressing requirement for such an organization because of its mobility. After a breakthrough and during the exploitation phase, its supporting services became more vulnerable than the rear area of an infantry division.
>
> In the armored division trains organization the general staff has direct access to the special staff operators, and the special staff, in turn, is responsive to the coordinating instructions of the general staff. No intervening headquarters is interposed between the general staff planners and the special staff operators to lengthen the chain of command. The flexibility inherent in existing general-special staff organization and operations thus is retained. (Ref 33, p 17)

The support command of the ROAD division provides the logistical services for the division (Fig. 24), furnishing medical, administrative, maintenance, and supply services. The command is very much like the division trains of the World War II armored division. The mission of the division administration company, an integral part of the division support command, is much like that of the division headquarters company. Essentially, the division headquarters company serves as the carrier unit for staff personnel assigned to the forward echelon sections of the division headquarters; the administration company performs a similar service for personnel assigned to the rear echelons.

Pizer discusses the function of the support command as well as that of the division artillery in the following extract:

> The support command provides the division's medical, administrative, maintenance, and supply services. The division artillery (slightly reduced and modified for the airborne division) includes three 105-mm. howitzer battalions, a missile battalion equipped with Honest John and Little John rockets, and a composite battalion of 155-mm and 8-inch howitzers. The Honest John and Little John rockets and the 8-inch and 155-mm. howitzers all possess a nuclear capability in addition to a conventional capability. Firepower, both nuclear and conventional, is greater in the ROAD division than it was in the pentomic organization. (Ref 14, p 40)

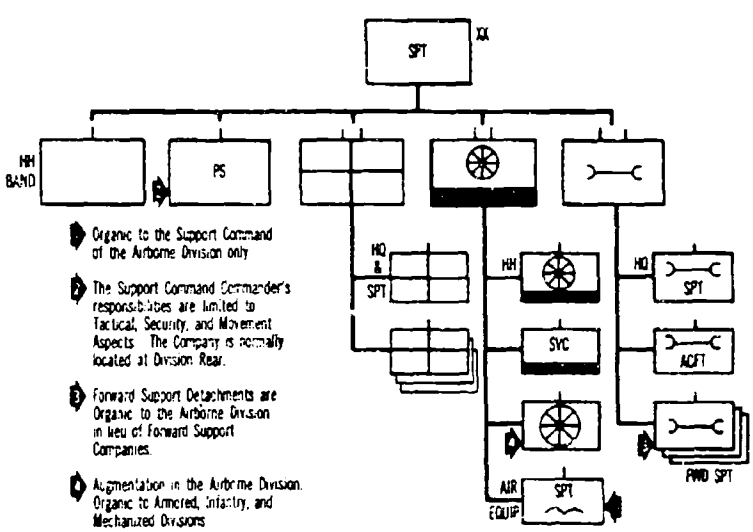


Figure 24. ROAD Division Support Command

Command and Control

In 1963, Colonel James M. Snyder briefly summarized the command relationships in the ROAD divisions.

> The ROAD concept of division organization—tailored units to meet specific needs — gives to the Army the ability to alter quickly its weapons and tactics, to meet any ground opponent in any ground arena of action. It has opened up new areas of concern in the relationships between the commander and his staff, and between the staff and the subordinate units.
>
> But the areas of concern, at least at this time, appear to present no insurmountable problems. As more and more of the Army's combat divisions change over to the ROAD concept, the areas of concern will undoubtedly be brought into focus and resolved. (Ref 34, p 62)

In the ROAD division command and control is exercised through three divisional command posts -- a tactical, a main, and a rear command post. The tactical command post operates only when required by tactical operations. It is unique in the history of military command posts in that it possesses no set structure (although its personnel never exceeds twenty people). Further, the entire tactical command post can be airborne when the situation requires. The main division command post arranges for other command posts of the division. It commands the brigade command posts and the command posts of the division artillery and the support command. There are twenty-three elements of the staff and the support located at "division main" but, because of the possible threat of nuclear attack, alternate division command posts must be established. A practical solution is to split the G-staff (the G-1 and the G-4) at an alternate location and locate the rest of the staff at the "division main." A further use of the alternate command post would be to station one of the assistant division commanders there. When such an arrangement would not be feasible, the reserve brigade or the division artillery command post might be utilized as an alternate division command post.

Pizer notes the flexibility of the ROAD Division in the following extract.

> The great feature of the ROAD division is its high degree of flexibility and versatility. This it owes to its three brigade headquarters and its maneuver battalions. (The battle group introduced in the pentomic division was abandoned in the ROAD division in favor of a return to the smaller battalion.) Within this framework, the division commander has the means to tailor a task force around each of the brigade headquarters. As the circumstances suggest and his judgment determines, he can allocate to a brigade

any mix of maneuver battalions, artillery, engineers, and other support elements for a specific mission. If the circumstances alter, he is free to adjust the composition of each brigade task force by regrouping his units. ROAD divisions provide commanders the kind of flexibility and freedom they must have to cope with swiftly changing combat situations. (Ref 14, p 40)

The ROAD Infantry Division

The ROAD infantry division consists of the standard division base plus assigned or attached tank and infantry battalions, the number of which may vary to meet the requirements of the mission. Characteristics of the division are as follows:

MISSION: To destroy enemy military forces and to control land area including populations and resources.

ASSIGNMENT: To Army.

CAPABILITIES:
a. Conduct sustained combat operations against similarly or less well-equipped ground forces.
b. Conduct operations in difficult weather or terrain.
c. Conduct Army airborne operations.
d. Perform as a part of a joint task force, amphibious operations.
e. Perform as a part of a joint task force, airborne operations.
f. Control enemy populations.
g. Restore order.
h. Operate with austere logistical support
i. Handle up to fifteen maneuver battalions.

LIMITATIONS:
a. No air defense artillery.
b. Limited airlift capability.
c. Limited mobility.
d. Limited protection against armor.
e. Limited protection against artillery and nuclear effects. (Ref 35)

Infantry Division Brigade

The infantry division brigade replaces the infantry regiment in the infantry division and, as such, commands and controls the operations of the battalions attached to it. There are three brigades in the infantry division; each is commanded by a colonel and each contains an organic headquarters and headquarters company. The company is completely mobile. It is dependent upon the division administration company for personnel services and upon the infantry division artillery for nuclear fire support. The characteristics of this company follow.

MISSION: To command and control attached combat and combat support elements in both training and operations.

ASSIGNMENT: Organic to the Infantry Division, TOE 7G.

CAPABILITIES:

a. Command attached elements of the division's combat and combat support elements in offensive and defensive combat operations.

b. Accept or release attached elements on short notice.

c. Conduct brigade operations on sustained 24-hour-a-day basis.

d. Supervise the movement and security of attached or supporting administrative elements.

e. Establish liaison with higher and adjacent headquarters.

f. Supervise tactical training of attached divisional elements.

g. Act as emergency successor operational headquarters for division in event of destruction of division headquarters.

h. Control up to five maneuver battalions.

i. Provide a security element for the brigade headquarters.

j. Engage (as individuals, except chaplains and medical personnel) in effective, coordinated defense of the unit's area or installation. (Ref 36)

Infantry Battalion

The infantry battalion, the basic maneuver elements of the ROAD infantry division, consists of three rifle companies, each with 131 officers and men, and a headquarters company. Within the headquarters company is a reconnaissance platoon, a mortar platoon (4.2-inch), and an antitank platoon. It should be noted that the 4.2-inch mortar is a holdover from the battle groups of the pentomic division. In the latter, the 4.2-inch mortars were served by artillerymen attached to the infantry. In ROAD divisions these heavy mortars are operated by infantrymen. The rifle company consists of a headquarters section of thirteen officers and men, and three rifle platoons of forty-four men each. Every rifle platoon is organized into three rifle squads of ten men. Organic to the rifle platoon is a weapons squad of eleven men. The infantry rifle squad is divided into two five-man teams. Each fire team includes an antomatic rifle in its armament. Six rifles and two grenade launchers are distributed among the other eight men in the squad. Two light machineguns and two recoilless rifles (90mm) are assigned to four men of the weapons squad. These men are armed with pistols and the remainder carry rifles.

The mission of the infantry battalion is to close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat, and counterattack. It should be noted that there are no limitations. (Ref 37)

Rifle Company

The element of the maneuver battalion with the vital mission of closing with the enemy is the rifle company, infantry battalion, infantry division. The rifle company is 15-percent mobile. It is dependent upon the headquarters and headquarters company, TOE 7-16G, for the provision of mess facilities when centralized at battalion level. The characteristics of the rifle company are as follows:

MISSION: To close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat, and counterattack.

ASSIGNMENT:
a. Organic to Infantry Battalion, Infantry Division, TOE 7-15G.
b. Organic to Infantry Battalion, Separate Infantry Brigade, TOE 7-15G.

CAPABILITIES: Provide a base of fire and maneuver, seize and hold terrain, maneuver in all types of terrain under all climatic conditions, and capitalize on all forms of mobility. (Ref 38)

The ROAD Infantry Division (Mechanized)

The infantry division (mechanized) (Fig. 23) is characterized by the following capabilities:

MISSION: To destroy enemy military forces and to seize or dominate critical land areas, their populations, and resources.

ASSIGNMENT: To field army as determined by operational requirements.

CAPABILITIES:

a. Conduct decisive, highly mobile warfare against similarly or less well-equipped forces.

b. Accomplish wide envelopment, deep penetration, and pursuit.

c. Disperse and concentrate rapidly over extended distances.

d. Exploit success, including the effects of nuclear, non-nuclear, and chemical fires.

e. Conduct covering force operations.

f. Conduct mobile defense.

g. Perform amphibious operations, as part of a joint force.

h. Conduct airmobile operations by elements of this division when supported by non-organic aircraft.

i. Control operations of fifteen maneuver battalions

LIMITATIONS:

a. When employed in airmobile operations, committed elements lose much of their shock effect and ground mobility.

b. Vehicular mobility is restricted by jungle, dense forest, untrafficable steep or rugged terrain, and water obstacles.

c. Considerable logistic support is required to maintain mobility and striking power. (Ref 39)

The ROAD Armored Division

The ROAD armored division consists of the standard ROAD division base plus assigned or attached tank battalio. s and mechanized infantry battalions, the number of which may vary to meet the requirements of the mission. The characteristics of the armored division are as follows:

MISSION: To destroy enemy military forces and to seize or dominate critical land areas, their populations, and resources.

ASSIGNMENT: To Army.

CAPABILITIES:

a. Conduct sustained combat operations against any type of opposing ground forces.

b. Accomplish rapid movement, deep penetration, and pursuit.

c. Disperse and concentrate rapidly over great distances.

d. Exploit successes, including effects of nuclear, non-nuclear, and chemical fires.

e. Conduct covering force operations.

f. Conduct mobile defense and provide counterattack and maneuvering force.

g. Perform amphibious operations as a part of a joint force.

h. Optimum protection against antitank, artillery, and nuclear effects.

i. Control operations of fifteen maneuver battalions.

LIMITATIONS:

a. No organic air defense artillery.

b. Primary fighting vehicles are not air mobile.

c. Mobility restricted by jungle, dense forest, untrafficable and steeply rugged terrain, and water obstacles.

d. Requires heavy logistical support, including rail or highway transport of track vehicles for long hauls. (Ref 40)

The ROAD Division Base

The ROAD division base of the infantry division is identical in organizational structure to the division bases of the infantry division (mechanized) and the

armored division, except that the infantry division base contains an aviation battalion not organic to the other two types of ROAD divisions. With this exception, the typical division base comprises the command and control headquarters and the organic combat and combat support elements. The organization serves as the base to which varying numbers of maneuver battalions, infantry, infantry (mechanized) or tank, may be assigned as appropriate.

> A mechanized battalion was an infantry battalion equipped with armored personnel carriers as organic transportation. An airborne battalion as usual had lighter and fewer vehicles than a standard infantry battalion. An armored battalion included reconnaissance and self-propelled mortar platoons plus three tank companies of eighteen tanks each. In the middle 1960's the tanks were mainly fifty-one-ton M-60's firing 105-mm guns, heavy tanks of the sort that had been so conspicuously lacking in World War II. (Ref 1, p 541)

Tank Battalion

The tank battalion, armored division, infantry division, or infantry division (mechanized) consists of a headquarters and headquarters company and three tank companies. This unit is dependent upon the US Air Force to provide a forward air controller (FAC) for directing tactical air support. The significant characteristics of the battalion are:

MISSION: To close with and destroy enemy forces using fire, maneuver, and shock action in coordination with other arms.

ASSIGNMENT: Organic to:

a. Armored division, TOE 17G.

b. Infantry division, TOE 7G.

c. Infantry division (mechanized), TOE 37G.

CAPABILITIES:

a. Conduct operations requiring a high degree of firepower, mobility, armor protection, and shock action.

b. Attack or counterattack under hostile fire.

c. Destroy enemy armor by fire.

d. Support mechanized and infantry units by fire, maneuver, and shock action.

e. Provide the mobility, armor protection, firepower, and flexible communications

to successfully exploit the effects of nuclear and non-nuclear fire support.

f. Conduct combat operations under limited visibility conditions employing night viewing devices and surveillance equipment.

g. Participate in air-transported operations when the armored reconnaissance/ airborne assault vehicle is substituted for the main battle tank. (Ref 41)

Headquarters and Headquarters Company, Tank Battalion

The headquarters company of the tank battalion, armored division, infantry division, or infantry division (mechanized), consists of a battalion headquarters and a headquarters company. This unit is dependent upon the US Air Force to provide a forward air controller (FAC) for directing tactical air support. The significant characteristics of the company are:

MISSION: To furnish command, administration, supply, mess, and maintenance for the tank battalion, organized under TOE 17-35G.

ASSIGNMENT: Organic to the tank battalion, armored, infantry, or infantry division (mechanized) TOE 17-35G.

CAPABILITIES:

a. Command, control, provide staff planning, furnish communications, and supervise operations.

b. Furnishes supply, mess, transportation, organizational maintenance, and administration for organic and attached units.

c. Provide unit level medical service to the tank battalion and attached units to include furnishing aidmen to the tank companies.

d. Provide indirect fire support for the tank battalion and attached units.

e. Provide centralized or decentralized messing as required.

f. Provide reconnaissance support for the tank battalion and attached units.

g. Engage as individuals, except medical personnel, in effective, coordinated defense of the unit's area or installation. (Ref 42)

Tank Company

The tank company of the armored division, the infantry division, or the infantry division (mechanized) tank battalion (TOE 17-35G) consists of a company headquarters and three tank platoons. The company is 100 percent mobile in organic transportation, with a portion of the company class III and V basic load transported by the battalion support platoon. A ten-man security squad with equipment must be provided by augmentation when this company is employed in certain operational environments. The company is dependent upon the headquarters and headquarters company for mess facilities and transportation of a portion of its class III and class V basic load. Characteristics of the company are as follows:

MISSION: To close with and destroy enemy forces, using fire, maneuver, and shock action in coordination with other arms.

ASSIGNMENT: Organic to the tank battalion, armored division, infantry division, and infantry division (mechanized).

CAPABILITIES:

a. Attack or counterattack under hostile fire.

b. Destroy enemy armor by fire.

c. Support infantry, infantry (mechanized), reconnaissance, or other tank units by fire, maneuver, and shock action.

d. Provide the mobility, armor protection, and firepower to successfully exploit the effects of nuclear and non-nuclear fire support. (Ref 43)

The Brigade and the Combat Arms Regimental System

The establishment of the ROAD division returned the brigade to the US Army. In a sense, the brigade eliminated and replaced the traditional regimental organization. The division base, in reality is no longer the traditional division headquarters and staff of the wars of the past. Conceptually, battalions are no longer permanent, integral parts of the whole. Instead, they are self-contained tools which can be attached or detached as operations require. With ROAD, the division has become an almost completely functional military unit. With the regiment dropped, the traditional "home" of the soldier no longer exists. But individual morale and unit esprit de corps have not completely vanished from the present ROAD infantry division. Colonel Sidney B. Berry (now Brigadier General), an outstanding successful brigade commander in Vietnam, indicates how the brigade replaced the regiment as far as morale and esprit de corps are concerned. He notes that, since the brigade does not possess the historical lineage of the old regiment or division, it must build on the present achievements

and not upon the past. The Army has devised a system entitled Combat Arms Regimental System which serves to identify the new units with those of the old Army -- through lines of geneological descent.

> Within a division, unit esprit is built most effectively around the battalion and the division itself since these have distinctive histories and traditions and a fixed organization. However, the brigade commander has a different problem in building brigade esprit. Being one of three tactical headquarters which, at one time or another, commands every battalion in the division, the brigade should build its own esprit in a manner that disparages no other unit and contributes to the ability of all battalions and brigades to work together smoothly and in wholehearted cooperation. Being recently created and lacking a distinctive history or tradition, the brigade must build its esprit on the present and the future, not the past.
>
> The brigade's operational effectiveness and professional manner of accomplishing its mission is the foundation upon which brigade esprit is built. Competition should be against an absolute standard of military professionalism and operational effectiveness. A brigade's esprit is healthy and soundly established when its members know that their brigade is good and that is is going to be better, and when battalions look forward to operating under the brigade's command because they respect its operational effectiveness and like the way it operates. (Ref 44, p 46)

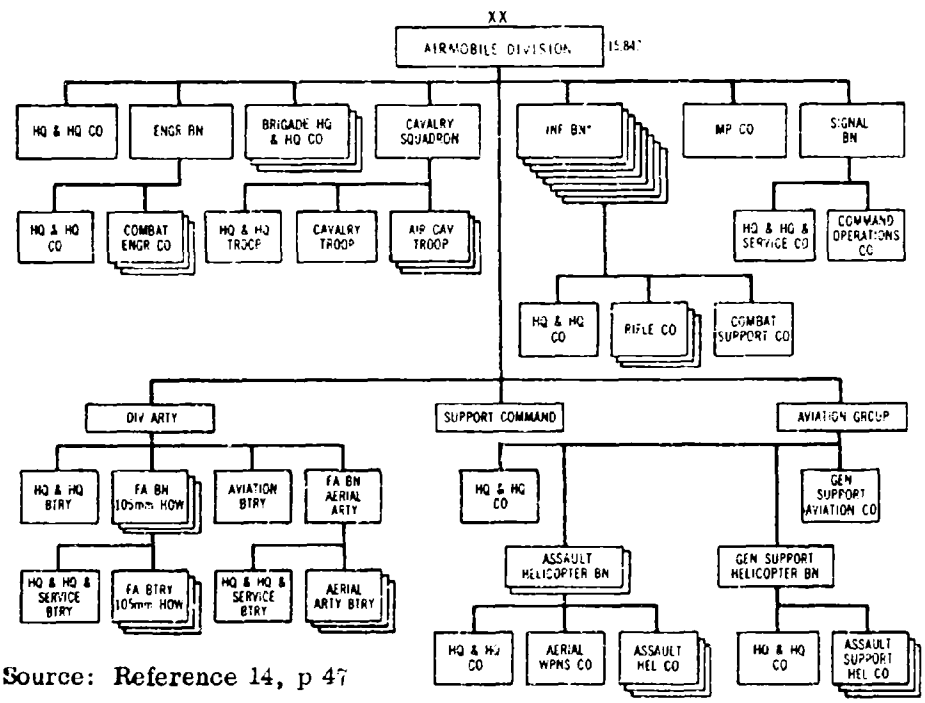
Under the Combat Arms Regimental System, the historical backgrounds of most of the divisional and separate brigades will take up their history from brigades which formerly existed in the old Army. Those new elements of the ROAD division which have no historical background will

> ...perpetuate the history and tradition of elements now active in the division. The support command will perpetuate the history of the division trains and band; the supply and transport battalion will continue the history of the division Quartermaster company, while the maintenance battalion will continue the history of the Ordnance battalion. (Ref 45, p 24)
>
> Brigade histories will come from three different sources, depending upon the brigade and the division to which it is organic.
>
> Brigades that were inactivated or disbanded when Regular Army divisions were triangularized in 1939 - 40. Except for the 1st and 2d Infantry Brigades, which

served briefly in World War II as Airborne Infantry brigades, and from 1958 to 1962 as Infantry brigades, the Regular Army Infantry brigades have not been used since then. This source will provide two of the three brigades for the 1st through 8th Infantry Divisions. The third brigades in each division will perpetuate the history of the former division headquarters company, which was inactivated when division headquarters was expanded to form the current division headquarters and headquarters company. (Ref 45, p 24)

The Airmobile Division

In June 1965, a new type of division appeared in the United States Army. This unit, the 1st Cavalry Division (Airmobile) was a landmark in the evolution of US Army organization (Fig. 25). This novel division was the result of over three years of intensive study of tactical mobility. A board of officers, headed by General Hamilton H. Howze, a leading proponent of mobility, studied the problem during the summer of 1962 at Fort Bragg, N. C., and established trial units at Fort Benning, Georgia. After the recommendations of the Howze Board were approved by the Joint Chiefs



Source: Reference 14, p 47

Figure 25. ROAD Airmobile Division

of Staff, the 11th Air Assault Division (Test) and the 10th Air Transport Brigade were formed to test the airmobile concept in the field.[4] In July 1965, the 1st Cavalry Division, less personnel and equipment, was transferred from Korea and reorganized as the new 1st Cavalry Division (Airmobile). Compared to the ROAD division, the airmobile division consists of the following:

	AIRMOBILE	ROAD
Men:	15,787	15,900
Aircraft:	434	101
Vehicles:	1,600	3,200

(Ref 46, p 34)

The infantry division of the future will be influenced considerably by the combat experiences of divisions in Vietnam. In a sense, Vietnam is a proving ground for the concept of the modern infantry division. However, future wars may or may not be similar in pattern to Vietnam. They may be entirely conventional, or a mixture of both the conventional and unconventional, as is Vietnam. The airmobile concept appears to be an effective divisional structure for fluid warfare. By this is meant where the frontline is not well-defined on the ground and the "front is everywhere."

How the airmobile concept would function in a combat environment in a conventional operation upon level and rolling open terrain is speculative. The vulnerability of the helicopter to ground fire (small arms, larger caliber automatic weapons, and antiaircraft artillery) presents the airmobile division with several problems of survival. In mountainous country, interlaced with valleys and deep draws and gullies the helicopter can approach a vertical assault point with assurance of some cover. Speed is the essence of all airmobile operations and, in optimum terrain, troops may be inserted into the combat area with minimal casualties to both troops and vehicles. In flat, open country, the transport of troops by helicopter can be accomplished with great dispatch and speed - provided there is little, or no, antiaircraft and ground fire. Helicopter gunships, flying ahead of the transport waves, will have the mission of direct fire to suppress antiaircraft opposition. Tactics for helicopter operation against hostile fixed- and rotary-wing aircraft have yet to be devised, refined, and established as doctrine. In 1968, helicopter weapons systems for this purpose were under development, experimentation, and study. Unfortunately, Vietnam furnishes little experience with this type of formal opposition - except antiaircraft and ground-based missile fires.

Organization

The airmobile division is an answer to the historical military problem of organizing a truly light division. As in other types of ROAD divisions, the airmobile organization

[4] The Department of the Army has announced new designations for its two airmobile divisions in Vietnam. The 101st Air Cavalry Division is now known as the 101st Airborne Division (Airmobile); the 1st Air Cavalry Division has become the 1st Cavalry Division (Airmobile). The " (Airmobile)" suffix has been added to division elements such as maneuver battalions.

> ...is built on a division base and a variable number of maneuver battalions. Approximately one-third of the men in the maneuver battalions are qualified paratroopers, thus enhancing the tactical versatility of the division. The airmobile base includes division headquarters, the three brigade headquarters, division artillery, a support command, an aviation group, an engineer battalion, an air cavalry squadron, a signal battalion, and a military police company. Division artillery comprises three 105-mm. howitzer battalions, an aerial artillery battalion, and an aviation battery. The support command includes a maintenance battalion (for other than aircraft), an aircraft maintenance and supply battalion, a supply and service battalion, and a medical battalion. (Ref 14, p 42)

The airmobile division weighs about one-third as much as the ROAD infantry division. The division can be transported in C-130 aircraft, with the exception of the Chinook helicopters which can be carried in C-133 transport planes. As well as being highly mobile, the airmobile division promises to be economical because of the speed with which it can accomplish its missions. However, since the new division lacks organic armor and medium artillery, it cannot operate without close liaison with the Air Force for air support. Further, because of its potentially wide range of operations, it is expected that greater overall reliance on the Air Force may be required.

Vietnam -- The Proving Ground

Vietnam, growing in intensity from an advisory activity to full-scale limited war, became the proving ground for the new concepts. The helicopter, especially, came into its own as a highly mobile form of military transport. Weigley discusses the effect of Vietnam, on combat mobility:

> When they discovered a trap in the making, they either forestalled the enemy with a spoiling attack, or they waited to allow him to draw them into the trap upon which they would throw enough force against him to turn the tables. Especially the latter technique required the utmost mobility and firepower. For mobility, the helicopter came into its own in Vietnam as a heavy-duty troop carrier, joining with airplanes and going where airplanes could not go to permit concentrating troops with rapidity far beyond the enemy's ability to match. A new kind of division appeared, the 1st Cavalry (Air Mobile) Division, equipped with a full complement of transport for movement by air and expressly outfitted to be "sky cavalry." But so much did other divisions also become "air mobile" that the new 1st Cavalry seemed likely to follow the course of the motorized divisions of the early days of World War II; it would simply hasten the process by which all divisions geared themselves for rapid movement. (Ref 1, p 545)

Capabilities

Although the airmobile division is a ROAD-type division, it differs from the other ROAD divisions in that it is capable of complete mobility by either fixed or rotary-wing aircraft. It is the most mobile division ever organized in the US Army (or any other army). Basically dependent on its organic airframes for transport, it also possesses the unique advantage of having airborne, organic, flying artillery gunships. These vehicles provide one of the most advanced forms of close fire support. Another feature of the division is that field guns can be transported by helicopter to places that were formerly inaccessible. Pizer discusses the concept of the airmobile division in the following:

> A completely new type of ROAD division -- the airmobile division--emerged in mid-1965 with the activation of the 1st Cavalry Division (Airmobile) to meet the pressures of the war in Viet-Nam...There were cogent reasons for creation of the new type of division, and all of them hinged on one of the major keys to modern land warfare: mobility. All ROAD divisions have some degree of mobility by air. The armored division, with its great weight of tanks and of wheeled and tracked weapons and equipment, is least adapted to air transport. The infantry and the mechanized divisions are a little better suited to an airlift. Much better adapted to air transport is the streamlined airborne division. But the new airmobile division possesses an inherent capacity for air transportability far exceeding that of the other four types of ROAD divisions. Its unprecedented ability to fly into combat is due, in large part, to its own built-in air-lift capability. The airmobile division possesses nearly 450 aircraft (all but 6 of them helicopters of 3 types), as compared to approximately 100 aircraft assigned to each of the other ROAD divisions. And the load that the airmobile division must transport has been dramatically lightened. For example, the almost 3,200 ground vehicles of the infantry division have been cut to some 1,600 in the airmobile division.
>
> Because it is so "flyable" and because it can soar aloft on its own wings, the airmobile division has given fresh meaning to mobility and maneuverability of ground units. It provides the Army with a whole new order of tactical options and responses -- an ability to leapfrog the enemy, to land troops in intact units ready for immediate combat, to exploit a suituation by instant shuttling of forces within a battle zone, to gr: duate the principle of surprise to a new level, to render rapid self-support by using organic aircraft for logistical purposes, to strike deep in the enemy' s rear, and to withdraw rapidly. These are capabilities that are eminently suited to the fluidity of guerrilla warfare, as the 1st Cavalry demonstrated so quickly and effectively in Viet-Nam. (Ref 14, pp 41-42)

Limitations

One of the pressing problems which confronted the airmobile division in the field was the matter of artillery fire support. There was the problem of weight and transportation. To form the airmobile artillery battalions, standard infantry division 105mm howitzer battalions had been converted. They had been reduced in size, and organic trucks, light vehicles, and all heavy equipment had been eliminated. Crew shields and other non-functional parts were removed from the M-1 howitzer of World War II for a radical reduction in weight. At its final weight the 105mm howitzer, with its nine-man crew and 100 rounds of ammunition, was a standard combat load for the Chinook helicopter.

But the airmobile division required more than light artillery support. Since medium artillery (155mm) was too heavy, an aerial artillery battalion was organized as substitute. The battalion used 2.75-inch aerial rockets mounted in 12 UH-1B helicopters (the famous "Gunships" of Vietnam). The following extract discusses one of the major problems the airmobile artillery faced.

> Upon arrival in Vietnam, the first task of the artillery was to provide fire support for the security of the division base. Mortar, rocket, or recoilless rifle attacks were of particular concern because these could be expected at night when target location is most difficult. A detailed map and aerial reconnaissance was conducted to locate possible enemy firing positions. Based on this data, a harassing and interdiction program was planned and fired during hours of darkness. (Ref 47, p 5)

In Vietnam, artillery is extremely vulnerable to infiltration. Infantry units are assigned to protect each battery position in the area. Artillery pieces are airlifted to hills and other areas where terrain features are an obstruction. Infantry battalion headquarters and the reserve unit are generally located near these areas. Artillerymen, as well as infantrymen, man the perimeter defenses.

Because of the special terrain of Vietnam and the fluid battle lines there, friendly artillery support in combat can constitute a hazard. Attacking units move toward a single objective and, as they converge, there is always the possibility of "short-round" casualties. The airmobile division, more than any other division, must have precise information on the exact location of all friendly units at all times. To obviate "friendly errors," battalion fire direction centers are located within the brigade command post. Further, rigid fire lines are observed by all units--infantry and airmobile gunships alike.

Airmobile Versus Airborne

General Kinnard, an expert in both airborne and airmobile warfare, makes the case for airborne by citing the characteristics that make it superior to the airmobile divisional concept. Among these are:

o If sufficient air transports are available, more troops can be deployed in a given area quicker by parachute drop than by any other means. The real value here is tactical surprise, which is essential in many combat situations.

TABLE VI. MAJOR US AIRBORNE ASSAULTS

Unit	Dates	Place	Type of Action
WORLD WAR II - EUROPE			
509th Prcht Inf Bn	8 Nov 42	Oran, N. Africa	First American use of airborne troops
509th Prcht Inf Bn	15 Nov 42	Youks Les Bains, Tunisia	Contact French troops and proceed to attack Italian forces at Gafsa
509th Prcht Inf Bn	Nov 42	Faid Pass, Tunisia	Demolition action; Infantry contact with Italian troops
82nd Airborne Div	9-10 Jul 43	Gela, Trapani, and Palermo, Sicily	First large scale night airborne assault
82nd Airborne Div	14 Sept 43	Salerno, Italy	Reinforcement to hold beachhead
509th Prcht Inf Bn	14 Sept 43	Avellino, Italy	Attacked 25 miles behind enemy lines
504th Prcht Inf Regt	14 Sept 43	Altavilla, Italy	Reinforce Salerno beachhead
82nd Airborne Div	5-6 Jun 44	Normandy, France	Disrupt Nazi communications and supply
101st Airborne Div	5-6 Jun 44	Normandy, France	Seize causeways, disrupt Nazi communications and supply
First Airborne Task Force*	15 Aug 44	Southern France	Spearhead invasion
82nd Airborne Div	17 Sept 44	Nijmegen, Holland	Seize and hold highway bridges across Maas River at Grave and Waal River at Nijmegen
101st Airborne Div	17 Sept 44	Eindhoven, Holland	Seize four highway and railway bridges over Aa River and Williams Vaart Canal at Vechel, seize bridge at St. Oedenrode, seize Eindhoven and bridges
17th Airborne Div	24 Mar 45	Across the Rhine at Wesel	Start of the rush to Berlin
*Units included 517th Prcht Inf Regt, 460th Prcht Fld Arty Bn, 463rd Prcht Fld Arty Bn, 509th Prcht Inf Bn, 551st Prcht Inf Bn, 550th Glider Inf Bn, and 596th Abn Engr Bn			
WORLD WAR II - PACIFIC			
503rd Prcht Inf Regt	5 Sept 43	Lae, Salamaua, New Guinea	Cut off route of 20,000 fleeing Japanese
503rd Prcht Inf Regt	3 Jul 44	Noemfoer Island	Capture main airdrome
11th Airborne Div	3 Feb 45	Tagaytay, Luzon	Invasion of South Luzon
503rd Prcht Inf Regt	16 Feb 45	Corregidor Island, P.I.	Destroy enemy guns from the rear
11th Airborne Div	23 Feb 45	Los Banos Camp, Luzon	Raided prison camp, freeing 2,146 American civilians
11th Airborne Div	25 Jun 45	Luzon	Parachute assault plus first use of gliders in Pacific theater
KOREAN WAR			
187th Abn Regt Cmbt Tm	20 Oct 50	Sukch'on-Such'on, N. Korea	Designed to trap North Korean troops
187th Abn Regt Cmbt Tm	23 Mar 51	Munsan-Ni, S. Korea	Delay Chinese soldiers retreating from Seoul
VIETNAMESE WAR			
173rd Abn Bde (Sep)	22 Feb 67	War Zone "C"	Search and destroy mission during Operation Junction City

Source: Armed Forces Journal, November 1968

• Extended range of the airmobile division is nowhere near as great as that of the airborne division (Table VI). Although the airmobile division is better suited for day-to-day operation, it does not have the strategic reach capability. Specifically, this means a transoceanic, intercontinental deployment ability. Recent movement of troops has proven that the airborne division possesses this important capability.

• The commander in the field who has both airborne and airmobile divisions available could use the airmobile division's transport to augment a limited cargo and personnel carrying ability and capacity.

Since the requirements of a future war would make airborne troops essential, airborne units will continue to be part of the divisional structure of the Army. However, when economies are to be effected the cost-conscious budget makers and planners will be faced with facts such as these: an airborne division costs about 180 million dollars; an airmobile division, with its highly specialized helicopter transport, costs about 410 million dollars; the standard ROAD infantry division costs approximately 240 million dollars. But in the long run:

> In terms of 5-year operating costs, the airborne division is also cheaper: $630-million, compared with about $980-millon for an airmobile division, and $850-million for the infantry division.
>
> [However, there is much less difference in the relative costs of full "division forces" — which include non-divisional units needed to sustain each division in combat. For an airmobile division, the initial and 5-year division force costs come to about $2,790-million, versus $2,610-million for an infantry force and $2,410-million for an airborne force.]
>
> [The small cost differences tend to support General Kinnard's view that the value of airborne forces depends more on relative effectiveness than on cost.]
>
> Expanding on this point, General Kinnard noted that, for practical purposes, the use of support airlift from other units has made all U.S. Army divisions in Vietnam airmobile. (Ref 48, p 13)

The effect airmobile operations will have on the airborne division in the US Army is uncertain. Some feel that the airborne division is obsolete. Others, involved in airmobile operations, are strongly in favor of retaining the airborne division on the Army's rolls. But one paratroop officer believes that the parachute is "headed for the museum, along with the glider and the horse." In its 1964 roster of divisions and units, the Army had

> ...over two and one third airborne divisions (82nd and 101st Airborne Divisions; the 173rd

Airborne Brigade; one battalion of the 508th Airborne, 193rd Infantry Brigade; and two battalions of the 509th, 8th Infantry Division). Today, the Army has just slightly more than one and one third airborne divisions (the 82nd; the 173rd Brigade; the two battalions of the 509th; and one company in the 193rd Brigade).

Except for one operation—the 173rd jump into the Song Ba valley — the United States has conducted no combat airborne operations in Vietnam. In Korea, there were only two such operations.

In contrast, there have been literally thousands of helicopter operations in Vietnam. Almost all successful.

The arrival of the helicopter really has been the determining factor in the decline of the airborne, one officer told The JOURNAL. "It isn't that the airborne concept is in itself outmoded," he said, "it's just that the helicopters — at least in Vietnam — have been doing the same job a lot better." (Ref 48, p 12)

Mobility, in the area of transport capabilities, is the real crux of the problem of airborne versus airmobile or helicopter-borne troop units.

Given the problem of how to transport combat troops from one location to another, what is the best way to do it? For most short-range operations, even the most diehard paratroop enthusiast concedes, the helicopter is the answer. Troops are less vulnerable when brought in by helicopter, and they arrive ready for immediate combat. Airborne troops often are widely dispersed over a large area after landing, are sometimes separated from their heavy equipment, and frequently must spend much precious time regrouping before being ready for combat. (Ref 48, p 12)

Major General John Norton, who replaced General Kinnard as commanding general of the 1st Cavalry (Airmobile) in Vietnam, is both an airborne-qualified officer and rated Army pilot, and a former member of the Howze Board. He discusses the possibility of the airborne forces being disbanded because of their lessening importance in modern warfare.

"You've got to have a certain amount of 'tactical reach'," he said, "that we just don't have with today's airmobile units. To gain a lodgement in so many strategic areas of the world, you've got to make a

combat assault. You've got to hit the ground running, and fighting. Airborne troops have always had this reach. Don't forget that the fellows who jumped into North Africa staged that drop all the way out of England. Helicopters just don't have this kind of reach—not yet.

"What could make more sense," Norton asked, "than to exploit the strategic reach of the Air Force Troo carrier units and use the full ferry range of Army helicopters to reconstitute an airmobile or air cavalry force after it's hit the ground in an airborne assault? This is the most versatile threat we could pose against any enemy.

"The worst thing about our World War II drops," he said, "was that, once we hit the ground, we were just straight infantry—no artillery, no real tactical mobility. If we didn't land right on the objective, if we couldn't exploit our surprise within hours, we dissipated our biggest potential.

"When you jump into a place like Vietnam," he pointed out, "the enemy can just watch you. The VC waits until he's ready to fight. You need air mobility to go out and find him. The Germans were different: when we jumped, they fought." (Ref 9, pp 14-15)

Outlook For The Future

Electronics

Historically, military organization is a product of developments in weaponry and the resulting tactical doctrine. Russell D. O'Neal, Assistant Secretary of the Army for Research and Development under President Johnson, has discussed the role of electronics in military operations. The influence of electronics on tactics will play an important part in present and future military organizations.

"It can influence—is influencing—the tactics of the battlefield.

"Previous wars have been simplistically described as wars of inventory, of logistics, of masses of forces. Sheer weight and bulk of supplies and ammunition could tip the balance toward victory even with force ratios close to unity. In Vietnam, mass is clearly not enough," O'Neal said.

What might really be needed to win, he suggested, is the application of what he termed "exquisite precision" on a fleeting, concealed enemy.

"Electronic detection devices and sensors are

helping to bring about a tactical revolution," the Army's R&D chief said, "by providing the means for alerting us to the presence and where-abouts of an enemy before he gets within firing range and for pinpointing his location when he does fire."

O'Neal explained that the defensive options available to the battlefield commander are really quite few in number. If he has adequate warning, he can maneuver to avoid enemy fire or, if he is able, shoot first. He may place his troops behind a heavy shield-armor. Because such options or trades exist in all combat situations, he reasoned, electronics someday may serve in place of armor. Just as the Sentinel radar system detects and tracks ballistic missiles with such precision that defense missiles can be launched and guided to intercept incoming warheads, the battlefield commander may one day "shoot down one bullet with another," O'Neal prophesied.

"Today," he said, "we encumber personnel carriers and tanks with heavy bottom armor to defeat mines. Our experience with the chemical sniffer prompts me to believe that the eighties may bring devices that will literally smell out and point out explosives and spare us the need for armor." (Ref 50, p 34)

The ROAD Division

The ROAD concept of divisional organization will probably be in use for some time to come because of its inherent flexibility. To date, it is the most flexible divisional organization ever fielded by the United States Army. Pizer comments on the elasticity of the ROAD division:

> The ROAD concept is likely to remain valid for a long time to come--its longevity a result of its lack of rigidity. Three different types of ROAD divisions in combat in Viet-Nam--infantry, airmobile, and airborne--have proved well suited to the demands placed upon them. Within the elastic framework of the ROAD division, the Army planners can add, subtract, or alter units to place proper emphasis on new developments in weaponry, in materiel and equipment, and in tactics. The ROAD structure holds things together in a neat package, but it has "give" where it counts. (Ref 14, p 42)

The requirement for the standard infantry division exists on a continuing basis. The soldier who moves on foot across country with pack, rations, and weapon has not been relegated to the past. Despite the advent of the

most advanced modes of delivery upon the battlefield, there is a time for marching, climbing, and crawling. These activities the soldier in the standard infantry division can do under any climatic and environmental condition. These basic qualifications for the soldier of any type infantry division remain constants of the soldier's profession of arms.

The present era appears to be a rare period in history where tactics have almost caught up with the weaponry of war. The one great exception is, of course, the tactics of nuclear warfare. Inasmuch as such a war has never been fought, patterns of performance have not been established. Currently, speculation must suffice in this particular situation--as to tactics and organizational format for the infantry division and its subordinate units. The marriage of the infantry division with its weapons to the helicopter has achieved an optimum of fire and movement. The evolution of the helicopter as a weapons system vehicle is an advance in mobility and firepower, the like of which has never been witnessed in warfare. What it portends for the organization of the infantry division of the remaining decades of the twentieth century cannot be assessed at this time.

APPENDIX A

TASK ASSIGNMENT

DEPARTMENT OF THE ARMY
HEADQUARTERS
UNITED STATES ARMY COMBAT DEVELOPMENTS COMMAND
FO T BELVOIR, VIRGINIA 22060

IN REPLY REFER TO
CDCRE-O

1 April 1968

(AMENDED COPY)

MEMORANDUM FOR: Director, CORG

SUBJECT: Task Assignment 9-68, Evolution of the Army Division

1. The Commanding General requests that you perform a historical study within the scope of your contract for calendar year 1968.

2. Title: Evolution of the Army Division from the WW II Triangular to PENTOMIC, ROCID, and to ROAD Organizations.

3. Objective and Scope: To show the evolution of combat, combat support and combat service support organization of the division. The needs for special purpose divisions such as mountain, armored, and airborne, their organization and method of operation will be documented. Varying methods used by the divisions to establish task forces, combat teams, battle groups, or other type organization for combat will be arrayed. Advantages and disadvantages of divisional organization will be discussed and evaluated. The study will explore all elements of the division, emphasizing the problems encountered in combat which were attributable to, or inherent to, the type organization.

4. Administration:

a. The study will be presented to the Commanding General in the form of a CORG memorandum.

b. Project Officer. Mr. Jean Keith, HQ USACDC, 41144.

c. Direct coordination with the Institute of Combined Arms and Support is authorized.

5. Correlation: This project is assigned Action Control Number 12021.

6. This task must be completed by 31 March 1969.

CDCRE-O 1 April 1968
SUBJECT: Task Assignment 9-68, Evolution of the Army Division

7. Request you analyze your resources, indicate your acceptance and provide the following information:

a. Estimated technical man-months.

b. CORG Project Number

c. CORG Project Supervisor.

ROBERT W. TROST
LTC, GS
Chief, Operations Research
Support Division

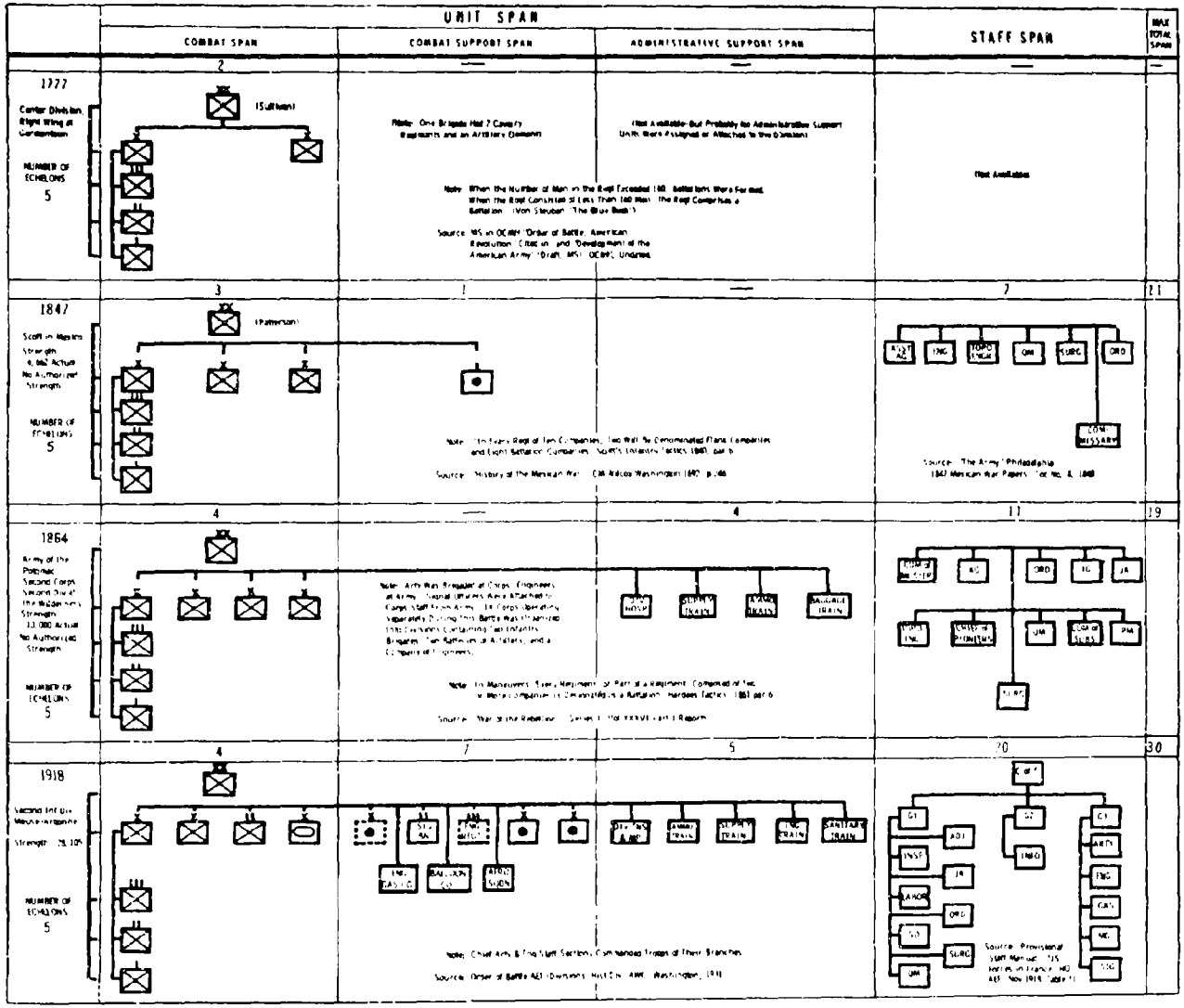
Copy furnished:
Mr. J. Keith, Dir, Plans

cc: Mr. Bernens
Mr. LaVallee
Mr. Williams
Mr. Moore
CORG Accounting
Director's Accounting
Task Assignment File (Orig)
Folur 4/8/68

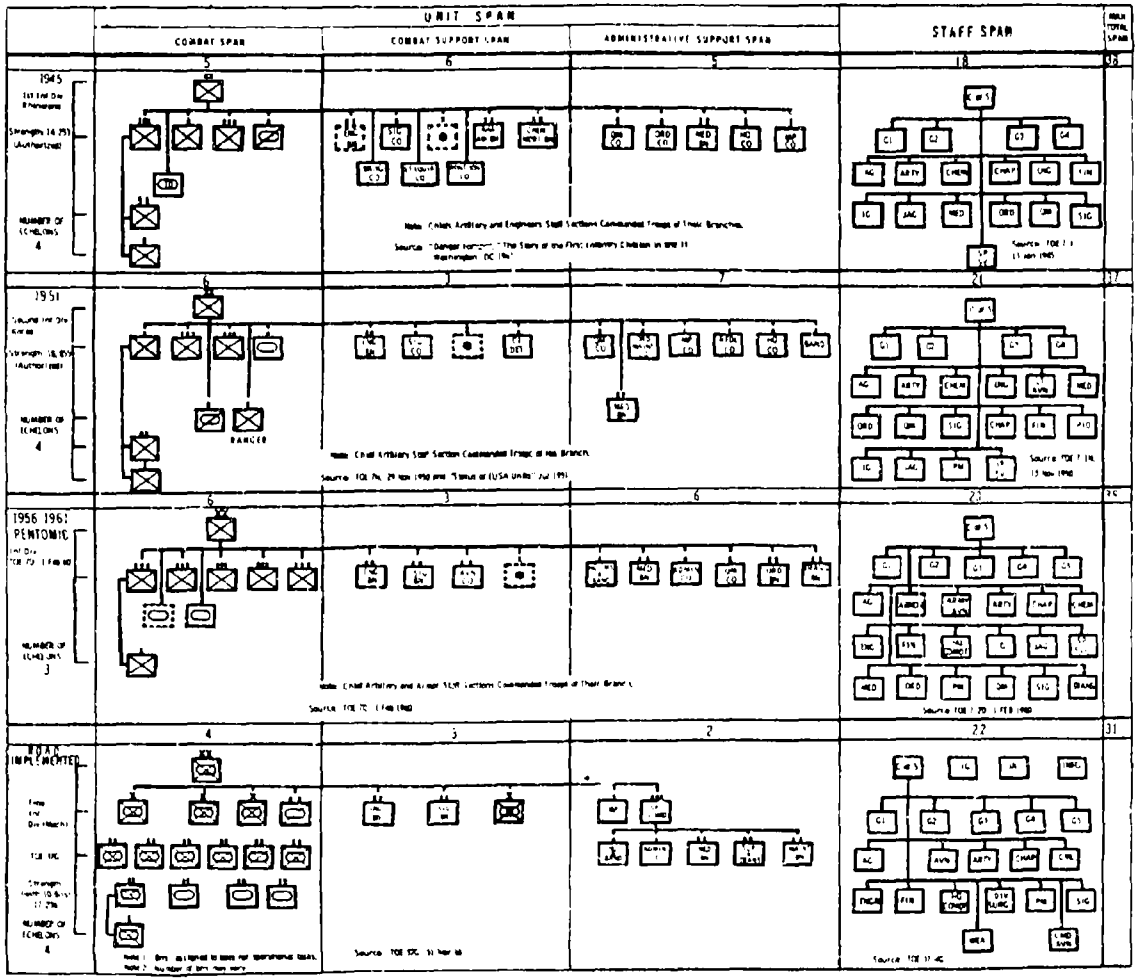
APPENDIX B

EVOLUTION OF SPAN OF CONTROL - 1777 TO ROAD

Thro- ghout military history, the span of control problem has plagued the military commander in the camp and in the field. The number of subordinates a commander can effectively control in combat has never been definitely established; in the past it has varied according to the situation. Estimates by the military theorists and commanders of the past have ranged from three to ten. The span of control has a considerable effect on the operations of the commander. Ideally, the commander only commands his principal subordinate unit commanders. For example, under the ROAD concept, the general commands the brigade commanders and they, in turn, command a varying number of battalion commanders. The span of control in the battalion becomes a matter of the command of three, or four company commanders. In the company, the span of control involves the number of lieutenants (platoon commanders) and, in the platoon, the number of squads. Within the squad the two fire team leaders are commanded by the squad leader. In emergencies, the squad leader (with the loss of his team leaders) may possess a span of control of seven or eight. The latter is the most important span of control situation in the division because the squad's primary mission is to close with the enemy. Appendix B traces the developments in the Span of Control from 1777 to the present.


UNIT SPAN
COMBAT SPAN
COMBAT SUPPORT SPAN
ADMINISTRATIVE SUPPORT SPAN
STAFF SPAN
BRIGADE TOTAL SPANS
1777
NUMBER OF ECHELONS
5
2
—
—
—
—
1847
NUMBER OF ECHELONS
5
3
1
—
7
11
1864
NUMBER OF ECHELONS
5
4
—
4
11
19
1918
NUMBER OF ECHELONS
5
4
7
5
20
30

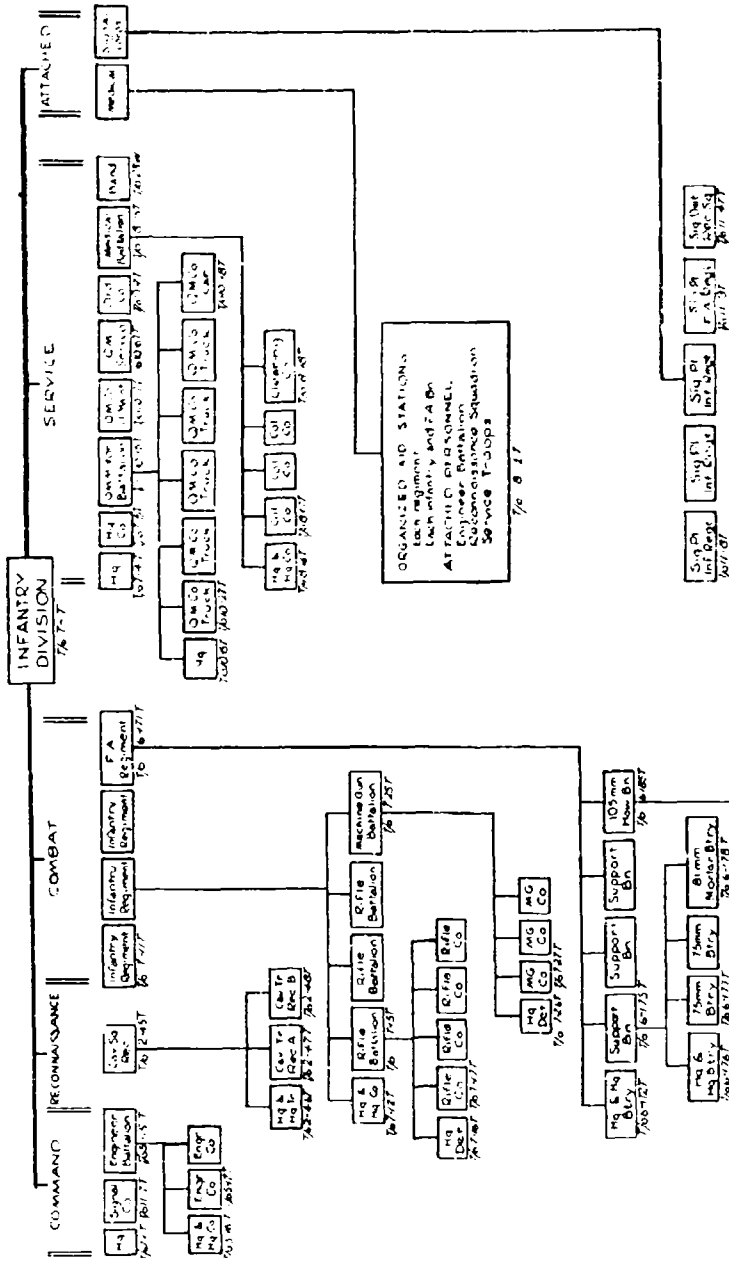
	GEOGRAPHIC DEFENSIVE COVERAGE			EQUIPMENT EVOLUTION				TACTICAL DOCTRINE
	STRENGTH (MBT & CMBT SPT)	FRONTAGE (AVERAGE METERS)	DENSITY, MEN/LINEAR METER FRONTAGE	FIRE POWER	MOBILITY	COMMUNICATIONS	SURVEILLANCE	
1777				Smoothbore flintlock model 1761 (effective range approximately 100 yds). Introduction of rifled bore (flintlock). Cannon - direct fire smoothbore (cannister and bursting shell).	Animal-drawn wagon and sled. Extensive use of water transportation (small craft).	Foot and horse messenger. Limited use of lights (lanterns).	Mounted and dismounted patrols. Extensive use of espionage.	Linear and shallow formations. Army as a whole on a common front. Frontal attacks, shallow envelopments. Offensive objective in destruction of enemy forces rather than specific terrain. Artillery direct fire support employed primarily to break solidity of hostile infantry line. Development of "cover" and "fire" tactics (Indian tactics). Bayonet shock action considered decisive.
1847				Musket-model 1841 (percussion lock). Improved artillery "carriages" "Light Horse". Limited use of rockets.	First overland troop movement by railroad. Planned use of "landing craft." Flat bottomed boats (New England "Dory" type). Introduction of steam-propelled craft.		Fixed observation posts. Long range reconnaissance patrols.	Frontal attacks, shallow envelopments, increased use of turning movement. Increased mobility of field guns provide close artillery support. Prototype of ship-to-shore assault. Formations essentially unchanged.
1864				Extensive use of muzzle loading percussion cap rifle (paper cartridge minie ball). Metallic cartridge in limited use. Breech loading rifles (Spencer carbine cal .52). Introduction of rifling, increased range and accuracy in cannon artillery. ("Napoleon" 6 & 12 lb). Elongated projectile. Improvement in bursting and cannister shells. Introduction of machinegun "Gatling gun" (550 rd/min). Railway artillery. Introduction of the hand grenade.	Extensive use of railroads for troops & logistical movement. Expanded use of improved steam transport.	Advent of telegraph insulated field wire. Wigwag and torch signalling. Portable electric transmitting set (Beardslee magnetic electric machine).	Introduction of balloons for observation and fire direction. Improved optical instruments. Limited photography.	Initially little change from revolutionary war. Napoleonic concept of battlefield technique altered in face of long-range rifled firearms. Construction of entrenchments becomes a primary consideration in defense. Artillery relegated to a supporting role. Frontal attacks prove ineffective; envelopment and turning movements favored. Army frontages increased from two to three miles to twenty or thirty miles. Cavalry developed into mounted infantry; reconnaissance in force role. Amphibious operations begin high state of development.
1918	21,598	4,000	5.37	Standardization of the rifle '03. Automatic rifle. Extensive use of the machinegun. Introduction of tanks - (Mark I-VIII series, 6-POR, armor plate 6-16mm, 30 ton) (Med A "Whippet" .303 in armament, 5-14 armor plate 14 ton). Antiaircraft artillery, mortars (Stokes 3). Introduction of smokeless powder. Extensive use of breech loading artillery w/balanced trunion carriage and single box trails. Introduction of "smoke" shells. Gas. Limited use of aircraft as supporting weapon.	Extensive use of rail means of transport. Limited use of gasoline powered vehicles (internal combustion engine).	Extensive use of telephone. Radio (CW). Aerial messenger.	Advent of observation aircraft. Aerial photography. Extensive foot patrolling.	Stabilized "trench warfare". Extended field fortifications in depth along entire army front characterized by "MLR" defensive posture (automatic small arms). Assault by linear formations with support in a secondary line. Normal division formations: Brigades abreast, regiments abreast, with battalions in depth. Small assault groups maneuver independently within assigned zones of advance. Artillery employed in mass in systematic bombardment aimed at destruction of enemy force. Infantry fires in the defense sufficient to halt or contain most attacks (frontal). Infiltration (Von Hutier) regains the power of the offensive making penetrations possible and the preferred form of maneuver. Advent of "tanks" (supporting role) changes form of defense to maintenance of strong reserves in second and third line of defense at the expense of the first line (area defense).


UNIT SPAN
COMBAT SPAN
COMBAT SUPPORT SPAN
ADMINISTRATIVE SUPPORT SPAN
STAFF SPAN
1945
1951
1956 1961
PENTOMIC
ROAD IMPLEMENTED

	GEOGRAPHIC DEFENSIVE COVERAGE			EQUIPMENT EVOLUTION				TACTICAL DOCTRINE
	STRENGTH (CMBT & CMBT SPT)	FRONTAGE (AVERAGE METERS)	DENSITY MEN/LINEAR METER FRONTAGE	FIRE POWER	MOBILITY	COMMUNICATIONS	SURVEILLANCE	
1945	14,561	7,000	2.45	Introduction and extensive use of self-propelled artillery. Extensive use of tanks, 18-40 ton, 37-75mm armament. Antitank weapons - 37mm guns 2.36-in. Rocket launchers (Bazooka) Supporting mortars, 60mm and 80mm. Introduction of recoilless rifles (57mm and 75mm) Improved artillery "fuses" (advent of VT fuse) Amphibious supporting weapons (LVT's) Strategic nuclear weapons. Extensive use of aircraft as supporting weapon.	Introduction of armored protected personnel vehicles (M-2 and M-3, half tracks) Amphib vehicle to include personnel and logistic carriers. Extensive use of "wheel-transport" (2 1/2-ton cargo and 1/4-ton comm-recon). Use of aircraft and parachute.	Extensive use of vehicular-mounted and man-portable radios. Teletype communication systems. Improved "on-line" code and decode systems.	Radars, "sonic" devices. Infrared devices (sniperscope metascope) Sound and flash systems. Improved aerial photography (night) Long range patrols by paradrop and overland. Aircraft, (L4 and L5)	Introduction of the "Blitzkrieg," mechanization of cavalry and the use of aircraft for tactical cooperation. Offensive maneuver characterized by massive breakthrough on a narrow front with maximum combat power. Actions indicated by probing reconnaissance forces, breakthrough by armor and the maintenance of the attack by infantry and artillery. Extensive use of "Strategic Infiltration" (5th colm). Envelopments and turning movements become the dominant form of offensive maneuver. Defensive doctrine contemplated the organization of a battle position to be held at all costs. The use of security forces, and the retention of a mobile reserve. Artillery and antimechanized fires echeloned in depth. The main battle position comprised a zone of resistance consisting of a number of mutually supporting defensive areas disposed irregularly in width and depth, organized for all round defense. Introduction of armored formations in independent offensive role. Extensive airborne and amphibious operations.
1951	17,629	21,430	0.825	Improved antitank weapons (3.5-in. Rocket launcher) Extensive use of improved VT fuse. Introduction of body armor for individual soldier.	Improved armored personnel carriers. Limited use of army aircraft as mobility means. Extensive use of helicopter as command liaison vehicle. Medical Evac (H-13, L-19)	Extensive use of radio relay systems (UHF)	Introduction of counter mortar radar (TPQ-3) Extensive use of army aircraft (fixed-wing and helicopter) for observation and fire direction.	Formations essentially unchanged from World War II. Initial defensive positions on extremely wide frontages. Shallow with predominantly small reserves. Armor relegated to supporting role due to terrain limitations. Both offensive and defensive operations similar to World War II (Italian campaigns). Later stages revised to fortified position defense similar to World War I.
1956-1961 PENTOMIC	12,191	24,000	0.32	Tactical nuclear weapons. Rockets and guided missiles (Honest John, Corporal Little John, type) Improved antitank weapons (SS 10/11) 106mm recoilless rifle. Improved tank and self-propelled artillery. Improved small arm weapons (M-14 rifle, M-60 machinegun). Improved ammunition.	Improved armored-protected combat vehicles (amphibious, M-59) Extensive use of helicopters for airmobile operations. Armored bridge launchers (AVLB)	Introduction of command control equipment systems. Area communication system equipment.	Tactical ground radars short range AN/PPS-4 med range AN/TPS-21, long range AN/TPS-25. Improved aerial surveillance (Mohawk system AN/APS-85 (SLAR), KA-20 camera) Drone systems (SD-1) AN/MPQ-10 system. Improved infrared devices (tank sights)	Offensive formations in depth, consisting of staggered tactical elements. Units composed and dispersed in order to absorb nuclear strike without shattering. Units assumed capable of swift movement to prevent enemy exploitation offensive maneuver to form enemy as lucrative nuclear target. Decentralized offensive operations of small combined arms forces operating semi-independently on wide frontage. Forces endeavor to achieve necessary superiority at point of decision by massing in time and not in space. Massing of short duration, followed by rapid dispersal. Infiltration becomes a significant form of maneuver. Offensive operations tend to form "Reconnaissance-in-force" characteristics. Extensive use of airmobile operations. Tactical formations and dispersion governed primarily by the mission. Increased vulnerability in order to mass to accomplish mission. Dispersion in depth preferable to lateral formations. Under nonnuclear conditions mutual support of basic combat units required for effective defense or delay. Emphasis on counter-offensive operations.
ROAD IMPLEMENTED	13,911	20,000	0.695	Self-propelled artillery. Improved antitank weapon system (E-TAC).	Increased organic ground and aerial lift capability (helicopter) Improved armored protected amphibious personnel carriers (M-113).	Improved command control equipment systems. Introduction of ADP.	Improved ground radar systems (AN/TPS-33). Improved drone systems (AN/USD-2 and 5). Improved aerial surveillance systems (KA-30 camera, infrared and radar).	

APPENDIX C

TENTATIVE ORGANIZATION OF INFANTRY DIVISION - 1 December 1936



Source: Naisawald, The US Infantry Division, 7 March 1952

APPENDIX D

THE GENERAL BOARD
UNITED STATES FORCES, EUROPEAN THEATER
APO 408

CONFERENCE

ON

THE INFANTRY DIVISION

Bad Nauheim, Germany, 20 November 1945.

Source: App 15 to Reference 26

MINUTES

OF

CONFERENCE ON THE INFANTRY DIVISION

Grand Hotel, Bad Nauheim, Germany, 20 November 1945

OFFICERS PRESENT

General G. S. PATTON, JR.
Lieutenant General G. KEYES
Major General L. C. ALLEN
Major General H. R. GAY
Major General E. S. HUGHES
Major General H. L. MCBRIDE
Major General W. M. ROBERTSON
Brigadier General C. H. ARMSTRONG
Brigadier General J. D. BALMER
Brigadier General G. H. DAVIDSON
Brigadier General J. A. HOLLY
Brigadier General R. G. MOSES
Brigadier General C. E. RYAN
Colonel W. S. BIDDLE
Colonel R. O. FORD
Colonel B. FURUHOLMEN
Colonel L. H. GINN, JR.
Colonel J. A. HEINTGES
Colonel J. C. MACDONALD
Colonel T. H. MADDOCKS
Colonel H. B. MARGESON
Colonel E. H. MCDANIEL
Colonel L. C. MCGARR
Colonel I. M. OSLTH
Colonel C. T. SCHMIDT
Colonel T. A. SEELY
Colonel C. W. VAN WAY, JR.
Lieutenant Colonel S. G. BROWN, JR.
Lieutenant Colonel J. G. FELBER
Lieutenant Colonel J. A. LEWIS
Lieutenant Colonel J. H. MONTGOMERY, JR.
Lieutenant Colonel I. B. RICHARDS, JR.
Chaplain (Captain) G. G. FINLAY

COMMITTEE MEMBERS

Brigadier General A. F. KIBLER
Colonel D. J. BAILEY
Colonel T. A. BROCK
Colonel S. G. CORLEY
Colonel H. H. CRITZ
Lieutenant Colonel E. G. BELAN
Lieutenant Colonel F. H. CANTRELL
Lieutenant Colonel W. R. CHEVES
Lieutenant Colonel S. G. FRIES
Lieutenant Colonel H. B. ST. CLAIR
Lieutenant Colonel L. J. WHITTLEY

MINUTES OF THE INFANTRY DIVISION CONFERENCE

Conference opened at 0930. 20 NOV 1945

Gen PATTON:

■When we asked you gentlemen to attend this conference it was with the expectation that there would be about 15 or 17 visiting members but for various reasons some were unable to attend. However, we still have enough of you, and also of ourselves, to consider the proposed infantry division. It should be pointed out that the infantry division here proposed is not the exclusive product of The General Board. It is an algebraic sum, so to speak, of the ideas of all the numerous people - some hundreds - who have been questioned on the subject.

There are two points that I would like personally to call to your attention. The first one is this: We must figure what we do to the enemy on the basis of what the enemy does to us, remembering that the casualty figures are based on wounded and not dead because we have no way of finding out how the dead were killed. The infantry component of the division, which is 65.9% of the total personnel, inflicts on the enemy by means of small arms, automatic weapons, mortars and hand grenades approximately 37% of the casualties. In order to inflict 37% of the casualties the infantry sustains 92% of the total casualties in the division. The artillery, which comprises 15% of the division, inflicts on the enemy 47% of the total casualties for which it pays but 2%. However, we have to qualify this statement because in practically all divisional operations the division is supported by a large amount of corps and army artillery. In the armored division of which 29% is infantry, 15.4% artillery and 20.5% armor, the infantry casualties amount to 65% of the total casualties of the division. The artillery casualties, totaling 4.7%, little more than double those of the artillery in the infantry division. Tank casualties are 25%. This may or may not indicate whether armor serves infantry. This is one phase of the subject which I arrived at independently. You will notice the proposed organization is pretty heavy in tanks. This organization was arrived at with the data I gave you.

My second point is: Americans as a race are the most adept in the use of machinery of any people on earth and they are the most adept in the construction of machines on a mass production basis. This suggests to my mind the fact that we should exploit to the utmost our ability in the use of mechanical aids both on the ground and in the air. But we must remember that if the next war is delayed, as we hope it will be for several years, perhaps 25, it is probable that very few of the weapons on this chart will be used. So this division on which we are working is only the datum plane from which further developments must be carried on.

Gen KIBLER:

■(Gen Kibler gave an orientation on the mission of the committee and explained the procedure used by the committee in arriving at its recommendations. A considerable number of experienced combat leaders were consulted in person; also a written questionnaire was sent out to other combat leaders ranging in rank from lieutenant generals to majors. In addition, full advantage was taken of reference materials available. He stated further that the committee itself was composed of experienced combat personnel.

Gen Kibler then explained the procedure to be followed in conducting the conference. Colonel Conley, who was in immediate charge of the committee, would explain the proposed division in

detail giving the reasons for changes made. Gen Kibler requested that all questions be withheld until Colonel Conley completed his talk at which time the meeting would be open for discussion.)

Col CONLEY:

■(Colonel Conley gave a detailed explanation of the organization of the proposed infantry division explaining the reasons for all recommended changes. A large chart on the wall showing the organization of the various units of the division was referred to in outlining the new division. Several other charts were displayed showing comparisons in armament and personnel between the old and proposed divisions.)

DISCUSSION

(Note: The following is not necessarily a verbatim transcription of what was said by various individuals at the conference. Some discussion was omitted. However, the consensus of the meeting regarding specific questions discussed is correctly shown.)

Gen KIBLER:

■Are there any questions to be clarified? We do not want to discuss the pros and cons but want to clear up points that need clarifying.

Gen PATTON:

■What reconnaissance, if any, is there in the armored regiment?

Lt Col FRIES:

■Just the reconnaissance platoons that they had before, increased by five men in each platoon.

Gen KEYES:

■Are the 105's truck-drawn or self-propelled?

Col CONLEY:

■Truck-drawn

Gen McBRIDE:

■Is the anti-aircraft artillery self-propelled?

Gen KIBLER:

■Yes.

(Conference adjourned for five minutes and reconvened at 10:45.)

Gen KIBLER:

■Now I am going to ask specific questions on which I would like your views. Our first one is: Is the heavy machine gun necessary in the heavy weapons company of the infantry battalion?

Col McCARR:

■It definitely is, but we need a better one. I do not think we should allow the mobility of that gun to cause us to throw it out. I have seen it used to stop attacks when other things could not be used. Most definitely we should keep it.

Gen PATTON:

■Have you ever seen it used to make an attack?

Col McCARR:

■Yes, at Anzio. It did wonderful work. Couldn't do it with a light machine gun.

Gen ROBERTSON:

■I personally don't agree that the heavy machine gun is necessary as an organic part of the heavy weapons company, particularly in

the attack. I believe we can meet the requirements by carrying heavy machine guns as a part of the organic battalion load in reserve to be employed only in defensive situations. You can put eight machine guns in one truck. In eleven months of operations with the Second Division, I never used a heavy machine gun for overhead fire, so far as I know.

Col HEINTGES:

■ I concur with Colonel McGarr. The men who operate the weapons prefer the heavy machine gun as the light machine gun barrels burn up too easily. It is capable of more sustained fire. We used it quite often in the attack, even in Sicily and going over the mountains in southern Italy. However, we do need light machine guns when we are making fast moves or going over rough terrain.

Gen KEYES:

■ The point is: Do you want more supporting fire? If the heavy machine gun is too heavy, you want another weapon. Sometimes the heavy gun is better than the light. As General Patton brought out, we should not wed ourselves to a weapon right now. There will be improvements. I don't know how you can say "yes" or "no" to this question. It depends on where the man is. The smart solution is to equip companies with both types of weapons rather than to choose definitely the light or the heavy.

Gen PATTON:

■ With the weapons on hand, I agree with General Keyes for adopting both. Money is no object. I wish that war could be less bloody. It costs about $40,000 for a man to get killed. If we can keep him from getting killed by a few extra dollars, it is a cheap expenditure. I personally am more responsible for the development of the light machine gun than any other person. The tripod on the heavy machine gun does not have sufficient flexibility. If you use lighter material, you can make just as good a tripod. I would like to ask some people who know more - at what ranges were heavy machine guns used?

Col McGARR:

■ About 200-500 yards.

Gen PATTON:

■ What I was trying to bring out is: The heavy tripod which I think weighs 52 pounds was built for extreme accuracy at these ranges. We could put a heavy machine gun on a lighter tripod, because at that range the light machine gun is accurate enough.

Col OSETH:

■ Discussing tripods, the present one won't do. The present machine guns are a little bit outmoded. We need a dual purpose machine gun with fire power of the heavy and the mobility of the light in one weapon.

Col McGARR:

■ We need a liquid type of cooler, and I would like to see it improved to give it sustained fire power.

Gen KIBLER:

■ We can't do away with the heavy machine gun, but it should be improved. I take it that that is the consensus of this meeting.

(All agreed.)

Now the next point - Can the heavy weapons company be eliminated?

Gen ROBERTSON:

■ Yes, I think so. Due to wide frontages, it was quite habitual to spread heavy weapons like machine guns very widely. Why not bring up the weapons platoon of the rifle company by adding a couple of light machine guns and do away with the heavy machine gun company entirely? There are very few battalion commanders who would not prefer four rifle companies with a good weapons platoon in each company to the present organization. I would not give my heavy mortars to the rifle company but would keep them in the battalion headquarters company.

Gen KIBLER:

■ You would assign machine guns down to the rifle company?

Gen ROBERTSON:

■ I would.

Col HEINTGES:

■ We should maintain a heavy weapons company and each man should be identified with one weapon only, although he should be familiar with them all.

Gen ROBERTSON:

■ What percentage of fire power did you develop from your infantry weapons in attacks?

Col McGARR:

■ We applied our automatic weapons 95 percent of the time, sometimes 100 percent.

Gen ROBERTSON:

■ I don't believe more than 50 percent to 60 percent of total fire power was used.

Col McGARR:

■ My answer was based on automatic weapons.

Gen ROBERTSON:

■ I never failed to be impressed as I went from rear to front, I would see this mass of artillery and tank destroyers and regimental and battalion headquarters. At the front lines a small number of men were carrying the attack. There were about 1100 men in the assault element. They took 90 percent of the casualties. In an infantry division they carry your battle. They are the people who get you forward. We need more of them. I believe in weapons but I also want more infantry. I want a lot more infantry.

Gen HAYES:

■ The percentage of casualties is very high there. Why not put that extra into weapons or something other than that group?

Gen ROBERTSON:

■ Because I want them for support and reserve units, which I never had in eleven months of combat. I never had enough to do the job. I think we were wrong in making no provisions for rotating the units in the front line. This was necessary so that we could build up enough depth in the units. We must provide that rotation.

Gen PATTON:

■ That's a personal view. As an infantry unit is now composed, the riflemen get killed getting the light machine guns and 60mm mor-

Gen PATTON (CONTD):
tars forward which in turn get the artillery forward for fighting. That's the way we fight now. Personally, I'm in favor of trying to find less bloody ways of fighting.

Gen GAY:
■Would you recommend another regiment of infantry?

Gen ROBERTSON:
■I wouldn't think badly of that.

Gen GAY:
■I would go along with that.

Gen ROBERTSON:
■Every division commander will tell you the same story. He couldn't rotate his units.

Gen KIBLER:
■I believe that the majority is in favor of retaining the heavy weapons company. Do you agree with the retention of the anti-tank company, as now proposed, armed with nine medium tanks, or would you prefer a medium tank company, complete, organic in the infantry regiment in lieu of the anti-tank company?

Col McGARR:
■I would like to see the anti-tank weapon improved. It should have lighter armor and more speed, if possible, for the anti-tank mission. I don't believe it is necessary to have a tank company with a regiment. It is better used in a division set-up and can be thrown in where needed.

Gen KIBLER:
■Do you want an anti-tank company and medium tanks also?

Col McGARR:
■Yes, I want them in place of the 57's at present in the anti-tank company. I would also like to have two battalions of tanks with the division which could be attached to the regiments.

Gen ROBERTSON:
■I would prefer three battalions in the division and take both anti-tank and cannon companies out of the regiments. This would provide more sustained power. You have the same number of tanks but under centralized control. My organization would be three tank battalions-no tanks in the regiment - and feed them up as needed.

Gen McBRIDE:
■Are we planning an armored or infantry division?

Gen PATTON:
■Apropos of General McBride's statement, are we building an armored or infantry division? In my opion, there is very little difference between them except one very fundamental one. In an infantry division the purpose of supporting weapons - primarily tanks - is to get the infantry forward. In an armored division, the purpose of the infantry is to break the tanks loose.

Gen KIBLER:
■How many agree with General Robertson that the anti-tank and cannon companies should be eliminated and replaced by tanks in the division echelon?

Col HEINTGES:

■I do not agree with General Robertson. I am a little radical on this, but I have my anti-tank company organized with bazookas and I used it as a bazooka company.

Gen ROBERTSON:

■I contemplate the bazooka defense, but I don't think the anti-tank company is necessary.

Gen McBRIDE:

■Why have two different tank units - one tank and one anti-tank? Aren't they both the same?

Col McGARR:

■Yes, they are the same, but it is better to have mobile guns as anti-tank defense.

(A brief discussion followed.)

Col McGARR:

■General Patton is right. We should have something light, like a weasel, upon which we could put our recoilless artillery. There is need for getting close-in support. The answer is lighter vehicles with a recoilless weapon mounted on them, let's keep the assault gun while making the transition.

Gen ROBERTSON:

■Why keep the anti-tank company in the infantry regiment pending the development of a heavier weapon to take its place? Just to keep an anti-tank company or cannon company so that we will have a company to place a weapon later is fundamentally wrong. We should never keep a unit intact for use of future development of weapons.

Gen KEYES:

■I don't agree, because if you do not retain the organization you will never get your weapon developed. You must visualize that you are going to have it in order for you to plan for personnel requirements. That's where we ran into such a snag on replacements.

Gen KIBLER:

■It seems that the majority do not want a tank unit organic in the infantry regiment to replace the anti-tank company. All seem to agree that the best anti-tank weapon today is the medium tank. It therefore seems to be the consensus of this meeting that the anti-tank company should be eliminated from each infantry regiment and three tank companies should be added to the tank regiment at division level. Are there any who dissent from this solution?

(Only one officer dissented.)

That disposes of the anti-tank company. I will now ask the next question. Do you agree with the organization and armament (six assault guns) proposed for the cannon company? If not, what do you recommend?

Gen McBRIDE:

■What is the purpose of the assault gun company?

Col COWLEY:

■Direct support of the infantry. The cannon company was organized originally to satisfy the desire on the part of the infantry for immediate close support when needed. The artillery battalion in the rear is a fire unit, and it is undesirable to parcel out one battery.

Col CONLEY (CONTD):
■ In addition they do not like to send a whole battalion to do a little job; also the infantry needs an accompanying gun.

Gen McBRIDE:
■ Don't you think that goes back to World War I when we were suspicious of artillery support? There is nothing that the cannon company can do that the organic artillery can't do as well.

Gen BALMER:
■ Yes, it started in the first World War when there was a demand from the front line for accompanying guns. At that particular time we did not have a system of operation and fire-direction that we now have; also it was true that the infantry did not get the support from its artillery that it should have gotten. The cannon company must have an armored vehicle capable of direct fire. Its place is with the infantry. Personally, I believe that you probably need an assault weapon.

Gen ROBERTSON:
■ If you want direct fire, how about your supporting tanks? You are duplicating yourself as it is now.

Gen McBRIDE:
■ Training is one thing, coordination is another. With due respect for the infantry, they can't train cannon companies.

Col McGARR:
■ We had a superb cannon company. We trained new men that came in. I still think we should have something to fill in the gap for speed when communications give out. We lost a lot of artillery observers and radios.

Gen PATTON:
■ You lose communication when they get wet at river crossings and landings.

Gen KEYES:
■ With an increase in tank battalions, can't you then get that immediate support from the tanks that are attached to you?

Col McGARR:
■ We could if they could get there fast enough.

Gen ROBERTSON:
■ Is there anything a cannon company can do that a 105mm can't do?

Col McGARR:
■ Nothing except that it's more timely if the artillery is not functioning, General.

Col HEINTGES:
■ I want the cannon company.

Gen KIBLER:
■ How many think we should have a cannon company?

(The majority voted in favor.)

Gen KIBLER:
■ Is the present assault gun the best weapon we have now?

Col McGARR:
■ Yes, but we want something better.

Col HEINTGES:
■ Those little guns could go anyplace I wanted them to go.

Gen KIBLER:
■ If that weapon is the main weapon, do we need a smaller weapon for river crossings and landings, and what should it be?

Gen McBRIDE:
■ That jeep-rocket would be ideal. I have only seen it in the movies.

Gen KIBLER:
■ It seems the majority believes we should retain the cannon company but that it should be equipped with a better weapon. For the present, is the assault gun acceptable?

(The majority agreed.)

Gen KIBLER:
■ That concludes the cannon company problem.

Conference recessed at 1200 for luncheon.

Conference resumed at 1330.

Gen KIBLER:
■ As to the tank question, it appears that the majority believes we should have a three-battalion regiment, eliminating the anti-tank company. It is my understanding that is the consensus of the meeting now.

(All agreed.)

Gen KIBLER:
■ The next question concerns the artillery. Is there any dissention from the proposed artillery set-up, adding one battalion of 155mm howitzers?

Gen PATTON:
■ How do you want those guns moved, McBride?

Gen McBRIDE:
■ Light artillery, self-propelled. I want to know one thing that a towed gun can do better than a self-propelled gun?

Gen BALMER:
■ Pieces that are supporting a division of this type must follow the infantry. They must go places where self-propelled will not go. When you put the infantry across the river you have to have a big bridge to get the heavy stuff across, but you can put the lighter stuff up faster. We have most of the weight on the side of towed artillery. My reasons are these: towed has been able to do everything that is required by the infantry division. You can conceal and dig in the towed piece much easier. The M-7 self-propelled gun will not fire high-angle-fire and is difficult to conceal. The infantry division does not move as far or as fast as the armored division. The organization is the same: three lights and two mediums. These are the reasons behind it.

Gen McBRIDE:
■ I don't find many reasons there. How are you going to put infan-

Gen McBRIDE (CONTD):
try across? The artillery can shoot a lot farther across. You don't, outside of a few areas, have to worry about concealment. You can conceal anything in Europe. The only place where towed vehicles are better is on icy roads. I don't see any advantage in the towed weapon.

Gen PATTON:
■ Another point - and my imagination may be too vivid. In the next war owing to the certainty of the proximity fuze, I do not believe that any gun or any other weapon which sits to fight can be without head cover. I personally questioned the junior officers in the 5th Infantry Division who were unanimously in favor of self-propelled guns.

Gen McBRIDE:
■ The 4th Division had both. Universally everyone regretted the time they turned in the self-propelled for towed guns.

Col HEINTGES:
■ I would like one battalion of 105's self-propelled and the rest towed.

Gen KIBLER:
■ The majority of this meeting seems to favor self-propelled artillery.

Col MACDONALD:
■ I think that is the answer. I am personally in favor of self-propelled artillery, but I am no authority.

Gen ROBERTSON:
■ I am on the fence on this question. I want some information on self-propelled. My experience with my own tanks was that on all long moves - 250 miles or so - the tank battalions got through only 50%, but the artillery all got through. The maintenance problem must be licked better than it has been.

Gen PATTON:
■ We also have a medium maintenance company which we didn't have before.

Gen McBRIDE:
■ You are adding to the maintenance of the division when you put so many half-tracks on the vehicles.

Gen PATTON:
■ It isn't an awful lot. How many guns are there?

Gen McBRIDE:
■ Fifty-four guns in three battalions.

Gen ROBERTSON:
■ I would be in favor of it myself outside of the maintenance factor.

Gen KEYES:
■ We must expect development and improvements in maintenance factors.

Gen ROBERTSON:
■ I would like to raise a further question on the artillery set-up. You put a 155mm battalion in there on the basis that everything that was always used with the division should be organic. Is that correct?

Gen KIBLER:
■That is one of the factors considered.

Gen ROBERTSON:
■Actually I don't think I can remember the time when I didn't have two additional battalions of 155's supporting me from corps. Why shouldn't we have three battalions of 155's?

Gen PATTON:
■There is another argument which is very revolutionary and I only bring it forward to give another viewpoint. Owing to the very low casualties in artillery in comparison with infantry, I am not sure there should be any artillery in the infantry division - certainly not mediums.

Gen KIBLER:
■The majority opinion of the committee seems to favor the one extra battalion of 155mm howitzers. Is there anybody here who feels we should have more artillery?

(All were satisfied.)

Gen KEYES:
■I would like to hear from the experts why the 155mm howitzer should not also be self-propelled. Aren't the advantages the same? Most of General McBride's discussion simply answered the objections to the towed. What are the advantages of having self-propelled 155mm howitzers?

Gen GAY:
■How about the ability to fire?

Gen McBRIDE:
■That's exactly the case. We don't know anything about it. I think it would be heavier than the 105.

Lt Col BROWN:
■The 105 is limited to 45-degree elevation. I don't know about the 155.

Gen PATTON:
■The 155 can have the same elevation.

Gen GAY:
■Our problem is to recommend a proposed infantry division based on experience in this theater. No one of us has had any experience with 155mm howitzers, self-propelled.

Gen KEYES:
■Do we want self-propelled artillery as a result of experience?

Gen KIBLER:
■We have had no experience with self-propelled 155's.

Gen PATTON:
■I recommend that if the ballistic quality of the 155mm howitzer self-propelled gun is not inferior to the towed 155 howitzer, then it should be adopted.

(All agreed.)

Gen PATTON:
■What is the number of guns in a battery of 155's?

Gen BALMER:
■ Four. Self-propelled would be six.

Gen McBRIDE:
■ Why not have six towed pieces?

Gen BALMER:
■ Most people would rather have four pieces towed than six pieces self-propelled.

(Some discussion followed.)

Gen KIBLER:
■ It is a question of the six-gun battery now. It appears to be the consensus of this meeting that we should have it. Is there anybody who dissents from that view?

(No dissent.)

Gen KIBLER:
■ Our next question is in relation to anti-aircraft artillery. Do you prefer one battalion assigned or a regiment of two battalions?

Col BAILEY:
■ The study of anti-aircraft artillery for the future might be called wandering into a realm of fantasy. We have types of weapons which the enemy used in this war that more or less portend the trend of the future. There are going to be supersonic missiles of all types like the V-1 and V-2. We had occasion to visit the British experimental station where they are experimenting with captured V-2's, and they are very enthusiastic about the future of them. An increase in their accuracy and the damage that can be inflicted can be expected. We have reason to believe that the V-1 type of pilotless aircraft (PAC) will be used extensively in range and their effectiveness will be increased. They will be used as much against front-line troops as they were in rear areas. Jet-propelled planes were developed to quite a high level at the close of the war to a speed of 600 miles per hour, but speeds have increased since then. They will be increased to as much as 1,000 miles per hour. Our studies show that we do have to take this into consideration. The V-2 went at a speed of 3,000 miles per hour. We have no weapon that can combat it. Lots of our weapons in the future still have to be developed. Another thing that bears on this picture is radar. Radar was developed for 75mm guns. In October of last year, they had small radar which was used with smaller caliber automatic weapons. The 75mm gun, we feel, is the one type of weapon to replace the 40mm gun. The English found it very effective, and we made good use of it in this war. It is the largest weapon that can use a pozit fuze. The radar, however, did have some deficiencies. They are developing infra-red detecting instruments which will replace radar eventually. It will eliminate many of the things that we have found wrong with radar.

I think that we have to temper the conclusions that we make from this war with caution for the simple reason that the Germans had 1700 planes and the Allies 11,300 on D-Day. It was a seven to one superiority in the air. The conclusions we draw from this war are not the ones that we should use because we must expect to go against an enemy in the next war who will have parity in the air. The anti-aircraft with all of the numerous types of weapons we have had has made us the jack of all trades and the master of not too many. We have come out trying to standardize our equipment and weapons and trying to eliminate some of them.

Col BAILEY (CONTD):

■ This is what we have evolved, two types of regiments: (one) a regiment of two battalions of 90mm guns, mobile; (two) a regiment of two battalions of automatic weapons, four batteries each. Type of weapon: in an automatic regiment, we will have a 75mm automatic cannon or a full-track low armored vehicle, self-propelled. We will have a quad-mount 20mm gun to replace the present 50mm gun. We will have two battalions of four batteries each and in each battalion, 32 full-track self-propelled armored 75's. In the present automatic weapons battalion, there are 32-40's and 32 quad-mounts, either towed or half-tracks. They were cut down before the Normandy invasion by 16. Our regiment will have 64-75's (SP) and 64-20mm quad-mounts. During the Battle of the Bulge, they did not have enough anti-aircraft and had to call back to Com Z for more. Some that came up were semi-mobile. We feel all our weapons should be useful in any sort of an emergency. Another thing, gentlemen, I would like to point out the fact that when an infantry division has had rough action for a while, it must have a rest and moves to a rear area. They did in the Ninth Army. The anti-aircraft provided protection for them when they were there and there was no rest at all for the anti-aircraft gunners. If enemy air action were stronger the people up front would have cracked. Field artillery will have another battalion and we must protect the artillery. If we are to have four batteries of anti-aircraft to five battalions of field artillery, how can we do it?

Gen PATTON:

■ Self-propelled armored guns do not need anti-aircraft protection. The self-propelled gun removes the necessity of covering it.

Col BAILEY:

■ The regiment we hope to have in the infantry division has approximately 1400 men. I want to impress on you the tremendous fire power this unit would have. All of you in divisions certainly made use of anti-aircraft for ground missions.

Gen KIBLER:

■ The committee felt that we really had not clearly established requirements for anti-aircraft in this theater, owing to the small scale of air opposition. We did inherit experience from the Mediterranean Theater where there was air opposition and one battalion per division was about what seemed to be required there. Such demands for additional anti-aircraft in the European Theater of Operations as existed may have been influenced by lack of field artillery ammunition. The committee realizes that planes will fly faster and faster but felt that improvement in anti-aircraft might keep pace with this. Would you prefer a regiment of two battalions? Those in favor of a regiment raise your hand.

(None favored it.)

Gen KIBLER:

■ Do you agree with the organic assignment of an engineer regiment of two battalions to the division?

Gen KEYES:

■ I don't see any reason for it. It's just a case of taking engineers and assigning them organically to the regiment.

Col HEINTGES:

■ Engineers should be specialists. We don't want them up front; there will be too many casualties.

Gen KIBLER:
■ Does anybody want engineers organic in the infantry regiment?

(None favored it.)

Gen McBRIDE:
■ I didn't find a great deficiency of engineers. I would like to see a battalion of four companies instead of three working companies so that I could have an extra company when running into roads where there is mining or demolition to be done. I didn't object to corps engineers working in my area. I had a lot of engineer work but we did not use the prisoner of war labor that was available.

Gen DAVIDSON:
■ The engineers were placed in support of division, not attached. When we put a company of engineers with each regimental combat team, we got little engineer work out of them. The division engineers lost flexibility because of their spread among the three regimental combat teams.

Gen KEYES:
■ You need the engineers and you don't have enough of them. With all this extra armor, etc., you will have to augment the one battalion of engineers. I personally think we need more engineers than we have now.

Gen McBRIDE:
■ I prefer to give the engineers to army and attach them when necessary.

Col McGARR:
■ The necessity of engineers varies with the terrain.

Gen McBRIDE:
■ I would like to see four companies in one battalion.

Gen GAY:
■ Experience proves that we need three engineer battalions for each division. Our question then is whether two of those battalions should be in division and one in the corps, or one in the division and two in the corps.

Gen KIBLER:
■ Are there any other views? I will ask you to indicate if you are in favor of the two-battalion regiment.

(The majority voted in favor.)

Gen KIBLER:
■ Will the incorporation of a tank regiment and engineer regiment result in a proper balance with respect to the infantry strength of the infantry division? In other words, have we put in any elements out of proportion to the infantry strength?

Gen ROBERTSON:
■ You certainly have. What you want is infantry in depth which this organization does not provide.

Gen McBRIDE:
■ It only gives you width if you add more infantry.

Gen ROBERTSON:
■During the war we had to put replacements into the line immediately. What we should have done with these men was to keep them in a reinforcement battalion. You have got to have somewhere behind you some men who are trained and ready to step up as platoon leaders.

Col McGARR:
■I would like one behind my regiment to use for what it is meant to be used for - replacement.

Gen ROBERTSON:
■If you put that reinforcement (replacement) battalion behind each regiment you will not have a combat battalion.

Gen PATTON:
■You don't have to limit the size of the replacement battalion we have shown in the proposed infantry division. The replacements come in there and the returnees go in there too.

Gen ROBERTSON:
■And your battle exhaustion cases go in there. It is a fact that front-line units fought under-strength. We must do something about that. You can't expect the infantry to carry on sustained action day after day, week after week, under any such organization like that.

Gen ALLEN:
■Of course, there was a general shortage of replacements in this war. No matter how many replacement battalions you might have had there were not enough men to put in them.

Gen ROBERTSON:
■You have got to have some system in your organization to let you integrate the men into your organization. It is fundamentally wrong to replace men on the front lines. It is unfair.

Gen PATTON:
■It's murder.

(At this point there was some discussion of the possibility of providing a fourth platoon in each rifle company.)

Gen KIBLER:
■I would like to determine who is in favor of one reinforcement battalion in a division as we have it. Please indicate by raising your hand.

(Majority was in favor.)

Gen KIBLER:
■Who prefers four platoons in a rifle company?

(None in favor.)

Gen KIBLER:
■The meeting is now open for any other discussion.

Col BIDDLE:
■I invite further consideration of the cavalry element of the division. This troop (pointing to chart) is a great improvement over the former troop. In the first place, the platoon is stronger and has within it a small rifle element ready to fight on the

Col BIDDLE (CONT'D):
ground. There are four of these platoons. Finally, the whole troop is commanded by a major. The reason is that a captain, we found, does not have enough rank and prestige to make his opinions felt. In addition that troop was definitely ineffective in combat. In some cases it was reinforced and made into a task force. This organization was proposed by a sub-committee working on mechanized cavalry. It was the consensus that a squadron was not wanted, but that a stronger troop was wanted; however, there is some minority who feels there should be a squadron. The squadron we recommend has three cavalry troops as in my chart without the extra platoons and without these supporting platoons. (Explains chart and calls Colonel Macdonald, a troop commander.)

Col MACDONALD:
■I feel very strongly that the present reconnaissance troop was not able to perform the missions to which it was assigned. We had to reinforce them. They just did not have the fighting power to do those jobs. With troops of that kind and only a captain in command, we were not able to build up men with experience enough in cavalry to provide men with tactical ability to do the job. I recommend a squadron with a lieutenant colonel commanding. I don't think that a cavalry squadron is too large. The present organization, I think, is nothing but a compromise. You have not increased the fighting strength of the troop, but as the chart shows, just added a little.

Gen KIBLER:
■Is there any further discussion?

Gen McBRIDE:
■I go for extra cavalry instead of the other things we have added. We need more cavalry reconnaissance.

Gen KIBLER:
■What would a squadron consist of?

Col BIDDLE:
■(Colonel Biddle here explains the chart.) This is a squadron within a regiment. It does not have a service element which would be added to headquarters. There will be three cavalry troops, divided into three cavalry platoons. Also a rifle troop organized into three rifle platoons and a mortar platoon. (Colonel Biddle produces another chart showing the cavalry platoon and explains it.)

Gen ROBERTSON:
■How about taking the reconnaissance element from the division and putting it in the corps? We must either have men in the division or none at all. Consideration should be given to having a group in the corps and putting them in front of the division when the situation arises.

Gen McBRIDE:
■I disagree with the premise that you only need them when the situation arises.

Gen ROBERTSON:
■If you can reach back in corps and pull out a squadron and group, isn't this one type unit that you can call for when needed and not have all the time? I would rather have nothing than just a troop because it isn't enough to do the job.

Gen GAY:
■Let's ask Macdonald about that.

Col MACDONALD:
■From the time I took command of a group until the end of the war, there was never a minute when my squadron was not in use by the corps. The group I had was never a normal cavalry group. The demand for cavalry squadrons was never met. I think we need them all the time.

Gen PATTON:
■I would like to ask three questions which are off the subject: first, has anybody ever seen a gun sling used for shooting in action? We can save much money and leather if we don't make the sling. Second, has anyone ever seen a sight set in combat? I have asked a number of officers and they have never seen a sight set. We make an instrument that nobody uses. Third, we did a great deal of night fighting and fighting in early morning and snow - is the peepsight the proper sight for that kind of fighting?

(Some discussion followed.)

Gen ROBERTSON:
■We must teach a man the possibilities of a weapon and give him confidence in it.

Gen PATTON:
■I see no sense in sights beyond 300 yards. Is there objection to having all weapons which shoot projectiles-mortars, cannons, etc. - use the same nomenclature and system of laying?

Gen McBRIDE:
■There's not only no objection but it's important.

Gen KIBLER:
■To come back to the subject, I believe you feel that there should be a cavalry squadron in the division, as on the chart. Anybody dissent?

(No dissents)

Any other points to discuss?

Gen McBRIDE:
■How about radar companies and anti-mortar people?

Gen BALMER:
■Anti-aircraft artillery have most of the radar. Place radar detection in the division and not in the corps.

(No further discussion.)

Gen PATTON:
■I would like to thank both the visiting officers and members of The Board for the remarkable intelligence shown. Also for the very hard work which has been put into the study and I wish to reiterate that this study is not a result of The Board, but the result of a large number of people mentioned on these pages. It goes down to including captains and majors.

The conference adjourned at 1600.

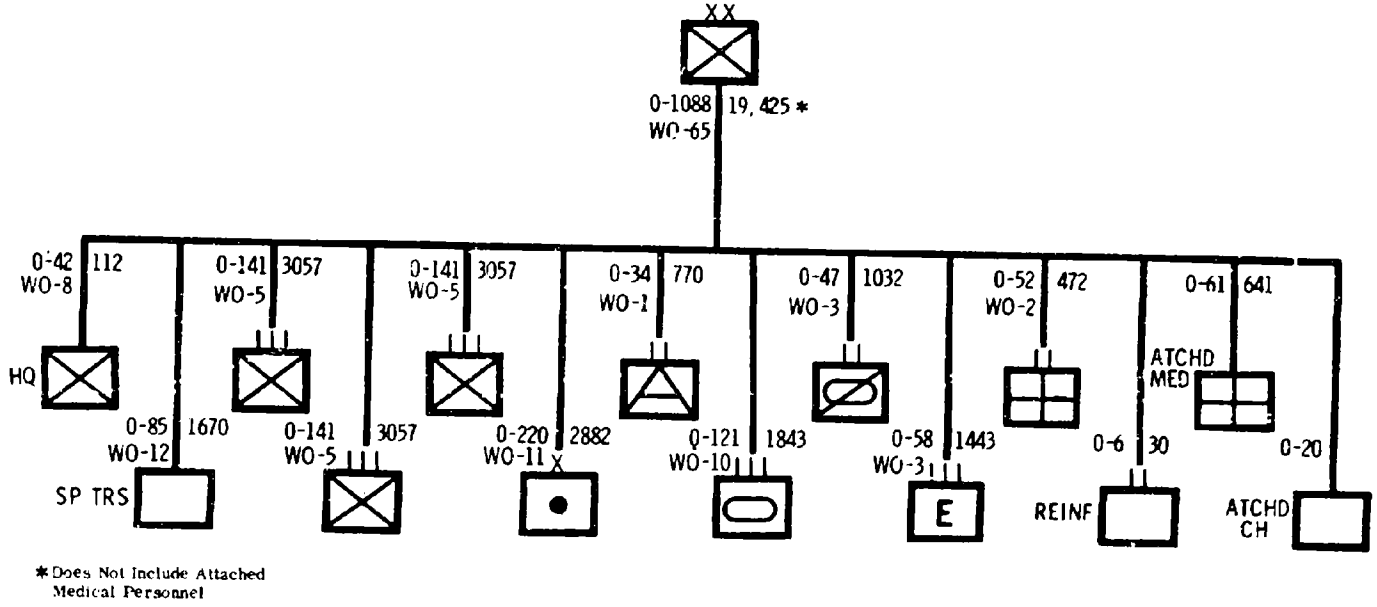
THE GENERAL BOARD

United States Forces, European Theater

SUMMARY OF ANSWERS TO QUESTIONNAIRE "THE INFANTRY DIVISION"

QUESTIONNAIRE	MAJOR GENERALS (INCLUDES 1 Lt. Gen.)		BRIGADIER GENERALS		COLONELS		LT COLONELS & MAJORS		COMBINED TOTALS	
(Some of important questions included on questionnaire)	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
1. Should position of Asst Div Comdr be eliminated?	3	13	4	4	8	18	0	12	15	47
2. What should be ranks of Div General Staff?	9 - Lt Col 2 - Col 5 - G-3 Col		6 - Lt Col 2 - G-3 Col 2 - G-4 Col		14 - Lt Col 10 - G-3 Col 2 - G-4 Col		7 - Lt Col 5 - G-3 Col		36 - Lt Col 17 - G-3 Col 4 - G-4 Col 2 - Col	
3. What size armored units should be organic in the Inf Div?	7 - Tk Bn 4 - Tk Regt 2 - Tk Bn/Co ea Regt 3 - Tk Bn ea Regt		5 - One Tk Bn 1 - Two Tk Bns 1 - Tk Co ea Regt 1 - Tk Bn ea Regt		6 - Tk Bn 11 - Tk Regt 7 - Tk Bn/Co ea Regt 4 - Tk Co ea Regt		5 - One Tk Bn 5 - One Tk Regt 2 - Tk Co ea Regt 1 - Tk Bn/Co ea Regt		7 - Tk Co ea Regt 23 - Tk Bn 10 - Tk Bn/Co ea Regt 4 - Tk Bn ea Regt 20 - Tk Regt	
4. Should Cannon Co be eliminated from Inf Regt?	10	5	4	4	9	14	5	8	24	31
5. Should the 4.2-in. Cml Mortar replace the 81mm Mortar in Hy Wpns Co?	3	12	1	6	2	20	4	9	10	47
6. Should a 4.2-in. Cml Mortar Co be organic in Inf Regt?	9	6	5	2	17	6	10	3	41	17
7. Should an AAA Bn be organic in Inf Div?	12	4	7	1	21	2	9	4	49	11
8. Should a Tank Destroyer Bn (SP) be organic in the Inf Div?	9	6	7	1	16	10	10	3	42	20
9. Should a Tk or TD Co (SP) be substituted for the AT Co in Regts?	9 (6 - Tk Co) (3 - TD Co)	6	3 (3 - Tk Co)	4	20 (17 - Tk Co) (3 - TD Co)	4	10 (6 - Tk Co) (4 - TD Co)	3	42 (32 - Tk Co) (10 - TD Co)	17
10. What should be the size of Div Military Police units?	15 - Co		7 - Co		19 - Co 1 - Bn		6 - Co 2 - Bn		47 - Co 3 - Bn	
11. Should organic transportation be assigned to motorize the entire Div?	1	13	2	6	5	13	1	8	9	40
12. Should a Cavalry Squadron be substituted for Div Recon Troop?	6	10	3	3	11	12	4	8	24	33
13. Should a QM Shower Unit be organic in the Inf Div?	9	7	4	3	24	2	12	1	49	13
14. Should a Defense (MP) Plat be organic in the Inf Regt?	12	4	7	0	19	6	9	4	47	14
15. Should each Inf Regt be authorized a Band?	9	6	5	3	20	6	9	4	43	19
16. What should be the strength of the Rifle squad?	10 - 12 Men 2 - 13 Men		4 - 12 Men 1 - 14 Men 1 - 13 Men		13 - 12 Men 5 - 13 Men 2 - 8 Men		8 - 12 Men 2 - 13 Men		35 - 12 Men 10 - 13 Men 2 - 8 Men	
17. Should the rank of the Div Arty and Inf Regt CO's be the same? What?	10 (7 - B.G.) (3 Col.)	6	4 (2 - B.G.) (2 - Col.)	2	21 (13 - B.G.) (7 - Col.)	4	9 (4 - B.G.) (5 - Col.)	4	44 (26 - B.G.) (17 - Col.)	16
18. Should LMG be substituted for BAR in the Rifle squad?	3	9	0	5	2	21	3	9	8	45
19. Do you recommend any changes in the tactical role of Inf Div?	0	14	0	6	0	23	0	11	0	54

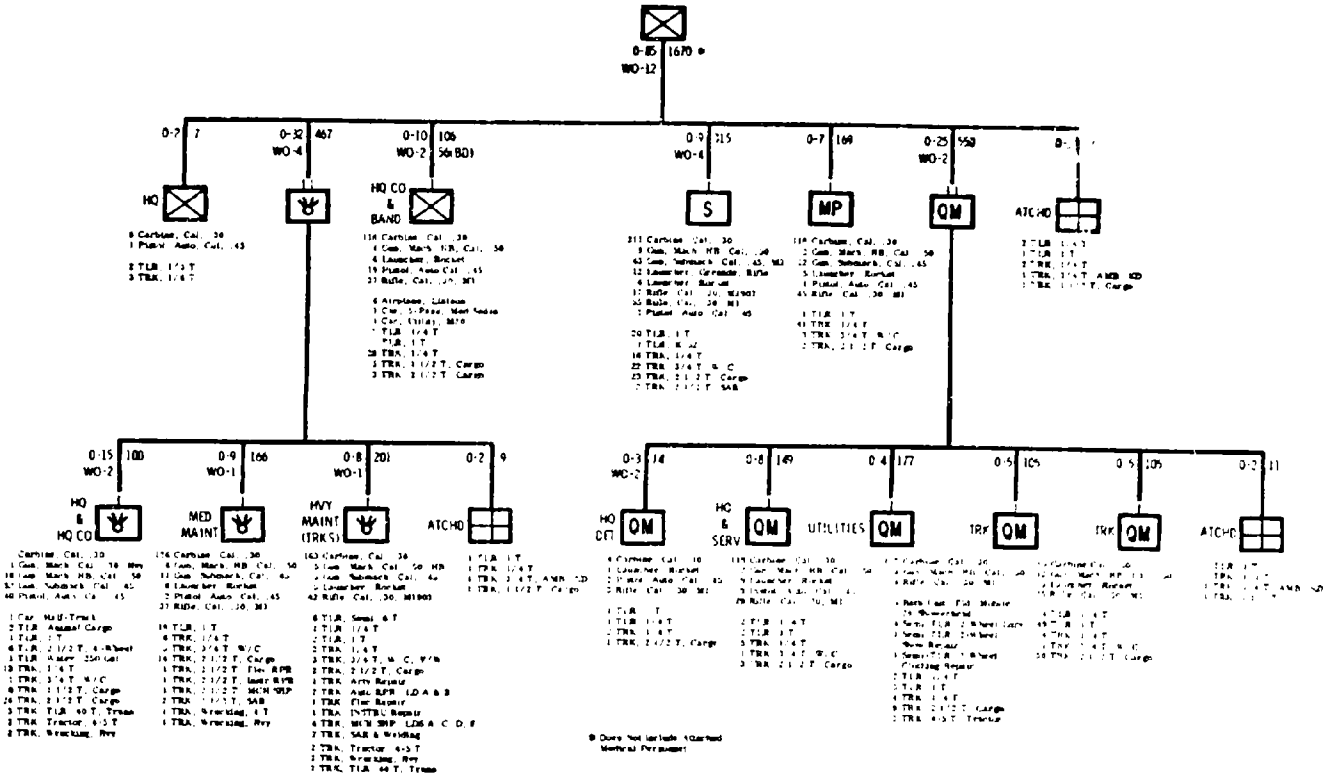
Recommended Organization, Strength, and Equipment of Infantry Division, 1 December 1945



* Does Not Include Attached Medical Personnel

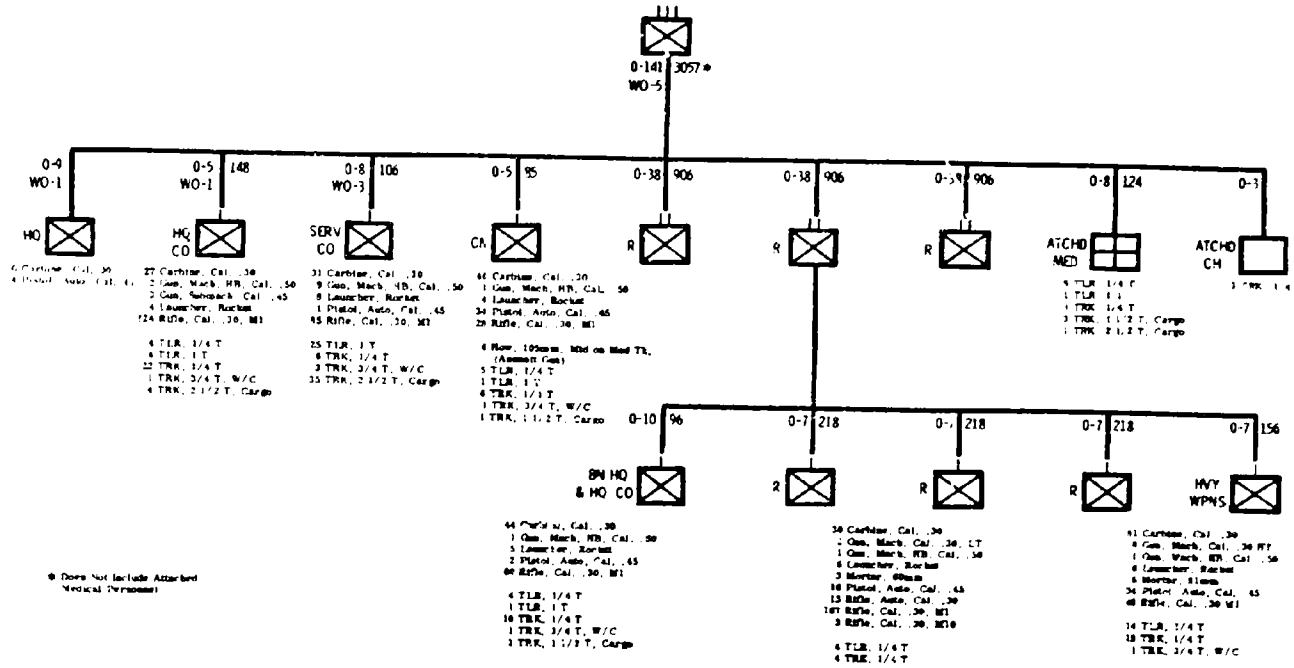
Source: General Board, ETO

Special Troops, Infantry Division, 1 December 1945



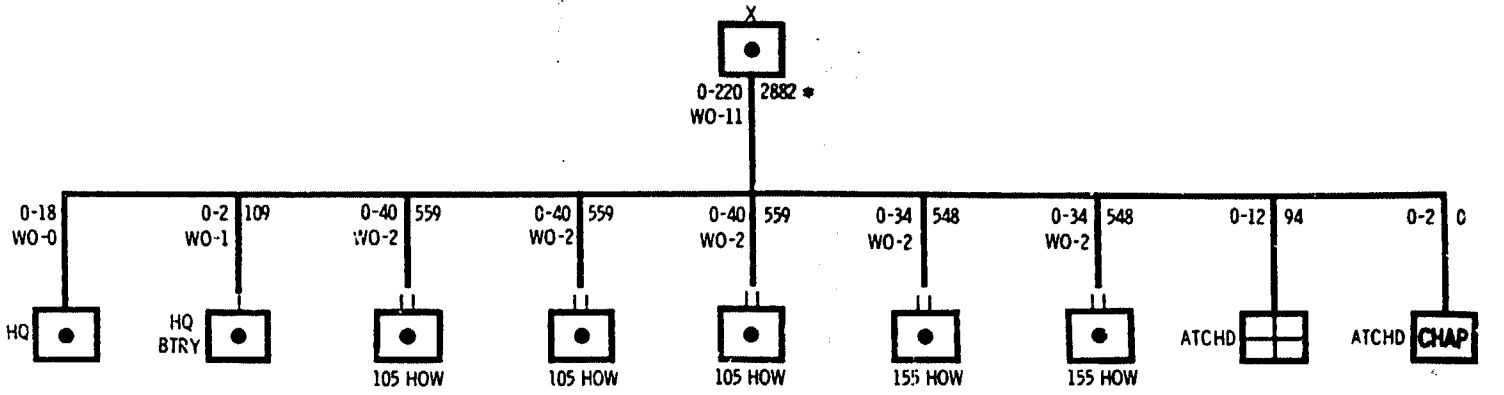
Source: General Board, ETO

Infantry Regiment, Infantry Division World War II, 1 December 1945



Source: General Board, ETO

Artillery Brigade, Infantry Division, 1 December 1945



91 Carbine, Cal. .30
5 Gun, Mach, HB, Cal. .50
6 Launcher, Rocket
39 Pistol, Auto, Cal. .45

2 Airplane, Liaison
5 TLR, 1/4 T
6 TLR, 1 T
9 TRK, 1/4 T
10 TRK, 3/4 T, W/C
4 TRK, 2 1/2 T, Cargo
3 TRK, 2 1/2 T, SWB

*Does Not Include Attached Medical Personnel

486 Carbine, Cal. .30
18 Carriage, Motor, 105mm How
23 Gun, Mach, HB, Cal. .50
45 Gun, Submach, Cal. .45, M3
40 Launcher, Rocket
70 Pistol, Auto, Cal. .45

2 Airplane, Liaison
26 TLR, 1/4 T
33 TLR, 1 T
32 TRK, 1/4 T
23 TRK, 3/4 T, W/C
3 TRK, 1 1/2 T, Cargo
30 TRK, 2 1/2 T, Cargo
7 TRK, 2 1/2 T, SWB
1 TRK, Wrecking, Hvy
2 Vehicle, Tank Recovery

514 Carbine, Cal. .30
21 Gun, Mach, HB, Cal. .30
3 Gun, Submach, Cal. .45, M3
18 Howitzer, 155mm
40 Launcher, Rocket
46 Pistol, Auto, Cal. .45

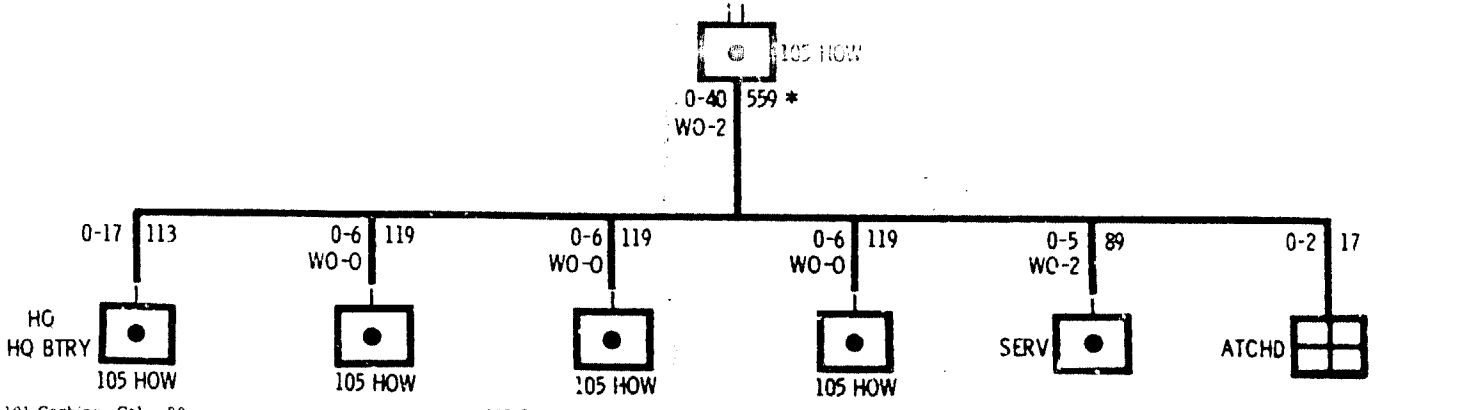
2 Airplane, Liaison
21 Tractor, Med, M5
17 TLR, 1/4 T
13 TLR, 1 T
22 TRK, 1/4 T
26 TRK, 3/4 T, W/C
21 TRK, 2 1/2 T, Cargo
15 TRK, 2 1/2 T, SWB
1 TRK, Wrecking, 4 T

6 TLR, 1/4 T
6 TRK, 1/4 T
6 TRK, 3/4 T, AMB, KD
1 TRK, 1 1/2 T, Cargo

2 TRK, 1/4 T

Source: General Board, ETO

105 Howitzer Battalion, Infantry Division, 1 December 1945



101 Carbine, Cal. .30
5 Gun, Mach, HB, Cal. .50
6 Launcher, Rocket
25 Pistol, Auto, Cal. .45

2 Airplane, Liaison
8 TLR, 1/4 T
3 TLR, 1 T
34 TRK, 1/4 T
11 TRK, 3/4 T, W/C
3 TRK, 2 1/2 T, Cargo
1 TRK, 2 1/2 T, SWB

*Does Not Include Attached Medical Personnel

102 Carbine, Cal. .30
4 Gun, Mach, HB, Cal. .50
15 Gun, Submach, Cal. .45
6 Carriage, Motor, 105mm How
8 Launcher, Rocket
8 Pistol, Auto, Cal. .45

5 TLR, 1/4 T
3 TLR, 1 T
5 TRK, 1/4 T
3 TRK, 3/4 T, W/C
2 TRK, 2 1/2 T, Cargo
2 TRK, 2 1/2 T, SWB
1 TRK, 1 1/2 T, Cargo

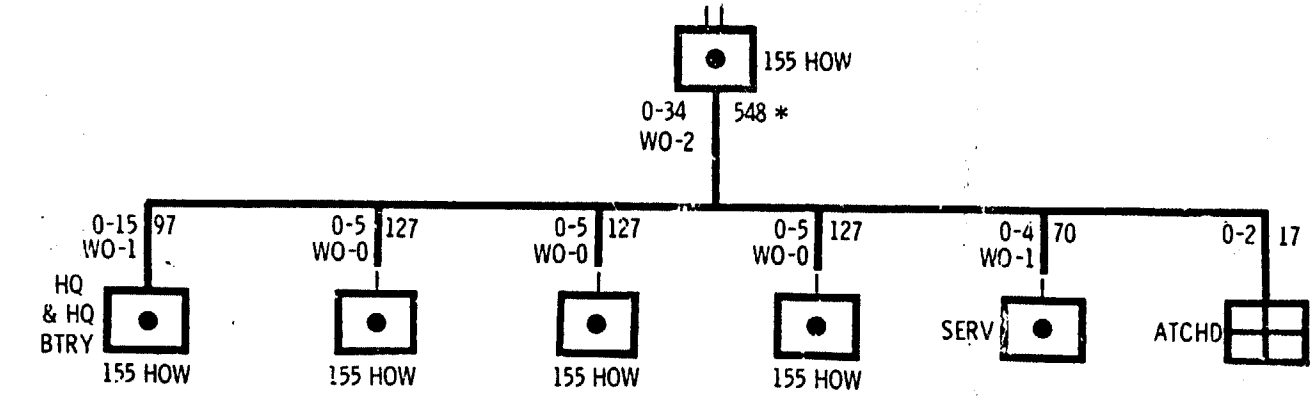
79 Carbine, Cal. .30
6 Gun, Mach, HB, Cal. .50
10 Launcher, Rocket
17 Pistol, Auto, Cal. .45

3 TLR, 1/4 T
21 TLR, 1 T
3 TRK, 1/4 T
3 TRK, 3/4 T, W/C
21 TRK, 2 1/2 T, Cargo
1 TRK, Wrecking, Hvy
2 Vehicle, Tank Recovery

1 TLR, 1/4 T
1 TRK, 1/4 T
1 TRK, 3/4 T, AMB, MD
1 TRK, 1 1/2 T, Cargo

Source: General Board, ETO

155 Howitzer Battalion, Infantry Division, 1 December 1945



87 Carbine, Cal. .30
5 Gun, Mach, HB, Cal. .50
6 Launcher, Rocket
28 Pistol, Auto, Cal. .45

2 Airplane, Liaison
4 TLR, 1/4 T
3 TLR, 1 T
8 TRK, 1/4 T
11 TRK, 3/4 T, W/C
3 TRK, 2 1/2 T, Cargo
1 TRK, 2 1/2 T, SWB

121 Carbine, Cal. .30
4 Gun, Mach, HB, Cal. .50
1 Gun, Submach, Cal. .45, M3
6 Howitzer, 155mm
8 Launcher, Rocket
11 Pistol, Auto, Cal. .45

7 Tractor, MED, M5
4 TLR, 1/4 T
2 TLR, 1 T
4 TRK, 1/4 T
4 TRK, 3/4 T, W/C
3 TRK, 2 1/2 T, Cargo
3 TRK, 2 1/2 T, SWB

(TOWED PENDING DEVELOPMENT OF SELF-PROPELLED MOUNTS)

64 Carbine, Cal. .30
4 Gun, Mach, HB, Cal. .50
10 Launcher, Rocket
13 Pistol, Auto, Cal. .45

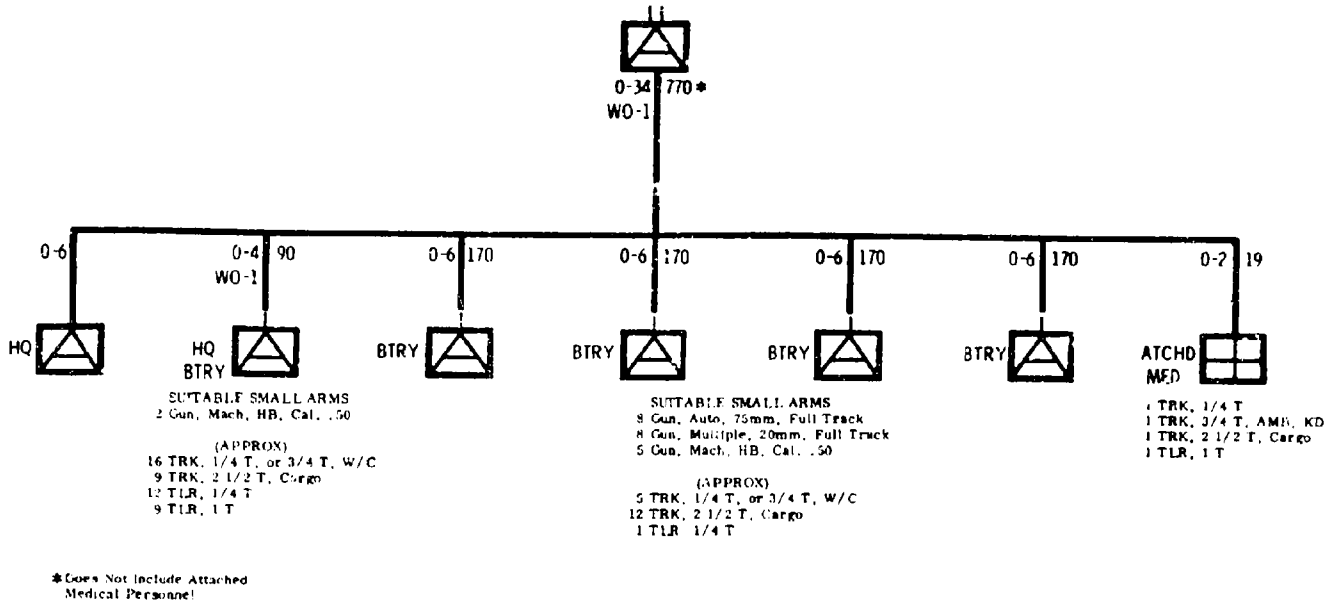
1 TLR, 1/4 T
4 TLR, 1 T
2 TRK, 1/4 T
3 TRK, 3/4 T, W/C
9 TRK, 2 1/2 T, Cargo
5 TRK, 2 1/2 T, SWB
1 TRK, 4 T, Wrecker

1 TLR, 1/4 T
1 TRK, 1/4 T
1 TRK, 3/4 T, AMB, KD
1 TRK, 1 1/2 T, Cargo

* Does Not Include Attached Medical Personnel

Source: General Board, ETO

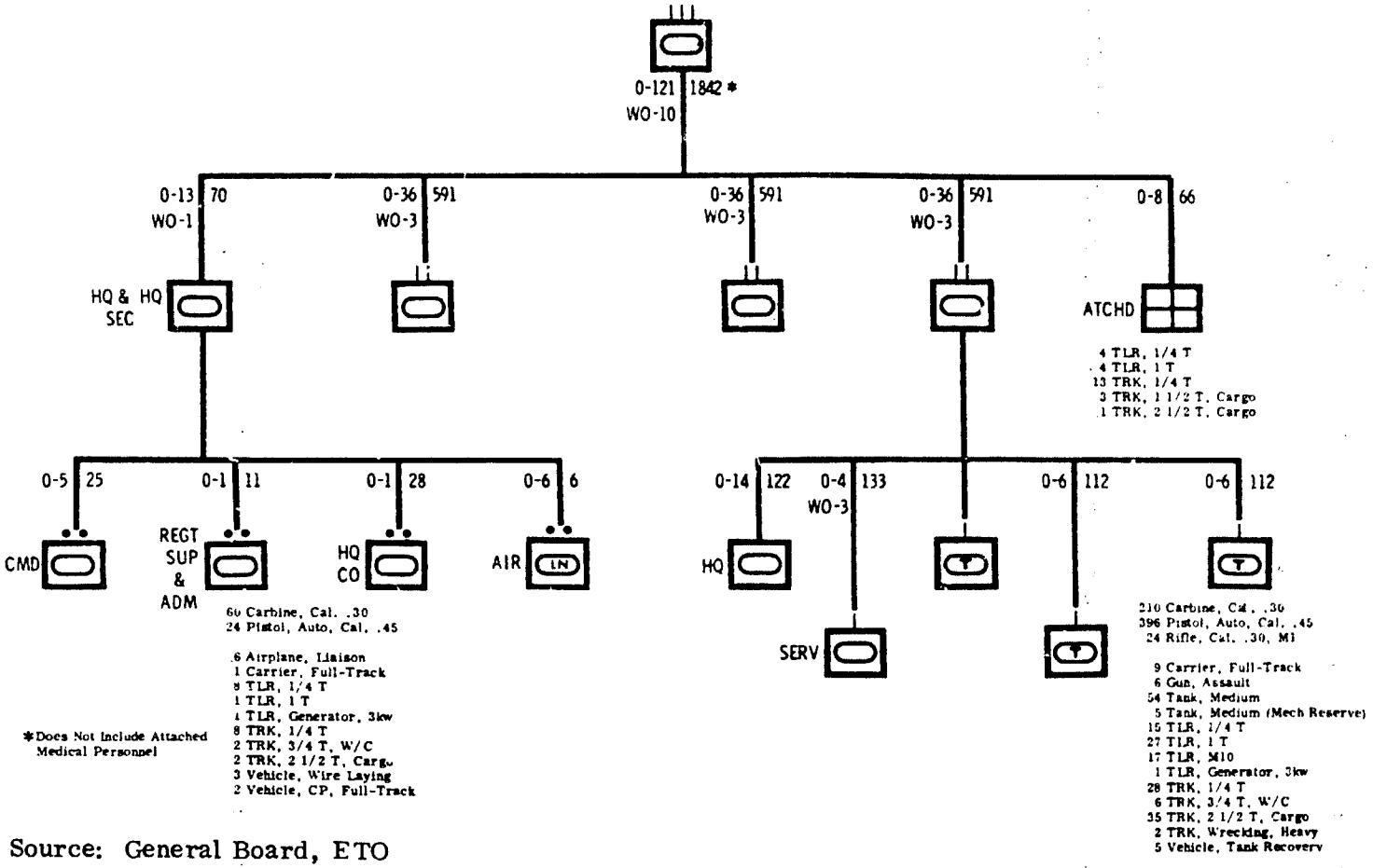
AA, AW Battalion, Infantry Division, 1 December 1945



*Does Not Include Attached Medical Personnel

Source: General Board, ETO

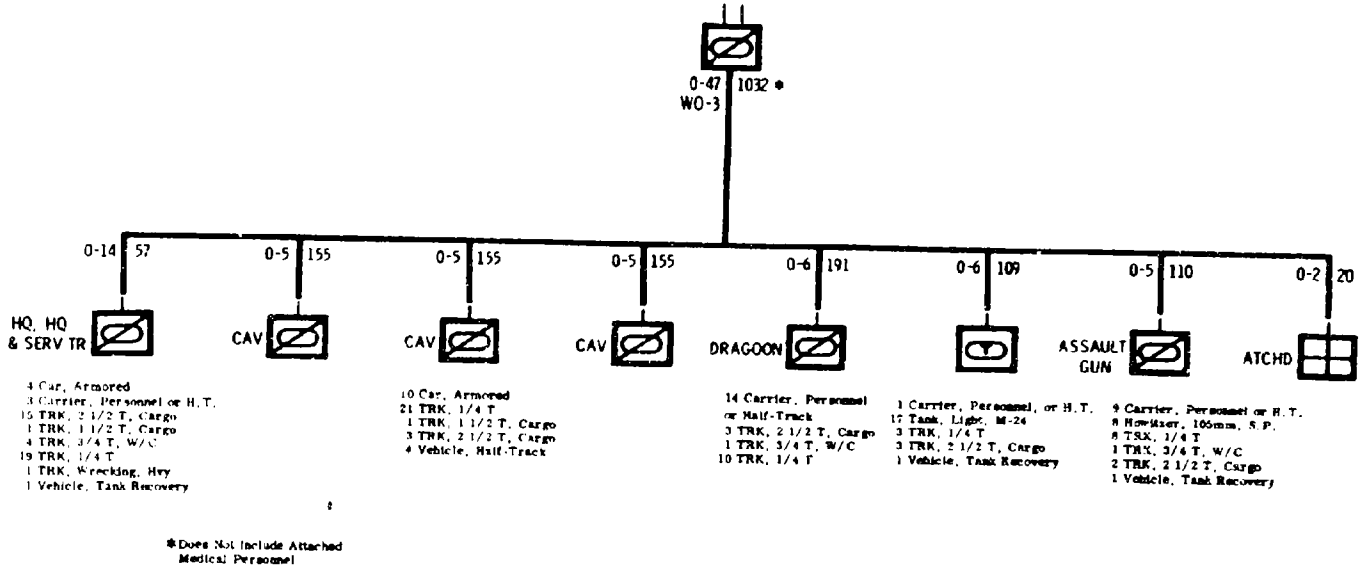
Tank Regiment Infantry Division, 1 December 1945



*Does Not Include Attached Medical Personnel

Source: General Board, ETO

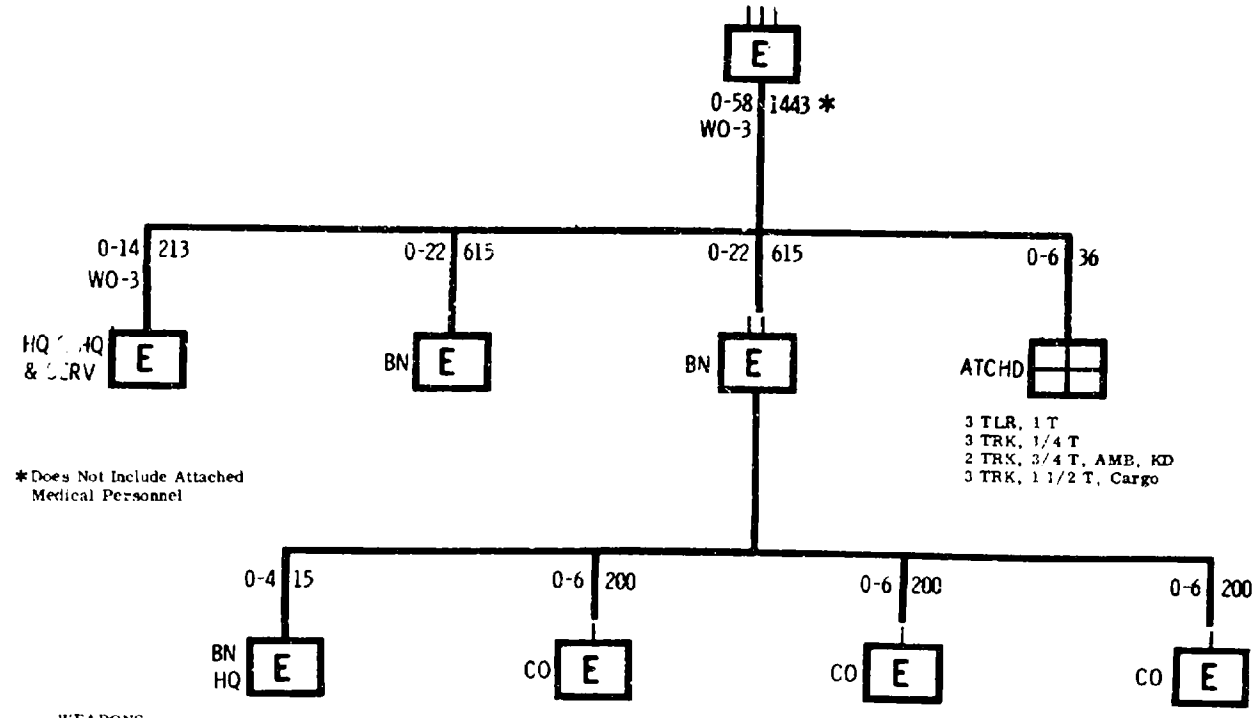
Mechanized Cavalry Squadron, Infantry Division, 1 December 1945



*Does Not Include Attached Medical Personnel

Source: General Board, ETO

Engineer Regiment, Infantry Division, 1 December 1945



*Does Not Include Attached Medical Personnel

WEAPONS

131 Carbine, Cal. .30
36 Gun, Mach, Cal. .30 Hvy
8 Gun, Mach, Cal. .30, Lt
31 Gun, Mach, HB, Cal. .50
63 Gun, Submach, Cal. .45
8 Gun, 37mm
60 Launcher, Rocket
7 Pistol, Auto, Cal. .45
1303 Rifle, Cal. 30, M-1

VEHICLES

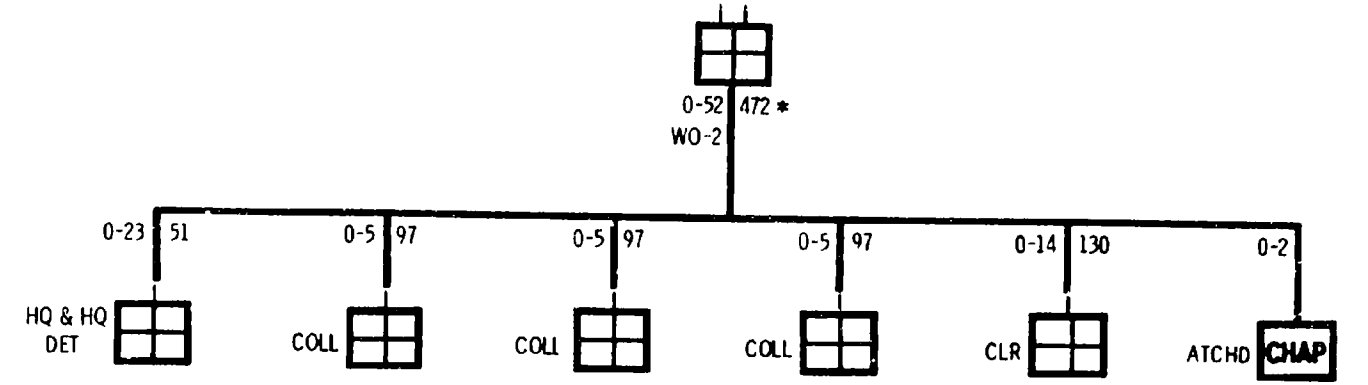
8 Car, Armored, Lt, M8
51 TRK, 1/4 T
28 TRK, 3/4 T, W/C
50 TRK, 2 1/2 T, Cargo
54 TRK, 2 1/2 T, Dump
8 TRK, 6 T, Prime Mover
3 TRK, 6 T, Bridge
2 TRK, 10T, Wrecker
39 TLR, 1/4T
48 , 1T

SPECIAL EQUIPMENT

108 ft Bridge, M2, Dry Treadway
8 Compressor, Air, TRK Mounted
3 Crane, TRK Mounted, OED, 3/4 Yd
2 Grader, MTZ, DED, 12' Moldboard
8 Semi-TLR, Low Bed, 20 T
1 Shop Equip, MTZ, General Purpose Repair
4 Tank, Engineer
8 Tractor, Diesel, 70 to 90 DBHP
20 TLR, Utility, Pole, Type, 2 1/2 T, Type 1
6 Water Purification Equip, Set 3

Source: General Board, ETO

Medical Battalion, Infantry Division - 1 December 1945



* Does Not Include Attached Medical Personnel

Source: General Board, ETO

Armored Division, Organic Composition

	I 1 March 1942	II 15 Sept 1943	III 24 Jan 1945
Entire Division	14,620	10,937	10,670
Division Headquarters	185	164	174
Hq & Hq Co, Combat Command "A"	61	63	90
Hq & Hq Co, Combat Command "B"	61	61	68
Hq, Reserve Command		8	8
Armored Component	4,648	2,187	2,100
1 Armored Regiments, each:	2,424		
Hq & Hq Company	172		
Reconnaissance Company	202		
Service Company	191		
Maintenance Company	188		
Tank Battalion (Medium) (two)	699		
Hq & Hq Company	152		
Tank Company (Medium)(three)	149		
Tank Battalion (Light)	473		
Hq & Hq Company	143		
Tank Company (Light) (three)	110		
3 Tank Battalions, each:		729	700
Hq & Hq Company		147	140
Service Company		119	115
Tank Company (Medium) (three)		122	117
Tank Company (Light)		97	94
Infantry Component	2,389	3,003	2,986
Armored Infantry Regiment	2,389		
Hq & Hq Company	136		
Service Company	151		
Armored Infantry Bn, (three)	700	1,001	995
Hq & Hq Company	168	173	169
Service Company		75	73
Rifle Company (three)	178	251	251
Artillery Component	2,127	1,823	1,820
Hq Division Artillery		21	95
Armored Field Artillery			
Battalion (three)	709	634	610
Hq & Hq Battery	173	111	108
Service Battery	152	93	89
Firing Battery (three)	128	110	105
Auxiliary Units	4,521	3,499	3,338
Division Hq Company	111	138	116
Division Service Company	160		
Band		58	58
Signal Company	266	302	293
Reconnaissance Battalion	872	936	894
Engineer Battalion	1,174	693	660
Division Trains	1,948	1,373	1,318
Hq & Hq Company	159	103	99
Maintenance Battalion	873	762	732
Supply Battalion	414		
Medical Battalion	502	417	400
MP Military Police Platoon		81	87
Attached Medical	414	281	254
Attached Chaplain	14	9	8
Principal Equipment			
Medium Tanks	232	186	195
Light Tanks	158	77	77
105-mm Howitzers, self-propelled	54	54	54
cal. 30 Machine Guns	251	466	434
cal. 50 Machine Guns	103	404	382
cal. 45 Submachine Guns	2,160	2,803	2,811
Carbines	6,042	5,286	5,061
cal. 30 Rifles	1,625	2,063	2,040
Antitank Rocket Launchers		607	609
Carriers, Half-track	733	501	466
Vehicles, all types (except boats and aircraft)	3,630	2,653	2,278

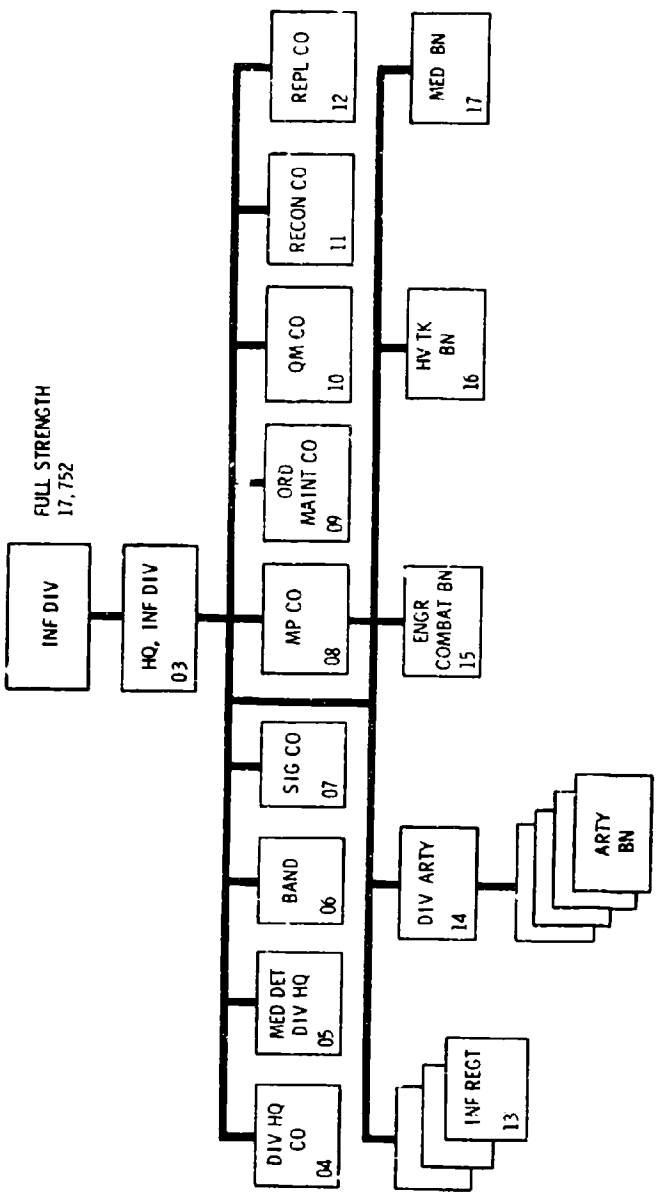
Source. T/O 17 and allied tables as of above dates.

Historical Section
Headquarters
Army Ground Forces

Source: R. R. Palmer, Study Number 8, Army Ground Forces, 1946

APPENDIX E

INFANTRY DIVISION - 1950 (KOREA)



SECTION II - ORGANIZATION

DESIGNATION: ..... INFANTRY DIVISION

INDEX PARA	INDEX LINE	DESIGNATION	STRENGTH	REMARKS	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS						WO	ENLISTED						ENLISTED CADRE	REMARKS
								GEN	COL	LT COL	MAJ	CAPT	LT		E-7 SGT	E-6 SFC	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
		SRC 07 000N 0 00-				1	2														4	
03		DIVISION HEADQUARTERS T-O-E 7-1N																				
	01		O			52	44	1	1	1	1	1	1	10								
	02		W			10	9															
	03		E			141	107								13	20	36	51	16	5		
						203	160															
04		HEADQUARTERS COMPANY T-O-E 7-2N																				40
	01		O			12	12					2	10	2								
	02		W			2	2															
	03		E			176	128								4	9	24	41	63	35	28	
						190	142														28	
05		MEDICAL DETACHMENT DIVISION HQ T-O-E 7-2N																				41
	01		O			1	1				1											
	02		E			13	12									1	5	4	2	1	4	
						14	13														4	
06		BAND T-O-E 20-107N																				
	01		W			2	2							2								
	02		E			68	56								2	3	11	46	6			
						70	58															
07		SIGNAL COMPANY T-O-E 11-7N																				42
	01		O			11	8			1	1	2	7	4								
	02		W			4	4															
	03		E			354	298								9	17	56	76	107	39	58	
						369	310														58	

08		MILITARY POLICE COMPANY																					43
		T-O-E 19-27N																					
	01		O			7	7			1		1	5										
	02		E			180	142								2	7	18	73	69	11	20		
						187	149														20		
09		ORDNANCE MAINTENANCE COMPANY																					44
		T-O-E 9-8N																					
	01		O			11	7			1	3	4	3										
	02		W			8	8							R									
	03		E			302	243								9	17	55	123	66	32	48		
						321	258														48		
10		QUARTERMASTER COMPANY																					45
		T-O-E 10-17N																					
	01		O			11	10			1	1	3	6										
	02		W			1	1							1									
	03		E			240	184								4	11	20	46	104	55	33		
						252	195														33		
11		RECONNAISSANCE COMPANY																					46
		T-O-E 17-57N																					
	01		O			6	6					1	5										
	02		W			1	1							1									
	03		E			164	155								4	15	31	58	48	8	20		
						171	162														20		
12		REPLACEMENT COMPANY																					
		T-O-E 20-7N																					
	01		O			6						1	5										
	02		W			1								1									
	03		E			34									5	7	6	7	7	2	34		
						41															34		
13		3 INFANTRY REGIMENTS																					47
		T-O-E 7-11N																					
	01		O			459	411			372	36	117	291										
	02		W			78	75							78									
	03		E			10906	8313								300	780	1353	2622	4464	1297	1509		
						11343	8799														1509		
14		DIVISION ARTILLERY																					48
		T-O-E 6-10N																					
	01		O			240	206	1	1	6	16	79	137										
	02		W			38	38							38									
	03		E			3416	2605								94	239	437	901	1271	474	612		
						3694	2849														612		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	

SECTION II - ORGANIZATION

DESIGNATION:

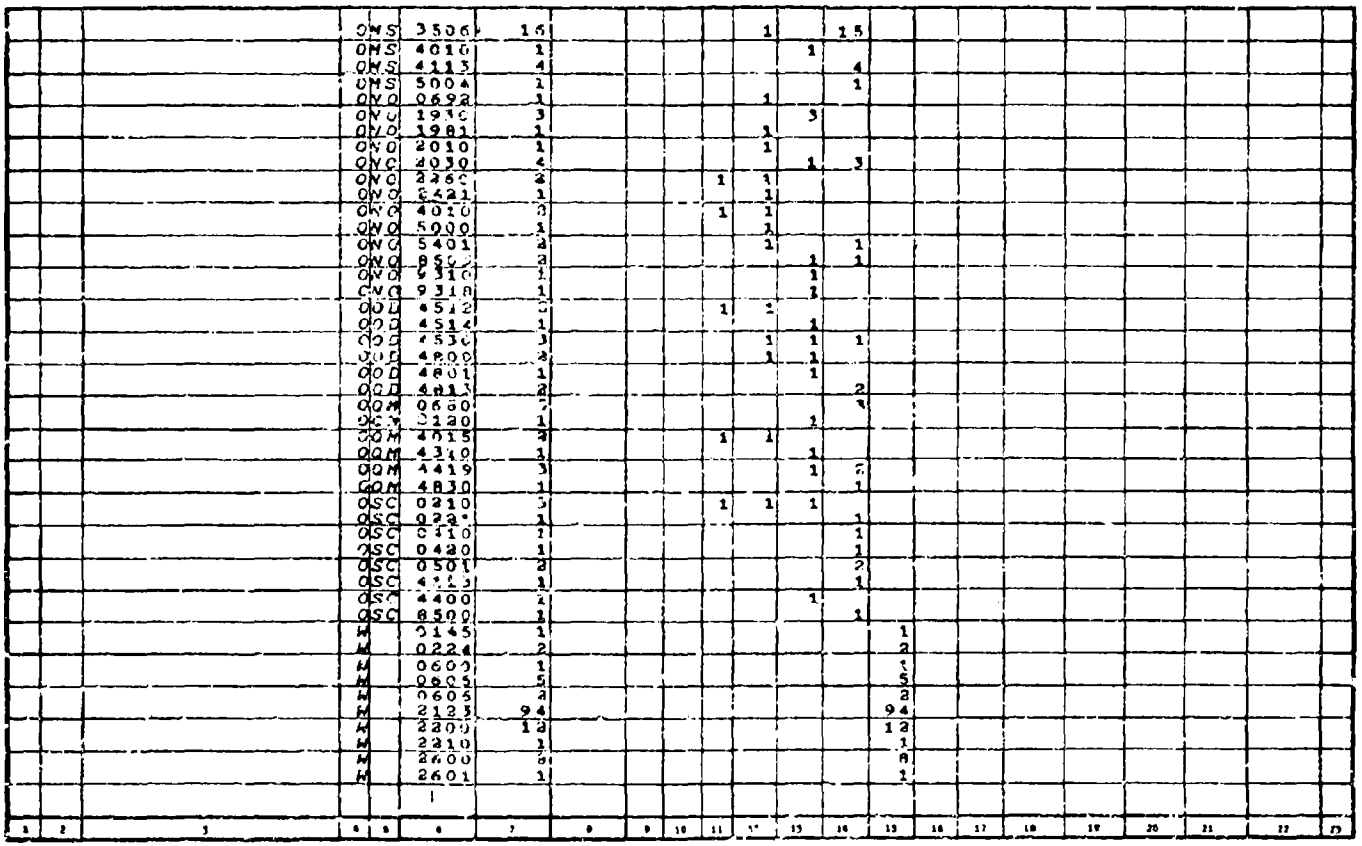
INDEX PARA	INDEX LINE	DESIGNATION	UNIT	REMARKS	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	OFFICERS COL	OFFICERS LT COL	OFFICERS MAJ	OFFICERS CAPT	OFFICERS LT	WO	ENLISTED E-7 MSGT	ENLISTED E-6 SFC	ENLISTED E-5 SGT	ENLISTED E-4 CPL	ENLISTED E-3 PFC	ENLISTED E-2 PVT	ENLISTED CADRE	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
15		ENGINEER COMBAT BATTALION T-O-E 5-15N																				49
	01		O			41	33			1	4	11	25									
	02		WO			9	9							9								
	03		E			926	737								25	77	192	250	250	132	143	
						976	779														143	
16		HEAVY TANK BATTALION T-O-E 17-35N																				56
	01		O			36	26			1	2	10	23									
	02		WO			8	7							8								
	03		E			639	489								24	58	189	169	153	46	132	
						683	522														132	
17		MEDICAL BATTALION T-O-E 8-15N																				51
	01		O			46	38			1	5	31	9									
	02		WO			2	2							2								
	03		E			293	234								10	22	36	103	104	18	74	
						341	274														74	
		TOTALS				18455	14670	3	5	36	86	276	533	66	505	1263	2469	4620	6730	2145	805	
		RECAPITULATION																				
		FULL STRENGTH																				
		OFFICERS - WARRANT OFFICERS																				
			OAC		0030	2							2									
			OAC		2110	3				1	1	1										
			OAH		2010	1			1													
			OAH		2162	2				1	1											
			OAH		2164	1					1											
			OAH		2901	1					1											
			OAH		5004	2					1	1										
			OAH		9301	3				1	1	1										

			OAM	9310	1					1														
			OAR	0200	1								1											
			OAR	0600	1									1										
			OAR	0606	1								1											
			OAR	1203	39					1	1		6	31										
			OAR	1204	7								1	6										
			OAR	1930	3									3										
			OAR	1961	1									1										
			OAR	2110	1								1											
			OAR	2162	1							1												
			OAR	2900	1								1											
			OAR	4010	1								1											
			OAR	9301	1								1											
			OAT	0140	3									3										
			OAT	0200	11							1	5	5										
			OAT	0600	12								4	8										
			OAT	0606	1								1											
			OAT	1174	27					1	1		5	20										
			OAT	1183	17								1	16										
			OAT	1189	29									[illegible]										
			OAT	1193	72				1	4	4	27		36										
			OAT	1981	11								1	10										
			OAT	2030	2									2										
			OAT	2110	6							1	5											
			OAT	2162	11					1		5	4	1										
			OAT	2900	6								6											
			OAT	2910	4								4											
			OAT	4010	2							1	1											
			OAT	4510	4									4										
			OAT	5004	1								1											
			OAT	5261	1									1										
			OAT	8503	1									1										
			OAT	9301	7							1	6											
			OCA	5310	18					1	5	12												
			OCM	7314	2					1			1											
			ODS	3170	16								16											
			ODS	3175	1							1												
			ODS	3178	1							1												
			OEN	0200	1								1											
			OEN	0600	1								1											
			OEN	1331	21					1	1		4	15										
			OEN	1342	1									1										
			OEN	2110	1								1											
			OEN	2162	1							1												
			OEN	2900	1								1											
			OEM	4010	2							1		1										
			OEM	4113	5									5										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		

SECTION II - ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION	4	BRANCH	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	OFFICERS COL	OFFICERS LT COL	OFFICERS MAJ	OFFICERS CAPT	OFFICERS LT	WO	ENLISTED E-7 MSGT	ENLISTED E-6 SFC	ENLISTED E-5 SGT	ENLISTED E-4 CPL	ENLISTED E-3 PFC	ENLISTED E-2 PVT	ENLISTED CADRE	23
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			O	EN	5004	1							1									
			O	EN	7010	1					1											
			O	EN	9301	2						1	1									
			O	FI	6201	2				1		1										
			O	CQ	0002	3		3														
			O	IN	0200	15						3	12									
			O	IN	0600	16						3	13									
			O	IN	1188	3							3									
			O	IN	1504	12							12									
			O	IN	1542	277			3	12	9	49	204									
			O	IN	1981	8						1	7									
			O	IN	2110	12					3	9										
			O	IN	2168	41					12		9									
			O	IN	2430	3							3									
			O	IN	2400	8						4	4									
			O	IN	2910	3						3										
			O	IN	4010	12					3	9										
			O	IN	5004	3						3										
			O	IN	5661	3							3									
			O	IN	9301	12					3	9										
			O	IN	9312	3							3									
			O	JA	8103	2				1		1										
			O	MC	3000	1				1												
			O	MC	3005	1					1											
			O	MC	3100	30					2	28										
			O	MC	3130	2					1	1										
			O	MC	3150	3						3										
			O	MC	3500	5				1	4											
			O	MP	9101	1				1												
			O	MP	9110	6						1	5									
			O	MS	0600	1							1									
			O	MS	2110	1						1										
			O	MS	2120	3						3										
			O	MS	2162	1					1											
			O	MS	2900	1						1										
			O	MS	3503	7						1	6									
			O	MS	3504	3							3									



			ONS	3506	16						1		15											
			ONS	4010	1							1												
			ONS	4113	4								4											
			ONS	5004	1								1											
			ONO	0692	1						1													
			ONO	1910	3							3												
			ONO	1981	1						1													
			ONO	2010	1						1													
			ONO	2030	4							1	3											
			ONO	2362	2				1		1													
			ONO	3421	1						1													
			ONO	4010	3				1		1													
			ONO	5000	1						1													
			ONO	5401	2						1		1											
			ONO	8500	2							1	1											
			ONO	9310	1							1												
			ONO	9318	1							1												
			OOD	4542	2				1		1													
			OOD	4514	1							1												
			OOD	4530	3						1	1	1											
			OOD	4800	2						1	1												
			OOD	4801	1							1												
			OOD	4813	2								2											
			OOM	0660	2								2											
			OOM	2120	1							1												
			OOM	4015	3				1		1													
			OOM	4310	1							1												
			OOM	4419	3							1	2											
			OOM	4830	1								1											
			OSC	0210	3				1		1	1												
			OSC	0230	1								1											
			OSC	0410	1								1											
			OSC	0420	1								1											
			OSC	0501	2								2											
			OSC	4113	1								1											
			OSC	4400	2							1												
			OSC	8500	1								1											
			M	0145	1									1										
			M	0224	2									2										
			M	0600	1									1										
			M	0605	5									5										
			M	0606	2									2										
			M	2123	94									94										
			M	2200	12									12										
			M	2210	1									1										
			M	2600	8									8										
			M	2601	1									1										

SECTION II – ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION	[illegible]	[illegible]	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	OFFICERS COL	OFFICERS LT COL	OFFICERS MAJ	OFFICERS CAPT	OFFICERS LT	WO	ENLISTED E-7 MSGT	ENLISTED E-6 SFC	ENLISTED E-5 SGT	ENLISTED E-4 CPL	ENLISTED E-3 PFC	ENLISTED E-2 PVT	ENLISTED CADRE	[illegible]
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			W		3506	1								1								
			W		4000	11								11								
			W		4110	1								1								
			W		4114	5								5								
			W		4490	1								1								
			W		451[illegible]	7								7								
			W		4805	2								2								
			W		4808	2								2								
			W		4813	1								1								
			W		4880	2								2								
			W		5241	2								2								
			W		6210	1								1								
			W		6201	1								1								
						1103		3	5	36	86	276	533	164								
		ENLISTED																				
			E		0175										2	3	11	46	6			
			E		1008	3									1	2						
			E		1014	83									3	11	69					
			E		1043	1												1				
			E		1056	4									1	1	2					
			E		1102	1										1						
			E		1186	3										1	2					
			E		1187	1									1							
			E		1213	20										3	11	6				
			E		1279	1										1						
			E		1280	1										1						
			E		1290	18									5	13						
			E		1302	2										2						
			E		1309	1											1					
			E		1319	2										1	1					
			E		1359	1										1						
			E		2403	3										3						
			E		1446	1											2					
			E		1485	1										1						
			E		1500	1										1						
			E		1502	42									23	5	14					

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			E		1505	26																
			E		1510	1									1	9	16					
			E		1514	3									1							
			E		1542	94										3						
			E		1567	1									23	2	69					
			E		1569	1										1						
			E		1577	17										1						
			E		1581	1									12	5						
			E		1583	2									1							
			E		1585	9									1	1						
			E		1586	3									9							
			E		1602	108										3						
			E		1616	1									12	32	64					
			E		1622	6									1							
			E		1633	2									1	1	4					
			E		1641	71										1	1					
			E		1646	1									2	11	58					
			E		1648	1											1					
			E		1660	24										1						
			E		1666	54									11	13						
			E		1674	19									24	30						
			E		1677	18									3	1	15					
			E		1704	5									2	4	12					
			E		1705	5									5							
			E		1724	1									5							
			E		1727	1									1							
			E		1729	120											2					
			E		1733	43									32	88						
			E		1736	1									5	12	26					
			E		1740	38									1							
			E		1745	1058									1	10	27					
			E		1761	52									156	479	423					
			E		1775	4									16	9	27					
			E		1784	2										1	3					
			E		1795	114										1	1					
			E		1801	1									32	82						
			E		1805	1											1					
			E		1812	241											1					
			E		1814	36									40	47	134					
			E		1815	3									14	11	11					
			E		1816	21									1	2						
			E		1817	7										3	18					
			E		1820	1									1	3	3					
			E		1821	259									1							
			E		1823	6									4	126	6	123				
			E		1824	106									1	5						
			E		1825	1										105	1					
															1							

SECTION II - ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION	SECURITY	GRADE	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS						WO	ENLISTED						ENLISTED CADRE	REMARKS
								GEN	COL	LT COL	MAJ	CAPT	LT		E-7 MSGT	E-6 SSG	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			E		1844	120									36	84						
			E		1855	2									1	1						
			E		1870	3									1		2					
			E		1885	2									1	1						
			E		1890	7										1	6					
			E		1924	1										1						
			E		1931	31									3	8	20					
			E		1945	1										1						
			E		1965	1									1							
			E		1966	8									3	5						
			E		1973	5									2	3						
			E		1980	6										1	5					
			E		2039	1											1					
			E		2187	12										6	6					
			E		2237	1											1					
			E		2283	1												1				
			E		2442	7											1	5	1			
			E		2671	1										1						
			E		2704	68										7	28	33				
			E		2705	9										9						
			E		3008	28											8	9	9	2		
			E		3024	3												3				
			E		3037	1												1				
			E		3040	8												3	5			
			E		3042	1												1				
			E		3050	2												2				
			E		3060	863											352	287	115	109		
			E		3064	6											6					
			E		3067	3											2	1				
			E		3070	2												2				
			E		3074	2												2				
			E		3078	5												5				
			E		3097	10											1	7	2			
			E		3103	2											1	1				
			E		3114	9											7	2				
			E		3119	3											3					
			E		3152	6											2	4				

			E	3166	8													8					
			E	3174	71												18	52			1		
			E	3206	1													1					
			E	3227	1												1						
			E	3256	23												4	17	2				
			E	3282	1													1					
			E	3283	4													4					
			E	3290	139												18	121					
			E	3319	11												1	8	2				
			E	3321	4													1	3				
			E	3359	22												14	8					
			E	3381	4													2	2				
			E	3403	6												3	3					
			E	3485	2													2					
			E	3504	12												1	11					
			E	3510	13													4	5	4			
			E	3536	1													1					
			E	3567	16												5	11					
			E	3569	7												3	4					
			E	3577	48												14	34					
			E	3581	2													2					
			E	3583	6													6					
			E	3586	24												12	12					
			E	3640	19												8	9	2				
			E	3660	173												33	93	47				
			E	3666	784												224	202	306	52			
			E	3705	74												20	45					
			E	3706	1												1						
			E	3729	806												146	189	260	211			
			E	3795	646												280	144	177	45			
			E	3804	1												1						
			E	3815	23												4	19					
			E	3818	2												2						
			E	3820	3												3						
			E	3825	1													1					
			E	3835	69												3	18	33	15			
			E	3844	936												93	201	462	180			
			E	3855	15													15					
			E	3858	3												3						
			E	3859	3												3						
			E	3885	3												1	2					
			E	3903	17												4	6	7				
			E	3907	4													2	2				
			E	3912	16												2	14					
			E	3913	15												5	6	4				
			E	3918	4													2	2				
			E	3922	14												4	6	4				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	

SECTION II - ORGANIZATION

DESIGNATION:

INDEX		DESIGNATION	[illegible]	[illegible]	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS						WO	ENLISTED						ENLISTED CADRE	REMARKS
PARA	LINE							GEN	COL	LT COL	MAJ	CAPT	LT		E-7 MSGT	E-6 SPC	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			E		3924	1											1					
			E		3945	4											1	2	1			
			E		3952	3											3					
			E		3965	35											7	16	6	6		
			E		3966	53											[illegible]	22	7	17		
			E		4014	257												131	122	4		
			E		4055	37												19	15	3		
			E		4056	21												10	6	5		
			E		4081	10												10				
			E		4121	4													4			
			E		4237	12												6	6			
			E		4247	3												2	1			
			E		4309	21												7	14			
			E		4345	490												83	311	96		
			E		4405	114												83	31			
			E		4505	159												5	29	125		
			E		4514	6												3	3			
			E		4602	365												153	156	56		
			E		4609	2													2			
			E		4616	1												1				
			E		4624	12												9	3			
			E		4641	627												164	336	127		
			E		4667	258												29	137	92		
			E		4677	137												63	64	10		
			E		4704	1												1				
			E		4727	12												4	4	4		
			E		4733	72												35	30	7		
			E		4740	144												144				
			E		4745	4403												1362	2349	691		
			E		4761	134												[illegible]	[illegible]			
			E		4784	1												[illegible]	[illegible]			
			E		4802	12												[illegible]	[illegible]			
			E		4805	8												[illegible]	4			
			E		4812	1529												[illegible]	20	204		
			E		4814	9												[illegible]				
			E		4816	62												[illegible]	5			
			E		4817	30												18	6	6		

			E		4818	4													2	2				
			E		4830	19													19					
			E		4833	12													12					
			E		4932	2													2					
			E		4980	3													3					
			E		5059	2														1	1			
			E		5103	16														10	6			
			E		5577	15														15				
			E		5586	63														63				
			E		5704	203														173	30			
			E		5706	10														6	4			
			E		5740	168														154	14			
			E		5833	43														24	18			
			E	17501		12																		
			E	17502		2																		
			E	17503		8																		
			E	17504		6																		
			E	17505		4																		
			E	17520		2																		
			E	17521		14																		
			E	17522		2																		
			E	17523		1																		
			E	17524		1																		
			E	17525		1																		
			E	17526		1																		
			E	17527		3																		
			E	17528		3																		
			E	17529		2																		
			E	17530		3																		
			E	17540		1																		
			E	17541		3																		
			E	17542		2																		
					17754											505	288	9469	4620	6730	2145			
		REDUCED STRENGTH																						
		OFFICERS - WARRANT OFFICERS																						
			OAC	0030		1							1											
			OAC	2110		3			1	1	1													
			OAM	2010		1	1																	
			OAM	2162		2			1	1														
			OAM	2164		1				1														
			OAM	2901		1				1														
			OAM	5004		2				1	1													
			OAM	9301		2			1	1														
			OAM	9310		1			1															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		

SECTION II - ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION	TYPE	ARMY	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	COL	LT COL	MAJ	CAPT	LT	WO	ENLISTED E-7 MSGT	E-6 SFC	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT	ENLISTED CADRE	SPECIAL
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			O	A R	0200		1					1										
			O	A R	0600		1						1									
			O	A R	0606		1					1										
			O	A R	1203		27			1	1	6	19									
			O	A R	1204		7					1	6									
			O	A R	1981		1						1									
			O	A R	2162		1				1											
			O	A R	2900		1					1										
			O	A R	4010		1					1										
			O	A R	9301		1					1										
			O	A T	0140		3						3									
			O	A T	0200		11				1	5	5									
			O	A T	0600		12					4	8									
			O	A T	0606		1					1										
			O	A T	1174		18			1	1	4	12									
			O	A T	1183		17					1	16									
			O	A T	1189		28						28									
			O	A T	1193		56		1	4	4	23	24									
			O	A T	1981		11					1	10									
			O	A T	2030		2						2									
			O	A T	2110		1				1											
			O	A T	2162		10			1	5	4										
			O	A T	2900		6					6										
			O	A T	2910		4					4										
			O	A T	4010		2				1	1										
			O	A T	4510		4						4									
			O	A T	5004		1					1										
			O	A T	9301		7				1	6										
			O	C H	5310		18			1	5	12										
			O	C M	7314		2			1		1										
			O	D E	3170		12					12										
			O	D E	3175		1				1											
			O	D E	3178		1				1											
			O	E N	0200		1					1										
			O	E N	0600		1					1										
			O	E N	1331		20			1	1	4	14									
			O	E N	1342		1						1									

			OEN	2162		1				1														
			OEN	2900		1					1													
			OEN	4010		1				1														
			OEN	4113		1						1												
			OEN	5004		1						1												
			OEN	7010		1				1														
			OEN	9301		1					1													
			OFI	6201		2			1		1													
			OGO	0002		3	3																	
			OIN	0200		15					3	12												
			OIN	0600		7					3	4												
			OIN	1188		3						3												
			OIN	1504		12						12												
			OIN	1542		265		3	12	9	48	193												
			OIN	1981		8					1	7												
			OIN	2110		3				3														
			OIN	2162		21				12		9												
			OIN	2900		8					4	4												
			OIN	2910		3					3													
			OIN	4010		12				3	9													
			OIN	5004		3					3													
			OIN	9301		12				3	9													
			OIN	9312		3						3												
			OJA	8103		2			1		1													
			OMC	3000		1			1															
			OMC	3005		1				1														
			OMC	3100		27				2	25													
			OMC	3130		1				1														
			OMC	3500		5		1		4														
			OMF	9101		1			1															
			OMF	9110		6					1	5												
			OMS	0600		1						1												
			OMS	2110		1					1													
			OMS	2120		3					3													
			OMS	2162		1				1														
			OMS	2900		1					1													
			OMS	3503		7					1	6												
			OMS	3504		3						3												
			OMS	3506		7				1		6												
			OMS	4010		1					1													
			OMS	4113		4						4												
			OMS	5004		1						1												
			ONO	0692		1				1														
			ONO	1930		1					1													
			ONO	1981		1				1														
			ONO	2010		1				1														
			ONO	2030		4					1	3												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		

SECTION II - ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION	AUTHY	REMARK	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	COL	LT COL	MAJ	CAPT	LT	WO	ENLISTED E-7 MSGT	E-8 SFC	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT	ENLISTED CADRE	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			ONO		2260		2			1	1											
			ONO		4010		2			1	1											
			ONO		5000		1				1											
			ONO		5401		1				1											
			ONO		8503		1						1									
			ONO		9310		1					1										
			OOD		4512		2			1	1											
			OOD		4514		1					1										
			OOD		4530		2				1	1										
			OOD		4800		1				1											
			OOD		4801		1					1										
			OOM		0440		3						2									
			OOM		2120		1					1										
			OOM		4015		3			1	1											
			OOM		4310		1					1										
			OOM		4419		3					1	2									
			OOM		4830		1						1									
			OSC		0210		3			1	1	1										
			OSC		0410		1						1									
			OSC		0420		1						1									
			OSC		0501		2						2									
			OSC		4400		1					1										
			M		0145		1							1								
			M		0234		2							2								
			M		0600		1							1								
			M		0605		5							5								
			M		0606		1							1								
			M		2123		94							94								
			M		2200		11							11								
			M		2310		1							1								
			M		2600		7							7								
			M		2601		1							1								
			M		3506		1							1								
			M		4000		11							11								
			M		4110		1							1								
			M		4114		5							5								
			M		4490		1							1								

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			W		4514		4							4								
			W		4805		2							2								
			W		4808		2							2								
			W		4813		1							1								
			W		4880		2							2								
			W		5241		2							2								
			W		6110		1							1								
			W		6201		1							1								
							967	3	5	36	852	374	431	59								
		ENLISTED																				
			E		0175																	
			E		1008		1								2	3	9	56	6			
			E		1014		83								1	2						
			E		1043		1								3	11	69					
			E		1056		2											1				
			E		1102		1								1		1					
			E		1186		3									1						
			E		1187		1									1	2					
			E		1213		16								1							
			E		1279		1									3	8	5				
			E		1280		1									1						
			E		1290		17									1						
			E		1302		2								5	12						
			E		1309		1									2						
			E		1319		2										1					
			E		1359		1									1	1					
			E		1403		3									1						
			E		1446		1									3						
			E		1485		1										1					
			E		1500		1									1						
			E		1502		41									1						
			E		1505		22								22	5	14					
			E		1510		1								1	8	13					
			E		1514		3								1							
			E		1542		90									3						
			E		1567		1								23	2	65					
			E		1569		1									1						
			E		1577		17									1						
			E		1581		1								12	5						
			E		1583		2								1							
			E		1585		9								1	1						
			E		1586		3								9							
			E		1602		108									3						
			E		1616		1								12	32	64					
			E		1622		4								1							
			E		1641		62								1	1	2					
															2	11	49					

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SECTION II - ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION	AUTH	REQD	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS						WO	ENLISTED							ENLISTED CADRE	REMARKS
								GEN	COL	LT COL	MAJ	CAPT	LT		E-7 MSGT	E-6 SFC	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			A		1646		1										1					
			A		1648		1									1						
			A		1660		24								11	13						
			A		1666		45								24	21						
			A		1674		18								3	1	14					
			A		1677		18								2	4	12					
			A		1704		5								5							
			A		1705		5								5							
			A		1724		1								1							
			A		1727		1										1					
			A		1729		98								32	66						
			A		1733		43								5	12	26					
			A		1736		1								1							
			A		1740		36								1	10	25					
			A		1745		946								149	385	412					
			A		1761		43								16	9	18					
			A		1775		4									1	3					
			A		1784		2									1	1					
			A		1795		89								26	63						
			A		1801		1										1					
			A		1805		1										1					
			A		1812		329								39	46	144					
			A		1814		35								14	11	10					
			A		1815		2								1	1						
			A		1816		20									3	17					
			A		1817		4								1	3						
			A		1820		1								1							
			A		1821		228								4	122		102				
			A		1823		6								1	5						
			A		1824		104									104						
			A		1825		1								1							
			A		1844		84								24	60						
			A		1855		1								1							
			A		1870		2								1		1					
			A		1885		2								1	1						
			A		1890		5									1	4					
			A		1924		1									1						

CORG-M-365

SECTION II - ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION	QUALITY	REMARKS	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	COL	LT COL	MAJ	CAPT	LT	WO	ENLISTED E-7 MSGT	E-6 SFC	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT	ENLISTED CADRE	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			E		2569		4										2	2				
			E		2577		44										14	14				
			E		3581		2											2				
			E		3583		6											6				
			E		3586		24										12	12				
			E		3648		19										11	9	2			
			E		3660		155										31	84	40			
			E		3666		596										216	161	218	1		
			E		3705		66										28	38				
			E		3706		1										1					
			E		3729		596										137	169	236	54		
			E		3795		460										216	107	137			
			E		3804		1										1					
			E		3815		18										2	16				
			E		3818		2										2					
			E		3820		2										2					
			E		3825		1											1				
			E		3835		60										3	16	27	14		
			E		3844		558										60	135	312	42		
			E		3855		12											12				
			E		3858		3										3					
			E		3859		3										3					
			E		3885		2										1	1				
			E		3903		15										4	6	5			
			E		3907		4											2	2			
			E		3912		14										2	12				
			E		3913		13										5	4	4			
			E		3918		4											2	2			
			E		3922		12										4	4	4			
			E		3945		2											1	1			
			E		3952		1										1					
			E		3965		25										7	12	6			
			E		3966		36										7	18	7	4		
			E		4014		247											129	114	4		
			E		4055		22											15	7			
			E		4056		12											5	4	3		
			E		4081		10											10				

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			E		4121		4												4			
			E		4237		12											6	6			
			E		4247		2											1	1			
			E		4309		16											5	11			
			E		4345		340											72	231	37		
			E		4405		108											79	29			
			E		4505		64											5	27	32		
			E		4514		6											3	3			
			E		4602		269											145	124			
			E		4609		2												2			
			E		4616		1											1				
			E		4634		10											7	3			
			E		4641		483											145	282	56		
			E		4667		191											25	102	64		
			E		4677		100											48	52			
			E		4704		1											1				
			E		4737		12											4	4	4		
			E		4733		64											35	29			
			E		4740		136											136				
			E		4745		3142											1321	1782	30		
			E		4761		96											63	33			
			E		4784		1											1				
			E		4802		12											12				
			E		4805		7											4	3			
			E		4812		1070											196	868	6		
			E		4814		9											9				
			E		4816		61											55	6			
			E		4817		22											18	4			
			E		4818		4											2	2			
			E		4830		17											17				
			E		4833		12											12				
			E		4932		2											2				
			E		5059		2												1	1		
			E		5103		16												10	6		
			E		5577		10												10			
			E		5586		63												63			
			E		5704		177												168	9		
			E		5706		8												6	2		
			E		5740		128												119	9		
			E		5832		29												18	11		
			E		17501		10															
			E		17502		2															
			E		17503		5															
			E		17504		6															
			E		17505		4															
			E		17520		1															
			E		17521		12															

SECTION II - ORGANIZATION

DESIGNATION:

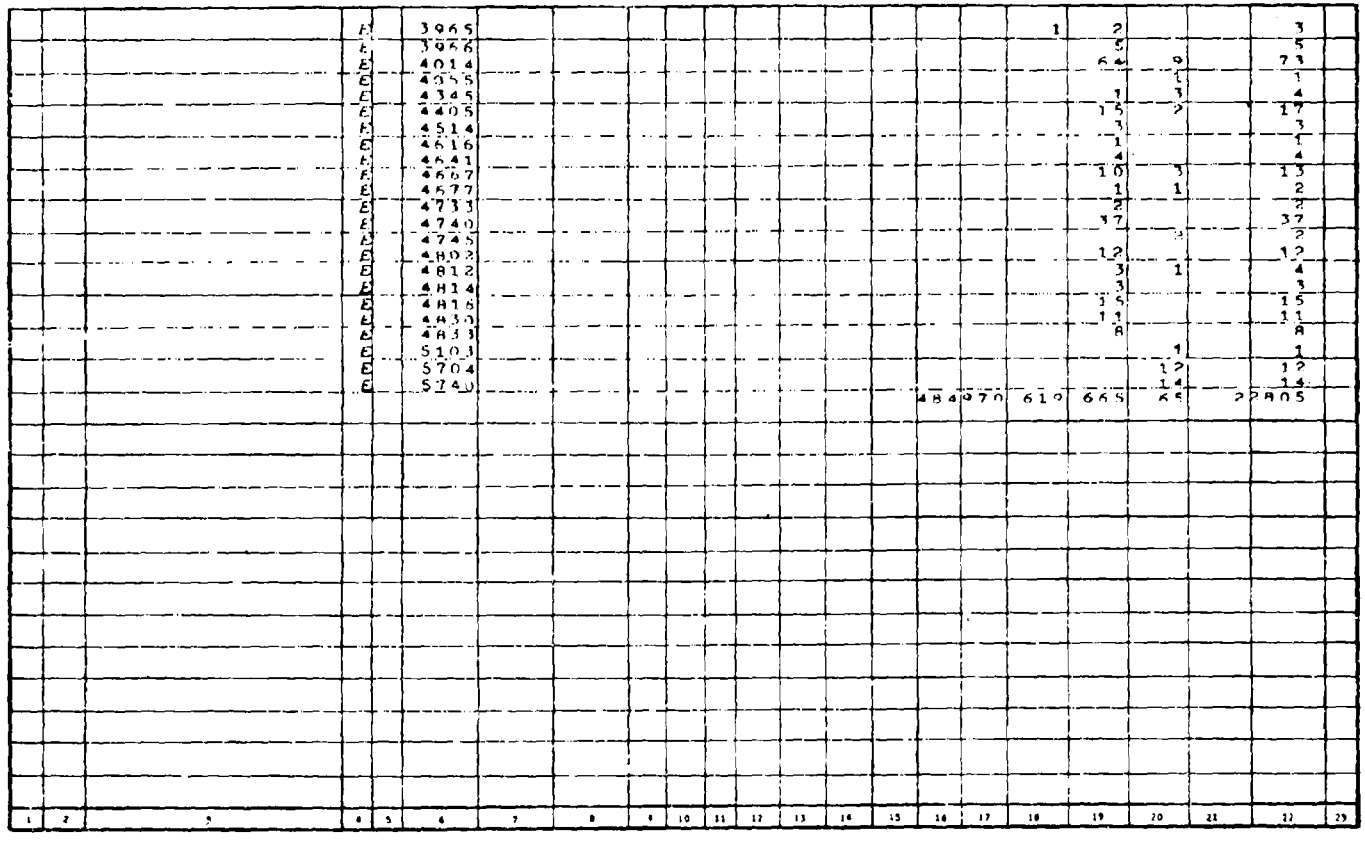
INDEX PARA	INDEX LINE	DESIGNATION	ACTIVITY	REMARKS	MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	COL	LT COL	MAJ	CAPT	LT	WO	ENLISTED E-7 MSGT	E-6 SFC	E-5 SGT	E-4 CPL	E-3 PFC	E-2 PVT	ENLISTED CADRE	REMARKS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			E		17522		2															
			E		17523		1															
			E		17524		1															
			E		17525		1															
			E		17526		1															
			E		17527		1															
			E		17528		2															
			E		17529		2															
			E		17530		1															
			E		17540		1															
			E		17541		2															
			E		17542		1															
							13703								478	1099	2194	4159	5268	505		
		ENLISTED CADRE																				
			E		1008										1	2					3	
			E		1014										30	46	64	6			146	
			E		1102											1					1	
			E		1186											1	1				2	
			E		1187										1						1	
			E		1213													3			3	
			E		1290										3	9					12	
			E		1302												1				1	
			E		1309												1				1	
			E		1319											1					1	
			E		1359											1					1	
			E		1403											2					2	
			E		1446												1				1	
			E		1485											1					1	
			E		1502										17		4				21	
			E		1505										1	2					3	
			E		1510										1						1	
			E		1542										17	2	18				37	
			E		1577										3	2					5	
			E		1581										1						1	
			E		1585										6						6	
			E		1586											3					3	

			E		1602												12	24					36	
			E		1616												1						1	
			E		1641												2	8	12				22	
			E		1648													1					1	
			E		1650												11	12					23	
			E		1656												23	29					52	
			E		1674												3		12				15	
			E		1677												2	2	2				6	
			E		1704												2						2	
			E		1705												2						2	
			E		1724												1						1	
			E		1727														1				1	
			E		1729												31	31					62	
			E		1733												3	4	2				9	
			E		1736												1						1	
			E		1740												1	6	16				23	
			E		1745												156	391					547	
			E		1761												15	6	18				39	
			E		1775													1					1	
			E		1784													1					1	
			E		1795												32	25					57	
			E		1801														1				1	
			E		1805														1				1	
			E		1812												40	47	59				146	
			E		1814												12						12	
			E		1815												1						1	
			E		1816													3	9				12	
			E		1817												1	2	1				4	
			E		1820												1						1	
			E		1821												31	104		66			171	
			E		1823												1	3					4	
			E		1824													105	1				106	
			E		1825												1						1	
			E		1844												36	72					108	
			E		1855												1	1					2	
			E		1885												1	1					2	
			E		1931												3	4	6				13	
			E		1945													1					1	
			E		1965												1						1	
			E		1966												3						3	
			E		1971													1					1	
			E		1980													1	3				4	
			E		2019														1				1	
			E		2187													3					3	
			E		2317														1				1	
			E		2471													1					1	
			E		2704													7	3	3			13	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23			

SECTION II – ORGANIZATION

DESIGNATION:

INDEX PARA	INDEX LINE	DESIGNATION			MOS CODE	FULL STRENGTH	REDUCED STRENGTH	OFFICERS GEN	OFFICERS COL	OFFICERS LT COL	OFFICERS MAJ	OFFICERS CAPT	OFFICERS LT	WO	ENLISTED E-7 MSGT	ENLISTED E-6 SFC	ENLISTED E-5 SGT	ENLISTED E-4 CPL	ENLISTED E-3 PFC	ENLISTED E-2 PVT	ENLISTED CADRE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
			E		3008												7				7	
			E		3060												228	171	2	2	403	
			E		3067												1				1	
			E		3097												1	2			3	
			E		3103												1				1	
			E		3114												1				1	
			E		3174												9	24			33	
			E		3206													1			1	
			E		3256												3	4			7	
			E		3290												11	106			117	
			E		3319													1			1	
			E		3321														1		1	
			E		3359												4				4	
			E		3403												1				1	
			E		3504													1			1	
			E		3510													1	1		2	
			E		3577												4				4	
			E		3586												6				6	
			E		3648													2			2	
			E		3660												26	31			57	
			E		3666												56	35	7		98	
			E		3706												1				1	
			E		3729												8				8	
			E		3795												1		1		2	
			E		3815												1	1			2	
			E		3835												1	5	3		9	
			E		3855													1			1	
			E		3858												1				1	
			E		3859												1				1	
			E		3903												1	1			2	
			E		3907														1		1	
			E		3912													2			2	
			E		3913												1				1	
			E		3922												1	1			2	
			E		3924												1				1	
			E		3945												1				1	
			E		3952												1				1	



				E	3965													1	2			3		
				E	3966														5			5		
				E	4014														64	9		73		
				E	4055															1		1		
				E	4345														1	3		4		
				E	4405														15	2		17		
				E	4514														3			3		
				E	4616														1			1		
				E	4641														4			4		
				E	4667														10	3		13		
				E	4677														1	1		2		
				E	4733														2			2		
				E	4740														37			37		
				E	4745															3		3		
				E	4803														12			12		
				E	4812														3	1		4		
				E	4814														3			3		
				E	4816														15			15		
				E	4830														11			11		
				E	4833														8			8		
				E	5103															1		1		
				E	5704															12		12		
				E	5740															14		14		
																484970		610	665	45		22805		
1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	

REMARKS

FOR ENLISTED MOS CODES AND JOB SPECIFICATIONS SEE SR 615-25-15

FOR ENLISTED CAREER FIELD CLASSIFICATION INSTRUCTIONS SEE SR 615-25-20

40 INCLUDES 9 FILLER PERSONNEL
41 INCLUDES 1 FILLER PERSONNEL
42 INCLUDES 17 FILLER PERSONNEL
43 INCLUDES 10 FILLER PERSONNEL
44 INCLUDES 14 FILLER PERSONNEL
45 INCLUDES 5 FILLER PERSONNEL
46 INCLUDES 7 FILLER PERSONNEL
47 INCLUDES 885 FILLER PERSONNEL
48 INCLUDES 239 FILLER PERSONNEL
49 INCLUDES 45 FILLER PERSONNEL
50 INCLUDES 28 FILLER PERSONNEL
51 INCLUDES 13 FILLER PERSONNEL

SECTION III

EQUIPMENT

For equipment of components of this division, see section III of Table of Organization and Equipment indicated in column 3, under section II of this table.
[AG 320.3 (29 Nov 50)]

BY ORDER OF THE SECRETARY OF THE ARMY:

OFFICIAL:
EDWARD F. WITSELL
Major General, USA
The Adjutant General

J. LAWTON COLLINS
Chief of Staff, United States Army

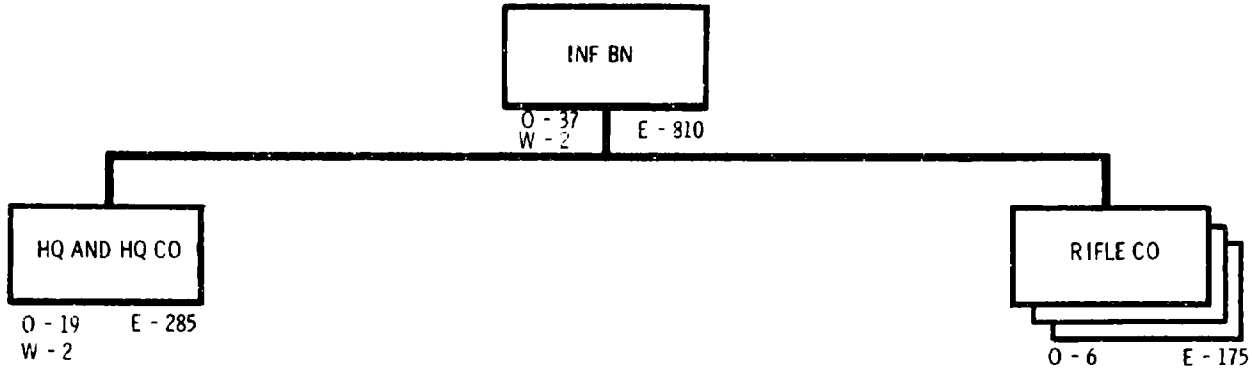
DISTRIBUTION:
As requested on DA AGO Form 12.

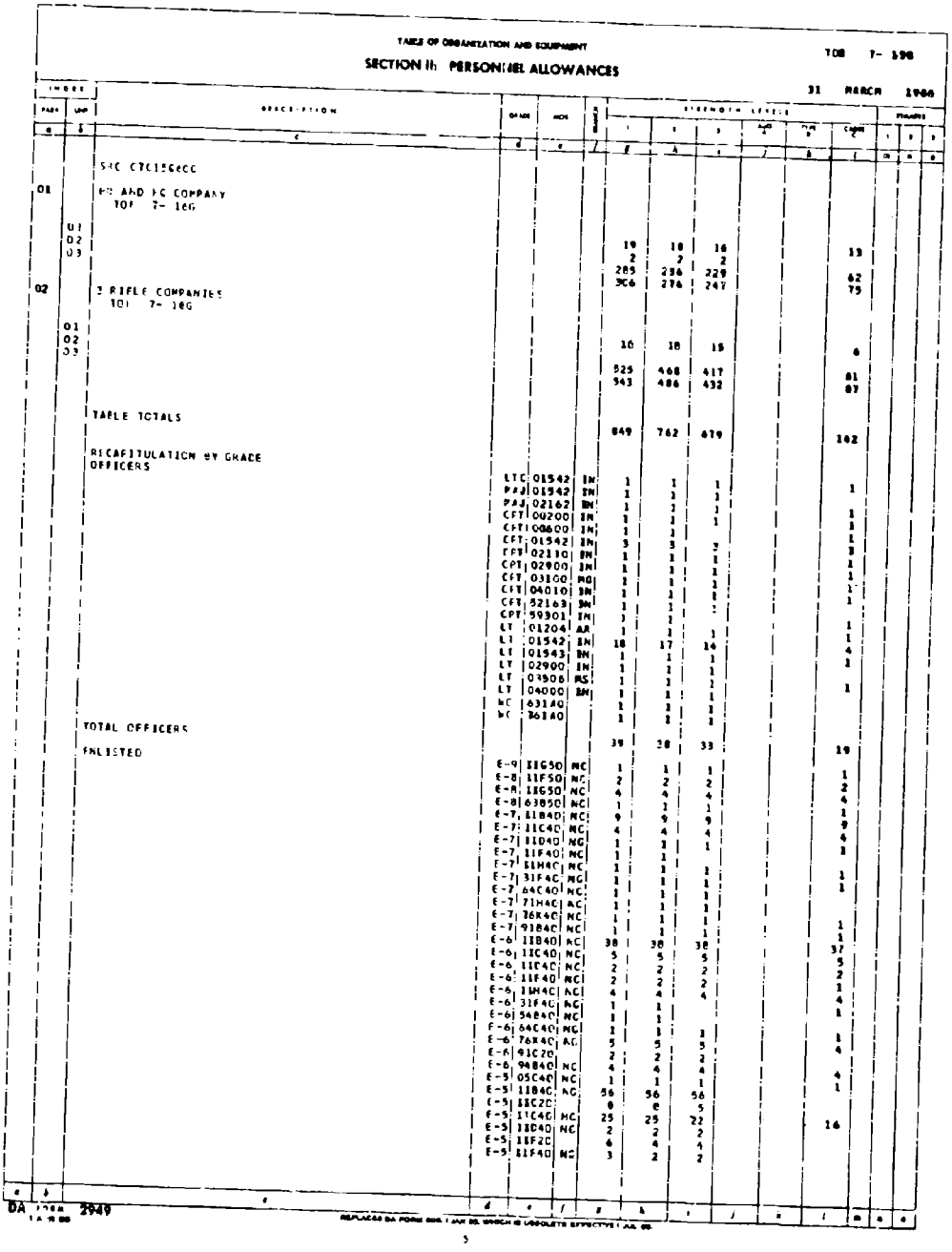
INFANTRY BATTALION, INFANTRY DIVISION
OR
INFANTRY BATTALION, SEPARATE INFANTRY BRIGADE (TOE 7-15G)

MISSION:--To close with the enemy by means of fire and maneuver in order to destroy or capture him or to repel his assault by fire, close combat and counterattack.

ASSIGNMENT:--Organic to Infantry Division.

CAPABILITIES:--a. Closes with the enemy by means of fire and maneuver in order to destroy or capture him. b. Repels enemy assault by fire, close combat and counterattack. c. Provides base of fire and maneuver elements. d. Seizes and holds terrain. e. Conducts independent operations on a limited scale. f. Furnishes limited antitank protection. g. Provides indirect fire support for organic and attached units. h. Conducts long-range patrolling when appropriately equipped. i. Participates in motorized, mechanized, airmobile and joint airborne operations when provided with sufficient transportation. j. Maneuvers in all types of terrain and under varying climatic conditions. k. Individuals of this unit, except chaplain and medical personnel, can fight as Infantrymen when required.





TABLES OF ORGANIZATION AND EQUIPMENT — TOE 7- 198

SECTION II: PERSONNEL ALLOWANCES — 31 MARCH 1966

PARA	LINE	SPACE DESCRIPTION	GRADE	MOS	AUTH	STRENGTH LEVELS 1	2	3	AUTH	TYPE	CHANGE	FIGURES 1	2	3
		SHC C7C15GeCC												
01		HQ AND HQ COMPANY TOE 7- 16G												
	01					19	18	16						
	02					2	2	2			13			
	03					285	256	229						
						306	276	247			62			
02		3 RIFLE COMPANIES 101 7- 16G									75			
	01													
	02					16	18	15						
	03										6			
						525	468	417						
						543	486	432			81			
											87			
		TABLE TOTALS				849	762	679			162			
		RECAPITULATION BY GRADE												
		OFFICERS												
			LTC	01542	IN	1	1	1			1			
			MAJ	01542	IN	1	1	1						
			MAJ	02162	IN	1	1	1			1			
			CPT	00200	IN	1	1	1			1			
			CPT	00600	IN	1	1	1			1			
			CPT	01542	IN	3	3				1			
			CPT	02110	IN	1	1	1			3			
			CPT	02900	IN	1	1	1			1			
			CPT	03100	MS	1	1	1			1			
			CPT	04010	IN	1	1	1			1			
			CPT	52163	IN	1	1	1			1			
			CPT	59301	IN	1	1	1						
			LT	01204	AA	1	1	1			1			
			LT	01542	IN	18	17	14			1			
			LT	01943	IN	1	1	1			4			
			LT	02900	IN	1	1	1			2			
			LT	03908	MS	1	1	1						
			LT	04000	IN	1	1	1			1			
			WC	63140		1	1	1						
			WC	36140		1	1	1						
		TOTAL OFFICERS				39	38	33			19			
		ENLISTED												
			E-9	11G50	MC	1	1	1			1			
			E-8	11F50	MC	2	2	2			2			
			E-8	11G50	MC	4	4	4			4			
			E-8	63B50	MC	1	1	1			1			
			E-7	11B40	MC	9	9	9			9			
			E-7	11C40	MC	4	4	4			4			
			E-7	11D40	MC	1	1	1			1			
			E-7	11F40	MC	1	1							
			E-7	11H4C	MC	1	1	1			1			
			E-7	31F4C	MC	1	1	1			1			
			E-7	64C40	MC	1	1	1			1			
			E-7	71H4C	MC	1	1	1						
			E-7	76R4C	MC	1	1	1						
			E-7	91B4C	MC	1	1	1			1			
			E-6	11B40	MC	38	38	38			1			
			E-6	11C40	MC	5	5	5			37			
			E-6	11C4C	MC	2	2	2			5			
			E-6	11F40	MC	2	2	2			2			
			E-6	11H4C	MC	4	4	4			1			
			E-6	31F4C	MC	1	1				4			
			E-6	5A8A0	MC	1	1				1			
			E-6	64C40	MC	1	1	1						
			E-6	76R4C	MC	5	5	5			1			
			E-6	91C20		2	2	2			4			
			E-6	94B40	MC	4	4	4						
			E-5	05C40	MC	1	1	1			4			
			E-5	11B4C	MC	56	56	56			1			
			E-5	11C20		0	0	5						
			E-5	11C40	MC	25	25	22			16			
			E-5	11D40	MC	2	2	2						
			E-5	11F20		6	4	4						
			E-5	11F40	MC	3	2	2						

DA FORM 2949 — REPLACES DA FORM 2949, 1 JAN 66, WHICH IS OBSOLETE EFFECTIVE 1 JUL 66.

TOE 7- 15G

TABLE OF ORGANIZATION AND EQUIPMENT

31 MARCH 1968

SECTION II: PERSONNEL ALLOWANCES

INDEX PARA	INDEX LINE	DESCRIPTION	GRADE	MOS	SPEC	STRENGTH LEVELS 1	2	3	AUTH	TYPE	CALC	REMARKS 1	2	3
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
			E-5	11H40	NC	9	9	9			9			
			E-5	31B20		1	1	1			1			
			E-5	31F40	NC	5	5	4			5			
			E-5	63B20		3	3	3			1			
			E-5	71B30		1	1	1						
			E-5	91B20		12	12	8						
			E-5	91B30		2	2	2						
			E-5	91B40	NC	1	1	1						
			E-5	94B20		12	12	12			5			
			E-4	05B20		2	2	2						
			E-4	05C20		2	2	2						
			E-4	11B20		147	147	141						
			E-4	11B20		4	4	4			1			
			E-4	11C20		13	13	13						
			E-4	11D20		5	5	5			1			
			E-4	11F20		9	7	7						
			E-4	11H20		8	8	8						
			E-4	11H70		3	3	3						
			E-4	26C20		1	1	1						
			E-4	31B20		5	5	5						
			E-4	36A10		4	4	3			1			
			E-4	44C20		1	1	1			1			
			E-4	52B20		1	1	1			1			
			E-4	63B20		8	8	8			4			
			E-4	64A10		1	1	1						
			E-4	64B20		2	2	2						
			E-4	71B20		1	1	1						
			E-4	71B30		2	2	2			1			
			E-4	71H20		4	4	4			4			
			E-4	76D20		2	2	2			1			
			E-4	76K20		2	2	2						
			E-4	76K30		4	4	4			1			
			E-4	91B20		14	14	14						
			E-4	94B20		9	6	6			4			
			E-3	05B20		2	2	2						
			E-3	11B10		167	128	85						
			E-3	11B1C		5	4	4						
			E-3	11C10		65	47	38						
			E-3	11D10		4	4							
			E-3	11H10		25	17	15						
			E-3	36A10		18	14	9						
			E-3	62B10		1	1	1						
			E-3	63A10		7	3	3						
			E-3	64A10		5	5	5						
			E-3	64B20		1	1	1						
			E-3	71A10		1	1	1						
			E-3	76A10		1	1	1						
			E-3	94A10		1	4	4						
			E-2	64A10		3								
		TOTAL ENLISTED				610	724	646			143			
		TOTALS				849	762	679			162			
		RECAPITULATION BY MOS												
		OFFICERS		00200	IN	1	1	1			1			
				00600	IN	1	1				1			
				01204	AR	1	1	1			1			
				01542	IN	23	22	19			8			
				01543	IN	1	1	1			1			
				02110	IN	1	1	1			1			
				02162	IN	1	1	1			1			
				02900	IN	2	2	2			1			
				03100	RC	1	1	1			1			
				03506	MS	1	1	1			1			
				04000	IN	1	1	1						
				04010	IN	1	1	1			1			
				52163	IN	1	1	1						
				59301	IN	1	1				1			
				63140		1	1	1						
				76140		1	1	1						
		TOTAL OFFICERS				39	38	33			19			
		ENLISTED		05B20		4	4	4						
				05C20		2	2	2						
				05C40	AC	1	1	1			1			
				11B10		167	128	85						
				11B1C		4	4	4						

DA FORM 2949 1 APR 66

REPLACES DA FORM 808, 1 JAN 66 WHICH IS OBSOLETE EFFECTIVE 1 JUL 68

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TABLE OF ORGANIZATION AND EQUIPMENT

TOE T- 196

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

PARA	LINE	DESCRIPTION	GRADE	MOS	AUTH	STRENGTH LEVELS 1	2	3	AUG A	CHG B	CAUSE C	REMARKS 1	2	3
				11B20		147	147	147						
				11B2C		4	4	4			1			
			NC	11B40		103	103	103			46			
				11C10		65	47	38						
				11C20		28	21	10						
			NC	11C40		34	34	31			25			
				11D10		4	4							
				11D20		5	5	5			1			
			NC	11D40		5	5	5			3			
				11F20		15	11	11						
			NC	11F40		6	5	4			1			
			NC	11F50		2	2	2			2			
			NC	11G50		5	5	5			5			
				11H10		26	17	15						
				11H20		8	8	8						
				11H30		3	3	3						
			NC	11H40		14	14	14			14			
				26C20		1	1	1						
				31B20		6	6	6			1			
			NC	31F40		7	7	5			7			
				36A10		22	18	12			1			
				44C20		1	1	1			1			
				52B10		1	1	1						
				52B20		1	1	1			1			
			NC	54B40		1	1							
				63A10		7	3	3						
				63B20		11	11	11			5			
			NC	63B50		1	1	1			1			
				64A10		9	6	6						
				64B20		3	3	3						
			NC	64C40		2	2	2			1			
				71A10		1	1	1						
				71B20		1	1	1						
				71B30		8	8	8			1			
				71H20		4	4	4			4			
			NC	71H40		1	1	1						
				76A10		2	1	1						
				76B20		2	2	2			1			
				76R20		2	2	2						
				76R30		4	4	4			1			
			NC	76R40		6	6	6			5			
				91B20		26	26	22						
				91B30		2	2	2						
			NC	91B40		2	2	2			1			
				91C20		2	2	2						
				94A10		4	4	4						
				94B20		21	18	18			9			
			NC	94B40		4	4	4			4			
		TOTAL ENLISTED				810	724	646			143			
		TOTALS				849	762	679			162			

DA FORM 2949 1 APR 66

REPLACES DA FORM 808 1 JAN 66 WHICH IS OBSOLETE EFFECTIVE 1 JUL 66

PARA	LINE ITEM NUMBER	DESCRIPTION	EQUIPMENT LEVELS					
			1	2	3	AUG A	TYPE B	BASE
a	b	c	d	e	f	g	h	i
		SRC 07015G600						
		RECAPITULATION						
		STRATEGIC COMMUNICATIONS COMMAND						
	B24281	CIPHER MACHINE: TSEC/KL-7	2	2	2			
	U01275	SPEECH SECURITY EQUIPMENT: TSEC/KY-8	2	2	2			
		ELECTRONICS COMMAND						
	A71438	ANTENNA: AS-784/PRC	9	9	9			
	A71712	X ANTENNA: AT-984/G	7	7	7			
	A72260	ANTENNA: MODIFIED GROUND PLANE TYPE 20 TO 389 MC FREQ	9	9	9			
	B07126	AXLE CABLE REEL: PER P AND I C PARTS LIST RESTRICTED	11	11	11			
	C68719	CABLE TELEPHONE: WD-1/TT DR-8 1320 FT	70	68	68			
	C68856	CABLE TELEPHONE: WD-1/TT RL-159/U 5280 FT	16	16	16			
	C68993	CABLE TELEPHONE: WD-1/TT 2 COND FIELD WIRE	90	90	90			
	G00533	CHARGER RADIAC DETECTOR: PP-1578/PD	15	15	15			
	G07547	CHEST: TRUNK TYPE BODY 28 7/8 IN L 18 IN W 12 IN H	5	5	5			
	B94970	CONTROL RADIO SET: C-2299/VRC	1	1	1			
	F53043	CRYSTAL UNIT SET QUARTZ: CK-6/PRC-6	6	6	6			
	G04642	DETECTING SET MINE MICROWAVE	1	1	1			
	H02300	ELECTRONIC TELETYPEWRITER SECURITY EQUIPMENT TSEC/KWP	1	1	1			
	H23677	HEADSET-MICROPHONE: H-144/U	20	20	17			
	H73694	INDICATOR CHANNEL ALIGNMENT: ID-292/PRC-6	4	4	4			
	L01121	INVERTER VIBRATOR: PP-68/U	1	1	1			
	B83413	LOUDSPEAKER PERMANENT MAGNET: LS-166/U	3	3	3			
	M80002	MULTIMETER: AN/URM-105	3	3	3			
	Q16099	RADAR SET: AN/PPS-4	4	2	2			
	Q17469	RADAR SET: AN/TPS-33	2	2	2			
	Q19339	RADIAC SET: AN/PDR-27	4	4	4			
	Q20935	RADIACMETER: IM-93/UD	49	49	49			
	Q21483	RADIACMETER: IM-174/PD	34	34	34			
	Q33163	RADIO SET: AN/GRC-106 MOUNTED IN TRUCK 3/4 TON CARGO	2	2	2			
	Q33444	RADIO SET: AN/GRC-125	9	9	9			
	Q34140	RADIO SET: AN/GRC-125 MOUNTED IN TRUCK 1/4 TON	6	6	6			
	Q34906	RADIO SET: AN/GRR-5 MOUNTED IN TRUCK 3/4 TON CARGO	1	1	1			
	Q35454	RADIO SET: AN/PRC-6	54	54	54			
	Q37005	RADIO SET: AN/PRC-25	46	44	44			
	Q50754	RADIO SET: AN/VRC-24 MOUNTED IN TRUCK 3/4 TON CARGO	2	2	2			
	C53852	RADIO SET: AN/VRC-46 MOUNTED IN TRUCK SHOP VAN	2	2	2			
	Q53926	RADIO SET: AN/VRC-46 MOUNTED IN TRUCK 1/4 TON	7	7	7			
	Q54037	RADIO SET: AN/VRC-46 MOUNTED IN TRUCK 3/4 TON CARGO	5	5	5			
	Q54618	RADIO SET: AN/VRC-47 MOUNTED IN TRUCK 1/4 TON	20	20	17			
	Q54692	RADIO SET: AN/VRC-47 MOUNTED IN TRUCK 3/4 TON CARGO	5	5	5			
	Q55299	RADIO SET: AN/VRC-49 MOUNTED IN TRUCK 1/4 TON	1	1	1			
	Q56231	RADIO SET: AN/VRC-53 MOUNTED IN TRUCK UTILITY 1/4 TON	1	1	1			
	Q56287	RADIO SET: AN/VRC-53 MOUNTED IN TRUCK 3/4 TON CARGO	2	2	2			
	Q78282	RADIO SET CONTROL GROUP: AN/GRA-39	23	23	23			
	R55783	REEL CABLE: RL-159/U	10	10	10			
	R55920	REEL CABLE: 9 IN DIA 2 IN W W/U ECON REEL RL-39	23	23	23			
	R56742	REEL EQUIPMENT: PORTABLE WIRE LAYING UNIT	26	26	26			
	R59023	REELING MACHINE CABLE HAND: MANUAL OPERATED	2	2	2			
	R59160	REELING MACHINE CABLE HAND: PTBL LAYING AND RECV 1/4 MI BLD WIRE	53	53	53			
	R59434	REELING MACHINE CABLE MOTOR DRIVEN: RL-172/G	3	3	3			
	U05038	SPLICING KIT TELEPHONE CABLE: MK-356/G	15	12	12			
	U81787	SWITCHBOARD TELEPHONE MANUAL: SB-22/PT	6	6	6			
	U82255	SWITCHBOARD TELEPHONE MANUAL: SB-86/P	1	1	1			
	U82529	SWITCHBOARD TELEPHONE MANUAL: SB-993/GT	8	8	8			
	V30252	TELEPHONE SET: TA-1/PT	75	75	75			
	V31211	TELEPHONE SET: TA-312/PT	79	77	72			
	V54548	X TERMINAL BOARD: 15 1/4 IN LG 3 7/16 IN W 3/8 IN THICK	8	8	8			
	V74736	TEST SET ELECTRICAL POWER: AN/UPM-93	1	1	1			
	V76108	TEST SET ELECTRON TUBE: TV-7/U	1	1	1			
	V76519	TEST SET ELECTRONIC CIRCUIT PLUG-IN UNIT: AN/GRM-55	4	4	4			
	V88027	TEST SET RADIO: AN/VRM-1	4	4	4			
	Y38404	WATTMETER: AN/URM-98	1	1	1			
		MOBILITY COMMAND						
	B15588	BAG WATER STERILIZING:COTTN DUCK POROUS STITCHED SEAMS 36 GAL	16	16	16			
	B67629	BINOCULAR: INFRARED DRIVING METALLIC BODY	50	48	48			
	D82099	CHAIN ASSY SGL LEG:W/PEAR LINKS AND 1 GRAB HOOK 5/8 IN X 16 FT	10	10	10			
	E39823	CLOCK:MESSAGE CENTER CHELSEA CLOCK M-2	1	1	1			
	E63317	COMPASS MAGNETIC:LENSATIC 1.50 IN DIA DIAL	166	139	139			
	G02341	DETECTING SET MINE:PTBL METALLIC	1	1	1			
	G31904	DIVIDERS DRAFT PROPORT:7 1/2 IN LG	1	1	1			
	G43795	DRAFT AND DUPLICAT EQUIPMENT SET:SMALL SKETCH ACTES AND ORDERS	1	1	1			
	G85202	DUPLICATING MACHINE STENCIL PROCESS:BENCH HAND AUTO 7 1/4 W 14L	1	1	1			
	H73666	X FLASHLIGHT:PLAS WGHT ANG 2 CELL MIN FGE LAMP WTRTGHT	244	244	244			

SECTION III: EQUIPMENT ALLOWANCES

[illegible]	LIN	DESCRIPTION	EQUIPMENT LEVEL 1	2	3	AUG	[illegible]	RMK
a	b	c	d	e	f	g	h	i
	J47685	GEN ST GAS ENG:0.3 KW AC 115V 1PH 400CY DC 24 TO 35V	4	4	4			
	J42922	GEN ST GAS ENG:0.4KW AC 1PH 400CY 115V 0.08KW DC 28V SHK	2	2	2			
	J44055	GEN ST GAS ENG:1.5KW DC 28V SHOCK	3	3	3			
	J45699	GEN ST GAS ENG:3KW 60CY 1-3PH 120/240V 120/208V SKID SHOCK	1	1	1			
	J46119	GEN ST GAS ENG:3KW DC 28V SKID-SHK	2	2	2			
	K25342	HEATER IMMERSION LIQUID FUEL FIRED:30 IN 1G OF HEATER	52	52	52			
	M35691	METASCOPE ASSEMBLY:IMAGE INFRARED TRANSISTORIZED	21	21	21			
	N15518	OBSERVATION DEVICE:NIGHT MED RANGE	7	7	7			
	P09810	PLOTTING SET ARTILLERY FIRE CONTROL:	1	1	1			
	P82639	X PROTRACTOR SEMICIRCT:PLASTIC 16 IN DIA GRAD UNITS MILS AND MG	2	2	2			
	S49475	X SCALE PLOT:TRIAN 12 IN LG YDS METRS 1-25000 1-50000 1-62500	2	2	2			
	U29730	STARLIGHT SCOPE HAND HELD OR WEAPON MOUNTED	58	58	58			
	U37489	STEREOSCOPE LENS-PRISM MIRROR AERL PHOTO INTRPRTN 1/2 IN FCL LG	1	1	1			
	V12141	TANK AND PUMP UNIT:	2	2	2			
	V19950	TANK UNIT LIQUID DISPENSING TRAILER MOUNTING:	2	2	2			
	V44886	TEMPLATE AND TRACER PIN:MILITARY SYMBOLS	1	1	1			
	W38075	TOOL KIT WELDERS:	1	1	1			
	W95400	TRAILER CARGO: 1/4 TON 2 WHEEL W/E	39	37	37			
	W95537	TRAILER CARGO: 3/4 TON 2 WHEEL W/E	36	36	35			
	W95811	TRAILER CARGO: 1-1/2 TON 2 WHEEL W/E	16	16	16			
	W98825	TRAILER TANK: WATER 400 GALLON 1-1/2 TON 2 WHEEL W/E	4	4	4			
	X38619	TRUCK AMBULANCE: 1/4 TON 4X4 W/E	6	6	6			
	X39735	TRUCK CARGO: 3/4 TON 4X4 W/E	38	38	37			
	X39872	TRUCK CARGO: 3/4 TON 4X4 W/WINCH W/E	2	2	2			
	X40009	TRUCK CARGO: 2-1/2 TON 6X6 W/E	9	9	9			
	X40146	TRUCK CARGO: 2-1/2 TON 6X6 W/WINCH W/E	9	9	9			
	X40968	TRUCK CARGO: 5 TON 6X6 LWB W/WINCH W/E	2	2	2			
	X50833	TRUCK UTILITY: 1/4 TON W/E	43	43	40			
	X61244	TRUCK UTILITY: 1/4 TON 4X4 CARRIER FOR 106 MM RIFLE W/E	8	8	8			
	X62340	TRUCK VAN: SHOP 2-1/2 TON 6X6 W/E	1	1	1			
	X63299	TRUCK WRECKER: 5 TON 6X6 W/WINCH W/E	1	1	1			
	Y02371	WEAPON SIGHT INFRARED:	18	18	18			
		WEAPONS COMMAND						
	A22496	AIMING CIRCLE:	8	8	8			
	B49546	BAYONET-KNIFE:W/SCABBARD FOR M14 RIFLE	815	720	-49			
	B67081	BINOCULAR: 6X30 MILITARY RETICLE	94	93	90			
	B67218	BINOCULAR: 7X50 MILITARY RETICLE	27	27	27			
	B67395	BINOCULAR: 7X50 WITH OUT RETICLE	1	1	1			
	B63728	COMPASS MAGNETIC UNMOUNTED:MIL GRADUATIONS	56	53	50			
	H55706	FIRE DIRECTION SET ARTILLERY:15000 METER MAXIMUM RANGE	2	2	2			
	L44575	LAUNCHER GRENADE:40 MILLIMETER	85	85	85			
	L91975	MACHINE GUN CALIBER .50:HEAVY FLEXIBLE	13	13	13			
	L92386	MACHINE GUN 7.62 MILLIMETER:LIGHT FLEXIBLE	25	25	25			
	M68008	MORTAR 81 MILLIMETER:ON MOUNT	9	9	9			
	M68282	MORTAR 4.2 INCH:ON MOUNT	4	4	4			
	M75029	MOUNT MACHINE GUN: PEDESTAL 7.62 MM M60 ON TRUCK M151 W/E	4	4	4			
	M75577	MOUNT TRIPOD MACHINE GUN:HEAVY CALIBER .50	13	13	13			
	M75714	MOUNT TRIPOD MACHINE GUN:7.62 MILLIMETER	25	25	25			
	M82364	PERISCOPE BATTERY COMMAND:	1	1	1			
	N96741	PISTOL CALIBER .45 AUTOMATIC:	289	289	278			
	P07900	PLOTTING BOARD INDIRECT FIRE: AZIMUTH	17	15	12			
	R95114	RIFLE 7.62 MILLIMETER:	564	467	388			
	R95251	RIFLE 7.62 MILLIMETER:AUTOMATIC WITH BIPOD	56	56	56			
	R96484	RIFLE RECOILLESS 90 MILLIMETER:	18	18	18			
	R96758	RIFLE RECOILLESS 106 MILLIMETER:ON MOUNT	8	8	8			
	S44964	SCALE GRAPHICAL FIRING: 4.2 INCH MORTAR	6	6	6			
	S45228	SCALE GRAPHICAL FIRING: FAN 105MM HOWITZER	2	2	2			
	T45593	SIGHT BORE MORTAR:	4	4	4			
	U97631	STEREOSCOPE PRISM-MIRROR: W/CARRYING CASE	1	1	1			
	U43229	STOP WATCH:TYPE B TIMER ELGIN 16 SIZE 7 JEWEL	1	1	1			
	V35477	TELESCOPE STRAIGHT:MILITARY	4	4	4			
	W32730	TOOL KIT AUTOMOTIVE MAINTENANCE: ORG MAINT COMMON SET NO 2	1	1	1			
		MISSILE COMMAND						
	J93997	GUIDANCE AND LAUNCHING STATION: W/E (ENTAC)	3	3	3			
	X04083	TRAINING SET GUIDED MISSILE FLIGHT CONTROL: S-58 SIMULATOR ENTAC	2	2	2			
		MUNITIONS COMMAND						
	E74037	COMPRESSOR RECIPROCATING POWER DRIVEN: TRAILER MTD FLAME THROWER	2	2	2			
	F91490	DEMOLITION SET EXPLOSIVE: INITIATING ELECTRIC AND SEMI ELECTRIC	3	3	3			
	F91627	DEMOLITION SET EXPLOSIVE: INITIATING NON ELECTRIC	1	?	1			
		ARMY MEDICAL SERVICE						
	B72636	BLANKET SET BED:	8	8	8			
	K82592	INHALATOR SINGLE:	2	2	2			
a	b	c	d	e	f	g	h	i

DA FORM 2950 1 APR 66

REPLACES DA FORM 650, 1 NOV 60, WHICH IS OBSOLETE EFFECTIVE 1 JUL 66

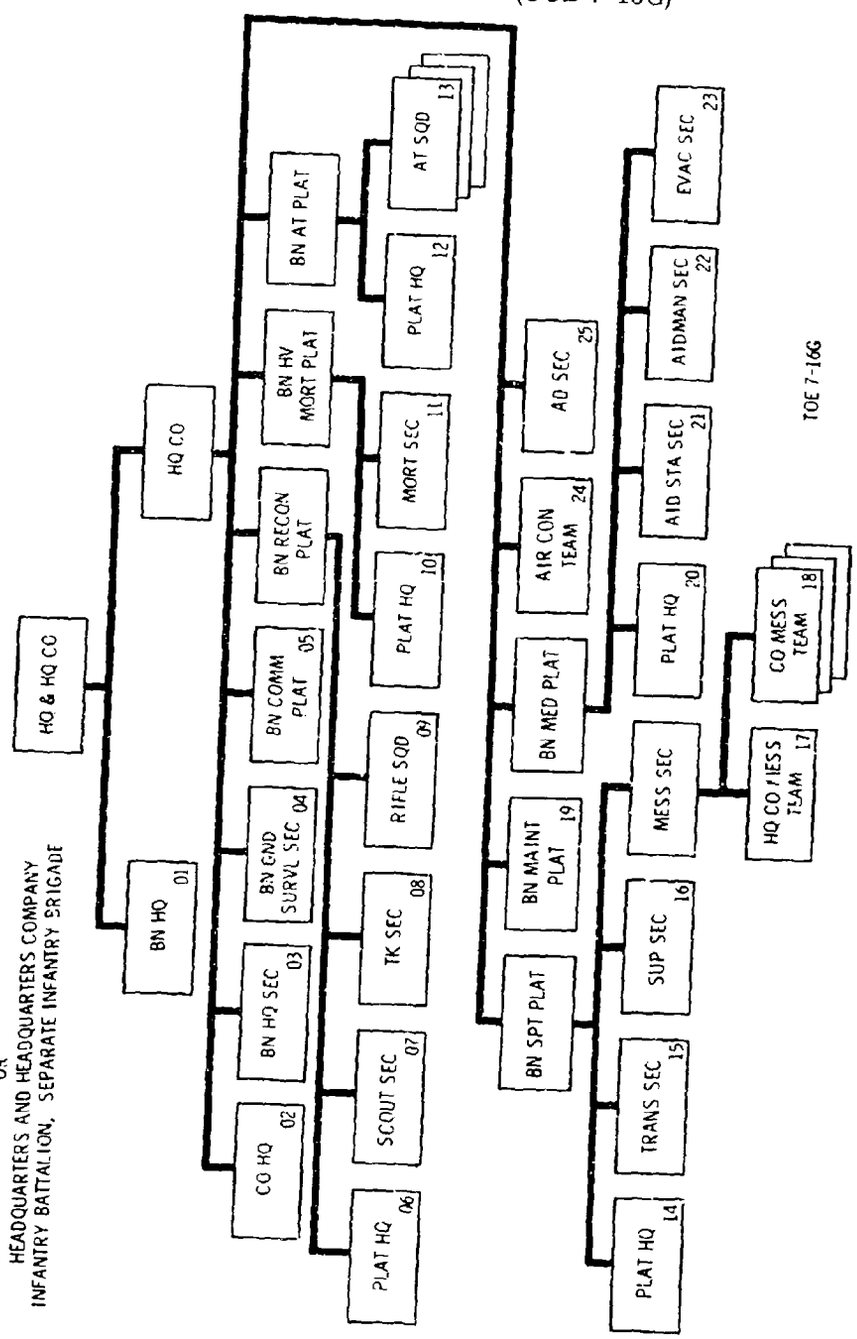
TABLE OF ORGANIZATION AND EQUIPMENT

SECTION III: EQUIPMENT ALLOWANCES

LINE NO.	DESCRIPTION	d	e	f	g	h	i
L42890	LATRINE BOX PREFABRICATED: PORTABLE M-2	1	1	1			
L65090	LIGHT SURGICAL BRACKET: PORTABLE BATTERY OPERATED	1	1	1			
L74255	LITTER FOLDING RIGID POLE: ALUMINUM POLE	30	30	30			
M31232	MEDICAL INSTRUMENT AND SUPPLY SET DISPENSARY FIELD	1		1			
M31643	MEDICAL SUPPLY SET FIELD: SUPPLEMENTAL SUPPLIES	6	6	5			
O06145	SPLINT SET: TELESCOPIC SPLINTS	4	4	4			
U44003	STOVE GASOLINE BURNER: 1000 BTU TWO BURNER WITH METAL CASE	2	2	2			
U61925	SUPPORT LITTER: FOLDING	1	1	1			
U65069	SURGICAL INSTRUMENT AND SUPPLY SET COMBAT:	1	1	1			
U65480	SURGICAL INSTRUMENT AND SUPPLY SET INDIVIDUAL:	21	21	19			
	SUPPLY AND MAINTENANCE COMMAND						
A03210	ACCESSORY OUTFIT GASOLINE FIELD RANGE: ACCOM 50 MEN	4	4	4			
B29464	BARBER KIT: W/CASE	4	4	4			
C11763	BOTTLE VACUUM: 1 QT W/MAILING CASE	4	4	4			
C52738	CABINET TOOL AND SPARE PARTS: 11 DRAWERS 35-1/2H 25W 270 IN	4	4	4			
C53149	CABINET TOOL AND SPARE PARTS: 35-1/2H 25W 200 IN	1	1	1			
C53286	CABINET TOOL AND SPARE PARTS: 39H 46-3/4W 23-9/16D	2	2	2			
D65276	CASE FIELD OFFICE MACHINE: 34-1/2L 13-1/4W 17D IN INSIDE DIM	6	6	6			
F97915	DESK FIELD: 2 FOLDING STOOLS 22-5/8W 25-7/8H 14-1/2D IN	18	18	18			
H41020	FILE VISIBLE INDEX CABINET: STEEL GRAY REMOVABLE POCKET SLIDES	1	1	1			
H65467	FLAG NATIONAL: US RAYON W/FRINGE 50 STAR	1	1	1			
H65679	FLAG ORGANIZATIONAL: FIXED TYPE RAYON 3 FT HOIST 4 FT FLY	1	1	1			
H66330	FLAG RED CROSS: NYLON-WOOL AMBULANCE AND MARKER	7	7	7			
H83817	FOOD CONTAINER INSULATED: RECTANGULAR W/INSERTS	33	33	33			
J71304	GOGGLES SUN WIND AND DUST: SINGLE-APERTURE TWO PLASTIC LENSES	128	128	123			
J95865	GUIDON: BLANK NLY-WL BNTNG 1 FT 8IN HOIST 2 FT 3-3/4IN FLY TY II	4	4	4			
L00073	INTRENCHING OUTFIT INFANTRY: INFANTRY AND AIRBORNE INFANTRY BN	1	1	1			
N35650	PANEL MARKER: AERIEL LN TYPE VS 17/GVX	34	34	34			
N57705	PANEL MARKER SET: AP-30-C	2	2	2			
N57842	PANEL MARKER SET: AP-30-D	2	2	2			
R24194	RANGE OUTFIT FIELD GASOLINE: ACCOM 50 MEN MULTIPLES THEREOF	13	13	13			
S27405	SAFE: 2 SHELVES 1 DRAWER 2 COMPARTMENTS 26H 17W 17-1/2D IN	3	3	3			
T34074	SLIDE RULE: WOODEN BODY DOUBLE FACE TYPE DEGREE-MINUTE 10L IN	2	2	2			
T78136	SLING CARRYING UNIVERSAL INDIVIDUAL LOAD: OD 7 W/3 LOAD SPACERS	632	632	632			
T78752	SLING FLAGSTAFF: WEB TEX OD ARMY SHADE 7	2	2	2			
V93477	TABLE FOLDING LEGS: ENAMEL FINISH U/AS CAMP UTILITY TABLE	18	18	18			
V05712	TABLEWARE OUTFIT FIELD: W/COMPONENTS	7	7	7			
W28757	TOOL KIT: GENERAL USE TOOLS SIG PART/DWG NO TF33	2	2	2			
W31434	TOOL KIT ARMORERS: SMALL ARMS REPAIR	4	4	4			
W33004	TOOL KIT AUTOMOTIVE MECHANICS: LIGHT WEIGHT	10	14	14			
W34648	TOOL KIT CARPENTERS: ENGINEER SQUAD W/CHEST	1	1	1			
W37134	TOOL KIT ELECTRICIANS: SET NO 2	2	2	2			
W48348	TOOL KIT PIONEER ENGINEER SQUAD: LAND CLR AND BLDG ERECTION	3	3	3			
W49501	TOOL KIT RADAR AND RADIO REPAIRMAN: INDIV RPMN RADIO AND RADAR	1	1	1			
W49992	TOOL KIT RADIO REPAIRMAN: ORGANIZATIONAL REPAIR RADIO EQUIPMENT	6	6	6			
X65121	TRUNK LOCKERS: METAL WOOD METAL REINFORCED 31 L 17 W 13 D	1	1	1			
X79860	TYPEWRITER: NONPORTABLE 11 IN CARRIAGE TELEGRAPHER AB UPPER CASE	4	4	4			
X80348	TYPEWRITER: NONPORTABLE 20 IN CARRIAGE	1	1	1			
X80485	TYPEWRITER: NONPORTABLE 27 IN CARRIAGE	1	1	1			
X80759	TYPEWRITER: PORTABLE 42 KEYS UPPER AND LOWER CASE	13	13	13			
	DEVELOPMENTAL ITEMS						
	WEAPONS COMMAND						
Z30619	RANGE FINDER XM23: (LASER)	7	7	7			

APPENDIX G

INFANTRY BATTALION (TOE 7-16G)



HEADQUARTERS AND HEADQUARTERS COMPANY
INFANTRY BATTALION, INFANTRY DIVISION
OR
HEADQUARTERS AND HEADQUARTERS COMPANY
INFANTRY BATTALION, SEPARATE INFANTRY BRIGADE

CORG-M-365

TOE T- 160

TABLE OF ORGANIZATION AND EQUIPMENT

SECTION II: PERSONNEL ALLOWANCES

XX MARCH 1964

INDEX PARA	INDEX SUB	DESCRIPTION	GRADE	MOS	AUTH	STRENGTH AUTH 1	STRENGTH AUTH 2	STRENGTH AUTH 3	STRENGTH AUTH A	STRENGTH AUTH B	STRENGTH AUTH C	REMARKS 1	REMARKS 2	REMARKS 3
		SRC 07016660O												
00		BN HEADQUARTERS												
	01	BATTALION COMD	LTC	01542	IN	1	1	1			1	11		
	02	EXECUTIVE OFFICER	MAJ	01542	IN	1	1	1				31	11	
	03	S3	MAJ	02162	IN	1	1	1			1	11		
	04	COMM OFFICER	CPT	00200	IN	1	1	1			1	36		
	05	MOTOR OFFICER	CPT	00500	IN	1	1				1			
	06	S1-ADJUTANT	CPT	02110	IN	1	1	1			1			
	07	S2	CPT	59301	IN	1	1				1			
	08	S4	CPT	04010	IN	1	1	1			1			
	09	SERGEANT MAJOR	E-9	15850	NC	1	1	1			1	08		
						9	9	7			8			
00		COMPANY HEADQUARTERS												
	01	COMPANY COMMANDER	CPT	02900	IN	1	1	1			1	11		
	02	EXECUTIVE OFFICER	LT	02998	IN	1	1	1						
	03	FIRST SERGEANT	E-8	11850	NC	1	1	1			1			
	04	SUPPLY SERGEANT	E-6	76540	NC	1	1	1			1			
	05	ARMORER	E-4	76530		1	1	1			1	01		
	06	COMPANY CLERK	E-4	73520		1	1	1			1			
	07	LT TRUCK DRIVER	E-3	13510		1	1	1				40		
						7	7	7			5			
00		BATTALION HQ SECTION												
	01	S3 AIR	CPT	92163	IN	1	1	1						
	02	LIAISON OFFICER	LT	01542	IN	2	1	1						
	03	INTELLIGENCE SGT	E-8	11850	NC	1	1	1			1			
	04	OPERATIONS SGT	E-8	11850	NC	1	1	1			1			
	05	A OPERATIONS SGT	E-7	11F48	NC	1	1					07		
	06	MATERIAL READINESS NCO	E-7	64H58	NC	1	1	1						
	07	PER STAFF NCO	E-7	72H40	NC	1	1	1				12		
	08	CHEMICAL NCO	E-6	54B40	NC	1	1							
	09	RTT TEAM LEADER	E-5	05C40	NC	1	1	1			1			
	10	CLERK TYPIST	E-4	73B30		2	2	2			1	12		
	11	OPERATIONS ASST	E-4	11B20		1	1	1				12		
	12	RADIO TT OPERATOR	E-4	05C20		2	2	2				01		
	13	SR RADIO OPERATOR	E-4	09B20		1	1	1				01		
	14	LT TRUCK DRIVER	E-3	13B10		9	8	8				40		
	15	MAIL DELIVERY CLK	E-3	75A10		1	1	1				01		
	16	RADIO OPERATOR	E-3	09B20		1	1	1				01		
						27	25	23			4			

DA FORM 2049 1 APR 66

TABLE OF ORGANIZATION AND EQUIPMENT — TOE 7-146

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

Para	Line	Description	Grade	MOS	Branch	Strength Levels 1	2	3	Aug 4	Type B	Cadre C	Remarks		
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
04		BN GROUND SURVL SEC												
	01	SECTION SERGEANT	E-6	11F40	NC	1	1	1			1			
	02	TEAM LEADER	E-5	11F40	NC	3	2	2						
	03	SR RADAR OPERATOR	E-5	11F20		4	4	4						
	04	RADAR OPERATOR	E-4	11F20		8	6	6				47	48	
	05	LT TRUCK DRIVER	E-3	11B10		1								
						18	13	13			1			
05		BN COMM PLATOON												
	01	COMM CHIEF	E-7	31F40	NC	1	1	1			1			
	02	WIRE FOREMAN	E-6	31F40	NC	1	1				1	48		
	03	TEAM CHIEF	E-5	31F40	NC	2	2	1			2			
	04	SR RADIO MECHANIC	E-5	31B20		1	1	1			1			
	05	RADAR MECHANIC	E-4	26C20		1	1	1				01		
	06	RADIO MECHANIC	E-4	31B20		2	2	2				01		
	07	SR MESSAGE CLERK	E-4	36A10		1	1	1			1			
	08	SR SWBD OPERATOR	E-4	36A10		1	1	1				01		
	09	SR WIREMAN	E-4	36A10		2	2	1						
	10	LT TRUCK DRIVER	E-3	36A10		1	1	1				40		
	11	MESSAGE CLERK	E-3	36A10		3	2							
	12	MOTOR MESSENGER	E-3	36A10		2	2	2						
	13	SWITCHBOARD OP	E-3	36A10		2	2	1						
	14	WIREMAN	E-3	36A10		4	4	2				01		
						24	23	15			6			
06		BN RECON PLAT HQ												
	01	PLATOON LEADER	LT	01204	AR	1	1	1			1	11		
	02	SCOUT DRIVER	E-4	11D20		1	1	1			1	60		
						2	2	2			2			
07		SCOUT SECTION												
	01	SQUAD LEADER	E-6	11D40	NC	2	2	2			2			
	02	ASST SQUAD LEADER	E-5	11D40	NC	2	2	2						
	03	SCOUT DRIVER	E-4	11D20		4	4	4				49		
	04	SCOUT OBSERVER	E-3	11D10		4	4					45		
						12	12	8			2			
08		TANK SECTION												
	01	PLATOON SERGEANT	E-7	11E40	NC	1	1	1			1	77		
	02	SECTION LEADER	E-6	11E40	NC	1	1	1			1			
	03	GUNNER	E-4	11E20		2	2	2				12		
	04	LT TRUCK DRIVER	E-3	11E10		2	2							
	05	LOADER	E-3	11E10		2	2	2				11		
						8	8	6			2			
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

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TOE 7- 165 TABLE OF ORGANIZATION AND EQUIPMENT

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

INDEX Para	INDEX Sub	DESCRIPTION	GRADE	MOS	BRANCH	STRENGTH LEVELS 1	2	3	NAVY 4	TYPE 5	CADRE 6	REMARKS 1	2	3
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
09		RIFLE SQUAD												
	01	SQUAD LEADER	E-6	11B40	NC	1	1	1			1			
	02	TEAM LEADER	E-5	11B40	NC	2	2	2						
	03	GRENADIER	E-4	11B20		2	2	2				12		
	04	LT TRUCK DRIVER	E-3	11B10		1	1	1						
	05	RIFLEMAN	E-3	11B10		2	1							
	06	AUTO RIFLEMAN	E-3	11B10		2	2	2						
						10	9	8			1			
10		8N AV MORT PLAT HQ												
	01	PLATOON LEADER	LT	01543	IN	1	1	1			1			
	02	PLATOON SERGEANT	E-7	11C40	NC	1	1	1			1			
	03	FIRE DIRECTION CH	E-6	11B40	NC	1	1	1			1			
	04	FORWARD OBSERVER	E-5	11C40	NC	3	3	3			3			
	05	FIRE DIR CHPT	E-5	11B20		2	2	2				46	59	
	06	LT TRUCK DRIVER	E-3	11C10		2						12		
	07	RAC TELEPHONE OP	E-3	11B1C		4	4	4				01		
						14	12	12			6			
18		MORTAR SECTION												
	03	SECTION LEADER	E-6	11C40	NC	1	1	1			1			
	02	SQUAD LEADER	E-5	11C40	NC	4	4	4			4			
	03	MORTAR GUNNER	E-4	11B20		4	4	4				11		
	04	AMMUNITION BEARER	E-3	11C10		12	8	2				42		
	05	A MORTAR GUNNER	E-3	11C10		4	4	4				11		
	06	LT TRUCK DRIVER	E-3	11C10		4	4	4						
						29	25	19			5			
32		8N ANTITANK PLAT HQ												
	01	PLATOON LEADER	LT	01542	IN	1	1	1			1			
	02	PLATOON SERGEANT	E-7	11M40	NC	1	1	1			1			
	03	RAC TELEPHONE OP	E-3	11M10		1	1	1				01		
						3	3	3			2			
33		3 ANTITANK SQUADS												
	01	SQUAD LEADER	E-5	11M40	NC	3	3	3			3			
	02	GUNNER	E-4	11M8C		3	3	3				11		
	03	AMMUNITION BEARER	E-3	11M10		6	3	3				66		
	04	ASSISTANT GUNNER	E-3	11M10		3	3	3				11		
						15	12	12			3			
36		8A SUPPORT PLT HQ												
	01	PLATOON LEADER	LT	04808	IN	1	1	1				25		
	03	LT TRUCK DRIVER	E-3	11B10		1	1	1				40		
						2	2	2						
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

DA FORM 2949 1 APR 66 REPLACES DA FORM 2949, 1 JUNE 65, WHICH IS OBSOLETE EFFECTIVE 1 JUL 66.

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TABLE OF ORGANIZATION AND EQUIPMENT — FOR 7- 168

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

CHANGE NO.	MOS	DESCRIPTION	GRADE	AUTH	STRENGTH LEVELS 1	2	3	4	5	CADRE	REMARKS 1	2	3
15		TRANSPORTATION SEC											
	01	SECTION SERGEANT	E-6	64C40 NC	1	1	1			1			
	02	AMMUNITION CHIEF	E-6	11B40 NC	1	1	1						
	03	AMMO SPECIALIST	E-4	11B20	1	1	1						
	04	HV TRUCK DRIVER	E-4	64B20	2	2	2						
	05	SR LT TRUCK DRIVER	E-4	64A10	1	1	1						
	06	ASST HV TRUCK DVR	E-3	64B20	1	1	1						
	07	LT TRUCK DRIVER	E-3	64A10	5	5	5				01		
	08	ASST LT TRUCK DVR	E-2	64A10	3								
					19	12	12			1			
16		SUPPLY SECTION											
	01	SECTION LEADER	W C	76L43	1	1	1						
	02	SUPPLY SERGEANT	E-7	76K40 NC	1	1	1			1			
	03	ASST SUPPLY SGT	E-6	76K40 NC	1	1	1						
	04	GENERAL SUPPLY SP	E-4	76K20	2	2	2				02		
	05	SUPPLY CLERK	E-3	76A10	2	1	1				00		
					7	6	6			1			
17		HQ CO MESS TEAM											
	01	MESS STEWARD	E-6	94B40 NC	1	1	1			1			
	02	FIRST COOK	E-5	94B20	3	3	3			2			
	03	COOK	E-4	94B20	3	3	3			1			
	04	COOKS HELPER	E-3	94A10	1	1	1				01		
					8	8	8			4			
18		3 COMPANY MESS TEAMS											
	01	MESS STEWARD	E-6	94B40 NC	3	3	3			3			
	02	FIRST COOK	E-5	94B20	9	9	9			3			
	03	COOK	E-4	94B20	6	3	3			3			
	04	COOKS HELPER	E-3	94A10	3	3	3				03		
					21	18	18			9			
19		GN MAINT PLATOON											
	01	AUTO MNT TECH	W O	63L40	1	1							
	02	MOTOR MNT SGT	E-6	63B50 NC	1					1			
	03	SR MAINT DATA SPEC	E-5	71B30	1	1	1						
	04	SR WHEEL VEH MECH	E-5	63B20	3	3	3			1			
	05	MAINT DATA SPEC	E-4	71B30	2	2	2						
	06	ORD SUPPLY SP	E-4	76B20	1	1	1			1	01		
	07	POWERMAN	E-4	52B20	1	1	1			1			
	08	REPAIR PARTS SPEC	E-4	76B20	1	1	1						
	09	SHOP CLERK	E-4	71B20	1	1	1						

DA FORM 2949 — REPLACES DA FORM 2949, 1 JAN 66, WHICH IS OBSOLETE

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TABLE OF ORGANIZATION AND EQUIPMENT

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

INDEX PARA	INDEX LINE	DESCRIPTION	GRADE	MOS	SPECIAL QUALIFICATION	STRENGTH LEVELS A	B	C	AUTH A	AUTH B	AUTH C	OPTIONS 1	2	3
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
19	10	WELDER	E-4	44G20		1	1	1			1			
	11	WHEEL VEH MECH	E-4	63B20		7	7	7			4			
	12	WRECKER OPERATOR	E-4	63B20		1	1	1						
	13	POWERMAN HELPER	E-3	52B10		1	1	1						
	14	WHEEL VEH MECH H	E-3	63A10		7	3	3				54		
						29	25	25			9			
20		BN MEDICAL PLAT HQ												
	01	PLATOON LEADER	CPT	09100	MC	1	1	1			1	41	11	
	02	MEDICAL OP ASST	LT	0990A	MS	1	1	1			1			
	03	PLATOON SERGEANT	E-7	91B40	MC	1	1	1			1	01		
						3	3	3			3			
21		AID STATION SECTION												
	01	MEDICAL ASSISTANT	E-6	91G20		2	2	2						
	02	SR MEDICAL AIDMAN	E-5	91B30		2	2	2						
	03	MEDICAL AIDMAN	E-4	91B20		2	2	2				46		
						6	6	6						
22		AIDMAN SECTION												
	01	COMPANY AIDMAN	E-5	91B20		12	12	8				11		
						12	12	8						
23		EVACUATION SECTION												
	01	SECTION SERGEANT	E-5	91B40	MC	1	1	1						
	02	AMBULANCE DRIVER	E-4	98B20		6	6	6				11		
	03	MEDICAL AIDMAN	E-4	91B20		6	6	6				11		
						13	13	13						
24		AIR CONTROL TEAM												
	01	OP SGT AIR	E-6	11F40	MC	1	1	1				62		
	02	SR RADIO OPERATOR	E-4	05B20		1	1	1				62		
	03	RADIO OPERATOR	E-3	05B20		1	1	1				62	01	
						3	3	3						
25		AIR DEFENSE SECTION												
	01	REDEYE GUNNER	E-4	11B20		4	4	4			1			
	02	ASST REDEYE GUNNER	E-3	11B10		4	4	4				01		
						8	8	8			1			
						806	276	247			75			
		RECAPITULATION BY GRADE												
		OFFICERS												
			LTC	03542	IN	1	1	1			1			
						1	1	1			1			
			MAJ	0154.	IN	1	1	1						
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

DA FORM 2349 REPLACES DA FORM 2349, 1 APR 66, WHICH IS OBSOLETE EFFECTIVE 1 JUL 66.

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TABLE OF ORGANIZATION AND EQUIPMENT

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SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

PARA	LINE	DESCRIPTION	GRADE	MOS	BRANCH	STRENGTH LEVELS 1	2	3	AUG A	TYPE B	CADRE C	REMARKS 1	2	3
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
				02162	IN	1	1	1			1			
						2	2	2			1			
			CPT	00200	IN	1	1	1			1			
				00600	IN	1	1				1			
				02110	IN	1	1	1			1			
				02900	IN	1	1	1			1			
				03100	MC	1	1	1			1			
				04010	IN	1	1	1			1			
				52163	IN	1	1	1						
				59301	IN	1	1				1			
						8	8	6			7			
			LT	01204	AR	1	1	1			1			
				01542	IN	3	2	2			1			
				01543	IN	1	1	1			1			
				02900	IN	1	1	1						
				03906	MS	1	1	1			1			
				04000	IN	1	1	1						
						8	7	7			4			
			W O	631A0		1	1	1						
				761A0		1	1	1						
						2	2	2						
		TOTALS				21	20	18			13			
		ENLISTED												
			E-9	11G50	NC	1	1	1			1			
						1	1	1			1			
			E-8	11F50	NC	2	2	2			2			
				11G50	NC	1	1	1			1			
				63B50	NC	1	1	1			1			
						4	4	4			4			
			E-7	11C40	NC	1	1	1			1			
				11D40	NC	1	1	1			1			
				11F40	NC	1	1							
				11H40	NC	1	1	1			1			
				31F40	NC	1	1	1			1			
				[illegible]C40	NC	1	1	1						
				71H40	NC	1	1	1						
				76R40	NC	1	1	1			1			
				91B40	NC	1	1	1			1			
						9	9	8			6			
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

DA FORM 1 APR 60 2949 REPLACES DA FORM 2949, 1 JUN 58, WHICH IS OBSOLETE EFFECTIVE 1 JUL 60

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TABLE OF ORGANIZATION AND EQUIPMENT

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

INDEX PARA	INDEX LINE	DESCRIPTION	GRADE	MOS	AUTH	STRENGTH LEVELS 1	2	3	AUTH	TYPE	CURR	REMARKS 1	2	3
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
			E-6	1184C	MC	2	2	2			1			
				11C40	MC	2	2	2			2			
				11D40	MC	2	2	2			2			
				11F40	MC	2	2	2			1			
				11H40	MC	1	1	1			1			
				31F4C	MC	1	1				1			
				54B40	MC	1	1							
				64C40	MC	1	1	1			1			
				76K40	MC	2	2	2			1			
				91C2C		2	2	2						
				94B40	MC	4	4	4			4			
						20	20	18			14			
			E-5	09E40	MC	1	1	1			1			
				11B40	MC	2	2	2						
				11C20		2	2	2						
				11C40	MC	7	7	7			7			
				11D40	MC	2	2	2						
				11F20		6	4	4						
				11F40	MC	3	2	2						
				11H40	MC	3	3	3			3			
				31B20		1	1	1			1			
				31F40	MC	2	2	1			2			
				63B20		3	3	3			1			
				71B30		1	1	1						
				91B20		12	12	8						
				91B30		2	2	2						
				91B40	MC	1	1	1						
				94B20		12	12	12			5			
						60	57	52			20			
			E-4	09B20		2	2	2						
				09E20		2	2	2						
				11B20		3	3	3						
				11B30		4	4	4			1			
				11C20		4	4	4						
				11D20		5	5	5			1			
				11F20		9	7	7						
				11H20		2	2	2						
				11H30		3	3	3						
				26C20		1	1	1						
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o

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Para (a)	Line (b)	Description (c)	Grade (d)	MOS (e)	Branch (f)	Strength level 1 (g)	2 (h)	3 (i)	(j)	(k)	Cadre (l)	(m)	(n)	(o)
				31B20		2	2	2						
				36A10		4	4	3			1			
				44C20		1	1	1			1			
				52B20		1	1	1			1			
				63B20		8	8	8			4			
				64A10		1	1	1						
				64B20		2	2	2						
				71B20		1	1	1						
				71B30		4	4	4			1			
				71H20		1	1	1			1			
				76D20		2	2	2			1			
				76K20		2	2	2						
				76K30		1	1	1			1			
				91B20		14	14	14						
				94B20		9	6	6			4			
						88	83	82			17			
			E-3	05B20		2	2	2						
				11B10		17	14	13						
				11E10		4	4	4						
				11C10		26	20	14						
				11D10		4	4							
				11H10		14	11	9						
				36A10		12	11	6						
				52B10		1	1	1						
				63A10		7	3	3						
				64A10		5	5	5						
				64B20		1	1	1						
				71A10		1	1	1						
				76A10		2	1	1						
				94A10		4	4	4						
						100	82	64						
			E-2	64A10		3								
						3								
		TOTALS				285	256	229			62			
		TOTALS				306	276	247			75			
		RECAPITULATION BY MOS												
		OFFICERS												
				00200	IN	1	1	1			1			
				00600	IN	1	1				1			

DA FORM 2949, 1 APR 60 [illegible]

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TABLE OF ORGANIZATION AND EQUIPMENT

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

PARA a	LINE b	DESCRIPTION c	GRADE d	MOS e	BR f	1 g	2 h	3 i	AUG A j	TYPE B k	CADRE C l	m	n	o
				01204	AR	1	1	1			1			
				01942	IN	5	4	4			2			
				01943	IN	1	1	1			1			
				02110	IN	1	1	1			1			
				02162	IN	1	1	1			1			
				02900	IN	2	2	2			1			
				03100	MC	1	1	1			1			
				03506	MS	1	1	1			1			
				04000	IN	1	1	1						
				04010	IN	1	1	1			1			
				52163	IN	1	1	1						
				59301	IN	1	1				1			
				631A0		1	1	1						
				761A0		1	1	1						
		TOTALS				21	20	18			15			
		ENLISTED												
				05B20		4	4	4						
				05C20		2	2	2						
				05C40	NC	1	1	1			1			
				11B10		17	14	13						
				11B10		4	4	4						
				11B20		3	3	3						
				11B20		4	4	4			1			
				11B40	NC	4	4	4			1			
				11C10		26	20	14						
				11C20		6	6	6						
				11C40	NC	10	10	10			10			
				11D10		4	4							
				11D20		5	5	5			1			
				11D40	NC	5	5	5			5			
				11F20		15	11	11						
				11F40	NC	6	5	4			1			
				11F50	NC	2	2	2			2			
				11G50	NC	2	2	2			2			
				11H10		14	11	9						
				11H20		2	2	2						
				11H30		3	3	3						
				11H40	NC	5	5	5			5			
				25C20		1	1	1						

DA FORM 1 APR 66 2949

REPLACES DA FORM 600, 1 JAN 55, WHICH IS OBSOLETE EFFECTIVE 1 JUL 66.

TABLE OF ORGANIZATION AND EQUIPMENT

TOE 7-146

SECTION II: PERSONNEL ALLOWANCES

31 MARCH 1966

Para	Line	Description	Grade	MOS	Branch	Strength 1	Strength 2	Strength 3	Type B	Type	Cadre	Remarks		
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
				31B20		3	3	3			1			
				31F40	NC	4	4	2			4			
				36A10		16	15	9			1			
				44C20		1	1	1			1			
				52C10		1	1	1						
				52B20		1	2	1			1			
				54B40	NC	1	1							
				63A10		7	3	3						
				63B20		11	11	11			5			
				63H50	NC	1	1	1			1			
				64A10		9	6	6						
				64B20		3	3	3						
				64C40	NC	2	2	2			1			
				71A10		1	1	1						
				71B20		1	1	1						
				71B30		5	5	5			1			
				71H20		1	1	1			1			
				71H40	NC	1	1	1						
				76A10		2	1	1						
				76D20		2	2	2			1			
				76K20		2	2	2						
				76K30		1	1	1			1			
				76K40	NC	3	3	3			2			
				91B20		26	26	22						
				91B30		2	2	2						
				91B40	NC	2	2	2			1			
				91C20		2	2	2						
				94A10		4	4	4						
				94B20		21	18	18			9			
				94B40	NC	4	4	4			4			
		TOTALS				289	256	229			62			
		TOTALS				306	276	247			75			

REMARKS

01	ALSO LIGHT TRUCK DRIVER.
07	ALSO INFORMATION NCO.
08	ALSO EDUCATION NCO.
11	ARMED WITH PISTOL AUTOMATIC CAL .45.
12	ARMED WITH LAUNCHER GRENADE 40-MM AND PISTOL AUTOMATIC CAL .45.

DA FORM 2949, 1 APR 60 — REPLACES DA FORM 500, 1 JAN 56, WHICH IS OBSOLETE EFFECTIVE 1 JUL 60

INDEX PARA	INDEX LINE	DESCRIPTION	OFFICER	MOS	STRENGTH A	STRENGTH B	STRENGTH C	REMARKS
	29	ALSO ASSISTANT S4.						
	31	ALSO INFORMATION OFFICER.						
	36	ALSO COMMANDS COMMUNICATION PLATOON.						
	40	ALSO RADIO TELEPHONE OPERATOR.						
	41	ALSO BATTALION SURGEON.						
	43	3 EM PER SQUAD ARMED WITH LAUNCHER GRENADE 40MM AND PISTOL AUTOMATIC CAL .45.						
	45	1 EM PER TEAM ALSO RADIO TELEPHONE OPERATOR.						
	46	1 EM ALSO LIGHT TRUCK DRIVER.						
	47	1 EM PER TEAM ALSO LIGHT TRUCK DRIVER.						
	48	ALSO TEAM CHIEF.						
	49	2 EM ALSO RADIO TELEPHONE OPERATOR.						
	51	2 EM ARMED WITH LAUNCHER GRENADE 40 MM AND PISTOL AUTOMATIC CAL .45.						
	54	5 EM ALSO LIGHT TRUCK DRIVER.						
	56	3 EM PER SQUAD ALSO LIGHT TRUCK DRIVER.						
	59	1 EM ALSO RADIO TELEPHONE OPERATOR.						
	62	ALSO SERVES WITH S-3 AIR WHEN AIR CONTROL TEAM IS NOT COMMITTED.						
	77	MOS 11D40 USED UNTIL SECTION EQUIPPED WITH AR/AAV AT WHICH TIME MOS 11E40 APPLIES.						

TABLE OF ORGANIZATION AND EQUIPMENT

SECTION III: EQUIPMENT ALLOWANCES

31 MARCH 1966

PARA	LIN	DESCRIPTION	d	e	f	g	h	i
		SRC 07016G00						
01		BN HEADQUARTERS						
	B49546 3	* BAYONET-KNIFE: W/SCABBARD FOR M14 RIFLE	9	9	7			
	M96741 3	* PISTOL CALIBER .45 AUTOMATIC:	3	3	3			
	R95114 3	* RIFLE 7.62 MILLIMETER:	6	6	4			
02		COMPANY HEADQUARTERS						
	B29464 8	BARBER KIT: W/CASE	1	1	1			
	B49546 3	* BAYONET-KNIFE: W/SCABBARD FOR M14 RIFLE	7	7	7			
	B67081 3	BINOCULAR: 6X30 MILITARY RETICLE	1	1	1			
	C53149 8	CABINET TOOL AND SPARE PARTS: 35-1/2H 25W 200 IN	1	1	1			
	C82099 2	CHAIN ASSY SGL LEG: W/PEAR LINKS AND 1 GRAB HOOK 5/8 IN X 16 FT	1	1	1			700
	E00533 1	CHARGER RADIAC DETECTOR: PP-1578/PD	5	5	5			
	E03337 2	COMPASS MAGNETIC: LENSATIC 1.58 IN DIA DIAL	3	3	3			
	E74037 5	COMPRESSOR RECIPROCATING POWER DRIVEN: TRAILER PTO PLANE INPOWER	2	2	2			
	F97915 0	DESK FIELD: 2 FOLDING STOOLS 22-5/8W 25-7/8H 14-1/2D IN	1	1	1			
	H73666 2	X FLASHLIGHT: PLAS RGHT ANG 2 CELL W/N FGE LAMP WTRTGHT	100	100	100			700
	J45698 7	GEN ST GAS ENG: 3KW ACCY 1-3PH 120/240V 120/208V SKID SHOCK	1	1	1			400
	J71304 8	GOGGLES SUN WIND AND DUST: SINGLE-APERTURE TWO PLASTIC LENSES	2	2	2			391
	J95865 8	GUIDON: BLANK NLY-WL BNTNG 1 FT 8IN HOIST 2 FT 3-3/4IN FLY TY II	1	1	1			
	L91975 3	* MACHINE GUN CALIBER .50: HEAVY FLEXIBLE	3	3	3			
	M75577 3	* MOUNT TRIPOD MACHINE GUN: HEAVY CALIBER .50	3	3	3			
	N55650 8	PANEL MARKER: AERIEL LN TYPE VS 17/GVX	22	22	22			
	N57705 8	PANEL MARKER SET: AP-30-C	1	1	1			
	N57842 8	PANEL MARKER SET: AP-30-D	1	1	1			
	N96741 3	* PISTOL CALIBER .45 AUTOMATIC:	1	1	1			
	Q20935 1	RADIACMETER: IM-93/UD	2	2	2			
	Q21483 1	RADIACMETER: IM-174/PD	1	1	1			917
	Q54692 1	* RADIO SET: AN/VRC-47 MOUNTED IN TRUCK 3/4 TON CARGO	1	1	1			
	R55920 1	REEL CABLE: 9 IN DIA 8 IN W P/O ECOP REEL RL-39	1	1	1			
	R95114 3	* RIFLE 7.62 MILLIMETER:	6	6	6			
	T78136 0	SLING CARRYING UNIVERSAL INDIVIDUAL LOAD: CO 7 W/2 LOAD BEARERS	110	110	110			
	V31211 1	* TELEPHONE SET: TA-312/PT	1	1	1			
	W31634 0	TOOL KIT ARMORERS: SMALL ARMS REPAIR	1	1	1			
	W34648 8	TOOL KIT CARPENTERS: ENGINEER SQUAD W/CHEST	1	1	1			
	W95537 2	* TRAILER CARGO: 3/4 TON 2 WHEEL W/E	1	1	1			
	X39735 2	* TRUCK CARGO: 3/4 TON 4X4 W/E	1	1	1			
	X40009 2	* TRUCK CARGO: 2-1/2 TON 6X6 W/E	1	1	1			
	X65121 0	TRUNK LOCKERS: METAL WOOD METAL REINFORCED 31 L 17 W 13 D	1	1	1			
	X80759 8	TYPEWRITER: PORTABLE 42 KEYS UPPER AND LOWER CASE	1	1	1			
	Y42371 2	* WEAPON SIGHT INFRARED:	10	10	10			856
		* REPORTABLE ITEM UNDER AR 220-1						
a	b	c	d	e	f	g	h	i

DA FORM 2950 1 APR 60 — REPLACES DA FORM 000, 1 NOV 60, WHICH IS OBSOLETE EFFECTIVE 1 JUL 60.

31 MARCH 1966

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SECTION III: EQUIPMENT ALLOWANCES

a	b	c	d	e	f	g	h	i
03		BATTALION HQ SECTION						
	A12260 1	ANTENNA: MODIFIED GROUND PLANE TYPE 20 TO 389 MC FREQ	4	4	4			
	B49546 3	* BAYONET-KNIFE: W/SCABBARD FOR M14 RIFLE	27	25	23			
	B67081 3	BINOCULAR: 6X30 MILITARY RETICLE	7	7	7			
	E67355 3	* BINOCULAR: 7X50 WITH OLT RETICLE	1	1	1			
	C68719 1	CABLE TELEPHONE: WD-1/TT DR-8 1320 FT	6	6	4			
	C65276 8	CASE FIELD OFFICE MACHINE: 36-1/2L 13-1/4W 17D IN INSIDE DIM	5	5	5			
	D82099 2	CHAIN ASSY SGL LEG: W/PEAR LINKS AND 1 GRAB HOOK 5/8 IN X 16 FT	1	1	1			700
	E00539 1	CHARGER RADIAC DETECTOR: PP-1578/PD	1	1	1			
	E63317 2	COMPASS MAGNETIC: LENSATIC 1.58 IN DIA DIAL	9	9	9			
	F97915 8	DESK FIELD: 2 FOLDING STOOLS 22-5/8W 25-7/8H 14-1/2D IN	5	5	5			
	G31904 2	DIVIDERS DRAFT PROPORT: 7 1/2 IN LG	1	1	1			
	G43795 2	DRAFT AND DUPLICAT EQUIPMENT SET: SMALL SKETCH NOTES AND ORDERS	1	1	1			
	G85202 2	DUPLICATING MACHINE STENCIL PROCESS: BENCH HAND AUTO 7 1/4 W 14L	1	1	1			
	H02300 1	* ELECTRONIC TELETYPEWRITER SECURITY EQUIPMENT TSEC/KW7	1	1	1			
	H65467 8	FLAG NATIONAL: US RAYON W/FRINGE 50 STAR	1	1	1			
	H65679 8	FLAG ORGANIZATIONAL: FIXED TYPE RAYON 3 FT HOIST 4 FT FLY	1	1	1			
	J44055 2	GEN SET GAS ENG: 1.5KW DC 28V SHOCK	1	1	1			
	J46110 2	GEN SET GAS ENG: 3KW DC 28V SKID-SHK	2	2	2			
	J71304 0	GOGGLES SUN WIND AND DUST: SINGLE-APERTURE TWO PLASTIC LENSES	14	14	14			251
	L44575 3	* LAUNCHER GRENADE: 40 MILLIMETER	4	4	4			
	L83413 1	LOUDSPEAKER PERMANENT MAGNET: LS-166/U	1	1	1			
	N96741 3	* PISTOL CALIBER .45 AUTOMATIC:	4	4	4			
	P82639 2	X PROTRACTOR SEMICIRCL: PLASTIC 16 IN DIA GRAD UNITS MILS AND ME	2	2	2			
	Q20935 1	RADIACMETER: IM-93/UD	4	4	4			
	Q33163 1	* RADIO SET: AN/GRC-106 MOUNTED IN TRUCK 3/4 TON CARGO	1	1	1			
	Q34906 1	* RADIO SET: AN/GRR-5 MOUNTED IN TRUCK 3/4 TON CARGO	1	1	1			
	Q37005 1	* RADIO SET: AN/PRC-25	3	3	3			
	Q50754 1	* RADIO SET: AN/VRC-24 MOUNTED IN TRUCK 3/4 TON CARGO	1	1	1			
	Q53852 1	* RADIO SET: AN/VRC-46 MOUNTED IN TRUCK SHOP VAN	2	2	2			
	Q53926 1	* RADIO SET: AN/VRC-46 MOUNTED IN TRUCK 1/4 TON	2	2	2			
	Q54037 1	* RADIO SET: AN/VRC-46 MOUNTED IN TRUCK 3/4 TON CARGO	1	1	1			
	Q54618 1	* RADIO SET: AN/VRC-47 MOUNTED IN TRUCK 1/4 TON	5	5	5			
	Q54692 1	* RADIO SET: AN/VRC-47 MOUNTED IN TRUCK 3/4 TON CARGO	1	1	1			
	Q79782 1	* RADIO SET CONTROL GROUP: AN/GRA-39	5	5	5			
	R59160 1	REELING MACHINE CABLE HAND: FTBL LAYING AND RECV 1/4 MI FLD WIRE	5	5	5			
	R95114 3	* RIFLE 7.62 MILLIMETER:	23	21	19			
	S27405 0	SAFE: 2 SHELVES 1 DRAWER 2 COMPARTMENTS 26H 17W 17-1/2D IN	2	2	2			
	T74074 8	SLIDE RULE: WOODEN BODY DOUBLE FACE TYPE DEGREE-MINUTE 10L IN	2	2	2			
	T78752 8	SLING FLAGSTAFF: WEB TEX OD ARMY SHADE 7	2	2	2			
		* REPORTABLE ITEM UNDER AR 220-1						

DA FORM 2950, 1 APR 60 — REPLACES DA FORM 899, 1 NOV 58, WHICH IS OBSOLETE EFFECTIVE 1 AUG 60

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TABLE OF ORGANIZATION AND EQUIPMENT

SECTION III: EQUIPMENT ALLOWANCES

REMARKS	
400	1 PER 16 WEAPON SIGHT INFRARED OR MECT.
502	1 PER TEST SET ELECTRON TUBE TV-7/U.
538	EQP W/RING MOUNT.
558	1 PER INDIVIDUAL ASSIGNED SCOUT SECTION.
600	WAB CONARC ARADCOM OR TOC. NOT INCLUDED IN TOTALS. AUTH ESTABLISHED ONLY BY MTOE.
609	MEI TO ANY OF THE TOE PERS AS RQR - UP TO 50 PERCENT OFF. WO STR, 1 PER E-9, E-8, E-7 WAB TOC. NOT INCLUDED IN TOTALS. AUTH ESTABLISHED ONLY BY MTOE.
618	1 PER ACCESSORY OUTFIT GAS WAB CONARC ARADCOM OR TOC. NOT INCL IN TOTALS. AUTH ESTAB ONLY BY MTOE.
619	1 PER TENT MAINT FRAME TYPE WAB CONARC ARADCOM OR TOC. NOT INCL IN TOTALS. AUTH ESTAB ONLY BY MTOE.
620	1 PER TLR TK WATER IN TEMPERATE ZONES V AND VI AND ARCTIC ZONE VII WAB CONARC ARADCOM OR TOC. NOT INCLUDED IN TOTALS. AUTH ESTABLISHED ONLY BY MTOE.
621	ITEM USED PRINCIPALLY TO PROVIDE INSULATIONS FROM THE COLD AND/OR REDUCE RADIATION FROM THE SUN WAB USCONARC ARADCOM OR TOC. NOT INCL IN TOTALS. AUTH ESTAB ONLY BY MTOE.
622	ITEM USED PRINCIPALLY TO PROVIDE BLACK OUT PROTECTION AND TO PREVENT ENTRANCE OF COLD AIR INTO THE TENT WAB USCONARC ARADCOM OR TOC. NOT INCL IN TOTALS. AUTH ESTABLISHED ONLY BY MTOE.
700	1 PER 3 WECRV 2 1/2 TON OR MECT IN CONUS EXCEPT VEH EQP W/WN.
800	MEI AS DIRECTED BY CO.
912	3 PER TRK 1/4 TON AMB FRONT-LINE, 6 PER MED SEC.
913	1 PER TRK 1/4 TON AMB FRONT-LINE, MED SEC.
916	TO BE USED AS INTERIM SUBSTITUTE UNTIL AR/AAV -XMS21- BECOMES AVAILABLE.
917	AUTHORIZED UNTIL RADIAC SET AN/VDR-1 IS AVAILABLE.

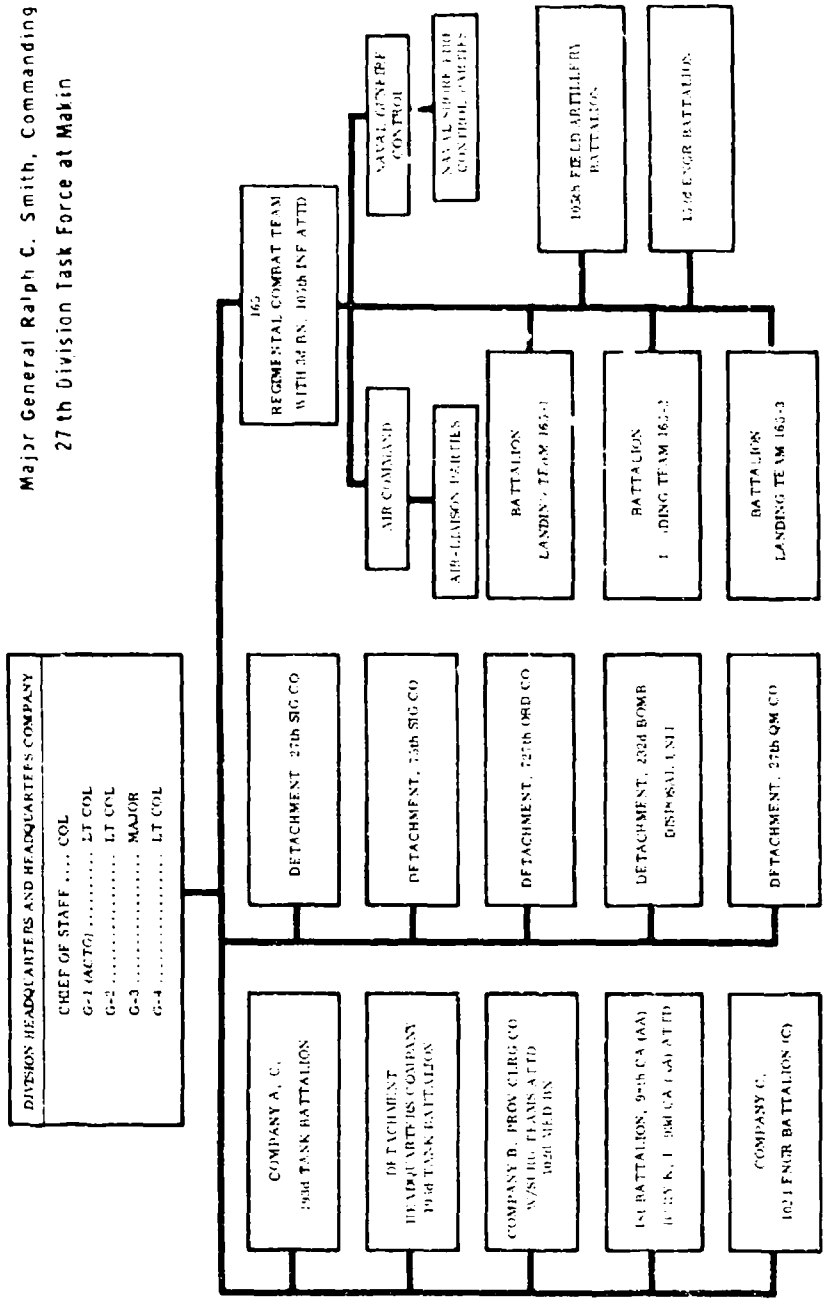
* REPORTABLE ITEM UNDER AR 220-1

DA FORM 2950, 1 APR 63 — REPLACES DA FORM 2950, 1 NOV 60, WHICH IS OBSOLETE

APPENDIX H

THE 27th DIVISION TASK FORCE

Major General Ralph C. Smith, Commanding
27 th Division Task Force at Makin



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13. ABSTRACT

The division first appeared in the United States Army in the American Revolution. European military professionals established the divisional structure, which was refined during and after the French Revolution. The Napoleonic wars saw the infantry division in all armies; the French influence on divisional structure has always been strong.

The modern United States Army infantry division dates from World War I.

World War II and the Korean War were fought by divisions of about one-half the strength of those of World War I. The division was triangular rather than square.

The "cold war" and the possibility of nuclear conflict forced the drastic reorganization of the US infantry division. Pentomic, or ROCID, ROTAD, and finally ROAD were the new formats.

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Division						
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Battalion						
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Division Base						
Support Group						
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Major General						
Brigadier General						
Brigade Commander						
Battalion Commander						
Maneuver Battalion						
Fire and Movement						
Flexible Response						