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# ORGANIZATION AND EQUIPMENT OF THE INFANTRY RIFLE SQUAD: FROM VALLEY FORGE TO ROAD



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DEPARTMENT OF THE ARMY CONTRACT
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CORG MEMORANDUM

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# ORGANIZATION AND EQUIPMENT OF THE INFANTRY RIFLE SQUAD: FROM VALLEY FORGE TO ROAD

by

Virgil Ney

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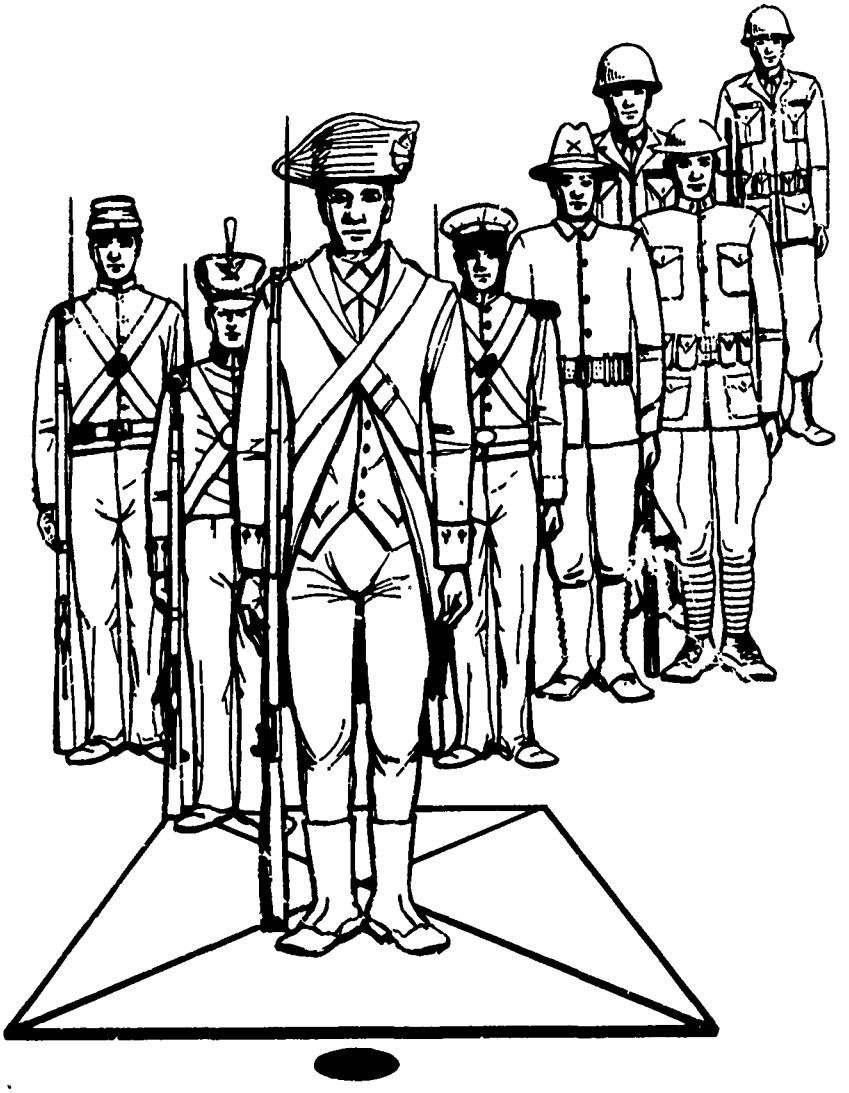
## ABSTRACT

The infantry rifle squad has evolved over a period of several hundred years. Historically, the evolution of the infantry squad is based upon the systems of weaponry as developed and in use in a particular period of history. In the United States Army, the infantry rifle squad and its evolution falls into two distinct periods: the American Revolution to World War I; World War I to the present period of 1964.



Valley Forge to **RCAD**

CONTENTS

## SUMMARY

This study covers generally the subject of the evolution of the infantry rifle squad from ancient times to the present era. Considerable attention is given to the organization of the squad, especially from the point of view of the number of personnel involved. Historically, the squad evolved from a military need for a small unit to carry close combat to the enemy. This evolution was dependent, to a marked degree, upon the development of infantry and other weapons, especially those capable of supporting the infantry in battle.

Mention is made of the persons who have been most influential and instrumental in the development of the infantry rifle squad. Among those prominent historically was Major General Emory Upton of the United States Army. His creation of a new drill for the infantry and the accompanying "skirmish" drill, or early battle drill, was most significant in the evolution of the infantry rifle squad in the U.S. Army. Due credit is also given Baron Friedrich von Steuben for his earlier prescribing that squads be formed in the infantry companies at Valley Forge.

Part I, Historical Background, 1779-1917, traces the historical development of the infantry squad from Valley Forge to the trenches of World War I. There is general discussion of infantry tactics and how units engaged in combat. The effect of weaponry upon tactics is shown by specific examples drawn from wars of the past. The adoption of the Krag-Jorgensen magazine rifle with its reduced caliber and bolt-action loading is noted as well as the beginning of automatic fire in early machine guns. The reluctance of the military to adopt the machine gun is covered.

World War I is discussed from the standpoint of its influence in the elimination of the infantry rifle squad for a period of time and its replacement with the two-squad section in trench warfare. General John J. Pershing's influence upon the tactics of the war is shown as most significant.

His emphasis upon the individual rifleman helped to revive the squad after open warfare was initiated.

Part II covers the evolution of the infantry rifle squad from 1918 to 1964. Participation of the U.S. infantry in World War I influenced the weaponry of the infantry rifle squad during the period 1920-1940. The issue of the semiautomatic M-1 rifle and the Browning automatic rifle was highly significant in giving the infantry rifle squad increased firepower. The advent of the twelve-man rifle squad and its combat history during World War II covers the addition of these new weapons, their effect upon the squad tactics, and the functional relationship of the automatic rifle team with the rest of the squad.

In the post-World War II period the nuclear age has had its effect upon the concepts of war and even the infantry rifle squad. The dispersion of all units upon the modern battlefield is directly related to the mass destruction capabilities of nuclear warfare. Squad strength varied in this post war period but during the Korean conflict the nine-man squad strength held firm. Much interest was displayed by research and development organizations during this period in studying the squad and its members in combat, particularly from the behavioral science point of view. In this vein a definite effort was made to determine scientifically the job of the combat infantryman. As a direct result of this research in the behavioral sciences during the Korean War, the combat duties of squad leaders and members were categorized.

In 1956, a breakaway from the traditional automatic rifle team and riflemen squad occurred. The evolution of the new ten-man (two fire team) infantry rifle squad is traced down through the various tables of organization and equipment to the present time. The duties of the squad leader and the fire team leaders are described specifically, as are the duties of the members of the squad.

The Appendix F contains pertinent tables of organization and equipment, and extracts from technical memoranda and field manuals. For purposes of comparison, there is also included a table showing the organization of the

U.S. Marine Corps rifle squad.

The Bibliography lists books, articles, reports, official and semi-official publications, and unpublished materials used in the preparation of the study.

# ORGANIZATION AND EQUIPMENT OF THE INFANTRY RIFLE SQUAD: FROM VALLEY FORGE TO ROAD

## INTRODUCTION

The evolution of the infantry squad has its beginnings in antiquity. In the Roman legion, the centuries of about 100 men each were divided into messes of ten men each who slept in the same tent and were under the command of a decanus, who was a sort of "dean" over the men. In combat these messes made up the maniples which were the subdivisions of the century to which they were assigned. Broadly speaking, these early Roman legionnaires can be considered the ancient ancestors of the infantry squad of modern times. In the twentieth century the infantry squad has survived as an integral part of the normal and standard military formation for land warfare. Its survival springs from its ability to function as a formal primary group of men charged with the delivery of violence upon the enemy and his material installations.

In the days of the Romans and the Greeks, the weapons system admitted of a few basic items: namely the sword, the spear, the bow and arrow, and the club. There were others of supporting nature, such as the crude artillery or ballistae of the time, but basic combat was waged in formation, either in hand-to-hand struggles or at a distance by means of hurled spears and bow-driven arrows. Early military tactics recognized the fact that team work was necessary to advance units upon the battlefield. It was also realized that there was a limit to the number in combat which could be controlled by one leader under the stress of battle. In essence, the leader of ten men, or even of one hundred, could control his unit as long as he could see its members and they could see him. In the confusion and general tumult of battle there arose the need for small units to continue fighting after contact with the leader of the larger unit was lost and he could no longer exercise personal control and leadership. The maniple of the

Romans provided this continuity during combat but basically was identified with the century.

The sociological implications of the maniple were those of the modern-day infantry squad. There was group identification and association and participation within the ten men assigned to both the maniple and the squad. These implications have remained fairly constant in spite of the continuing development of new and powerful weapons, such as gunpowder and nuclear devices.

Gunpowder, in its crudest form, multiplied the traumatic effect of warfare a thousandfold. No longer was the weapon dependent upon human muscle for its delivery. Further, gunpowder made hand-to-hand fighting less likely as violence was delivered at a distance that was generally safe for the deliverers. How this new force was to be used, and how it was to be manipulated on the battlefield, or in a siege operation, became in time a system of operations or tactics. Elementary at first, the tactics of warfare developed into a science, especially in the realm of artillery. It should be noted, however, that tactical patterns rarely kept pace with weapons development.

The invention of the hand-cannon or the musket made the peasant soldier more than a match for the armored knight, or the man on horseback. Mass armies consisting of musket-bearing peasants or Enfants (infantry) of the King, soon made their appearance upon the scene. Their task was primarily one of delivering mass fire against massed formations of the enemy. Once this was done, it was then a matter of closing upon the enemy with the bayonet or short sword before he had time to reload. Frederick the Great of Prussia added a new dimension to his tactics by training his grenadiers to load and fire the flintlock musket more rapidly than any army in the world. Within this mass force small units, like the ancient maniples, continued to be organized more for administration and control than for combat. Even in the Continental Army the squad was reorganized as an administrative unit but was not employed as a tactical unit on the battlefield.

It will be shown that the infantry rifle squad has developed historically because of the necessity for dispersal of men upon the field of battle if they were to survive hostile fire and wage effective combat. Generally, the process of development of the infantry rifle squad has been evolutionary and experimental. Weapons and communicational systems seem to have complemented one another in this process. That the tactics of the infantry rifle squad developed from experience on the field of battle and the thinking of military students on the problem can be shown by historical citation. There is ample evidence demonstrating that the infantry rifle squad evolved because there was need for such a unit to carry forward the work of the "journeyman" of the trade of war--the infantryman.

Revolutionary War Squad - Valley Forge

## PART I

## 1779-1917

The organization of the Infantry of the United States Army had its beginning at Valley Forge under the direction of Major General Friedrich von Steuben, Inspector General on the staff of General Washington. Though the platoon was the smallest tactical maneuver and fire unit of that time, the infantry drill regulations written by the Prussian military advisor prescribed that each captain of a company would divide his company into squads (Ref. 1, p. 100). That this division was for other than disciplinary and administrative purposes cannot be accurately determined, since the combat formations of that day were of a mass type, either of company or battalion size. These units were assigned the primary battle mission of standing and delivering a mass volley fire upon the massed bodies of the enemy forces and then closing with the bayonet. Although the platoon was the smallest fire unit, it rarely maneuvered away from its parent organization (Ref. 1, p. 23). The squad as we know it today did not exist until almost one hundred years later (Ref. 2).

The tactics as practiced by the armies of 18th century Europe and later by those of the Napoleonic period following the turn of the century, did not permit any breaking up of the huge battalion masses. Little or no effort was made to use the terrain for cover against hostile fire; to do so was considered unsoldierly. Although the British had experienced Indian-type combat during the French and Indian War, and the bitter memory of Braddock's defeat was still fresh in the minds of some of the senior British officers, there was little modification of British tactics (Ref. 3, pp. 76-77).

The hunting rifle carried into the settlements by the American backwoodsmen as they reported for military service became their principal weapon. There were often no muskets for issue. Contrasted to the regulation musket, smooth-bore (about caliber .75 and effective for 75 yards), the rifle was a weapon of precision of reduced caliber and deadly for sniping purposes at distant ranges up to 400 yards. The British noted the advantages to be gained in the employment of the rifle, the bayonet,

and maneuver, and organized the Royal American Regiment (Ref. 3, pp. 77-78; Ref. 4). In the American colonies accurate rifle fire, the tactics of the Indians, the tree-to-tree advance, the excellent use of cover, and the maneuvering of small bodies of troops, infantrymen, and riflemen into critical positions for flanking fires and attacks, caused the mass formations to disperse. Platoons and companies began to wage combat as independent units, not as smaller parts of the greater whole. But such unconventional tactics were not universally adopted in the British service.

The ultimate performance of the rifle against the conventional mass military formations that were retained was revealed in the American victory against the British at New Orleans, January 8, 1815 (Ref. 5, pp. 142-143). The rifle with its accurate fire in the hands of untrained militia frontiersmen decimated the British battalions as they advanced to the attack (Ref. 6, p. 145).[1]

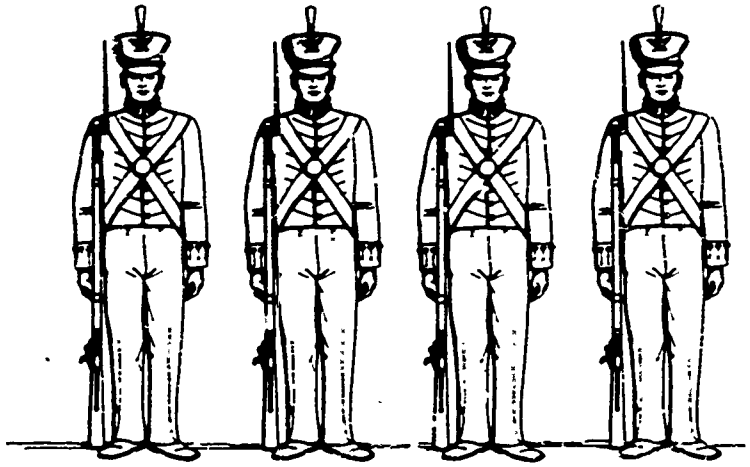
Nevertheless, during the period of the American Revolution, the Napoleonic wars, and the American Civil War, the drill of the parade ground remained the drill for combat. In the Civil War the situation was described as:

> . . . 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. 7, p. 25)[2].

---

[1] The British loss on this day alone was over 2,000 - 291 killed, 1,262 wounded, 484 prisoners. The American loss: 13 killed, 39 wounded, 19 prisoners.

[2] The situation today is a parallel - weaponry has advanced to the point where tactics are not applicable to proper and effective employment.



Infantry One-Half Squad - 1812

A study of the Union and Confederate drill manuals of the Civil War reveals little or no mention of the infantry squad as a tactical unit. In the skirmish or combat-deployed formation, the section appears to have been the smallest tactical unit prescribed (Ref. 8 and Ref. 5, p. 267).[3] While the squad, as a tactical military unit, did not become so identified until the advent of Upton's "New System" in 1867, the Tactics authored by Brigadier General Silas Casey during the Civil War - and hence predating Upton - did provide for the formation of a half-squad in "extended order," or the battle drill of that day. Casey's Tactics provided:

> Whenever a company is to be deployed as skirmishers, it will be divided into two platoons, and each platoon will be subdivided into two sections; the comrades in battle, forming groups of four men, will be careful to know and to sustain each other (Ref. 9, pp. 184-185).

The above extract from Casey is especially noteworthy because of its early recognition of the need of the soldier in combat for a group identification or "primary group" to which he could give his loyalty and friendship, and in return receive some measure of personal security. In this instance, Casey touched upon one of the more vital aspects of the squad's socio-organizational aspects - the conferring of individual personal security in combat that resulted from the intimate association among fellow soldiers (Ref. 10, p. 75).

The groups of four mentioned by Casey appear to have been formed by chance or by the personal habit of the individual infantry soldier "falling in" beside certain friends when the company was formed. Often this proximity came about in consequence of the impersonal "sizing" of the company starting with the tallest men on the right and then graduating down to the shortest men on the left. When in skirmish or extended order formation, the general

[3] Hardee's Rifle and Infantry Tactics became the drill regulations for the Confederate States Army. Both Hardee's and Scott's regulations caused the infantry company to change direction by marching in field and by wheeling. Turning on a fixed pivot by fours had not yet been inaugurated for the infantry.

Infantry One-Half Squad - 1846

rule established by Casey's Tactics for the conduct of the groups of four provided:

> The interval between skirmishers depends on the extent of the ground to be covered; but in general, it is not proper that the groups of four men should be removed more than forty paces from each other. The habitual distance between men of the same group in open grounds will be five paces; in no case will they lose sight of each other. (Ref. 9, p. 185).

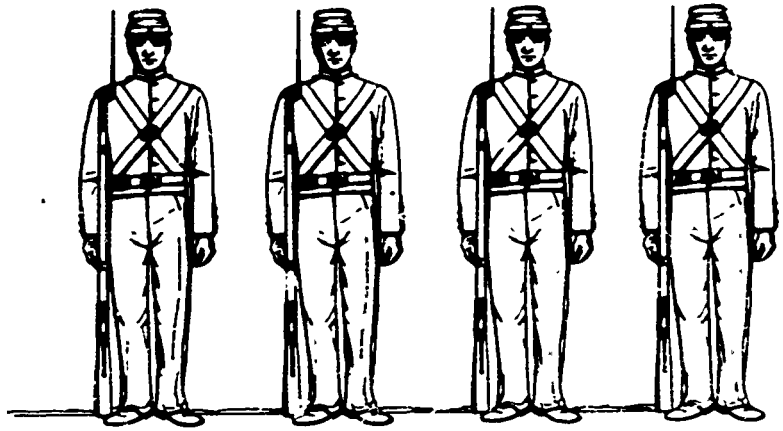
Thus it can be seen that the maintenance of individual visual contact among the group served to give some degree of solidarity to the unit as it advanced to the attack.

In furtherance of the mass Napoleonic tactics of the day, both armies were profoundly influenced by the French school, as was evidenced by the slavish addiction of most field commanders to the teachings of Jomini in the Civil War (Ref. 11 and 12).

The invention of the Minie bullet with its improved accuracy and the addition of the rifled musket to the arsenal of the infantry made the close mass combat of the period deadly and terrible in its toll of casualties. With caliber .58 muzzle-loading rifled muskets, the rate of fire for infantry in formation was three aimed shots per minute. (Ref. 9, pp. 109-110 and Ref. 13, p. 226).[4] Firing was done either by rank upon command, or "at will" by the individual infantry soldier. That there was a need for a system of fire distribution or "musketry" upon the target did not seem to be indicated at this time. Other than that revealed by the following extract, there was little progress toward a basic rule of fire distribution:

> Officers should watch with the greatest possible vigilance over a line of skirmishers; in battle, they should neither carry a rifle or a fowling piece. In all the firings, they,

[4] At Antietam September 17, 1862, of 70,000 Union troops engaged, 10,700 were killed, wounded, or missing; the Confederate forces, 40,000 strong, lost 12,410 killed, wounded, or missing. (Frederick Tilberg, Antietam, National Park Service Historical Handbook No. 31, 1960. p. 47.)



Infantry One-Half Squad - 1861

> as well as the sergeants, should see that order and silence are preserved, and that the skirmishers do not wander imprudently; they should especially caution them to be calm and collected; not to fire until they distinctly perceive the objects at which they aim, and are sure that those objects are within proper range (Ref. 8, p. 196).

It is also noteworthy of the Civil War period that the infantry had little support other than that of the artillery. There were no organic infantry mortars. The weapons generally available were those the infantryman carried, i.e., his musket, bayonet, pistol, sword, or saber. There were hand grenades, but these were purely experimental and often as dangerous to the thrower as to the enemy (Ref. 14, p. 82).

The great bulk of the artillery support for the infantry came from the light artillery's principal weapon, the smoothbore brass 12 pounder, known as the Napoleon gun. There were rifled cannon such as the Parrotts, as well as those of foreign import, to be found in support of the infantry of both sides (Ref. 15, and Ref. 5, p. 265).

Heavy artillery and heavy mortars were used in support of the infantry in siege operations. Except in the latter situation, there was little indirect artillery fire in infantry support. Artillery on both sides was used primarily to deliver fire through gaps or over the heads of advancing infantry formations. In most battles, infantry advanced against the direct fire of enemy batteries that delivered canister or "grape" shot against the lines of skirmishers. There was little coordination of the artillery fires with the advance of the massed infantry units (Ref. 15 and Ref. 3, p. 304-305).

The advent of the breech-loading or repeating carbine or rifle during the latter stage of the Civil War had little immediate effect upon the tactical organization of the infantry of either army. The breech-loading carbine was primarily for mounted troops who could not, without great difficulty, load while mounted and in motion. The infantry of the United States Army with a few exceptions finished out the war with caliber .58 single-shot, muzzle-loading rifled muskets. Hence, the development of additional fire power and

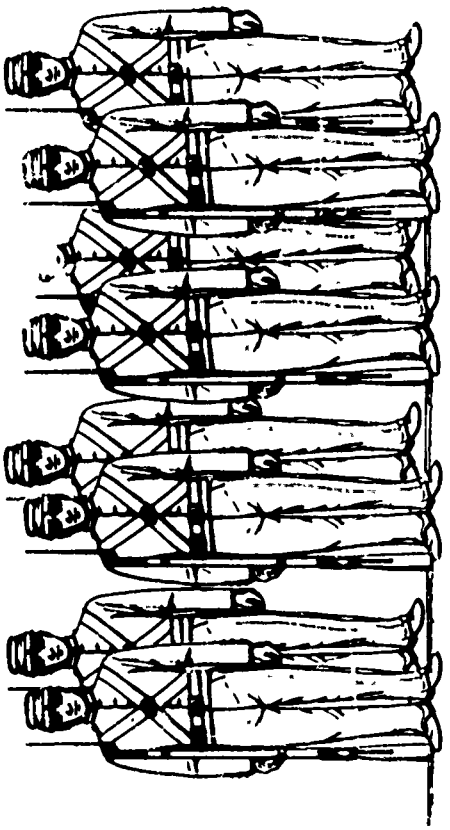
the celerity of delivering it had little effect upon tactics except in the cavalry (Ref. 3, pp. 304-305).

That weapons influence tactics has been demonstrated by the historical experience of all armies. The American Civil War established the principle that weapons of precision--whether of small-arms type or artillery--do exert direct influence upon the organization and tactics of all units. The breaking up of the mass and linear formations of the Civil War armies was caused by the need to reduce the terrible losses of manpower. Several acceptable solutions to the problem offered themselves, such as dispersal and the taking of cover or the digging of temporary field fortifications. E. M. Lloyd, in his excellent treatise, A Review of the History of Infantry, wrote:

> The American Civil War showed plainly what changes were bound to follow on the adoption of arms of precision; looser fighting formations, advance by rushes, dismounted action by cavalry, increased use of the spade, and diminished use of sword and bayonet (Ref. 16, pp. 249-250).

No study of the development of the infantry squad in the United States Army can fail to render proper tribute to one of America's great military intellectuals, Major General Emory Upton. It was his combat experience in the American Civil War which inspired him to translate the obsolete parade-ground battle formations into a modern extended order with elementary rifle squads as combat units. Upton was far in advance of his time. He not only contributed a basic system of infantry tactics, but his scholarly treatise, The Military Policy of The United States, has stood the test of time as the most complete analysis on the conduct of warfare by our nation in the historic past (Refs. 17 and 18).

Upton was one of the founders of the great American military trend during the second half of the nineteenth century which had to do with the organization of the infantry below company level. Within two years after the Civil War, a new United States Army manual on infantry tactics, prepared by Upton, was issued. This manual based all troop evolutions on movements



Infantry Squad - 1867

by fours. Since a front of four men in proper line has a rear rank, the basic subdivision of the new system (although not so called) was really a squad (Ref. 7, p. 36).

On April 6, 1867, Upton, in a reply to a letter which had been referred to him by the General-in-Chief, Ulysses S. Grant, made the following statement:

> . . . The chief advantage claimed for the system (Upton's double and single rank drill) is the adoption of a front of four men as a unit, the men of which, both front and rear rank, preserve or maintain a constant relation to each other (Ref. 17, p. 199).

Here is the instant when the squad, as it has existed since, was conceived. History reveals a continuing evolutionary process in the growth of the infantry squad from Upton on to the present time. Further, its development has been correlative with the advances and improvements made in infantry arms and the general weaponry of modern warfare.

Peter S. Michie, in his Life and Letters of Emory Upton, indicates that Upton's basic concept of the need of new tactical formations for the infantry sprang from his battle experiences as a regimental commander in the Civil War. While certain problems of a commander in the field were purely mechanical, such as the rapid movement of troops from line into column and vice versa, Upton's real concern was in the column values to be derived from the units of four as comrades in battle.

> Upton was the first to assert and apply that fours in double rank was the smallest unit that could be wheeled into column . . . (Ref. 17, p. 214).

Upton, with his introduction of the "double-rank" formation, thus created the eight-man infantry squad which had the ability to drill, to march, and to fight under the command of its leader, the corporal.

> The manual (Upton's) was far simpler of execution than in any previous work of the kind. The marchings were made notably more facile and precise. The secret of the new movements depended upon the

> wheeling by fours, which was then for the first time enunciated in our country. This practical arrangement allowed the front rank to keep its place under any conditions and obviated the facings, inversions and cumbersome turnings previously thought necessary to cause a unit to change direction. Although we now call Upton's marching unit a squad, in reality it is nothing more than his set of fours. The fixed right and left was done away with, so that commanders had liberty of action on the march and for formation in battle. The skirmishers had supports which infiltrated into the line when needed. When two ranks were not necessary, a single rank could be formed to lessen the growing casualties due to the range and effectiveness of advanced weapons (Ref. 5, p. 319).

As explained sociologically by Mandelbaum, the new infantry squad had the effect of establishing a formal primary group to which the infantry soldier belonged and with which he could be personally identified. Historically, this fact has been of considerable importance in building up the courage and combat performance of the infantry soldiers of the United States Army. The affiliation and identity of the individual fighting man with a definitely established unit, the rifle squad, conferred many qualities of combat value upon him. Hence, the squad, when it was formed, served to function primarily in two areas; the area of social relationships and the area of technical military proficiency (Ref. 22, pp. 65-66).

Colonel G.M.C. Sprung, in his excellent treatise, The Soldier in Our Time, explains in understandable terms the function of the soldier member of the squad:

> It is important to remember that only the soldier function is primary. It is the soldier who presses the trigger, throws the grenade, pulls the lanyard on a gun. The soldier is the great doer of the army's work. The entire vast machine behind him exists only to see that he pulls the trigger or throws the grenade at the right time and place. NCOs and officers exist only to train their men and in battle to get them to the correct place at the correct time and to see that they do the correct thing--as nearly as possible. It is characteristic of an army that its plainest members are its most important members. The private soldier is the end-product, the final flowering, the saviour and glory of his army (Ref. 22, p. 68).

In the post-Civil War period, the Army was faced with combat of a different type, the campaigns against the Indians on the Western plains. While it is true that the mounted Indian was countered mainly with our own cavalry, infantry was involved in some of the operations. Moreover, when the cavalry was dismounted, it fought as infantry (Ref. 5, pp. 314-354 and Ref. 7, p. 27).

Here again we find a force exerted against the formal, mass formations and tactics of the Civil War. The Indian campaigns called for scouting, stealth, and stalking, all of which were eventually to be incorporated into the tactics of the U.S. Army Infantry, (Ref. 23, p. 154). The qualities required by the operations against the Indians called for highly developed individual and small-unit tactics, which pointed toward the squad as the smallest unit capable of operating in combat under its own leader. As an example of this hold-over from the Indian campaign experiences of the infantry, the designation of two men as Scouts within each squad should be noted. (Ref. 24, p. 120).

In connection with the reorganization and creation of the new squad formation, it should be noted that due to the limited infantry arsenal the individual soldiers were basically riflemen. At this point in the history of the evolution of the infantry squad weaponry had not advanced sufficiently to require different combat tasks of each squad member. The squad leader and the corporal did differ to a considerable extent in their responsibilities and duties which were prescribed by the later drill regulations While Upton's Tactics does not prescribe in detail the duties of the squad leaders, some of the basic responsibilities of the corporals are indicated in the following extract:

Instruction of Corporals

> Their theoretical instruction should include the School of the Soldier, and such regulations as prescribed their duties in garrison and campaign.
>
> The captain may select the most intelligent corporals and privates of his company, and admit them to the instruction of the sergeants and corporals.

> As the instruction of sergeants and corporals is intended to qualify them for the instruction of the privates, they should be taught not only to execute, but to explain intelligibly everything they may be required to teach (Ref. 2, p. 7).

By 1892, when the infantry drill regulations were issued replacing Upton's Tactics but incorporating and bringing his system up-to-date, the infantry squad and its leader were defined and established as important features of the infantry company organization. The new manual prescribed the company organization and responsibilities as follows:

> The company is grouped into squads, under the leadership and immediate control of the non-commissioned officers, who are held responsible for discipline and order, in camp and in quarters, and are trained as leaders of groups for battle.
>
> The four or squad consists of four files, a corporal and seven privates; the corporal is the squad leader (Ref. 25, p. 179).

The infantry drill regulations of 1892 were instrumental in establishing, finally and conclusively, that the squad was the basis for extended order or combat drill. This may have been the point which Upton had endeavored to reach but had not been able to do so. This apparent inability to fix the principle, that is, a system of deployment within the United States Army Infantry, contributed to much worry and tribulation on his part.

> The squad is the basis of extended order. Men will be taught to regard the squad as the unit from which they ought never to be separated; but if the squad should be broken up or the men become separated, they place themselves under the orders of the nearest leader and remain with his squad as if it were the one to which they originally belonged.
>
> Officers and sergeants will give their attention to preserving the integrity of the squads; they appoint new leaders to replace those disabled, organize new squads when necessary, and see that every man is placed in a squad (Ref. 25, p. 186).

The principle of squad integrity, to be implemented as noted above,

was an important development since through it the soldier was given a permanent group identification that was to have important military and sociological effects both in garrison and in the field (Ref. 10).

After the Civil War, the United States Army was equipped with the US Rifle Cal. .50, Model 1866. This weapon, the first regulation breechloader issued to the infantry after the war, was a curious hybrid of Civil War musket parts. It was still of large caliber although reduced from .58 and essentially a makeshift weapon. It did, however, change the system of muzzle-loading weapons within the infantry. By 1873, the infantry was in receipt of an entirely new rifle, caliber .45. This was still based upon the same system as the Model 1866 with slight improvements and modifications. The Springfield .45-70 rifle remained the regulation infantry weapon with the addition of several slight changes in the models of 1884 and 1888. These rifles added little to the firepower of the infantry. They were slow in extraction and in the later decades continued as black powder weapons when most of the armies of the world were already using smokeless powder, reduced-caliber rifles. Although there had been breechloading repeating rifles in existence for decades, the US Army clung to the outmoded and slow-firing Springfield .45-70 rifle until 1892.

> There was ceaseless experiment with small arms; but even so, changes came slowly. The reason for this was that the Army had to practice the strictest economy. Accordingly, Ordnance sought for the last refinement before standardizing any model, since once a rifle was adopted it could not soon be discarded in favor of a new one costing large sums. As a result, the rifle musket of the Civil War remained in general use for a few years after the return of peace (Ref. 7, pp. 27-28; Refs. 19, 20, and 21).

By the time of the Spanish-American War in 1898, the infantry squad had become an established and functioning organization and tactical unit within the infantry of the typical Regular Army and militia regiments. Weaponry had advanced; in fact, the infantry squad's armament had made a major jump from the old '73 Springfield black powder, single-shot rifle to a modern, smokeless powder, reduced-caliber (.30) bolt-action,

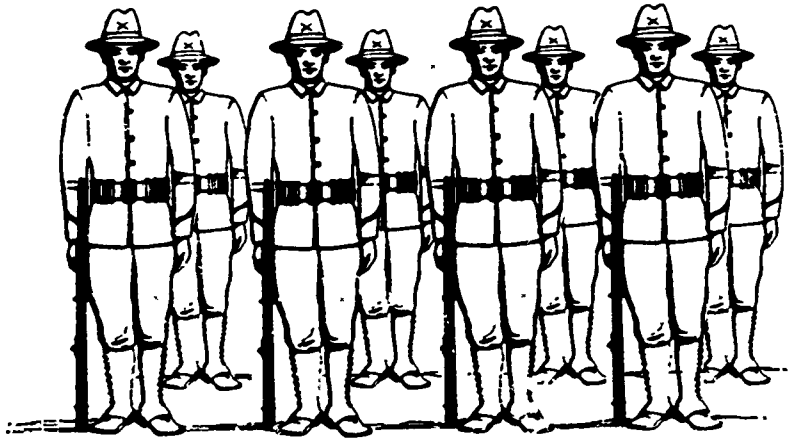
magazine (five shots) military shoulder weapon. This jump had not been easy; the Board for Selecting a Magazine Rifle, after two years study, had selected, out of innumerable foreign and domestic models, the Krag-Jorgensen of Danish invention (Ref. 19. pp. 352-259). The "Krag," as it was soon called by the troops, was the first official, regulation magazine rifle adopted by the US Government for the Army.

The Springfield '73 with modifications remained the regulation shoulder arm of the infantry for nineteen years. Actually it served longer than that, for citizen soldiers used it in 1898 and 1899, and the Philippine Scouts for an even longer time. When it was finally superseded in 1892, its replacement embodied an advance that had been widely used in other armies for decades. The Krag-Jorgensen was the US foot soldier's first regulation repeating rifle. The Krag lasted nine years before yielding to the Springfield Model 1903. The latter remained regulation for almost forty years, to the outbreak of World War II. Although it was not a new departure as the '73 and the Krag had been, it utilized the latest improvements, and was as fine a rifle as infantry had anywhere (Ref. 7, p. 28; Ref. 4).

The US Army sought to improve and refine tactical organization and doctrine (Ref. 17, pp. 466-467). In the infantry drill regulations of 1892, considerable attention was given to the maneuver of the squad in combat waged with modern infantry weapons. The "advance by rushes" brought the principles of fire and movement down to the level of the squad and the corporal, who was the lowest ranking commander possessing this maneuver capability (Ref. 25, pp. 186-197).

The last half of the nineteenth century brought a marked improvement in the fields of organization and tactics. The following comment is illustrative of the dispersion on the battlefield caused by the evolution of infantry weapons:

> All in all, during the half century the movement was toward the refinement of organization further and further. This meant giving small knots of men, and combinations of such knots, cohesion and special leadership. The



Infantry Rifle Squad - 1898

> development that launched this movement was the gradual replacement of line tactics by skirmish tactics. Along with it came changes in training and techniques, such as a set of arm signals by which company officers, and their subordinates, could control their men. All the changes, whether in organization or techniques, stemmed from the growing deadliness of firearms (Ref. 5, p. 31).

The Spanish-American War, with its infantry actions in Cuba and in the Philippines, was of short duration. The poor state of preparedness of the nation for war left much to be desired in the matters of military planning and operation. The small Regular army and the innumerable volunteer state troops found themselves engaged in combat with a foe whose smokeless-powder, magazine Mausers had to be countered with obsolete weapons of the 1873 Springfield variety. The "Krags" were in the hands of a few of the regular troops, but the state troops fought the war with the single-shot caliber .45 infantry rifle (Ref. 5, pp. 371-408).

By 1904, a new and more comprehensive set of infantry drill regulations appeared. There were tactical changes to meet the challenge of the machine gun.

> More reference was made to movements on battle; the location and position of troops with reference to the ground was more carefully considered; and rapid fire was prescribed at a distance of two hundred yards from the enemy. The range for the rifle (Springfield Model 1903) was classified as follows:
>
> 300 yards.....short range
> 300-600 .....mid-range
> 600-1,000 .....long-range
> 1,000-2,000... extreme range
>
> The company was divided into 2 platoons. The command "fours right" became "squads right"... these drill regulations showed a decided tendency toward battle movement rather than pure drill (Ref. 5, pp. 421-422; Ref. 25).

The Battle of Caloocan (Luzon), February 4, 1899, illustrates the effect of the training of the infantry squads in the new extended order drill of 1892. The extract below, from an article in the Infantry Journal of January 1926, is pertinent.

> ... The fighting is carried on by small groups who, each under its own leader, rushes forward, halts, delivers a volley against the enemy and then rushes forward again. The groups as far as possible support each other... (Ref. 26, p. 421-425).

Throughout the Philippines, the warfare mounted against the American forces by the Insurrectos became a concomitant of the occupation. Formal and conventional at first, the war degenerated into a vicious guerrilla action that lasted for almost fifteen years, especially on Mindanao and the Visayan islands.

In connection with the advancement of small-unit organization and tactics of the squad since the post-Civil War days, it should be remembered that other startling inventions and discoveries were continually being made in weaponry which would influence infantry organization and tactics. The breechloading, repeating magazine rifle was revolutionary in its effect, due to its precision and the increased volume of fire it brought to the members of the infantry rifle squads. Concurrently, the search for an automatic weapon for the infantry continued. Historically, the machine gun was not a new weapon to the United States Army. The Gatling gun had been perfected during the Civil War but was not destined to see any extensive service in an army which was tied to simple, uncomplicated, single-shot muzzle-loading rifles and muskets. But even at that early date the potential worth of the automatic delivery of small-arms fire was noted. The following comment bears this out.

> One weapon, which has changed the character of warfare, was developing throughout the half century. This was the machine gun! Its first important manifestation, the Gatling Gun, devised in 1862, was purchased by the United States during the Civil War. Tests made in the 1870s showed the Gatling Gun to be equal to seventy Springfield rifles well aimed at 150 to 200 yards. Interest in the weapon increased and the United States bought several lots of it in the years after the Civil War (Ref. 7, p. 31).[5]

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[5] Speculation is interesting as to what would have been the outcome of the battle of The Little Big Horn (the Custer Massacre) in July 1876 had the Seventh Cavalry been equipped with Gatlings.

But the natural conservatism of the military services did not permit the acceptance of the Gatling Gun. Actually, the Gatlings did participate in the Santiago campaign of the Spanish-American War, and while they took an active part in the support of infantry actions, the higher commanders were inclined to consider them as inferior artillery (Ref. 7, p. 32).

The invention of the recoil-operated machine gun by Hiram Maxim, an American, was the greatest advance in military weapons since the breech-loading, smokeless powder, magazine rifle for infantry. The advocates of the machine gun were persistent and by 1910 service tests showed:

> ...one machine gun was equal to sixteen riflemen at ranges up to 600 yards; to twenty-two men from 600-1,200; and to thirty-nine men beyond 1,200. Comparing these figures with those given for the tests in the 1870s, it is clear to see that the repeating rifle had reduced the discrepancy between shoulder arms and machine guns a good deal. In any case, on account of the unwieldiness of the weapon and for other reasons, official doctrine on it remained very conservative (Ref. 7, p. 32).

The adoption of the Krag-Jorgensen and later the Springfield Model 1903, a modified Mauser, caused considerable attention to be given to the distribution of the fires of the rifles upon the enemy target. Several theories of "musketry," as the science was termed, were developed and most of them centered upon the optimum distribution of squad and platoon fires (Ref. 27).

Continued advocacy of the machine gun on the part of certain officers such as Captain John H. Parker resulted in various experiments in tactical machine gun organization. As early as 1906 a provisional machine-gun platoon was added to each infantry regiment. This unit established much of the organizational procedure and tactical doctrine for the US Army's employment of the machine gun in World War I (Refs. 7 and 28).

The last revision prior to 1917 of the Infantry Drill Regulations appeared in 1911. Brought up to date in 1918 by corrections, this manual served for the infantry of the World War I Army.

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PART II

1918-1964

In 1917, the United States Army began training for a new type of warfare. While not unknown in the American military experience, protracted trench warfare was generally in opposition to the American concept of open warfare based upon a tactical doctrine of fire and movement. The stalemate on the Western Front introduced new and more deadly weapons into the armory of the infantry unit. The machine gun with its rapid rate of accurate and deadly fire caused the armies to dig in and hold in place. Advances were measured in yards and then only after tremendous and lengthy preparatory artillery barrages had battered in the enemy front line and driven its occupants underground. Infantry attacks were closely coordinated with the "creeping" barrages, following them at "safe" distances as they rolled toward the enemy position.

> ...Machine guns 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 further. 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 mechanical aids. Pershing insisted, in contrast, that the basis of a sound army remained, as it always had 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. 1, p. 38).

The overall effect of the mass introduction of the machine gun into the arsenal of the infantry during World War I was to create an ad hoc type of employment or assignment. The machine gun, as a weapon of opportunity, had been fully exploited by first the Germans, in the defense, and later by the Allies in both defense and attack. The need for a more portable gun, lighter in weight and air-cooled, became indicated early. The Lewis gun almost fitted these specifications in contrast to the heavy Maxim (German), the Vickers (British), and the Hotchkiss (French). Since these guns were

crew-served, they required more stability and offered less flexibility because of their weight than did the light machine gun or automatic rifle. If necessary, the latter could be served by one man, with an alternate gunner designated and doubling as ammunition carrier. The specific effect of the introduction of automatic weapons upon the weaponry of the infantry squad is shown by the following extract from The Army Lineage Book:

> ...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 so widely disseminated. For example, infantry mortars and one-pounder (37mm) 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 arrangements was never definitely settled during the war. All were included in a rifle company, but sometimes the AR (automatic rifle) 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 ARman, one good grenade thrower, and one rifle grenadier. Whatever the organization, extended order became necessary in combat. Men could not bunch up and live. Therefore, close formation had to break up when they came within artillery range. Approach to the enemy resulted in a progressive extension, and this, in turn, threw a greater burden on the commanders of platoons and squads. Small units of men inched themselves forward, taking advantage of shell holes and other cover (Ref. 1, pp. 38-39).

The Army Lineage Book comments upon World War I infantry formations:

> ...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.... The war confirmed the trend toward refining the organization of infantry units. Squads and platoons proved to be indispensable 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. 1, p. 38).

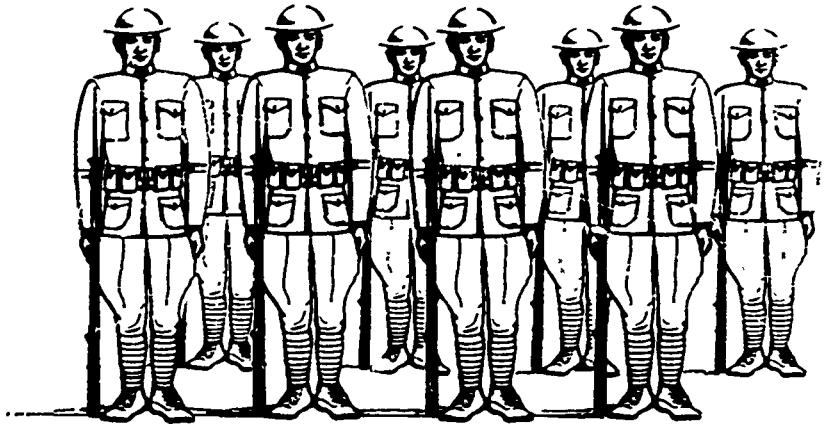
In effect, because of the then stabilized defensive positions, it made little difference in trench warfare whether a soldier belonged to a definite squad, since his assignment was generally that of a specialist, that is, bomber, hand and rifle grenadier, automatic rifleman, or rifleman. This was, of course, the situation in the overall defense of the frontline, where each army was, in effect, besieging each other. Supporting weapons of great killing power were developed early in the war by the French, and the British followed suit. This weaponry, in a sense, supported locally the infantry platoons and sections in their static defense. Specifically, they were the heavy machine guns and the infantry mortars. Machine guns were usually of infantry rifle ammunition caliber and the mortars and infantry cannon were normally of three-inch types, such as the Stokes mortar and the 37mm gun (1 pounder). These weapons were essentially crew-served and hence were considered to be specialized and normally not to be found in the infantry platoon, section, or squad (Ref. 5).

When not engaged in offensive operations, the infantry was engaged in strengthening its intrenchments and conducting active patrolling in the "no man's land" between the two frontlines. Essentially, these patrols were of three types: combat, intelligence, and working (wire repair or cutting) preparatory to an attack. Raids were organized and carried out against selected points in the enemy line (trench) for the purpose of securing prisoners for intelligence interrogation. By 1917, French and British infantry experience on the Western Front had made clear the need for a completely new tactical pattern of warfare. The introduction of hand grenades, rifle grenades, and automatic rifles into the armament of the rifle company by the French and the British was, of necessity, followed by the American

Expeditionary Forces. The infantry squad which had been the basic infantry unit within the platoon for fire and movement in the United States Army was replaced by the section as the fire and maneuver element of the platoon. The platoon became the basic infantry unit for fire and movement (if any) under the conditions imposed by the position warfare of the times. The rifle squad, because of the addition of such specialists as automatic riflemen and hand and rifle grenadiers, became submerged tactically within the section. For administration and route marches, rifle squads were formed within the platoon, but in the attack the platoon of specialists was the normal fighting unit (Ref. 2, pp. 1-33, and Ref. 3).[6]

The infantry squad of the American Expeditionary Forces found its original organization and basic combat functions almost completely changed by the necessity of adapting to the specialized requirements of stabilized, defensive, position warfare. The movement which had been such a characteristic of the American tactical doctrine of combat mobility even for our smallest military unit, the infantry squad, was for the time being, at least, limited to the areas adjacent to the opposing frontlines. During the three years of Allied war operations prior to the entry of the United States into the struggle in 1917, the British and French had developed a combat doctrine of siege warfare which was characterized by the addition of new and strange weapons to the arsenal of the infantry squad, section, and platoon. Their effects upon the infantry were marked by increased firepower evidenced by the addition of automatic rifles and weapons of opportunity and close combat, the rifle and hand grenades. The infantryman became in fact a specialist

[6] The effect of the stabilized warfare upon infantry weaponry may be noted in the following comment from the above: At the beginning of the war (1914) nearly all infantry personnel were armed with the rifle and bayonet; there were no hand grenades, rifle grenades or automatic rifles in the infantry company (228 men). By 1917, there were 48 hand grenadiers, 24 rifle grenadiers and 16 automatic riflemen per company. Outside the company (in the battalion) were the 37mm gun and the trench mortar.



Infantry Rifle Squad - 1917

rather than merely a rifleman. In the French infantry company upon which our units were modeled there were four combat infantry platoons, each consisting of:

1 lieutenant
2 sergeants
4 corporals
7 grenadiers
6 rifle grenadiers
6 auto-riflemen
17 rifle and bayonet men
(Ref. 4, pp. 74-75.)

The immediate effect of the contact of the American Expeditionary Forces with the Allies in France was the translation of the French and British static tactical doctrine into American usage. The American tactical doctrine was essentially that of aggressive combat and open warfare, not static, defensive tactics. Indeed, this doctrine was to be almost a stumbling block to workable American-Allied cooperation (Ref. 29, pp. 11 and 293-295). General Pershing took note of the problem:

> It is true that the tactics of the battlefield change with improvement in weapons. Machine guns, quick-firing, small-bore guns and rapid fire artillery make the use of cover more necessary. They must be considered as aids to the infantryman, expert in the use of the rifle and familiar with the employment of hasty entrenchments. It is he who constitutes our main reliance in battle (Ref. 29, p. 11).

But General Pershing was thinking about the simply armed infantry squad of one corporal and seven privates, all riflemen. Within a matter of months after the Americans landed in France he was to find that the trench warfare in which the Allies were engaged was to add new and more powerful weapons to the infantry squad. Ultimately, trench warfare was to create the half-platoon, or section, as the basic infantry combat unit (Ref. 30).

General Pershing comments further on the lack in 1917 of machine guns within the American infantry units. His view is important because of

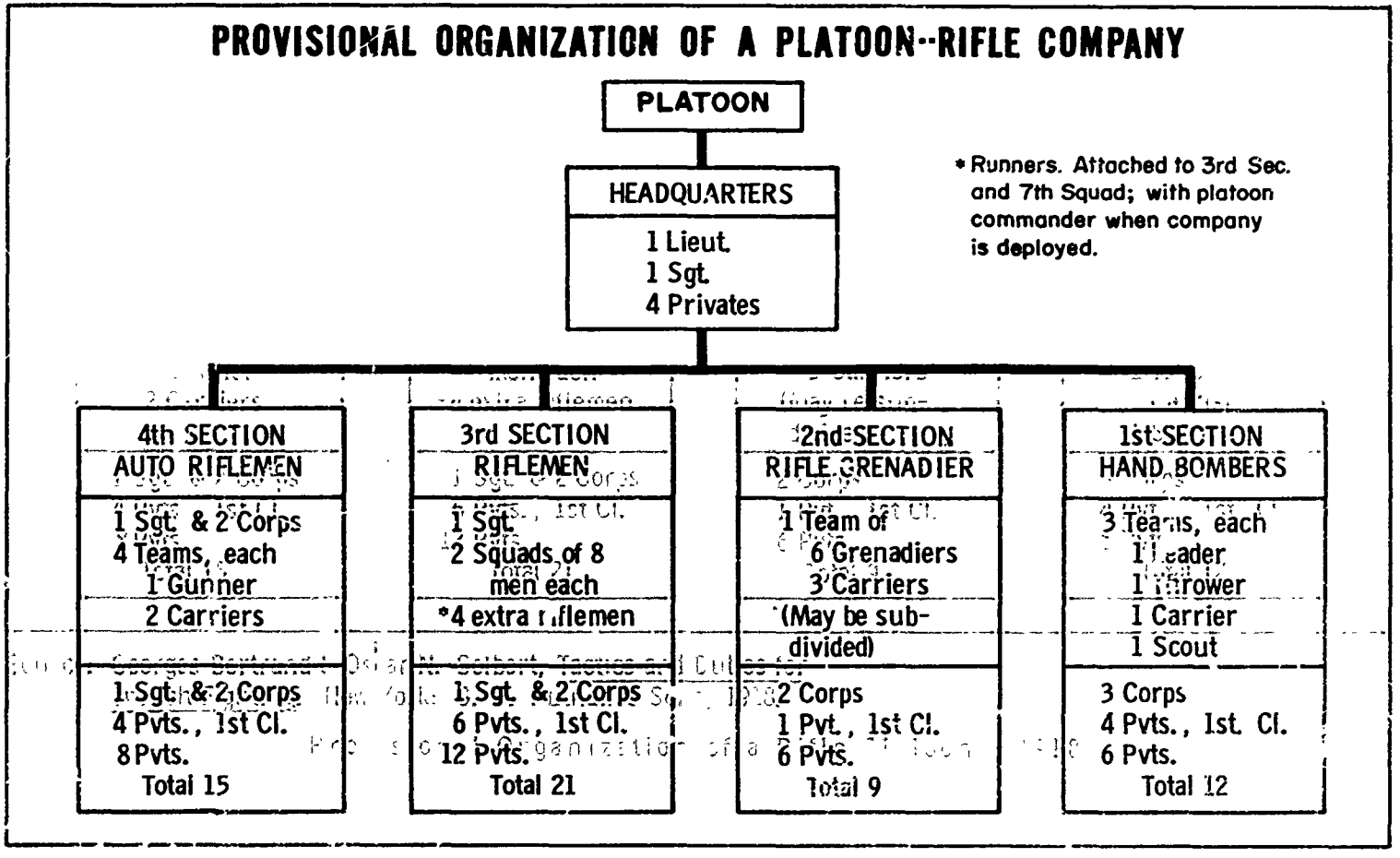
the perspective it provides of the struggle to adopt a machine gun within the US Army. He states:

> ...the machine gun, as an infantry weapon, had been carried to a high degree of perfection, especially in the German Army... In this as in every other line of preparation, we were far behind all others. The question of adopting new types of machine guns and automatic rifles for our army had been discussed...for years...and test after test had been made, but the nearest approach to a decision was an acrimonious discussion in and out of the press between the Ordnance Department and certain inventors... When we entered the war, no conclusion regarding the best make of gun had been reached that, in the opinion of the War Department would warrant its manufacture in quantity. Not only were we without sufficient machine guns, but our organization tables did not anticipate their use in anything like the numbers employed by the enemy (Ref. 29, p. 131).

The rifle squads in the infantry platoon were eliminated by Table 7, Rifle Company, Infantry Regiment, War Department, Washington, D. C., 26 February 1918. This table was based primarily upon the Allied experience of four years of trench and siege warfare and provided that: the platoon would consist of four sections, as follows: first section (hand bombers) 2 corporals (pistol and rifle), 4 privates, first-class (pistol and rifle), 6 privates (rifle), total: 12; second section (rifle grenadiers), 2 corporals (pistol and rifle), 1 private, first-class (rifle), 6 privates (rifle), total: 9; third section (riflemen) 1 sergeant (rifle), 2 corporals (rifle), 6 privates, first-class (rifles), 8 privates (rifles), total: 17; fourth section (auto-riflemen) 1 sergeant (pistol and rifle), 2 corporals (pistol and rifle), 4 privates, first-class (auto-rifles and pistol), 8 privates (rifle) total: 15. The total platoon contained 58 enlisted men and one officer (Ref. 9, Table 7, and Ref. 3, p. 112).

The infantry drill regulations had this to say about the platoon in connection with the necessity for changing of United States Army tactical doctrine, at least temporarily, because of the static trench warfare:

> The platoon is the smallest infantry unit which is habitually deployed in depth and endowed with independent




Source: Georges Bertrand & Oscar L. Solbert, Tactics and Duties for Trench Fighting. New York: G. P. Putnam's Sons, 1918.

Provisional Organization of a Rifle Platoon - 1918

> power of maneuver. It is the largest unit permitting of direct personal leadership and fire control in combat. It comprises two sections, each under a leader who, in principle, exercises direct control over his unit in all phases of battle. In addition to the weapons that infantrymen handled as individuals there were two they used as crews. One feature of trench warfare, was the Stokes mortar, which could lob projectiles into enemy trenches and shell holes. Another was the one-pounder cannon, an anti-tank and anti-machine gun piece. These two weapons were placed together in a platoon of the headquarters company of every infantry regiment (Ref. 1, p. 38).

The official history of the United States Army in the World War, 1917-1919, noted the survival of the squad in spite of the section organization:

> ...In the training for trench warfare the fighting unit will still be the platoon, consisting of four or more squads of a corporal and seven privates, each, normally. When squads for special service are desired of a different number, the necessary men may be taken from or attached to the squad (Ref. 4, p. 74).

The de-emphasizing of the squad, as a tactical unit, by the T/O 7 table of 1918 clearly demonstrated the need for specialized weapons and trained personnel to operate them in siege warfare. Within the infantry section or half-platoon, there was tremendous small-arms firepower, as evidenced by the assignment of automatic rifles and hand and rifle grenades to the personnel. Heavy firepower was needed to protect the trenches and their defenders from sudden attacks or raids:

> Trench warfare brought with it a pressing need for weapons that were decisive in close combat. Out of this need came hand grenades, rifle grenades, the submachine gun, and a more extensive use of pistols and revolvers. Such short-range fire weapons tended to supersede cold steel and rifle butts as the tools of shock action, but American doctrine considered proficiency with the bayonet as still indispensable because it gave confidence and aggressiveness to foot soldiers (Ref. 7, pp. 37-38).

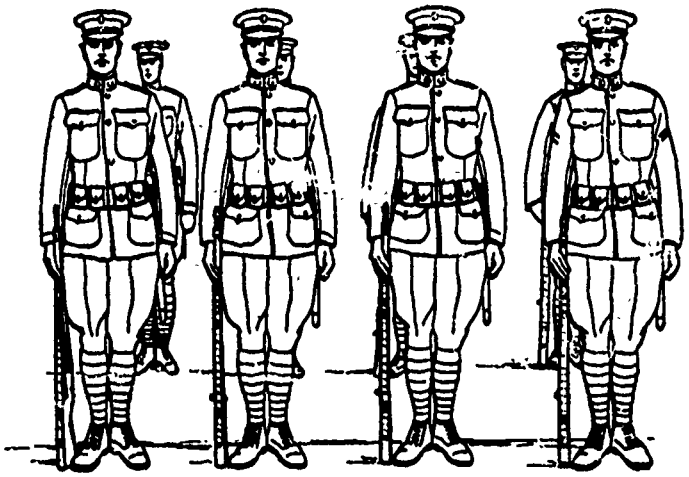
The squad, under the T/O 7 organization was comprised of one (1) corporal and seven (7) men. Within the squad, in addition to the weapons normally assigned, two of the members were assigned and trained as scouts. These men were essentially for intelligence purposes and were especially used as advanced elements for probing the enemy position when the war became one of maneuver. The scouts were more than often used in the attack to draw the enemy's fire and thus disclose his position. Later, when provided with tracer ammunition, they were able to outline possible targets by their fire. In the Infantry of the US Army, the scouts were considered important enough to survive World War II until 1947, when the scout designation for two members of each squad was dropped (Ref. 2, T/O & E 7-17, 9 December 1947).

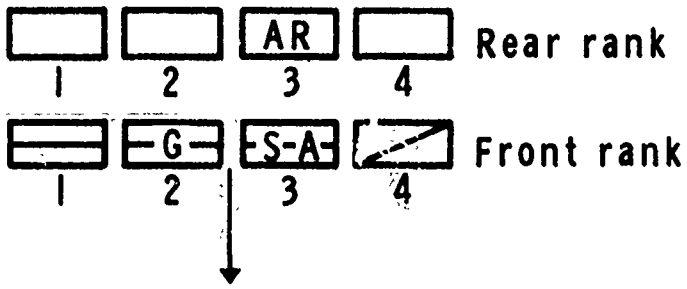
In his final report, General Pershing comments:

> The material results of the victory achieved were very important. An American Army was an accomplished fact, and the enemy had felt its power. No form of propaganda could overcome the depressing effect on the morale of the enemy of this demonstration to organize a large American force and drive it successfully through his defenses. It gave our troops implicit confidence in their superiority and raised their morale to the highest pitch. For the first time wire entanglements ceased to be impassable barriers and open-warfare training, which had been so urgently insisted upon, proved to be the correct doctrine (Ref. 10, p. 43).

Written during the closing days of World War I, and published soon after its conclusion, the infantry drill regulations (provisional) 1919 served to bridge the gap between the 1918 infantry drill regulations and those to be promulgated in the future. The lessons learned on the battlefields of France were retained and the resultant regulations can be said to have been proved effective in combat. Yet while numerous innovations were added to the organization and equipment of the infantry units, the 1919 regulations sought, in the following doctrine, to rationalize the World War I loss of the identity of the infantry squad:

> The section leader guides his unit. He looks at






## LEGEND

- Corporal
- Front rank man (Rifleman)
- Rear rank man (Rifleman)
- AR — Auto-rifleman
- S-A — Substitute auto-rifleman and carrier
- G — Rifleman with grenade discharger

The Infantry Rifle Squad 1920-1932

> it only when his exercise of control demands it--his eyes should be fastened upon the enemy. The section must be bound to its leader, who, under all circumstances, is the rallying point. His bearing and his pace sets the standard for the unit.
>
> The squad leaders maintain the positions assigned them and see that the platoon and section leaders' orders are executed. They transmit the commands and signals when necessary, observe the conduct of their squads, and assist in enforcing fire discipline. When the ability of platoon and section leaders to control the action of their units ceases, squad leaders lead their squads on their own initiative, lending each other mutual support (Ref. 11, pp. 112-113).

During the period from 1920 to 1940, there were the usual garrison duties and training missions to perform. The Infantry of the US Army, reduced in strength from 110,000 in 1920 to 40,331 in 1932, carried on. The Office Chief of Infantry in the War Department had the effect of keeping the Infantry alert and adaptable to change (Ref. 1, pp. 39, 41, and Ref. 13, p. 269).

The squad organization reflected in the post-World War I US Infantry showed clearly the influence of the Army's participation in that conflict. From the highly specialized combat of the trenches, the squad retained the automatic rifle and the other weapons such as the rifle grenade and the hand grenade. The leader continued to be a corporal with his assistant a private, first-class, or a private. With the addition of the machine gun company to each infantry battalion by T/O 28P, 23 November 1920, the rifle squad required less heavy firepower for targets of emergency or opportunity, since attached units of the machine gun company were now available for this purpose in the attack or defense. Hence, the bolt-action 1903 Springfield cal. .30 rifle came to be considered the basic weapon of the infantry, with its highly accurate aimed fire supplemented by the hand-carried and highly mobile automatic rifle (Ref. 14, pp. 150-154). The problem of supply of ammunition was to be considered in relationship to

the rate at which automatic weapons used it. Generally, the only ammunition immediately available to the squad was carried on their persons and the load of the riflemen was increased by the carrying of extra ammunition for the automatic rifle. It must be remembered that the US Army of the period of 1920-1938 was one which was dependent upon animal-drawn transport or obsolete World War I trucks with a road capability of about 100 miles a day (Ref. 15).

During the mid-twenties and the early thirties, certain far-sighted military students were thinking about the role of the infantry in any future war. Technology, in the form of rapid advances in transportation and radio communication, had caught up with and was rendering obsolete the tactical patterns then current. Air power was developing so that the infantry squads of the future could hurtle through the air or drop silently upon the enemy from the skies. The changes were to

> ...exceed any infantry's in its previous history. The greatest of these was speed. In 1919 a prime object had been to secure trucks to replace horses, so that foot soldiers could move toward the battlefield at 15 to 25 miles an hour. In contrast, twenty years later the equivalent object was to use aircraft so that doughboys could hurtle towards fields of battle 10 times as fast (Ref. 1, p. 39).

As late as 1936, Colonel Walter R. Wheeler, in his definitive work, The Infantry Battalion in War, defined the infantry squad, its organization, weapons, and function in the following paragraph:

> The rifle squad comprises eight men at most, grouped round an automatic rifle and led by a corporal. One man is designated to replace the squad leader in case of casualty. Two men act as scouts, one as assistant automatic rifleman and one as rifle grenadier. The squad leader lives with his squad at all times and is responsible that they are fed, equipped, and trained; in combat, he sees that they fight.
>
> ...The squad leader carries on combat at a distance through men specialized in the flat-trajectory

> fire of the rifle and the automatic rifle, and the shorter-range, curved trajectory fire of the hand grenade and rifle grenade. He leads hand-to-hand combat with bayonet, butt, knife, foot and fist (Ref. 16, pp. 1-2).

The Chief of Infantry laid down several vital principles concerning the organization and functioning of the rifle squad. Simple and uncomplicated in their language, they have stood the test of time and battle. Regardless of the armament of the squad or the size of its organization, the battlefield requirement facing the rifle squad was well-stated in the following:

> The rifle squad must have only elements of maximum battlefield mobility. All its members must be capable of short dashes at high speed in order to cross zones exposed to hostile fire. Hence, the standard of mobility of the squad is that of the rifleman. The squad has sufficient strength to sustain considerable losses without losing its identity, without at the same time exceeding the limits of effective control (Ref. 18).

Represented here was the desire to bring maximum firepower to bear upon the enemy as rapidly as possible. With the mobility of the rifle squad established by the speed of the individual rifleman, there was a clear and pressing need for a portable weapon that would give him accurate, accelerated firepower when in the attack or defense and in the final assault (Ref. 1, p. 43).[7]

In order to establish standards of performance for the infantry squads of the United States Army, the Chief of Infantry devised a combat-type firing and maneuver test in which each squad in every infantry regiment participated on a competitive basis. This was an annual event and the squad

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[7] ... The M-1 influenced fire tactics. Notwithstanding that arms like it were known and used in Europe, they did not affect doctrine the same way as in this country. On the Continent, firepower was increased principally by augmenting the number of light machine guns; while in the United States the increase came principally from the faster-shooting shoulder arm of the individual rifleman. Thus in Europe, fire superiority depended on a gun served by a crew; in the United States, on the individual doughboy and his weapon.

with the highest score in each infantry regiment was awarded the designation of "Chief of Infantry's Combat Team" (Ref. 17, p. 26). In gaining this highly-prized honor, the infantry soldier proved that he could perform every function that was required of him as an individual rifleman, grenadier, or auto-rifleman and as a member of the squad. Broadly, the competition was conducted in the following manner. A regular squad, under its corporal, reported under arms, in field uniform with light pack, to the officer-in-charge. (Here it should be noted that the terrain for the competition generally was found near the rifle range where service (ball) ammunition could be fired with safety.)

The corporal after reporting received either a verbal or written general situation of the tactical problem to be solved by the squad; next the special situation was explained and the corporal was required to make his estimate of the situation and to issue his oral field order. In essence he and his squad had to solve a small-unit tactical problem involving fire and movement. The problem was progressive with the corporal confronting new and different tactical situations, while his men maneuvered under his orders and fired against "enemy" troops represented by surprise "pop-up" or "pull-up" silhouette targets operated by hidden, protected personnel. The judges following in the wake of the squad awarded or deducted points for appropriate or inappropriate orders by the squad leader and actions by the squad members. Scores were given for "hits" made upon the silhouette targets. At the end of the competition all squads making the required points were designated as a "Chief of Infantry Combat Team."[8]

Weapons improvement and the search for the ideal of more firepower delivered by fewer men continued during the 1930's and 1940's. The Chief of Infantry working through the Infantry School, the Infantry Board and other agencies sponsored continuing research and development for the infantry arm. It was at this time that the infantry squad received the improved BAR (Browning Automatic Rifle, model 1918A2). This weapon, originally issued as a substitute for the long-desired light machine gun for the infantry squad,

[8] Interview with Colonel James Mrazek, Infantry, USA-Retired.

had several serious defects in its overall performance characteristics (Ref. 18, p. 7).[9] The search for a semi-automatic shoulder weapon for the rifleman in the squad continued, in spite of the improved performance of the BAR. The infantry's attitude in the matter of the BAR was expressed in the following:

> The BAR was not regarded as the decisive element in infantry firepower. American emphasis remained in the individual doughboy's shoulder arm. Accordingly, in the effort to substitute firepower for manpower there was a continuous search for an efficient self-loading rifle. Experiments by the Infantry Board soon made it clear that a semi-automatic rifle could increase the infantryman's rate of fire from ten or fifteen aimed shots to twenty or thirty per minute. What is more, the rounds could be better aimed because the marksman did not have to unsettle his aim to operate a bolt.
>
> As matters developed, the Garand rifle, designated M-1, was selected for development. By 1934, there were eighty M-1s on hand, and by the fall of 1938, they were replacing the M1903 at the rate of 150 per week. Even so, the new rifle did not replace the old until after the war had begun. Since the new rifle could deliver twice the fire of its predecessor, it made possible a reduction in other weapons. For example, the total of automatic rifles in a regiment dropped from 189 to 81 in 1943. Although the figure subsequently rose, it never again, not even in war, attained the earlier level (Ref. 1, p. 43).

By 1938, the advent of the new semi-automatic Garand or M-1 rifle with its increased rate of fire eliminated the automatic rifle from the infantry squad (Ref. 19). The increased firepower of the M-1 permitted the squad to advance without dependence upon the two-man automatic rifle team for covering or supporting fire. Also of importance was the fact that the riflemen no longer were required to carry extra ammunition for the automatic rifle. However, when the M-1 was carried, its high rate of

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[9] The automatic rifle (BAR) remained unchanged from its World War I status. It was so inaccurate when used for automatic fire that its abandonment in organizations armed with the M-1 rifle was contemplated.

ammunition consumption did increase the ammunition burden of the individual squad member (Ref. 20).

Insofar as the organization of the squad was concerned, under the new 1939 T/O two types were provided, that is, peacetime and wartime. The peacetime squad organization of seven members was led by a corporal. The wartime squad was led by a sergeant (with a corporal as second-in-command) and comprised eleven men. The increase in the personnel strength of the rifle squad found its basic reason in the fact that the previous World War experience of 1917-1918 had demonstrated that the eight man squad was not large enough to absorb casualties and continue in action. With eleven men to command (actually only five men short of the old two-squad infantry section commanded by a sergeant), the new wartime infantry squad required a more experienced leader - one with longer service and with a greater knowledge of infantry small-unit tactics and techniques. With the sergeant as the squad leader and the corporal as the assistant squad leader, the squad was assured of continuity of command. With the increased personnel, the squad had the ability to absorb a larger number of casualties and to continue on its mission as an effective combat unit.

The table of organization of 1920 (Table 28, P, Rifle Company, Infantry Regiment (Peace Strength), War Department, Washington, D.C., 23 November 1920) remained essentially unchanged until 1939, when it was superseded by interim T/O 7-17, dated 6 December 1938, which was superseded, in turn, by T/O 7-17, 1 October 1940.[10] This doldrum period did little more than maintain the status quo of the infantry arm. Aside from the research and development activities and the maintenance of standards there was little activity. The Chief of Infantry summed up this listlessness in the following comment in his official Report for April 1941:

> For almost twenty years after the World War, the infantry of the American Army remained essentially as it was during the World War. Compared to foreign

[10] See Appendix F.

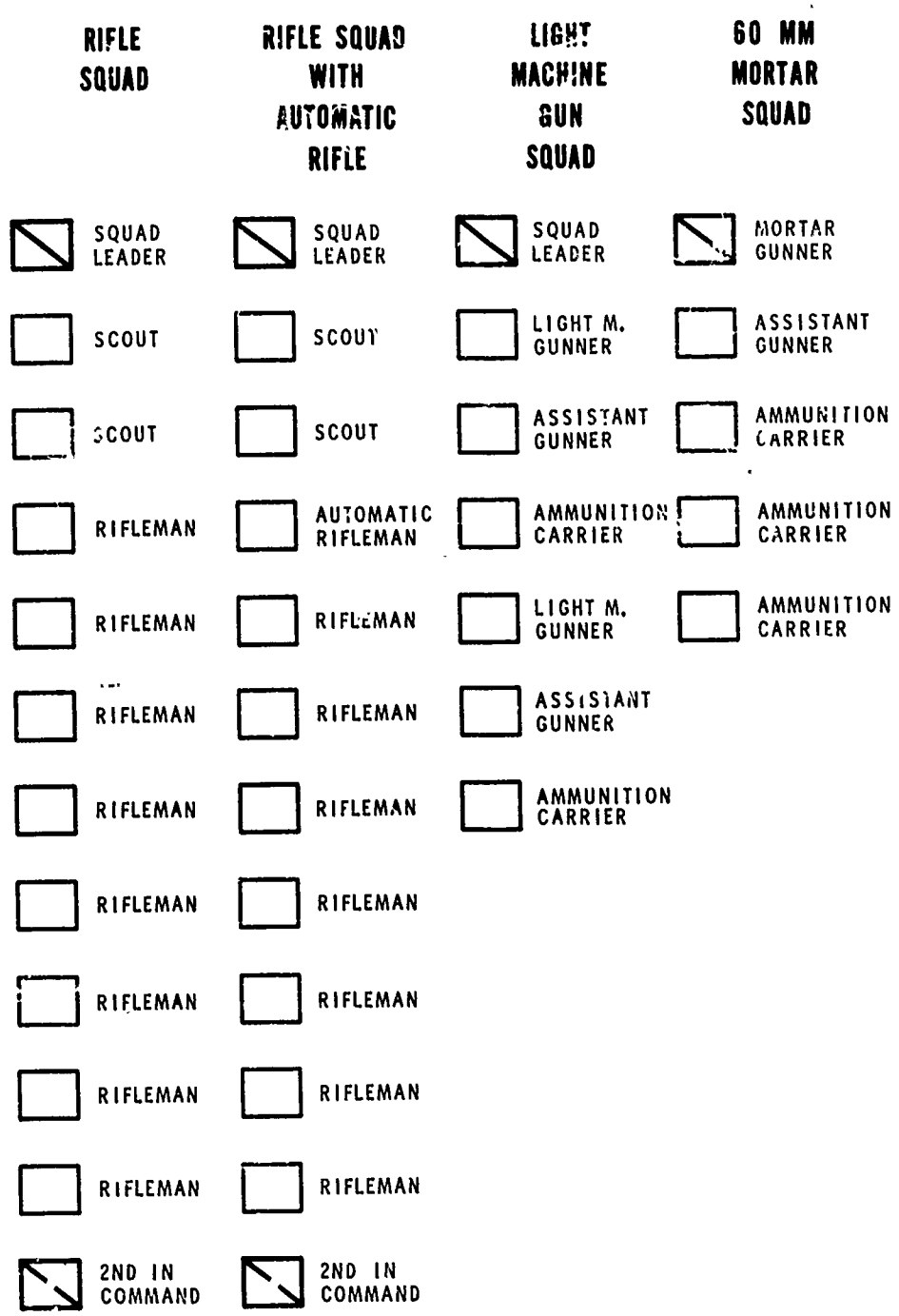
> armies, it was in an obsolete condition in almost every particular: Armament, organization, and tactics. During the decade preceding the war now in progress (World War II), the need for the drastic and rapid modernization of our infantry was obvious and imperative (Ref. 18, p. 3).

On 25 June 1932, there occurred an event that broke with the historic traditional infantry drill first established by Emory Upton in 1867 and improved in 1892, 1904, 1911, 1918, and 1919. The two-rank infantry squad which had been regulation in the United States Army for almost sixty-five years was abandoned and replaced by a single-rank squad under the provisions of Tentative Infantry Drill Regulations, 1932. All squad drill movements such as squad right and squad left, and squad right-about and left-about were eliminated and a simple drill substituted for the somewhat complicated squad maneuvers.

The basic reason for this radical change in the infantry drill regulations was noted by General George A. Lynch, Chief of Infantry, in his following comment upon the then current infantry drill:

> With respect to drill and tactics...the drill regulations, essentially those adopted in 1911, were complicated to a degree and consumed many hours training time in an attempt to attain precision in maneuvers that had no application in battle. Infantry Tactics were, for the most part, literal reproductions of the regulations developed in the AEF-1918-19. They took little account of the immense advances in situation and mechanization that had subsequently taken place (Ref. 18, p. 9 and Ref. 31).

In consonance with the Chief of Infantry's expressed desire to give the rifle squad portable weapons of increased firepower, the development of a light machine gun for the infantry squad continued. As the substitute, the BAR was continued within the infantry squad. Improved with a buttplate hinge and a bipod and an elevating screw, the BAR seemed almost to satisfy the requirement. The added improvements did give the BAR greater accuracy but they created an additional five pounds of weight, which, of course, increased the soldier's combat load and decreased the battlefield




Infantry Squads - 1940

mobility of the automatic rifleman. However, the rifle company was to gain additional firepower by the changes included in the 1940 table of organization 7-17, 1 October 1940. The extract below indicates the nature and importance of this reshuffling of the weapons within the company:

> The 1940 organization reflected the considerable technological advances in infantry weapons of the two post-World War I decades--in particular, the introduction of the light machine gun and the 60 mm mortar into the rifle company.
>
> ...Three rifle platoons were to be supported in action by one weapons platoon equipped with mortars and light machine guns. Within the rifle platoon, three rifle squads were to be supported by an automatic rifle squad armed with Browning automatic rifles or BAR's. This new "weapons" platoon was part of a trend in the late 1930's to integrate all necessary basic weapons, except artillery and tanks, into the infantry rifle battalion, the basic tactical unit. (Ref. 22, pp. 40-43).

In connection with the changes wrought within the rifle squad, it must be remembered that under the American tactical doctrine of fire and movement all elements of the infantry were organized in accordance with the principle of mobility. The rifle squad's mobility was governed by the rifleman. It could move on foot only as fast as he, and no faster. The mobility of the automatic rifleman carrying his weapon determined the overall mobility of the rifle platoon. In furtherance of the desire for high mobility for the platoon, there were no crew-served weapons assigned and none that were heavy consumers of ammunition required to be furnished in continuous supply. An added factor of safety derived from the fact that there were no weapons such as heavy machine guns which when mounted offered excellent targets for enemy fire In the rifle company, all the weapons, including the light machine guns and the 60 mm mortars, were hand carried. Heavier weapons than those which could be moved for short distances by hand were placed in the units of the regiment, such as the headquarters company (Ref. 1, p. 48).

Early in World War II, the tactical doctrine of fire and movement for the infantry came under close scrutiny by military leaders. Under the old theory, riflemen in the attack were in position either firing their weapons, or moving forward in the assault. This situation conformed to the theory of musketry wherein the rifleman fired his weapon principally to gain fire superiority in order to be able to move forward. This meant that his fire and the fire of his squad had to prevent the enemy from returning fire. When this optimum advantage was gained, he could advance. But World War I and initial World War II experience indicated clearly that the rifleman could no longer depend upon shooting his way forward. There was much more involved. Primarily, he had to coordinate his movements with supporting fires, such as artillery, mortars, and heavy machine guns, and with fires of the adjacent units. The Chief of Infantry's comment on the role of the rifleman in combat is as valid today as it was during World War II. It is worth repeating for the benefit of present-day infantry squad riflemen:

> His (the rifleman's) attitude is no longer limited to firing and moving unless sufficient supporting fire, both of supporting weapons and adjacent units, is developed to permit his advance. He conserves his fighting power by remaining under cover or combines his fire with that of supporting weapons to make possible the advance of adjacent units. He takes full advantage of fire support of his fellow riflemen and supporting weapons to move forward himself... No attempt is made to maintain alignment of units. In accordance with the old conception that whenever men were at a halt, they were firing, the squad leader maintained a position well to the rear of his squad. He moved to the front only when the squad was to advance. Under the revised tactics, during the considerable periods when the squad will be neither firing nor moving but in readiness under cover, the position of the squad leader is slightly to the front of the squad (e.g., on the crest) where he can observe the foreground and enemy activity and be in readiness to take such action, either fire or movement, as the situation may call for (Ref. 18, pp. 58, 59).

With the standard issue of the M-1 rifle to the infantry, the increased firepower it brought had the effect of eliminating the BAR from the rifle

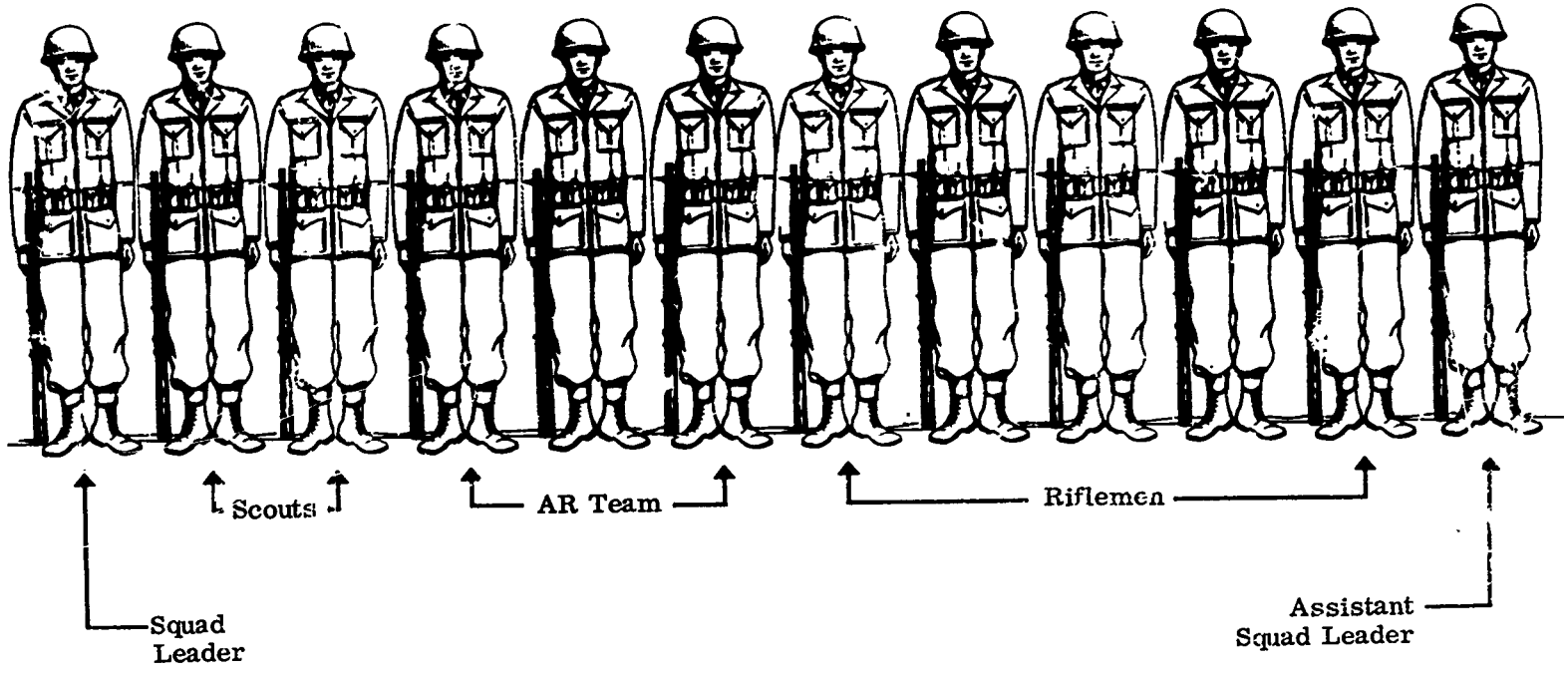
squads. The automatic rifles did not remain long in the newly created automatic rifle squad within the rifle platoon under the provision of T/O 7-17, 1 October 1940. Reasons for the elimination of the automatic rifle squad and the return of the BAR to the rifle squad were: the desire of General Lesley J. McNair, newly appointed Chief of the Army Ground Forces, to trim the infantry table of organization and equipment of excess personnel and equipment and the elimination of the Chief of Infantry's office. As the BAR's had been placed in the separate squad at the Chief's insistence, they were returned to the rifle squad when his office was eliminated (Ref. 1, pp. 52, 53).

> The sharpest reduction in arms that accompanied the drop in personnel fell upon the BAR's. These were eliminated from every echelon except the rifle squad, where there was one per squad. This change removed very little AR from the firing line, but it did reduce the number of the guns in the regiment from 189 to 81 (there being 81 rifle squads in a regiment). (Ref. 1, p. 53).

Within the rifle squad, the automatic rifle team now consisted of the automatic rifleman armed with the BAR (M 1918A2), and one assistant automatic rifleman armed with the M 1903A4 rifle (sniper) which was also used as the launcher weapon for the antitank rifle grenade. The modified 1903 rifle as a sniping weapon possessed the long-range accuracy associated with the 1903 Springfield rifle. The third member of the team was the ammunition bearer (rifle). The BAR, as the best available substitute for the light machine gun, served as a critical squad weapon in close support (Ref. 24).

As of 2 June 1942, the rifle squad was defined by the field manual in the following paragraph:

> Composition. The rifle squad consists of a sergeant (squad leader), a corporal (assistant squad leader and antitank rifle grenadier), an automatic rifle team (automatic rifleman, assistant automatic rifleman, and ammunition bearer), and seven riflemen, two of whom are designated as scouts (Ref. 25, p. 130 and Ref. 18, p. 42).




Infantry Rifle Squad - World War II

The above organization was essentially the typical World War II infantry rifle squad. Historically, it should be noted that the United States Army was engaged in a global war with combat areas extending from the Arctic Ocean to the South Seas and their islands. In the Pacific Theater, infantry combat was involved with jungle warfare; in the European Theater, the infantry fought a more conventional type of war. Yet, with slight modifications, the tables of organization pertaining to the infantry were satisfactory solutions to the difficult problem of tailoring an infantry squad which would be almost universal in its application to combat. In the attack or defense, the rifle squad now had more portable firepower than ever before in our military history. Further, with its BAR team it possessed readily available close support. Its grenades, both antipersonnel and antitank, gave it additional firepower against both men and machines. With a sergeant as the leader of eleven men, the squad had grown to be almost comparable in strength and capabilities to the rifle platoon section of World War I (Ref. 2).

T/O & E 7-17, 26 February 1944, promoted the rifle squad leader from sergeant to staff sergeant and made the assistant squad leader a sergeant (Ref. 26). There were valid reasons for the elevation in rank. In 1944, it must be recalled that infantry units in both the European and the Pacific theaters were vigorously carrying the war to the enemy on the land. General McNair, Chief of Army Ground Forces, desired in some way to boost the infantry morale.

General Omar N. Bradley, Commanding General, 12th Army Group in the European Theater in World War II, points up one of the principal factors affecting the morale of the infantryman. Combat losses are to be expected in war but his definition of the combat burden of the infantry is quoted to emphasize the importance of the rifle squad and its leadership, and its survival in combat. There is no reason to believe that his observation made then is not valid now and for the future.

> Previous combat had taught us that casualties are lumped primarily in the rifle platoons. For

> here are concentrated the handful of troops who must advance under enemy fire. It is upon them that the burden of war falls with greater risk and with less likelihood of survival than in any other of the combat arms (Ref. 27, pp. 445-446).

The promotion of the squad leader not only brought new prestige to the infantry squad but higher morale to the squad leader himself. Under the conditions of modern war, the squad leader was now one of the most important leaders in the military structure. His responsibilities are well stated in the following:

> Dispersal to avoid the deadly effects of enemy fire threw squads, or fractions of squads, on their own in combat, particularly in dense foliage, in the mountains, and in night operations. This put a heavier-than-ever burden on the ingenuity of squad and platoon leaders, and even on the individual doughboy. Here one encounters the following seeming paradox: that as armies have grown from thousands to millions, each of the numberless infantrymen on the firing line, instead of sinking to the level of an automaton, has had to rise to new levels of individual initiative. And, by the same token, modern battle has, as often in the past, been in reality a compound of scores of small-unit fights, relatively unconnected (Ref. 1, p. 57).

Combat in World War II demonstrated conclusively that several basic principles of war applied directly to the infantry and to the infantry squad. Unity of command and mutual support were proved essential for all units engaged in combat operations. Ironically, the experience in the field showed in final analysis that the few men out on the front and in direct contact with the enemy were the real interpreters of the principles of war. In essence, this meant that upon the infantry squad and its leader devolved a heavy responsibility for the success or failure of the operation. Plans, orders, and directives flow in constant stream from higher headquarters but they are carried out by the members of the smallest military unit capable of adhering to the principles of war.

Field Manual 7-10, Rifle Company, Infantry Regiment, issued in March 1944, provided that the rifle squad would consist of the following: a squad leader (staff sergeant), an assistant squad leader (sergeant) who acted as rifle grenadier, and an automatic rifle team of automatic riflemen, and an ammunition bearer. The remainder of the squad was composed of seven riflemen, two of whom were designated as scouts. Two of the remaining squad members were equipped with rifle grenade launchers and rifle grenades. The antitank rifle grenade M9A1 was known to be effective against light and medium tanks. It was also useful in combat against weapon emplacements and their personnel.

The field manual for the rifle company of 1944 was highly specific in its delineation of the administrative and combat duties of the squad leader:

> a. The squad leader is responsible for the discipline, appearance, training, control, and conduct of his squad. He leads it in combat. Under the platoon leader's direction, the squad leader arranges for feeding his men, enforces proper observance of rules of personal hygiene and sanitation, requires that weapons and equipment be kept in serviceable condition, and checks and reports on the ammunition supply within the squad. His squad must be trained in use and care of its weapons, to move and fight efficiently as individuals, and function effectively as a part of the military team.
>
> b. The assistant squad leader performs duties assigned by the squad leader and takes command of the squad in his absence. The squad leader may designate him to command a portion of the squad, to act as an observer, or to supervise replenishment of ammunition (Ref. 29, para. 143 and Ref. 28, pp. 166-192).

Combat in World War II showed rather conclusively that eleven men were difficult for one leader to control under modern battlefield conditions. To offset this handicap, however, the rifle squad did develop the rudiments of the team concept. With the automatic rifle team under a corporal as a definite unit within the squad's structure, the creation of teams of grenadiers, riflemen, or various combinations to meet specific combat situations became

possible. The rifle squad established by T/O & E, 7-17, 1 June 1945, was noted for its promotion of the AR man to corporal and the replacement of the M1903A4 by sniper rifle M1C (Ref. 30).

The 12-man infantry rifle squad survived World War II but its future was overshadowed by the development of an entirely new weapons system based upon the atomic fission theory first exemplified by the atomic bombing of Hiroshima and Nagasaki. Such concentration and release of explosive power changed the strategy of nations and the tactics of armies as they had never been changed before. With no experience under atomic or nuclear warfare conditions, the military profession perforce had to rely upon speculation and assumption. What type of units would wage the new warfare? What new formations would the tactics call forth? Answers to these and many other questions were tried out, in part, during a reorganization and experimentation period. However, it must be remembered that all units still retained the basic mission of waging conventional war, including, in certain instances, unconventional warfare.[11]

Within two years after the end of World War II, the infantry rifle squad underwent a drastic reorganization. Presumably based upon combat experience, the new T/O & E 7-17N eliminated three men, the ammunition bearer and the two scouts, from the squad. The new rifle squad had the following personnel assigned:

One staff sergeant, as the squad leader; 1 sergeant, assistant squad leader; 1 corporal, automatic rifleman; 1 private, assistant automatic rifleman; and 5 privates, riflemen. The five riflemen included 1 armed with grenade launcher M7A1, 1 to act as ammunition bearer, and 1 armed with the sniper rifle M1C. There were four grenade launchers M7A authorized by the new T/O & E for each squad. It is interesting to note that the three rifle squads of the rifle platoon had their firepower augmented by the addition of a weapons squad consisting of the following personnel and

[11] See pertinent field manuals of the Arms and Services.

weapons: 1 staff sergeant, squad leader; 1 corporal, machine gunner; 1 private, assistant machine gunner; 2 privates, ammunition bearers. With the light machine gun, caliber .30 and the rocket launcher, 2.36-inch, the weapons squad gave the rifle platoon additional firepower against enemy personnel and protection against hostile armor, vehicles, or tanks. The rifle squad still retained its high mobility and close support fire capabilities (Ref. 31 and Ref. 22, pp. 41-42).[12] For the first time since World War II, the infantry squad, with an allotted strength of nine men, began to approach the old fundamental concept of the eight man squad.

Rationale for the reduction in the strength of the rifle squad can be found in the following extract from Report of Activities Army Field Forces, 1945-1949, 30 September 1949:

> Combat experience proved that it was difficult for a squad leader to control and direct more than eight other men in battle and technical developments in weapons indicate greater dispersion in future warfare. The new squad consists of a squad leader and his assistant, five riflemen, and an automatic rifleman and his assistant.

The dropping of the scouts from the squad was based upon the assumption that the squad in future warfare would have no specialized reconnaissance requirement. In future combat reconnaissance would be performed by special air and land units, rather than by individual soldiers. The dropping of the ammunition bearer was mainly an economy measure. His extra space could be occupied by one of the riflemen who was assigned the additional duty of carrying the extra ammunition to supplement the loads carried by the other squad members.

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[12] In the weapons platoon the two light machine guns were replaced by a section of three 57 mm recoilless rifles - in reality, hand-carried, short range artillery pieces. The machine guns, increased by one, went to the rifle platoons, which gained a weapons squad armed with the machine gun and a 2.36-inch rocket launcher, primarily an antitank weapon.

Major General Armistead D. Mead, United States Army, former Chief of Infantry, Headquarters, Continental Army Command, discussed the problem of squad strength in his article, "Those Who See the Whites of Their Eyes," in the Infantry School Quarterly, Volume 46, No. 3, July 1956. In part, he said the following:

> The relation of size to staying power is well recognized. Missions assigned to a squad in defense are predicated on the number of positions a squad can occupy, which in turn dictates the frontage of the squad. As attrition occurs, the capability of the squad decreases... To make a squad large or small should not be the objective in considering its organization. Instead, the size of the squad should be the result of organizing it to meet certain essential criteria. Although a variety of criteria may be listed, they may reasonably be reduced to three: control, capability for sustained combat and firepower.

The reorganization of the grade structure of the Army and the elimination of the staff sergeant gave the leader of the rifle squad the rank of sergeant, first-class. This elevation in rank and pay gave the leadership of the rifle squad a position one rank below that of master sergeant, the highest noncommissioned rank (Ref. 33). Inasmuch as platoons are often commanded by sergeants in the absence of lieutenants, this recognition of the squad command position through increased rank and pay served to add to the prestige and morale of the infantry.

Korea offered a bitter school of experience for the Infantry of the United States Army. Hurriedly pulled from occupation duties in Japan, infantry regiments, companies, and squads, from June 1950 on, found themselves in combat with a ruthless and cruel enemy whose regard for the accepted rules of land warfare was nil. Both offensive and defensive warfare were waged by the US Infantry. At one time, in January 1951, the bunker warfare in the mountains of Korea resembled the trench warfare of 1914-1918 (Ref. 34, p. 215 and Ref. 35, pp. 654-692).

Infantry Rifle Squad - Korean War

The rifle squad, as reorganized by Change 3 to T/O 7-17N, appeared as follows: the squad leader was a sergeant, first-class, his assistant was a sergeant, the automatic rifleman was a corporal and his assistant was a private; five riflemen had rank distributed among them as follows: 3 corporals, 2 privates, first-class. One of the riflemen was armed with a grenade launcher, 1 rifleman served as an ammunition bearer, 1 corporal was armed with the sniper rifle, M1C (Ref. 33). Concurrently with the infantry combat of the Korean War, research and development in the areas of human resources, psychology, and the behavioral sciences attacked the problems of human motivation and reaction to the stress of infantry combat. The performance of individuals and small units, squads and platoons was analyzed by means of the scientific method. As an example, the scientists assigned to Operations Research Office, The Johns Hopkins University, engaged in a project entitled The Job of the Combat Infantryman. In this ambitious study, the performance of the infantryman in battle was analyzed by much the same methodology used by social scientists in analyzing the performance of an industrial worker (Ref. 38). This approach to the "job" of the combat infantryman was novel in its statement:

> The primary objective of the research... is to provide the basic data from which it may be possible to establish job requirements for combat infantry personnel, i.e., to discover those aspects of the combat infantryman's job which are essential for successful performance in combat (Ref. 38, p. 5).

The infantry squad survived the Korean War with minor changes. It is significant to note that the squad strength remained a constant nine men under the stress of both offensive and defensive war. The Korean War ended with the squad as listed in T/O & E 7-17 C2, 13 April 1953 (Ref. 39). After the Korean armistice or truce went into effect on 27 July 1953, both of the automatic riflemen became corporals, and the riflemen were distributed in rank as follows: 2 were corporals, one of whom was armed with the M1C, 3 were privates, first-class, one of whom was armed with a grenade launcher, 2 were ammunition bearers. These changes may be ascribed to the great

amount of patrolling in the Korean War where the infantry squad, with its rank structure and the automatic rifle team, was required to function independently each with its own base of fire. This ability was of special value on combat patrol missions (Ref. 34, p. 215).

The following comment is highly significant from the point of view of the infantry squad, its organization, equipment and above all, its leadership:

> The Korean War, by reason of both geography and enemy action, was a unit commander's war. The fate of a regiment or of a division might and frequently did depend upon the ability of a platoon commander to solve his own particular problem in the heat of action. So--perhaps vital as one considers the possibilities of the future in dispersement--the necessity for trained, capable, and courageous small-unit commanders from the squad level up, was reaffirmed (Ref. 35, p. 690).

The Korean War proved that the United States Army tactical doctrines of fire and movement were essentially sound (Ref. 35, p. 690). Within these doctrines were to be found the behavior and motivation of the infantry soldiers who had the responsibility of carrying them into effect under combat conditions. The noncommissioned officer at the leadership level of the rifle squad was found by scientific investigation and analysis to have the following responsibilities toward the accomplishment of the squad or unit mission and toward the members of his squad. As categorized in ORO Technical Memorandum ORO-T-250 , these were:

I. Preparing Unit to Meet Combat Requirements
   - A. Giving Technical Training or Assistance
   - B. Providing for Adequate Supplies of Serviceable Equipment
   - C. Maintaining Physical Efficiency of Unit Personnel
   - D. Disseminating and Implementing Plans for Mission

II. Exercising Tactical Command
   - A. Selecting, Organizing, and Manning Unit Positions
   - B. Deploying Men and Weapons
   - C. Controlling Rate and Distribution of Fire
   - D. Coordinating Own Unit with Other Units

III. Developing and Maintaining Motivation

A. Providing Material Comforts and Assistance
B. Encouraging and Reassuring Others
C. Inspiring Others by Personal Bravery

IV. Accepting Organizational Responsibility

A. Communicating and Coordinating with Superiors
B. Contributing as a Member of the Team

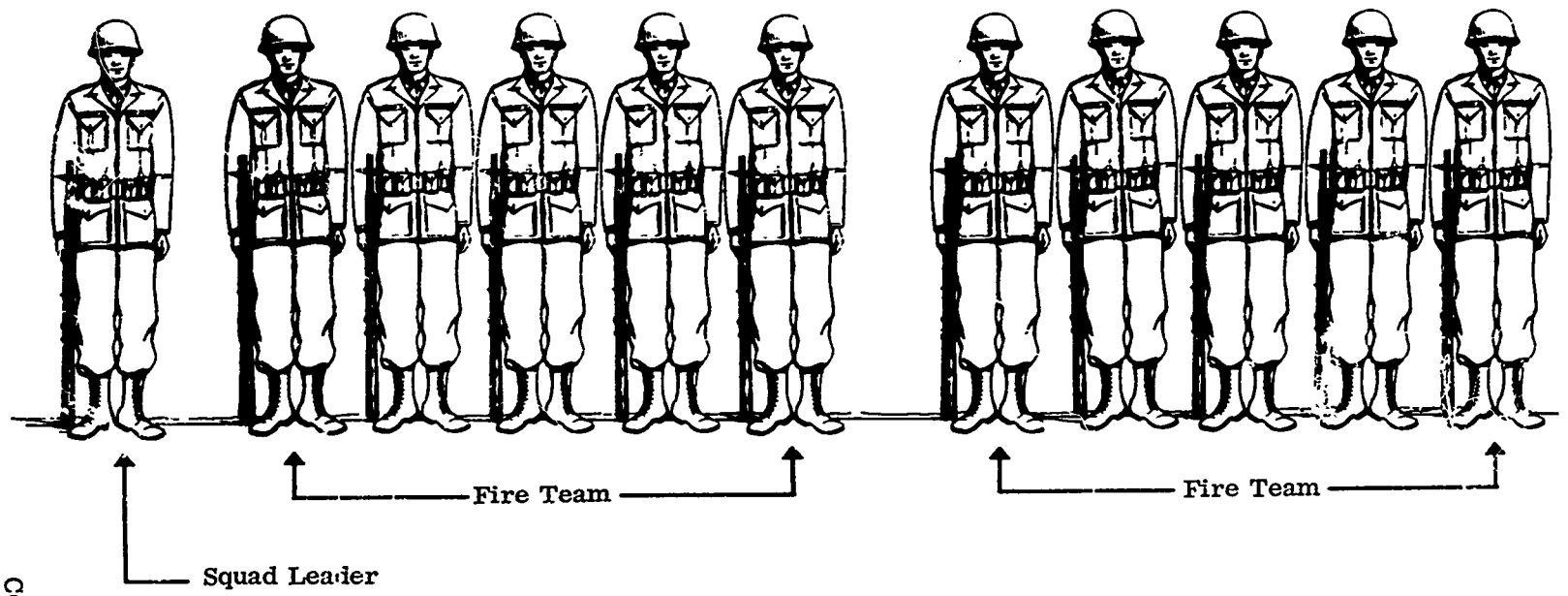
(Ref. 38, Appendix)

The duties of squad leaders of infantry rifle squads have been delineated since the beginning of the unit's long history in peace and war. The military profession, without benefit of the wisdom of behavioral scientists, indicated the pattern of the squad leader's duties and responsibilities in Field Manual 7-10, Rifle Company, Infantry Regiment, as follows:

> a. The squad leader is responsible for the discipline, training, control, and conduct of his squad. His squad is trained to use and care for its weapons and equipment, to move and fight efficiently as individuals, and to function effectively as part of the fighting team.
>
> b. The assistant squad leader performs duties assigned by the squad leader and takes command of the squad in his absence. The assistant squad leader usually controls the automatic rifle team (Ref. 40).

From the field study of the operational patterns of noncommissioned officers in combat, or post-combat interviews with representative, or average, infantry squad leaders, a listing of specific noncommissioned officer behavioral categories was compiled. The most casual examination of this categorization of the duties of the noncommissioned officer's functions cannot but help to impress the reader with the critical importance of the noncommissioned small-unit leader. The most significant feature of this listing (see Appendix) is that it is an approach to a desired standard of performance for noncommissioned officers and therefore is of value to the military profession.

Historically, the specific duties of members of the infantry rifle squad have been noted principally because of the squad armament. Generally, the




Infantry Rifle Squad - 1956

duties of the squad member were centered upon the operation of his weapon and his ability to move with it and place its fire when and where directed. In addition, of course, there was the responsibility for minor field repairs and the remedying or reduction of firing stoppages. The previously noted research in the field during the Korean War broadly categorized the duties of the squad member as follows:

I. Participating in Combat Preparations
   - A. Participating in Training
   - B. Maintaining Weapons and Equipment
   - C. Maintaining Physical Effectiveness

II. Performing Tactical Operations
   - A. Occupying and Improving Positions
   - B. Locating and Identifying Targets
   - C. Establishing and Maintaining Tactical Superiority
   - D. Performing Communication-Liaison Functions
   - E. Taking Precautions to Maintain Security
   - F. Closing with the Enemy

III. Contributing to Unit Motivation
   - A. Providing Material Comfort and Assistance
   - B. Encouraging and Reassuring Others
   - C. Taking Risks to Aid Others

IV. Accepting Organizational Responsibility
   - A. Assuming Command Functions
   - B. Accepting or Volunteering for Additional Duties

(Ref. 38)

For the specific categorization of the combat duties of the rifle squad member, see Appendix D.

In 1956, a break came in the traditional squad concept of an automatic rifle team supported by riflemen who act as rifle grenadiers, hand grenadiers, and ammunition bearers. Under the provisions of T/O & E 17-17T ROCID (Reorganization of Current Infantry Division), the squad leader was rated as a first-class sergeant (E-7), the two fire team leaders as sergeants (E-5), the two automatic riflemen as corporals (E-4); the last two were armed with the BAR. There were six riflemen: three senior riflemen (corporals (E-4); three riflemen (privates, first-class

(E-3); and one corporal armed with the M1 sniper's rifle caliber .30 for rifle grenade. There were two rifle grenade launchers in the squad. Ammunition bearers were not specified (Ref. 41). In justification of the 11-man squad, General Mead continued in the cited article:

> The 11-man squad organization not only meets all the requirements established by our three essential criteria (control, capability for sustained combat and firepower) but also includes desirable qualities. First, it requires only 11 men. Second, the five-man fire teams can withstand more attrition than could a smaller team and still retain their identity. Third, the balance of automatic riflemen to riflemen within the teams is in keeping with the squad's ultimate requirement to close physically with the enemy. Finally, the squad leader's span of control is not taxed.

The fire teams which were new to the US Infantry consisted of one fire team leader, a sergeant (E-5); one automatic rifleman, a corporal (E-4); one grenadier, a corporal (E-4); and one or two riflemen, privates, first-class (E-3).

The advent of the new infantry rifle 7.62mm (M14), light barrel, with the standard NATO caliber, and its capability of stabilized position semi- or full-automatic fire when fitted with a bipod, gave the rifle-squad fire teams increased firepower and a lighter weight weapon than either the M1 or the BAR. The squad leader was now a staff sergeant (E-6), the fire team leaders were sergeants (E-5), and the automatic riflemen were corporals (E-4) armed with the 7.62mm rifle, light barrel, with bipod. There were six riflemen: two senior riflemen, corporals (E-4); and four riflemen, privates, first-class (E-3) armed with 7.62mm rifle, light barrel. There was no provision for grenade launchers or ammunition bearers in the T/O & E (Ref. 42).

In January 1959, FM 7-10, Rifle Company, was issued covering both infantry and airborne division battle groups. This official publication standardized the rifle squad in organization and equipment for both infantry

and airborne infantry troops. The rifle platoon was organized into a platoon headquarters, three rifle squads, and a weapons squad. Each rifle squad was organized as follows: a squad leader and two five-man fire teams, the Alfa team and the Bravo team. The composition of the fire team embraced a fire team leader, an automatic rifleman, and three riflemen (Ref. 43).

Because of the firepower involved and the potentially heavy fire support within the rifle squads of the infantry rifle platoon, the composition of the weapons squad comprised: a squad leader, two machine gunners, two assistant machine gunners, two rocket gunners, and two assistant rocket gunners, plus two ammunition bearers. The weapons squad was organized in Alfa and Bravo machine gun teams and Alfa and Bravo rocket launcher teams. The field manual describes the squad leader's and fire team leader's duties as follows:

> c. Rifle Squad Leaders. The rifle squad leader is responsible for the discipline, training, control, and tactical employment of his squad. He utilizes his fire team leaders to assist him primarily in control.
>
> d. Fire Team Leaders. Fire team leaders are fighter leaders who assist the squad leader in control of the squad in combat primarily by initiating the action directed by the squad leader and by setting the example for their team members as indicated by the situation. They provide such additional assistance as may be directed by the squad leader. The senior fire leader assumes command of the squad in absence of the squad leader (Ref. 43).

As noted, one of Upton's real considerations in his creation of a new drill was to have that drill applicable to the battlefield as well as the parade ground. His "skirmish" drill approximated the fulfillment of his desire. Nearly three-quarters of a century later, Major General James C. Fry of the United States Army advocated "Battle Drill" for the troops of the Army. His system was given serious consideration primarily because he had used it under combat conditions with units under his command (Ref. 44, 45).

Field Manual 7-10, previously cited, specified that the rifle squad, as organized under its provisions, was well suited for battle drill:

> The rifle squad with its two fire teams is particularly well suited for battle drill. This organization permits the squad leader to use one team to maneuver while the other supports by fire. Similarly, the squad can advance by bounds over exposed areas, using one fire team to cross the area first while the other is in position to cover its movement by fire if necessary. Using battle drill plays, the squad leader can direct and control the actions of his squad with minimum reliance on verbal instructions (Ref. 43, pp. 440-456).

The results that were achieved by the 1960 reorganization of the infantry rifle squad may be summed up in one word: maneuver. The reorganization was based on the concept that wide-ranging operations on the present or future battlefield would require squads composed of highly mobile, hard-hitting fire teams with the capability of independent action in the field. Further reorganization of the rifle squad was the direct result of the ROCID tests conducted by the Army in 1960. The two fire teams gave the squad leader the capability of maneuvering integral units under his overall command. Prior to this change, the squad leader maneuvered his squad personnel as individuals except in the case of the automatic rifle team. The possible requirements of future warfare call for dispersion of units over broad fronts. To meet this challenge all units down to and including the rifle squad must possess the ability to operate independently away from the parent unit. In furtherance of this objective, the improved span of control of the squad leader, who now controls two fire team leaders, rather than the entire unit, should be noted. Each fire team with its ample firepower and flexibility of response in battle areas of considerable depth, would require experienced leadership. Because of the independence of action built into the team's tactics, the team leader as well as the squad leader will have to be able to exert maximum control. In order to accomplish the mission under these circumstances, the squad leaders of all grades must be well trained and highly capable of exercising command and leadership under combat conditions.

Field Manual 7-10, Rifle Company, Infantry and Airborne Battle Groups, provides a succinct definition of infantry. Since the regular role of infantry is well understood by the military professional, this definition is worth noting because of its clarity and consideration of nuclear availability:

> Infantry is the arm of close combat. It fights by combining fire, maneuver and shock effect. It is the only force capable of seizing and holding terrain for extended periods. Because of its extreme versatility, it is capable of fighting under widely varying conditions of terrain, weather, and nuclear availability. The organization, equipment, and training of infantry units permit their use of a variety of techniques to accomplish their mission (Ref. 46, p. 4)

The fire teams, as the bases for the fire and movement capabilities of the rifle squad, function to provide the squad leader with two like organizational elements with which to carry out these capabilities. How the teams will operate under combat conditions is prescribed by the Field Manual. All training in battle drill is directed to the attainment of proficiency of individuals and teams to the end that they can operate as follows:

> The organization of the rifle squad into two fire teams provides the squad leader with two like elements with which to execute fire and maneuver. Essentially, one fire team is used as the maneuver element, while the other is used as the fire support element. The role of each fire team may change during the conduct of any particular action. For example, if the maneuver element is prevented by enemy action or terrain from closing with the enemy, it assumes the fire support role to cover the advance of the other team, which then becomes the maneuver element (Ref. 43, p. 441).

The radical changes and complexities of weaponry and tactics falling upon the shoulders of the squad leader of 1964, compared to those imposed upon the World War II squadleader, may be noted in the extract below from FM 7-10:

> During the fire fight, the primary duty of the squad leader is to place the fire of his squad on the target. In accomplishing this, he keeps in mind the firepower

> of his automatic rifle team, which he employs to place automatic fire on suitable enemy targets and support the rapid advance of other members of the squad. He enforces fire discipline. (The squad leader takes a position from which he can best control his men and observe the effect of their fire.) In selecting his position, he considers the necessity of maintaining contact with the platoon leader. At times, on account of the noise and confusion of battle, the leader may have to go to the firing line and move from man to man to give instructions. He fires only in emergency, or when he considers that the firepower to be gained by his firing outweighs the necessity for his close control of his squad. Experienced soldiers may be designated to supervise the fire discipline of the two or three men in their immediate vicinity (Ref. 47, par 144, pp. 140-142. See also Appendix).

T/O & E 7-18E, issued in accordance with the new ROAD (Reorganization of the Army Division) concept of troop unit organization to meet the challenges of conventional and nuclear warfare, provides that the rifle squad be composed of the following personnel:

1 Staff Sergeant, Squad Leader

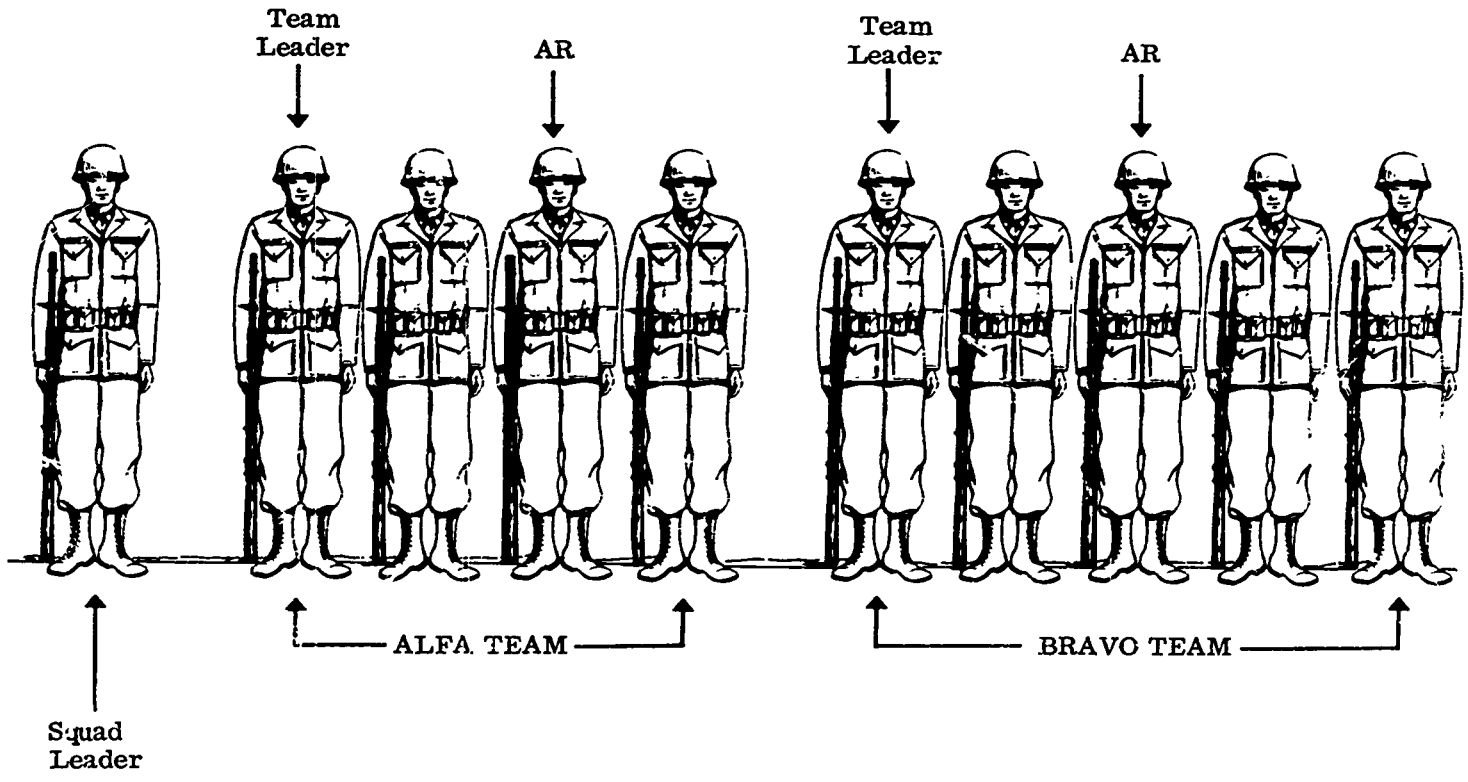
2 Sergeants, Team Leaders

2 SP4 Automatic Riflemen

2 SP4 Grenadiers

3 Privates, First-Class, Riflemen (Ref. 48)

The total number of personnel in the rifle squad is reduced by one, making the squad total ten members, including the leader. The development of new weapons, such as the grenade launcher, 40mm has exerted some degree of influence upon the reduction of the squad's total strength. The automatic riflemen are now armed with the 7.62mm rifle with light barrel and bipod and grenadiers are armed with the .45 caliber pistol in addition to the grenade launcher. All other squad members are armed with the 7.62mm rifle, light barrel (without bipod). For communication within the company and platoon, the rifle squad is provided with the radio set AN/PRC-6 (Ref. 49, p. 106).




Infantry Rifle Squad ROAD - 1964

Basically, the justification for the dropping of the one rifleman from the squad can be ascribed to the personnel economy features in ROAD. Further, the rifle squad was shaped by this action into a "package" for the possible future transport of all infantry rifle squads in armored personnel carriers. In this event, the armored vehicle driver would become available to the squad for supporting fire from the weapon mounted on the carrier.

Field Manual 7-11, Rifle Company, Infantry, Airborne Infantry and Mechanized Infantry, prescribes the duties of the rifle squad leader and other squad members.

> The rifle squad leader is responsible for the discipline, training, welfare, control and tactical employment of his squad. He uses his fire team leaders to assist him in control.
>
> Riflemen and automatic riflemen are trained to be proficient in individual as well as team combat action. Their specific tasks are specified by the squad leader or fire team leader, as appropriate. One rifleman in each fire team is normally designated to carry additional ammunition for the automatic rifleman. In addition, one member of each fire team is assigned as a grenadier and is equipped with the M79 grenade launcher (Ref. 50, p. 11).

The dispersion required by the modern battlefield has complicated the problem of communication at all tactical levels. At squad level, the inclusion of a radio set as standard issue for the rifle squad has assisted in the solution of the problem of contact with the next higher and adjacent units. Comparison of the eye-to-eye contact required of the squad leader by post-World War II Field Manual 7-10 with the maintenance of radio contact required today, may be noted in the following extract from Field Manual 7-10, Rifle Company, Infantry Regiment (October 1949). Of particular interest is the definition of the automatic rifleman and his assistant as a "team."

> The Automatic Rifleman and his Assistant function as a Team. The Automatic Rifleman selects the exact position where he can best cover the target. The Team is alert for

surprise targets, particularly automatic weapons. It maintains eye contact with the Squad Leader or his Assistant to fire at new targets rapidly.

The Riflemen move forward in the attack, as ordered by the Squad Leader and remain alert for instructions. They pass on instructions from the Squad Leader to other riflemen. When some men of the squad are advancing, the remaining men cover them by fire (Ref. 51).

While the combat mobility of the present-day infantry rifle squad is that of the dismounted soldier moving on foot, it should be noted that the mobility of the infantry at all levels of organization has been increased in accordance with the modern vehicles available. The squad, as part of the rifle company, is completely mobile (transportable) by means of helicopters, medium assault aircraft, or medium transport aircraft, armored and unarmored vehicles (Ref. 50, p. 5).

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## CONCLUSIONS

Weaponry at all times has dictated military organization from the highest to the lowest echelons. Tactics have followed the weapons and their employment. Infantry, at all levels of organization, must either attack or defend against the weapons of the enemy force. Certain principles of war dictate the conditions of combat and its eventual outcome. In the United States Army, tactical patterns are based upon the historic principles of fire and movement. The rifle squad is the smallest unit to conduct tactical operations under command of its own leader.

The development of small-arms has contributed in no small measure to the evolution of the rifle squad. With primitive muzzle-loading shoulder weapons, fire was delivered by volley against massed bodies of the enemy. There was little maneuver on the part of infantry formations of less than battalion size. Because of the inaccuracy of the weapons involved, casualties were light but wounds made by the large .58-.75 caliber musket ball were generally disabling or fatal. Improvement of the accuracy of the smoothbore musket and the introduction of the rifle into warfare made dispersal necessary on the battlefield. Rapidity of fire and the eventual appearance of the breech-loading shoulder weapon caused the infantry to take cover or to maneuver in order to survive to accomplish its mission. Improvement of supporting weapons, i.e., artillery and later machine guns, forced the infantry to construct elaborate systems of field fortifications. When this was done, the principle of movement was negated.

The infantry rifle squad has evolved over a period of several hundred years. The squad, as it is known today, is essentially an American military development. While European armies have shown trends toward the squad organization for discipline and control in garrison, the United States Army developed the squad as a tactical organization.

The reduction in the size of infantry units to present a minimal target to the enemy was considered to be one solution to the problem of excessive battlefield casualties. Dispersal of individuals and the establishment of

loosely controlled and randomly aligned formations followed naturally. The squad of eight riflemen then appeared upon the battlefield to function tactically under its own leader, the corporal. As an integral part of the platoon and company, the squad's primary mission was to assist the parent unit to advance or defend by application of the principles of fire and movement.

Historically, the size of the infantry squad has varied over the years. The numbers considered proper for the squad composition have been noted as ten in the Roman maniple, four in the Civil War infantry, and the double-four or eight in the post-Civil War United States Army. Much of the basis for the numbers, as shown, was to be found in the size of the group which one leader could control by voice or signal in combat. In the United States Army provision was made for eight-man squads in peacetime and twelve-man squads in wartime. Currently, the infantry rifle squad is composed of ten men.

Initially, the rifle squad of the World War I period was merely a group of eight riflemen commanded by a corporal. The siege war of the trenches demonstrated that the rifleman must be more than a rifle marksman. He became a specialist in weapons that gave close support in the limited objective attacks. Grenades, both hand and rifle, automatic rifles, and trench mortars were soon added to the infantry arsenal. So highly specialized did the infantryman's role become that the squad became merely an administrative unit and the section of two or more squads comprised the smallest infantry tactical unit for trench warfare.

World War II, with its battle areas over the globe, tested the United States Army's concept of the rifle squad in a manner never contemplated by its originators. In every type of terrain, from frozen tundra to steaming tropical jungles, the infantry accomplished its mission of closing with the enemy. The flexibility of the rifle squad was sorely tried in numerous campaigns, yet its organization and equipment was considered to be satisfactory. Based upon combat experience, the number of twelve men, including the squad leader, came to be considered too many men for one leader to control. Post-war experimentation reduced the squad to as low a figure as nine men, including the squad leader. From the historic past

the infantry squad, as conceived by the United States Army, has survived as an organizational framework for the waging of close combat. The availability of modern tactical radio communications and the necessity for strength in dispersion, however, have caused the squad to depart from the traditional eight men to ten in the United States Army.

Because of the requirement for leadership at small-unit levels, command of the infantry squad must be entrusted to noncommissioned officers. This means that the noncommissioned officer must be professional in his solution of his leadership problem. In a sense, he is a "journeyman" in the trade of war, whereas, the officer is the manager responsible for delivery of the violence that is personally directed by the corporal or sergeant. It follows, therefore, that the leadership of an infantry squad is a most vital and necessary adjunct to the proper functioning of the infantry unit of which the squad is a component part. The platoon or company succeeds or fails in combat in direct relationship to the proficiency of its squad leaders. In battle it is the private soldier who fires the rifle, throws the grenade, or operates the automatic rifle. It is he who eventually closes with the enemy and, finally, engages him in hand-to-hand combat. The soldier, as a member of a rifle squad fire team, is the only member of the Army whose mission is to take and to hold ground. How well he accomplishes this mission is dependent upon his squad and squad leader.

The reorganization of the Infantry Division of the United States Army has added a considerable burden of responsibility to those already being carried by small-unit leaders. The staff sergeant leader of the infantry squad of two fire teams must have the professional training and knowledge to make sound tactical decisions and accomplish proper use of teams and their weapons. The noncommissioned squad leader must function in much the same manner as the commissioned platoon leader. His fire teams in combat become almost the same as the squads of the traditional platoon. He directs their fire and maneuver in his endeavor to move his unit to the objective and close with the enemy. In order to do this, he must know his tactics and his weapons. The training of squad leaders, therefore, must assume a more important place in the training schedules of infantry units.

The rifle squad continues to serve as a formal primary group for the infantry soldier's social and military life. His identification with the squad is important with respect to morale and motivation. The pursuit of excellence in the military profession can start from membership in an infantry squad. Within the squad, the fire teams, each with its own leader, find identification in the Alfa and Bravo designations. These half-squads, each capable of limited independent action and mutual support, imbue the squad with the overall concept of team work. The fire team now performs all the functions formerly within the realm of the old eight-man infantry rifle squad. With its increased fire power and with the squad leader's ability to communicate with his teams, the rifle squad has currently acquired an independence of operation not attained in World War II or the Korean War.

As constituted today, the rifle squad has the assumed capability of operating under conditions of either conventional or nuclear warfare. It also has the ability to operate under conditions of unconventional warfare, but at the present time such operations are under the direction of Special Forces Troops. Not only are the Special Forces trained in specifically-designed units to perform their assigned missions but they also generally possess airborne characteristics, as indicated by the inclusion of functional paratroops or individual parachutists. It should be noted that the infantry squad of conventional, non-airborne units does have the capability of movement by air--either in airplane or helicopter. Further, the rifle squad is organized for transport in armored personnel carrier type vehicles. It may be concluded, in view of the requirements of rapid displacement of troops to distant stations, or on specific missions, that eventually all infantry squads may be composed of helicopter-borne or parachute-qualified personnel.

APPENDIX A

CDCRE-C

Directorate of Evaluation
29 September 1964

MEMORANDUM FOR: Director, CORG

SUBJECT: CORG Program of Study in Military History: Evolution of the Infantry Squad

1. General. It is requested that CORG provide under its military history study program a complete and documented record of the evolution of the infantry rifle squad from World War I to the present time.

2. Objective and Scope. It will be the purpose of this project to show the various changes which have taken place in the organization and equipment of the infantry rifle squad, including the major duties of each individual, the armament of each individual, the squad mission and capabilities in attack and defense, and for each change in squad organization the rationale or justification for the change.

3. References. Memorandum for Director, Evaluation to Director, CORG, subject: Combat Developments Study Request: "CORG Program of Study in Military History," dated 24 June 1964.

4. Administration.

a. Coordination is authorized as appropriate with offices and agencies, records depositories, military libraries, and other sources of information within the Department of the Army.

b. The expenditure of three man-months of effort on this task is authorized. This study should be initiated immediately.

c. A draft report in duplicate is required for staffing and coordination by 15 November 1964. Final report should be published by CORG in 50 copies by 30 December 1964.

d. Mr. J. E. Keith, Chief, Historical Branch, Directorate of Plans, this headquarters, will be project liaison officer.

/s/
ROBINSON

Coordination:
Director, Plans /s/ King for Bautz 7 Oct 64
ORS Division /s/ Anson 8 Oct 64

APPENDIX B
TABLES OF ORGANIZATION AND EQUIPMENT (TO&E) AND
FIELD MANUALS (FM) 1918 TO 1963 INCLUSIVE

## THE MARINE RIFLE SQUAD

(FM 6-5, 13 September 1963, Headquarters, US Marine Corps, Washington, D. C.)

"Organization of the Rifle Squad. (For comparison with US Infantry Rifle Squad)

The rifle squad is divided into three fire teams, each of which is built around an automatic weapon and controlled by a fire team leader. In addition to these three maneuver elements, the squad includes a grenadier armed with a 40mm grenade launcher. The squad leader has overall control of the rifle squad and direct control of the fire of the grenadier.

Composition of the Rifle Squad

The squad is composed of 14 men: a sergeant (squad leader), a lance corporal (grenadier), and three fire teams of four men each. Each fire team consists of a corporal (fire team leader), a lance corporal (automatic rifleman), and two privates or privates first class (riflemen).

Weapons

a. Organic Weapons. The organic weapons of the squad are as follows:

1. Squad Leader. M14 rifle and bayonet knife.

2. Grenadier. 40mm grenade launcher, M79; M1911A1 pistol; and bayonet knife.

3. Fire team leader. M14 rifle and bayonet knife.

4. Automatic rifleman. M14 rifle with bipod, hinged butt plate, selector, and bayonet knife.

5. Riflemen. M14 rifle and bayonet knife.

b. Supplementary Weapons. The following is a list of weapons and munitions available to members of the squad or personnel operating with the squad.

1. Demolition kits.

2. Flamethrowers.

3. Rocket launchers.
4. Hand grenades.
5. Grenade launchers.
6. Rifle grenades.
7. Ground signals and flares.
8. Antitank and antipersonnel mines.

Duties of Individuals

a. General. Every man of a fire team must know the duties of the other team members, and in turn, the fire team leader and the squad leader should be able to assume the duties of their next superior.

b. Squad Leader. The squad leader leads the squad. He carries out the orders issued to him by the platoon commander. He is responsible to the platoon commander for the discipline, appearance, training, control, and conduct of his squad at all times, and for the condition and care of its weapons and equipment. In combat, he is also responsible for the fire discipline, fire control, and maneuver of his squad. He takes position where he can best carry out the orders of the platoon commander and observe and control the squad. He leads, and therefore fires his own weapon in critical situations only.

c. Grenadier. The grenadier carries out the orders of the squad leader. He is responsible to the squad leader for the effective employment of the grenade launcher and for the condition and care of his weapons and equipment.

d. Fire Team Leader. The fire team leader leads the fire team. He carries out the orders of the squad leader. He is responsible to the squad leader for the effective employment of his fire team, its fire discipline and fire control, and the condition and care of its weapons and equipment. In carrying out the orders of the squad leader, he takes a position to best observe and control the fire team. Normally, he is close enough to the automatic rifleman to exercise control of the automatic rifle quickly and effectively. In addition to his primary duties as a leader, but not to the detriment of them, he serves as a rifleman. This is only to augment the

base of fire, or when the enemy closes on his position. The senior fire team leader in the squad serves as assistant squad leader.

e. Automatic Rifleman. The automatic rifleman carries out the orders of the fire team leader. He is the assistant fire team leader. He is responsible to the platoon commander for the discipline, appearance, training, control, and conduct of his squad at all times, and for the condition and care of its weapons and equipment. In combat, he is also responsible for the fire discipline, fire control, and maneuver of his squad. He takes position where he can best carry out the orders of the platoon commander and observe and control the squad. He leads, and therefore fires his own weapon in critical situations only.

f. Grenadier. The grenadier carries out the orders of the squad leader. He is responsible to the squad leader for the effective employment of the grenade launcher and for the condition and care of his weapons and equipment.

g. Fire Team Leader. The fire team leader leads the fire team. He carries out the orders of the squad leader. He is responsible to the squad leader for the effective employment of his fire team, its fire discipline and fire control, and the condition and care of its weapons and equipment. In carrying out the orders of the squad leader, he takes a position to best observe and control the fire team. Normally, he is close enough to the automatic rifleman to exercise control of the automatic rifle quickly and effectively. In addition to his primary duties as a leader, but not to the detriment of them, he serves as a rifleman. This is only to augment the base of fire, or when the enemy closes on his position. The senior fire team leader in the squad serves as assistant squad leader.

h. Automatic Rifleman. The automatic rifleman carries out the orders of the fire team leader. He is the assistant fire team leader. He is responsible to the fire team leader for the effective employment of the automatic rifle and for the condition and care of his weapons and equipment.

i. Riflemen. The two riflemen in the fire team carry out the orders of the fire team leader. They are responsible to the fire team leader for the effective employment of their rifles and for the condition and care of their weapons and equipment. One of the two riflemen will serve as the scout for the fire team."

APPENDIX C
RESPONSIBILITIES OF THE NONCOMMISSIONED OFFICER
(RIFLE SQUAD LEADER)

(ORO Tech Memo ORO-T-250)

"1. Gives technical training or advice
   a. Intructs men in technical and tactical skills, emphasizing those skills appropriate for the needs of his men and the requirements of the combat mission
2. Provides for adequate supplies of serviceable equipment
   a. Ascertains amounts and kinds of equipment needed
   b. Makes sure all supplies are on hand
   c. Makes sure loads are distributed properly
   d. Checks each man before moving out
3. Maintains physical efficiency of unit personnel
   a. Supervises activities and schedules so that men get proper rest and food
   b. Takes precautions to guard men against accidents and weather conditions
4. Disseminates and implements plans for mission
   a. Briefs men thoroughly
   b. Makes special personnel assignments
   c. Provides for actions in case of emergency
   d. Arranges for special signals or equipment
   e. Sets up chain of command
5. Selects, organizes, and mans unit positions
   a. Selects good defensive positions, making personal reconnaissance if necessary
   b. Supervises digging and securing of positions
   c. Mans positions quickly
6. Deploys men and weapons
   a. Deploys men properly to achieve optimum fire power and support
   b. Offers enemy the poorest possible target
   c. Maintains control of men during maneuver
   d. Adapts speed and method of unit advance or withdrawal to meet requirements of the tactical situation
   e. Uses best possible routes
7. Controls rate and/or distribution of fire
   a. Controls ammo supply and preparations for firing
   b. Locates and assigns targets
   c. Directs rate and distribution of fire
   d. Issues special ammo when necessary
   e. Reorganizes unit if necessary to take advantage of targets of opportunity
8. Coordinates own unit with other units
   a. Coordinates his unit's activities with those of other units, lending assistance, sharing supplies and information, setting up communication or fire-plans
   b. Moves his unit in accordance with tactical plans for the larger unit

9. Provides material comforts
   a. Provides such comforts and luxuries to his men as are available
   b. Shares own rations or supplies
   c. Gives men help in carrying equipment or in completing a job
10. Encourages and reassures others
   a. Calms, reassures, encourages, jokes with his men
   b. Commends good performance
   c. Enforces discipline
   d. Visits men in their positions
   e. Sets example in action and in attitude
   f. Assures safety of his men before considering own safety
11. Inspires others by personal bravery
   a. Leads men in advance or assault when necessary
   b. Volunteers for dangerous missions
   c. Continues mission even though hurt or under fire
12. Communicates and coordinates with superiors
   a. Keeps superiors informed
   b. Takes over when superior is out of action
   c. Assists superiors and carries out their instructions
   d. Relays orders or information from superior to his subordinates
13. Contributes as a member of the team
   a. Takes on responsibilities of squad member when necessary
   b. Exhibits competence in all the requirements for the effective squad member."

## APPENDIX L
## SPECIFIC COMBAT DUTIES OF THE RIFLE SQUAD MEMBER

(ORO Tech Memo ORO-T-250)

1. Participates in training
   a. Takes advantage of opportunities to learn
   b. Takes advantage of opportunities to teach others
2. Maintains weapons and equipment
   a. Conserves equipment and keeps it in working order
   b. Anticipates equipment needs for mission
   c. Makes sure he has right kind and quantity of equipment
3. Maintains physical effectiveness
   a. Keeps self in good physical condition
   b. Makes suggestions to help others function effectively
4. Occupies and improves positions
   a. Is skilled in selecting and improving tactical positions
   b. Is skilled in maneuvering under fire to better ones
5. Locates and identifies targets
   a. Identifies enemy targets quickly
   b. Indicates targets to others, taking personal risk if necessary
6. Establishes and maintains tactical superiority
   a. Exhibits skill and ingenuity in operation of weapons
   b. Combines fire and movement to establish tactical superiority
7. Performs communication-liaison functions
   a. Obtains needed information and relays it accurately, facing danger if necessary
8. Takes precautions to maintain security
   a. Takes necessary security measures to guard against surprise attack
   b. Takes necessary security measures to prevent enemy from gaining information
   c. Takes necessary security measures to warn the unit of approaching enemy
9. Closes with the enemy
   a. Participates in direct assault on enemy positions when necessary
10. Provides material comfort and assistance
    a. Assists others
    b. Shares comforts or equipment with others
11. Encourages and reassures others
    a. Informs, calms, reassures, and cheers other men
12. Takes risks to aid others
    a. Takes personal risks to aid, save, or bring back wounded
13. Assumes command functions
    a. Prepares himself to act as leader for the unit
    b. Helps leader whenever possible
    c. Takes over for leader when necessary
14. Accepts or volunteers for additional duties
    a. Volunteers for extra duties or dangerous assignments
    b. Accepts extra duties or dangerous assignments willingly when ordered.

## APPENDIX E
## CHANGES NO. 1 TO FM 7-10 (2 JUNE 1942). INFANTRY FIELD MANUAL, RIFLE COMPANY, RIFLE REGIMENT

(The Infantry School, Fort Benning, Georgia, 1 January 1943 - Changes No. 1 to FM 7-10 (2 June 1942). Infantry Field Manual, Rifle Company, Rifle Regiment - prepared at the Infantry School under direction of the Commanding General, Army Ground Forces, para 14 i and pp 140-142.)

"Positions and Duties of Squad Leader

1. During the fire fight, the primary duty of the squad leader is to place the fire of his squad on the target. In accomplishing this, he keeps in mind the fire power of his automatic rifle team, which he employs to place automatic fire on suitable enemy targets and support the rapid advance to other members of the squad. He enforces fire discipline. (The squad leader takes a position from which he can best control his men and observe the effect of their fire). In selecting his position, he considers the necessity of maintaining contact with the platoon leader. At times, on account of the noise and confusion of battle, the leader may have to go to the firing line and move from man to man to give instructions. He fires only in emergency, or when he considers that the fire power to be gained by his firing outweighs the necessity for his close control of his squad. Experienced soldiers may be designated to supervise the fire discipline of the two or three men in their immediate vicinity.

2. When the squad leader cannot personally maintain effective control over the fire of the squad as a whole, he may regain control over a portion and temporarily delegate control over the remainder to the assistant squad leader.

3. He requires that firing be limited to enemy troops on those positions (small areas) where enemy troops are known or believed to be located.

4. He looks ahead for firing positions which his squad can use as the platoon moves forward.

5. He seeks a position for his automatic rifleman which permits flanking fire to be delivered on any target across the entire squad front.

6. He is constantly on the alert to advance his squad to a location nearer the enemy.

7. He is responsible for maintaining contact with the platoon leader at all times; he may delegate this duty to the assistant squad leader.

8. He prevents the members of his squad from becoming so widely separated that he loses control.

9. He prevents several men from bunching behind cover suitable for only one man. Isolated trees, stumps, bushes, or other well-defined objects should be avoided.

10. He observes the location of units on his flanks and makes a prompt report to the platoon leader whenever wide gaps occur in the attacking echelon.

11. During lulls in the flight, the squad leader checks ammunition and has ammunition collected from the dead and wounded.

12. In the absence of instructions from the platoon leader, particularly during the last stages of the fire fight, the squad leader may often have to attack important or dangerous targets without orders.

13. He resists by fire sudden attacks from the flanks.

14. If the squad becomes separated from its platoon, he makes every effort to locate and join the nearest friendly troops. The squad leader then takes orders from the leader of these troops. At the first favorable opportunity the squad is released and rejoins its platoon.

Position and Duties of Assistant Squad Leader

The assistant squad leader's position is not fixed; he takes position where he can best assist the squad leader and be prepared to protect the squad from tank attack. He usually assists in enforcing fire discipline, controlling the fire, supervising the replenishment of ammunition, and maintaining contact with the platoon leader. He may be required to fire caliber .30 ammunition when the squad leader believes his fire is necessary. He is always prepared to fire antitank rifle grenades on hostile tanks coming within range."

## APPENDIX F
## EXTRACTS: TABLES OF ORGANIZATION AND EQUIPMENT AND FIELD MANUALS 1918 TO 1933 INCLUSIVE

### RIFLE COMPANY, INFANTRY REGIMENT

(T/O 7 Series A, War Department, Washington, D.C., 26 February 1918)

"Rifle Squad

1 Corporal, Squad Leader

7 Privates, or Privates - First Class

1 man has a grenade launcher

2 men are trained as scouts

All men armed with rifle (or pistol)

This Table eliminated the Rifle Squads within the Rifle Platoons and substituted the Section in accordance with French and British practice.

There were Four Sections:

First Section

Hand Bombers (2 Corporals, 4 Privates, First Class, 6 Privates)
Total 12

Second Section

Rifle Grenadiers (2 Corporals, 1 Private, First Class, 6 Privates)
Total 9

Third Section

Riflemen (1 Sergeant, 2 Corporals, 6 Privates, First Class, 8 Privates)
Total 17

Fourth Section

Automatic Rifles (1 Sergeant, 2 Corporals, 4 Privates, First Class, 8 Privates)
Total 15"

RIFLE COMPANY, INFANTRY REGIMENT (PEACE STRENGTH)

(Table 28 P, War Department, Washington, D. C., 23 November 1920)

"Rifle Squad

1 Corporal, Squad Leader
1 Specialist-6, or Private
First Class or Private
Automatic Rifleman
6 Privates, First-Class or Privates
Riflemen
1 Automatic Rifle

The squad consists of one corporal, six riflemen, and one auto-rifleman. One rifleman is equipped with a grenade discharger. One rifleman carries extra ammunition for the automatic rifle and serves as replacement for the auto-rifleman. All riflemen carry a certain supply of extra ammunition for the automatic rifle, and when necessary, rifle and hand grenades.

The general training of the members of the squad will be uniform. All men will be trained in the use of the rifle and automatic rifle. Training in the use of grenades will be supplementary to training with the rifle and the automatic rifle (Ref. 11, p. 33)."

INFANTRY RIFLE COMPANY, INFANTRY REGIMENT

(T/O 7-17, War Department, Washington, D. C., 6 December 1938)

"Rifle Squad

| | |
|---|---|
| Peacetime: | Leader is a Corporal |
| Wartime: | Leader is a Sergeant<br>Corporal is Assistant Squad Leader |
| Peacetime: | 7 men |
| Wartime: | 11 men |
| Automatic Rifles* | |

* None authorized for the squad but when the M1 was authorized for the riflemen, there were not enough available so the M1903 Rifle was issued and in squads equipped with the M1903, one BAR and one pistol was authorized in the place of one rifle."

## ORGANIZATION OF INFANTRY RIFLE COMPANY, 1940

(T/O 7-17, Infantry Company, Rifle, War Department, Washington, D. C., 1 October 1940)

"Rifle Squad

1 Sergeant, Squad Leader

1 Corporal, Assistant Squad Leader

10 Privates, or Privates, First-Class, Riflemen

12 men total

Automatic Rifle Squad

1 Sergeant, Squad Leader

1 Corporal, Assistant Squad Leader

2 Specialists - 6 Automatic Riflemen

2 Privates, Assistant Automatic Riflemen

2 Privates, Ammunition Carriers

2 Automatic Rifles

8 men total."

INFANTRY RIFLE COMPANY, INFANTRY REGIMENT

(T/O 7-17, War Department, Washington, D. C., 1 April 1942)

"Rifle Squad

1 Sergeant, Squad Leader

1 Corporal, Assistant Squad Leader (acts as Rifle Grenadier)

Automatic Rifle Team

1 Assistant A/R Man (Rifle)

1 Ammunition Bearer

7 Riflemen (Assistant Leader is armed with M1903A4), the remainder with M1

BAR (M1918A2)

1 Auto-Rifle Man (M1918A2)

12 - Squad total"

INFANTRY RIFLE COMPANY, INFANTRY REGIMENT

(T/O 7-17, War Department, Washington, D. C., 1 March 1943)

"Rifle Squad

1 Sergeant Squad Leader

1 Corporal is Assistant Squad Leader

Automatic Rifle Team

1 Auto-Rifleman (M1918A2)

1 Assistant A/R Man (Rifle)

1 Ammunition Bearer (Rifle)

7 Riflemen (2 have grenade launchers)*

(1 Rifleman has M1903A4)

1 BAR (M1918A2)

12 - Squad total

*M1 grenade launchers were issued."

## INFANTRY RIFLE COMPANY

(TOE 7-17N, War Department, Washington, D. C., 15 July 1943)

"Rifle Squad

1 The squad leader of the Rifle Squad was a Sergeant

1 The assistant squad leader was a Corporal

7 Riflemen (Privates)

1 Automatic rifleman was a Private

1 Assistant automatic rifleman was a Private

1 Ammunition bearer was a Private

12 total."

## INFANTRY RIFLE COMPANY

(TOE 7-17, War Department, Washington, D. C., 26 February 1944)

"Rifle Squad

1 The squad leader was a Staff-sergeant
1 Sergeant was assistant squad leader
1 Private ammunition bearer
7 Privates, First-Class, Techn - 4 & 5
1 Rifleman, automatic
1 Assistant automatic rifleman
12 total."

"Rifle Squad

1 Staff Sergeant, Squad Leader

1 Sergeant, Assistant Squad Leader

Automatic Rifle Team

1 Automatic Rifleman (M1918A2)

1 Assistant A/R man

1 Ammunition bearer

7 Riflemen (M1903A4 replaced by Sniper Rifle, M1)

12 - Squad total "

## RIFLE COMPANY, INFANTRY REGIMENT

(T/O & E 7-17, War Department, Washington, D. C., 1 June 1945)

"Rifle Squad

1 Staff Sergeant, Squad Leader

1 Sergeant, Assistant Squad Leader (Rifle Grenadier)

Automatic Rifle Team

1 Corporal, Automatic Rifleman

1 Private, or Private First-Class, Assistant A/R Man

1 Private, Ammunition Bearer

7 Riflemen (M1903A4 replaced by Sniper Rifle, M1)

12 - Squad total"

TOE 7-17N

(Department of the Army, Washington, D. C., 9 December 1947)

"Rifle Squad

1 squad leader was a Staff-Sergeant

1 Assistant squad leader was a Sergeant

1 Automatic rifleman was a Corporal

1 Assistant automatic rifleman was a Private First-Class, or Private

5 Riflemen were Privates, First-Class or Privates

(Squad strength reduced to 9 men)."

## ORGANIZATION OF THE RIFLE COMPANY, 1947

(T/O & E 7-17N, Infantry Rifle Company, Department of the Army, Washington, D. C., 9 December 1947)

"Weapons Squad

1 Staff Sergeant, Squad Leader

1 Corporal, Machine Gunner

1 Private, Assistant Gunner

2 Privates, Ammunition Bearer

1 Corporal, Rocket Gunner

1 Private, Assistant Gunner

2 Privates, Ammunition Bearer

1 Machine Gun, light, Cal. .30

1 Rocket Launcher, 2.36"

9 men total

Rifle Squad

1 Staff Sergeant, Squad Leader

1 Sergeant, Assistant Squad Leader

1 Corporal, Automatic Rifleman

1 Private, Assistant Automatic Rifleman

5 Privates, Rifleman

1 Automatic Rifle

9 men total."

(Department of the Army, Washington, D. C., 15 November 1950)

"Rifle Squad

1 Squad leader was a Sergeant, First-Class (E-6)

1 Assistant squad leader was a Sergeant (E-5)

1 Automatic rifleman was a Corporal (E-4)

1 Assistant automatic rifleman was a Private, First-Class (E-3)

5 Riflemen were Privates, First-Class (E-3)

9 men total."

"Rifle Squad*

1 Sergeant, First-Class, Squad Leader (E-6)

1 Assistant Squad Leader, Sergeant (E-5)

Automatic Rifle Team

1 Corporal (E-4) Automatic Rifleman

1 Corporal (E-4) Assistant A/R man

2 Riflemen are Corporals (E-4) 1 with M1C

3 Riflemen are Privates, First-Class (E-3) 1 armed with grenade launcher; 2 are ammunition bearers

*the overall strength of the squad has been reduced to a total of 9."

T/O & E 7-17 R

(Department of the Army, Washington, D. C., 1 February 1955)

"Rifle Squad

1 Sergeant, First-Class, (E-6) Squad Leader

1 Sergeant, Assistant Squad Leader (E-5)

Automatic Rifle Team

1 Corporal (E-4) Automatic Rifleman

1 Corporal (E-4) Assistant A/R man

5 Riflemen (3 are senior riflemen (Corporals); 2 are riflemen (Privates, First-Class) 1 Corporal is armed with M1C; 2 Privates, First-Class are ammunition bearers

9 - Squad total

The Table does not designate a grenadier. There are three grenade launchers authorized."

(Department of the Army, Washington, D. C., 20 December 1956)

"Rifle Squad

1 Sergeant, First-Class, Squad Leader

2 Fire Team Leaders (Sergeant)

Automatic Rifle Team

1 Corporal (E-4) Automatic Rifleman

1 Corporal (E-4) Assistant A/R Man

6 Riflemen (3 Senior Riflemen, Corporals); 3 Riflemen (Privates, First-Class) 1 Corporal armed with .30 caliber sniper Rifle. There is no designation of grenadier. The squad is authorized two launchers. Ammunition bearers are not designated.

(Squad strength increased by 1 Sergeant, Fire Team Leader; 1 Private, First-Class Rifleman. Total: 11)."

T/O & E 7-17 D

(Department of the Army, Washington, D. C., 1 February 1960)

"Rifle Squad

1 Staff Sergeant, Squad Leader

2 Fire Team Leaders, Sergeants

Automatic Rifle Team

1 Corporal, Automatic Rifleman

1 Corporal, Automatic Rifleman (armed with 7.62mm Rifle, light barrel with bipod)

6 Riflemen (2 senior riflemen (Corporals) (4 riflemen (Privates, First-Class (armed with 7.62mm Rifle, light barrel)

11 - Squad total

There are no grenade launchers or ammunition bearers included in the T/O."

## INFANTRY AIRBORNE INFANTRY, AND MECHANIZED INFANTRY RIFLE PLATOONS AND SQUADS

(FM 7-15, Department of the Army, Washington, D. C., 8 January 1962.)

"Infantry Rifle Squad

1 Sergeant, First-Class, Squad Leader

2 Fire Teams Alfa* Bravo

1 Sergeant, Fire Team Leader
1 Corporal, Automatic Rifleman (7.62mm, L/B with bipod)
1 Corporal, Grenadier (40mm grenade launcher, M70)
1 Private, First-Class, Rifleman (7.62mm, L/B)

4 men total
Radio AN/PRC-6

*One Fire Team will have an additional rifleman assigned to be used with the Team, or with the Squad Leader. This completes the 10 men."

(Department of the Army, Washington, D. C., 15 July 1963)

"Rifle Squad

1 Staff Sergeant, Squad Leader

2 Fire Team Leaders, Sergeants

Automatic Rifle Team

1 Corporal, Automatic Rifleman

1 Corporal, Automatic Rifleman (both armed with 7.62 mm rifle, light barrel, with bipod)

2 Grenadiers (Corporals) (40mm grenade launcher and .45 cal pistol)

3 Riflemen (Privates, First-Class) armed with 7.62mm rifle, light barrel

7 men total

One Fire team will have an additional rifleman assigned for use with the team, or with the squad leader. Total Strength: 10 men."

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