

A Military Encyclopedia

Based on Operations in the Italian Campaigns, 1943-1945.

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Chapter Four

INFANTRY

Section 1. Aggressive Action

One of the most important lessons learned by our Infantry troops in the Italian campaigns was the value of prompt aggressive action in any situation where our troops were advancing. The lesson was not easily learned, but based on costly experience.

A tendency to stop and take cover whenever they received enemy small arms fire became prevalent in our small units. This tendency was not only shown by some troops in their first engagement with the enemy, but was more common among troops that had been in continuous action for a prolonged period.

Troops that thus permitted themselves to be pinned down were inevitably subjected to deadly mortar and artillery concentrations which very often caused excessive casualties. German positions were habitually so well concealed and camouflaged that they could not easily be located. Our troops had a strong inclination, when fired upon, to dig in without returning the fire, inasmuch as they could see no suitable targets at which to fire. When they did return fire into the hostile area, the German fire either materially decreased or stopped. Some units quickly learned that the proper procedure to take, when fired upon, was to return the fire promptly, deploy a force sufficient to overcome the resistance, and keep on going. It was shown repeatedly that units which pressed their attack vigorously suffered far fewer casualties and were more uniformly successful than those which hesitated or stopped when fired upon. Our troops learned that whenever they stopped moving against small arms fire, they always received heavy mortar and artillery fire which caused more numerous casualties than would have been inflicted by the small arms fire had they kept moving. Those few units which, after having been pinned down, broke under artillery and mortar fire and attempted to get out of a shelled area suffered most heavily.

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Section 2. Fire Control in Small Infantry Units

Controlling and directing the fire of their units proved to be one of the most difficult tasks of squad and platoon leaders. When an Infantry platoon engaged in a fire fight, the platoon leader could not personally control the fire of the whole platoon, and had to rely upon his squad leaders. Often in rugged terrain it was impossible for the squad leader to direct the fire of all men in his squad. Too often, squad and platoon leaders engaged in, rather than controlled the fire fight. This practice, which was admittedly wrong, was most common among inexperienced leaders.

In an advance our troops were often reluctant to return enemy fire because they felt the flash and muzzle blast of their rifles would reveal their positions and thus subject them to more accurate enemy fire. It required great effort on the part of the small unit leaders to get the men to fire their rifles, and in mountain attacks, few rifle companies ever employed a sufficiently large volume of small arms fire. When a platoon did engage the enemy with the controlled fire of all its weapons the results were usually most successful.

The BAR [Browning Automatic Rifle] was respected not alone by our Infantry but also by the enemy. Generally the BAR man controlled his own firing in the attack, selecting and attacking targets he could see or selecting likely spots at which to fire. Too often the squad leader and other members of his squad depended too much on the BAR. Although it proved itself a valuable weapon in all terrain and under all conditions, it was often used to engage targets that were more suitable for the M-1 rifle.

Section 3. Junior Leaders in the Attack

The Infantry platoon leader had no means of knowing what was going on in his area except by "being there". In mountain attacks, success depends mainly upon maintaining direction and staying with the route chosen.

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When not actually engaged with the enemy, the platoon leader should follow the scouts at the head of his platoon where he can control direction and guide his scouts. He must advance with his men in the attack, but should not be the leading attacker, as was too often the case. During fire fights, he must avoid becoming personally engaged to the extent that he is unable to control the action of his platoon. Entire platoons, at times, considered themselves "pinned down" when their leader was unable to move. Platoon NCOs also are inclined to do too much of the fighting themselves, thereby neglecting their duties as leaders. Squad leaders in particular were prone to take up the fight with their own rifles, neglecting or losing control of the other men in the squad, and thus failing to develop the full fire power of their units.

The fact that casualties are high among their ranks is understood by all junior Infantry officers, but all agree that aggressive leadership is essential. Platoons that close with the enemy receive fewer casualties in the long run than platoons which "dig in" when fired upon.

Company Executive Officers and 1st Sergeants should not be permitted to stay in the company's rear area or in the CP. They must move about the company area to ensure that contact is maintained and to prevent straggling.

Section 4. Marching (Assault) Fire

In the Italian theater, experience in the use of marching fire was limited, but under suitable conditions it was found very effective.

The mountainous terrain afforded very few opportunities for marching fire. Objectives were often a considerable distance apart and separated by deep ravines. It was often necessary for advances to be made in single file and a platoon front was seldom possible. Much of the Italian front consisted of extremely

steep slopes, rocky or terraced, where a swift advance was impossible. The enemy usually occupied positions that were well selected, dug in and camouflaged, and his exact location was extremely difficult to determine.

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A slow advance strongly supported by fire was found necessary under these conditions.

When attacking down ridge lines, over reasonably open terrain or on hills easily accessible to foot troops, assault fire was used very effectively by our troops. Commanders and troops alike favored its use where conditions warranted. Casualties inflicted by enemy small arms fire were not as severe when assault fire was used in the attack as they were when other methods of advance were employed. The issue of additional ammunition for these assault fire engagements was not found necessary.

Section 5. Use of Cal. .50 MGs in Defense

Caliber .50 MGs [Machine Guns] were used extensively on the Winter Line south of Bologna and on the Anzio Beachhead. They were used mostly for long range overhead harassing fire. In some units they were formed and fired in batteries, and were available on call to fire on any appropriate missions. In other units they were placed under the control of smaller units. Crews were obtained mostly from battalion anti-tank platoons, anti-tank companies, and heavy weapons companies. Most of these men already had training with the weapon, and therefore little additional training, both individual and team, were necessary.

Most of the firing was indirect and at night. Targets selected were usually supply trails, probable assembly areas, and the immediate vicinity of buildings used by the enemy or believed to be occupied. These targets were usually located from ground OPs [Observation Posts], maps, aerial photos, and from PW information. Supply and communication routes were sprayed continuously during the day by short bursts from different guns. PW reports indicated that the Germans were considerable harassed by this type of fire since they could not tell when, or where it was coming from. In some instances the .50 Cal. guns were used most effectively to fire directly into the openings of caves in the cliffs.

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The use of the .50 Cal. guns in harassing the enemy proved very effective in that it restricted his movements on trails and roads and prevented him from supplying his troops with ease or security.

Section 6. MG Defensive Fires - Use of FPL

Machine guns on defense were usually used to cover sectors. Their use on FPLs was very limited due to the rugged terrain. In most cases the gun was emplaced so as to cover a wide sector, and close to a good observation point. It was generally dug in and sand-bagged to afford protection to the crew. Usually one platoon of HMGs [Heavy Machine Guns] was placed close to the front line where it could give close support to the riflemen and also be used for long range firing, at the same time having the riflemen for local security. The two sections were usually close together, between 100-300 yards apart, to facilitate the problems of supply. This front line platoon was always coordinated with the LMGs [Light Machine Guns] of the rifle companies which were on the front lines. The other HMG platoon usually was disposed in depth in positions to stop the enemy in case of a break-through, and also to deliver long range overhead fire. The

guns of the rear platoon were generally located on the reverse slope of a hill, with alternate positions, as it was found unwise to place them on the forward slope due to enemy artillery fire. Sometimes the rear platoon was used to cover an open flank which provided a good avenue of approach for the enemy. The LMGs of the reserve company usually remained with their organization. If additional HMGs or LMGs were needed on the MLR [Main Line of Resistance] in a defensive set-up, they were requisitioned and usually made available. Most heavy weapons companies however, in addition to their HMGs, had eight LMGs, one set of guns being kept with the kitchen.

The coordination of HMGs with LMGs within a battalion was generally accomplished by the Heavy Weapons Company Commander.

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FPLs were used especially in stabilized situations of long duration where terrain was favorable, such as the Anzio Beachhead. This terrain was flat or slightly rolling and fairly good FPLs were afforded, many of them without dead space. The guns were placed on the MLR. In some instances MGs were placed in the second story of a building away from the door or window, and sandbags used to give them a firm base. A blanket or burlap was used to screen the opening so that smoke or flash would not disclose the gun position.

Range cards were accurately prepared for each MG position, and each key man had a copy. They were especially essential in defensive positions because MG crews were usually relieved by other crews from time to time.

Section 7. Use of Tracer Ammunition at Night

In general, our use of tracer ammunition at night was very infrequent because its use tended to show our positions with no compensating advantage gained. In firing individual small arms (rifles and BARs) at night, tracers were very seldom used, and then only because tracers were packed with ball or AP [armor-piercing] ammunition. When machine guns were used for harassing fire at night, they were generally laid during the day and zeroed-in with tracers, but during the actual firing at night very few tracers were fired. Both the HMG and .50 caliber MG belts were stripped of their tracers which were replaced with ball or AP ammunition. In a few instances, .50 caliber MG and 90-mm anti-aircraft tracers were used to point out the direction of advance and to mark the boundaries of units in night attacks.

The Germans used a great deal of tracer ammunition at night. Information from PWs indicated that tracers were used mostly in light machine guns. Because of the great dispersion of the weapon, the tracers were used to help keep the guns on the target. This held true for daylight fire but had little advantage at night.

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Many times our patrols could observe the trajectory of enemy fire and move from place to place under this fire without endangering themselves. When ball ammunition was used, only the "crack" was heard, and since it was difficult for our troops to tell how close the bullets were passing they had a tendency to stay under cover. Many times the Germans on one side of a hill would fire grazing tracers along its crest, thereby disclosing the approximate location of his position and informing our troops exactly where his defensive fires

were sited. After October 1944 the Germans used much less tracer ammunition than they had used previously. G-2 information indicated that this was due to a shortage of that type of ammunition.

Section 8. Grenades

Grenades were used extensively by all Infantry units with excellent results. The fragmentation grenades were very effective for close-in fighting, for stopping hostile assaults, mopping up pill boxes and MG positions, and for clearing houses. In the attack and on patrols, Infantry soldiers habitually carried at least two fragmentation grenades.

The fragmentation rifle grenade was also very effective, and with a little training soldiers became very proficient in its use. It was used against groups of personnel in the open, against MG positions, and in clearing houses by firing through open doorways and windows. Frequently it was used in conjunction with AT [Anti-Tank] grenades in attacking occupied houses; AT grenades were fired through doors or windows and the rifle grenades fired close to the house to inflict casualties as the occupants came out.

The AT grenade was effectively used against armored vehicles, pill boxes, houses, and dug-in gun positions. This grenade had a terrific concussion effect as well as penetrating power. In one instance the use of AT grenades broke up a three tank attack on a company position at a time when artillery support was not available.

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In another instance a light tank was knocked out and the crew killed by hits from two AT grenades.

The smoke (WP) [White Phosphorus] grenade was very effective in clearing the enemy from caves and dugouts, where at times fragmentation grenades would not do the job. On occasion they were used as incendiaries. Some preferred the WP grenade to the fragmentation grenade for general use.

The offensive grenade was used very little when fragmentation grenades were available. Troops found the fragmentation grenade would do the same job as the offensive grenade and do it better.

Section 9. Flares

Extensive use of flares were made by a few units for both signalling and illumination, while other units used them very sparingly. The flares were used to show locations of units or patrols upon occupying limited objectives, as pre-arranged signals for calling for and lifting artillery and mortar fires when wire and radio communication failed, to give directions to returning patrols, and to illuminate areas.

The projector, pyrotechnic, hand, M-9 with signals No. AN-M28 through AN-M36 was often used for signalling. It was easy to carry on patrols and was capable of being used quickly. It was not always on hand when needed, however, as it was a special piece of equipment and usually only one projector, with a few flares, were carried by the Company Headquarters group.

Trip wire flares were used extensively for local security in stabilized situations. They were easily installed and gave good illumination. They were generally to cover avenues of approach which were easily covered by machine gun or rifle fire.

The rifle grenade flare was not used extensively. It was a fairly good illuminating flare, and in addition was used for signalling purposes.

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It had a range of approximately 600 feet, and burned for 20 to 30 seconds with a 20,000 candle-power light. However, it had a definite "pop" just before it illuminated which warned the enemy to "freeze" in position before the illumination took place.

The 60-mm flare had a range of approximately 1,200 yards. Illumination took place approximately five hundred feet above the ground and the flare descended by parachute at approximately ten feet per second. The flare burned for twenty-five seconds with a 145,000 candle-power light, thus giving sufficient time and illumination for good observation. Another advantage of this flare was that it gave no warning before illumination.

Section 10. Use of the Bayonet

The bayonet was rarely used in the Italian campaign, and many men disposed of them during advances. In the few instances when bayonet assaults were carried out, they were successful and completely demoralized the enemy. Our troops always preferred to shoot, and it was seldom that close enough fighting was encountered so that the bayonet could be used.

The German soldier seldom carried a bayonet, and our casualties from his use of it were negligible.

It was the consensus of Infantrymen that the bayonet should be retained as an Infantry weapon because possession of it had a morale building effect upon our soldiers, and because the fact that our Infantrymen were armed with the bayonet, and on occasions used it, had a demoralizing effect of the German soldier.

Training in the use of the bayonet hardens the soldier both physically and mentally, but too much training time was wasted on "by the numbers" drill in positions, parries, jabs, thrusts, etc. Actual running of the bayonet course, use of dummies, and training in "rough and tumble" fighting were beneficial and should be continued.

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Section 11. Utility of the Carbine, SMG, and the Automatic Pistol

The carbine, cal. 30, proved to be an excellent weapon for firing at short ranges. Its modified sight which permits changes in range and deflection greatly increased its accuracy. Most small unit leaders who were at times drawn into a fire fight preferred the carbine to the automatic pistol because of its accuracy at longer range; they usually preferred it to the SMG [Sub-Machine Gun] because of its lesser weight.

The SMG proved to be invaluable in fighting in areas covered by dense foliage, in village and street fighting, in clearing out houses, and for use on patrols. Though its range is limited, its great volume of automatic fire made it an excellent weapon for covering small areas where the targets were indistinct or fleeing. Its large volume of fire, delivered at close range, had a great demoralizing effect on the enemy.

The automatic pistol, cal 45, proved to be a good weapon for the purpose for which it was intended, i.e., personal protection against an enemy at close range. It is not considered to be a good weapon for leaders of small Infantry rifle units. However, it was the opinion of most Infantrymen that men armed with the rocket launcher, men in MG and mortar crews, radio operators, and wire crew should be armed with the pistol. A rifle or carbine hampers these men in their movements, and in the handling of their primary weapons or equipment. A pistol is believed sufficient for their self-protection, and allows greater freedom of movement.

Section 12. *The Browning Automatic Rifle*

The BAR has proved an excellent weapon and needs no modification. There were no complaints as to its mechanical functioning and very few stoppages were reported. Most officers suggested adding 6 more BARs to the [Rifle] Company without adding to the number of magazines per BAR team.

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Many suggested leaving off the bipod to save weight, figuring that in a defensive situation, when the bipod is of greatest value, machine guns (lights or heavies) could be brought up to provide defensive fires. The LMG with bipod and shoulder rest was considered excellent but should not replace the BAR, whose firepower is ample if handled by a man who really knows how to use it. The BAR was unanimously acknowledged to be the backbone of the Infantry squad. Related experiences of junior officers and NCOs indicated that the Germans also held this view. In all Infantry engagements the enemy constantly gave priority attention to the BAR in the squad. The BAR was credited with the disruption of many enemy counter-attacks. Consequently our present BAR, and LMG with bipod and shoulder stock attachments, are considered highly satisfactory. Here again, as with other weapons, the need of a flashless and smokeless powder is paramount.

Section 13. *The Heavy MG Cal. .30 Compared to the LMG Cal. .30*

In general in fast moving situations the LMG is considered the better weapon because of its maneuverability and lighter weight. More ammunition can be carried by its crew, and it has been found that fire is never sustained long enough to injure the barrel. When the situation has become stabilized the HMG can always be brought up in time to establish an FPL or to deliver overhead fire. Rifle Company Commanders preferred the addition of one LMG, and the dropping of one 60mm mortar in the weapons platoon, since normally only two 60mm mortars were used. They also favored an increase of personnel in the LMG squad to provide additional ammunition supply and to provide replacements for the LMG squad casualties which were heavy.

The following modifications to the LMG were found desirable:

(1) A modification on the front barrel bushing. This device did not lock securely enough and was too easily lost.

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By the addition of two small link chains on either side of the bushing which will fasten by insert pin on to the bipod or jacket, the bushing will always be secure. Loss of this bushing is a serious matter as the gun will not fire automatically without it.

(2) Adoption of a metal or plastic link-type ammunition belt. The cloth belt was highly unsatisfactory when exposed to wet weather. The resultant swelling of the cloth did not permit smooth feeding and automatic firing.

(3) Adoption of the German principle for change-over of the barrel; the German method is smoother, faster, and easier.

Section 14. Caliber .30 MG Fire

Light MGs delivered most of the short and some medium range fire, and were mostly used on the front line. They were used to cover avenues of approach during defensive periods, or during periods of reorganization in the offensive. They were also used in establishing a base of fire for maneuvering riflemen.

Most of the medium range firing was done in connection with offensive maneuvers. The normal use of medium range fire was to cover the flanks and to place fire on probable enemy positions, while the riflemen maneuvered to assault these positions.

Long range MG fires were generally used in the defense for harassing missions, the targets being road junctions, trails, supply routes, and probable assembly areas. These fires were usually delivered at night. In a few instances during the offensive, on terrain covered with thick underbrush, HMGs were used to deliver long range harassing fire. This was done since, due to the undergrowth, no targets for these weapons presented themselves close to the front line. This fire was placed on probable routes of withdrawal and on the routes of supply.

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Very little indirect firing except harassing was done with the .30 caliber HMG. Due to the rugged terrain our guns almost invariably could be placed in positions from which direct fire could be delivered, or which afforded partial defilade.

Section 15. Alternate and Supplementary Positions for MGs and Mortars

Alternate and supplementary positions were generally provided for MGs in defense, but these were seldom used. Normally the primary position was well dug in and offered more cover and protection due to

the continuous work on the position, especially in a stabilized situation. It was usually needless to shift a MG to a supplementary position in the defense due to the fact that other automatic or semi-automatic weapons could be shifted more easily and with less exposure to cover any situation which was likely to arise. Generally, alternate positions had to be placed at least 200 yards from the primary position, due to the fact that fire which harassed MGs most was mortar and artillery, both indirect, and therefore not too accurate.

During the offense, alternate and supplementary positions were usually selected, but were seldom occupied. MGs were rarely moved due to receiving small arms fire, but were usually moved when the primary position was brought under direct fire from self-propelled or tank guns. Mortar positions were generally selected in good defilade and alternate or supplementary positions were very seldom needed. However, one instance was reported when a mortar position was being shelled so heavily that it was necessary to move it a distance greater than four hundred yards to get out of the impact area.

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Section 16. *Maximum Firing Capabilities of the 81mm Mortar*

Battle experience indicated that the firing of 18 to 20 rounds per minute caused overheating of the 81mm mortar after three to four minutes of sustained firing. This overheating caused premature burning of the propelling increments, which in turn caused "short" rounds, bulged barrels, and occasionally burns to the No. 2 man. A rate of 8 to 10 rounds per minute, however, could be maintained without dangerously overheating the mortar tube.

Increased range (approximately 300 yards) was obtained by using a total of 8 increments, but damage to the base plate and shock absorbers usually resulted.

Section 17. *HE for 81mm Mortars - Light Projectile Compared to Heavy*

All Infantry units expressed confidence in the 81mm Mortar and its ability to lay down thick demoralizing fire with either heavy or light ammunition. Some trouble was found with the HE [High Explosive] light failing to explode in soft soil. A supersensitive fuse for use under such applications would be desirable. In general much more HE light was used than HE heavy, since the light projectile had a greater range, was more easily supplied to the forward positions, and had greater casualty effect on personnel. Direct hits were often registered with HE heavy on fortified positions with no greater effect than the HE light. In most cases the mortars were disposed in depth, and the rear section was the most logical to fire the HE heavy due to shorter ammunition haul. In most cases, however, they were out of range to fire that type of projectile on appropriate targets. The firing of HE heavy damaged the mortar tubes much more than the HE light. All 81mm mortar units were in agreement that the HE light was more accurate than the HE heavy at any range. Mortar men were reluctant to fire the HE heavy close to their front line troops, whereas in many instances the HE light was fired successfully within 40 yards of the front line.

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One good feature of the HE heavy was that it usually penetrated the roof of a house before exploding while an HE light did not.

Section 18. *Use of Smoke Shell for 81mm Mortars*

Smoke shells were used extensively with good results by many units. However, this type of shell was not available in abundance and was somewhat heavy to handle. Generally no more than the normal allowance for basic load was on hand. The smoke shell was usually used to register on targets, but since the smoke and HE shells were not of the same weight, some difficulties were encountered. It was felt that a smoke shell of the same weight and shape as the HE light would greatly facilitate fire adjustment. It was difficult for forward observers to distinguish between the Artillery and mortar smoke shell. Many times Artillery and mortars were trying to register on the same target at the same time, and it was difficult to distinguish which was which since the Artillery and mortar OPs were not together. Different colored smokes available for registration would obviate this difficulty. In some instances smoke was used with success to screen the movement of patrols and tanks. In addition smoke shells were used to orient Infantrymen as to their objective, and also to set fire to inflammable material, such as hay stacks.

Section 19. *Replacement of the 81mm Mortar by the 4.2" Mortar*

Experience during the Italian campaigns did not indicate the desirability of replacing the 81mm by the 4.2" mortar. The 81mm mortar was heavily relied upon since it was very accurate and effective against personnel. It had sufficient range and was much lighter and more maneuverable than the 4.2" mortar. It delivered a heavy concentration on a given target in a short time.

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The 81mm mortar ammunition was much lighter than the 4.2" ammunition and therefore the ammunition supply problem in rugged terrain was less difficult.

However, the 4.2" mortar proved to be a very effective weapon. Some suggested that 4.2" mortars be made available continuously or permanently to the Infantry Regiment. A solution proposed was that the AT Company of a Regiment and the AT Platoon of an Infantry Battalion be given a T/O allotment of 4.2" mortars and be trained to use them as a secondary arm, since the 57mm AT Gun was rarely used in the mountains because of difficulty of movement and emplacement. Thus when operating over terrain not suitable for the 57mm gun, the AT units could be used effectively as mortar units. This could be accomplished without the need of additional vehicular equipment or personnel. Many commanders, however, opposed the idea of having two types of weapons in the Infantry AT units.

Section 20. *The 37mm Gun as an Infantry Close Support Weapon*

The 37mm Gun, AT, M3 was ineffective against tanks used by the enemy, and therefore its use in close support of Infantry in mountain warfare was restricted to firing at groups of personnel, MG emplacements and lightly reinforced buildings. These guns were considered satisfactory for such uses, except that in most instances it was difficult to get the gun close enough to the front to be able to use it effectively. It was not easily manhandled on rugged terrain, and the consensus appeared to be that a gun of

the same capabilities of a lighter design would be desirable. The modified 37mm gun mounted on a tripod was introduced in the theater in the spring of 1945. It was used by a few units on the front line with good results. It was placed on the MLR, and fired directly at enemy MG positions. These positions were either destroyed or forced to change location. Those who fired the modified 37mm gun on the front line commented on its accuracy up to 1,500 yards, its simplicity, and its lightness.

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The only unfavorable characteristic of the weapon was that it had to be relaid after each round fired, since the tripod mount was not sufficiently stable. The weapon was not used sufficiently in combat in Italy to permit a definite statement as to its suitability or desirability for use. Developments in the field of recoilless weapons will undoubtedly influence any decision as to the most effective weapon for the close support of Infantry.

Section 21. 7mm Anti-Tank Gun

the 57mm Anti-Tank Gun proved suitable for its primary role, e.g., Battalion and Regimental area defense against tank attack. It was found, however, that the weapon lacked maneuverability. Since the crew could not manhandle the weapon any distance (except short distances on level ground) it appears desirable to have a self-propelled gun of the same capabilities, preferable full track and of low silhouette. Such a weapon could be maneuvered into position, fire the required number of rounds at the target, and then get back under cover. During the fighting south of the Arno River, where the terrain was not too rugged, the 57mm anti-tank guns were often used on point targets, such as fortified houses and strong points. However, since the guns were fairly close to the front line their muzzle flash was easily picked up by the enemy and they drew considerable fire. A self-propelled gun would have been of more advantage than the towed gun in this situation. It was suggested by many that the 57mm AT gun should have a "muzzle-brake" to reduce the muzzle blast, since, on dusty or sandy terrain it kicked up a very large cloud of dust which helped to disclose its location.

Section 22. Comparison of the 75mm Pack Howitzer with the 105mm M3 Howitzer for Infantry Cannon Companies

Cannon Companies in one Division were equipped with the 75mm Pack Howitzer, while others used the towed 105mm M3 Howitzer.

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This difference in the equipment of units used under similar conditions and circumstances made possible a comparison of the two weapons to determine their relative suitability for use in mountain warfare. The following points were considered in this comparison:

a. ***Mobility.*** The M3 howitzer, which weighed about 2,600 pounds was only as mobile as its 1-1/2 ton prime mover, since it could be manhandled only short distances upon relatively level ground. The 75mm pack howitzer was much more mobile. Weighing only 1,400 pounds it was capable of being disassembled into separate loads which could be hauled in 1/4 ton trucks, placed upon mules, or carried by hand, although it was usually transported in 2-1/2 ton 6x6 trucks. Two complete weapons were carried in one such vehicle. This weapon could be hand-carried to positions inaccessible to mules.

b. *Ammunition Supply.* The supply of ammunition to the pack howitzer was easier than to the M3. The complete round for the former weapon weighed 17 pounds while that of the latter weighed 42 pounds. Trucks normally carried twice as many 75mm shells as they could of 105. When supply was by mule train, this difference in weight of shell was very important.

c. *Range.* The 75mm pack howitzer had a maximum range of 9,600 yards, while the M3 could engage only targets within 8,300 yards. This difference in range was increased by the fact that the pack weapon could usually be employed much nearer the enemy and thus could reach well beyond the limits of the towed gun.

d. *Accuracy.* The weapons were considered equally accurate and both displayed the same weakness of considerable dispersion when fired at maximum range.

e. *Traversing Characteristics.* The split trail construction of the M3 permitted greater traversing than the single trail of the pack weapon. To effect a traverse of over 40 mills the trail of the pack howitzer had to be lifted and shifted from one side to the other. When emplaced on muddy or soft ground this weapon would, after a few rounds, bury the spade. Thus it was usually necessary to dig out the spade when shifting direction of fire.

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f. *Effectiveness.* The greater weight of projectile with its larger explosive charge, gave the 105mm howitzer shell a somewhat greater bursting radius and considerably more concussion effect, than was the case for the 75mm.

The 75 mm pack howitzer was considered more suitable than the 105mm M3 howitzer for the use of Infantry Cannon Companies engaged in mountain warfare, such as that encountered during most of the Italian campaign.

Section 23. Assault Team Weapons

Assault teams armed with the rifle, the BAR, and the Bazooka were employed to a great extent against fortified houses and dugouts. The BAR formed the nucleus of the team. It was usually employed with a few riflemen as a base of fire, while the building was being investigated. The bazooka rocket had little effect on thick stone or concrete walls but was very effective through doors and windows. In many instances the anti-tank grenade was used in the same manner. The flame thrower was seldom used as an additional weapon in such assault teams. It was found that they were not essential in attacking houses since the bazooka rocket or anti-tank grenade fired through the door or window of a house usually sufficed. The flame thrower, however, was used to great advantage in assaulting pillboxes or well protected dugouts, since the bazooka rocket or anti-tank grenade failed to penetrate their reinforced walls.

One reason for not using the flame thrower to a great extent was the lack of specialist operators. To operate it successfully in combat the soldier must be very proficient with the weapon and be able to keep it in proper adjustment. It was generally believed that these specialists should come from Combat Engineer units, and should be made available to the Infantry when needed.

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Section 24. *Relative Merits of Cal. .30 Ball and Cal. .30 AP Ammunition*

Both AP and ball caliber .30 ammunition were very effective when employed on targets for which they were designed. The armor penetrating quality of AP ammunition was desirable during the period when the enemy was employing numerous light vehicles and strafing planes. During that period front line leaders requested an increase in AP ammunition. Both AP and ball ammunition were carried.

Ordnance reports indicated the following comparison between AP and ball ammunition:

- a. AP ammunition was not as effective against personnel as ball ammunition in that it did not have the same spattering effect. AP ammunition made a clean hole through flesh and bone, whereas ball ammunition frequently ricocheted from heavy bone and caused greater tissue damage.
- b. AP caused more damage to the bores of rifles and MGs than did ball ammunition.
- c. Ballistic qualities of AP and ball ammunition up to medium range were practically the same.
- d. AP ammunition was more effective against light armored vehicles.

The use of a single type of ammunition (AP) was preferable to using both types, and after the Fall of 1943 only AP was shipped to the theater. However, both AP and ball were used thereafter to utilize existing stocks of ball ammunition.

Section 25. *Ammunition Stockage for Mortars and MGs on Positions in the Defense*

During the Winter of 1944-45, 81-mm mortar ammunition was limited and rationed to front line units. Previous to this time, the 81-mm mortar had been used extensively on defensive position harassing programs. Due to the limiting of the 81-mm mortar ammunition, the 60-mm mortar was substituted for harassing fires and consequently a larger amount of 60-mm mortar ammunition on position was required.

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Ammunition for the 60-mm mortar was plentiful.

Resupply of ammunition was difficult in mountain defensive positions. Mule trains were used and the minimum resupply time was usually between four and six hours. Often it was not possible to resupply during daylight because of exposed supply routes. These conditions necessitated maintaining a larger supply of ammunition on position. Under such conditions there should be one thousand rounds of 81-mm mortar per active section, and one thousand rounds per 60-mm mortar three-gun section, on position. This

was normally sufficient to provide for emergency fire to stop enemy counter-attacks or patrols, until resupply can be accomplished.

It was found that, because of the bulkiness of mortar ammunition and the everpresent hostile mortar and artillery fire, it was difficult to store properly large amounts of mortar ammunition near positions. In situations where resupply could be made in a short period of time, it was advantageous to keep mortar ammunition stored in Battalion and Regimental dumps. A supply on position of two hundred rounds of 81-mm mortar per section and 300 rounds of 60-mm per section was sufficient under these conditions.

Machine guns, at positions difficult to resupply, maintained a supply of 25,000 rounds per section of heavy machine guns, and 20,000 rounds per section of light guns. In positions more easily resupplied, 12,000 rounds per section for both the light and heavy machine guns were usually maintained.

Positions that were supplied by mule train experienced a great deal of difficulty in protecting machine gun ammunition from the weather. On long hauls, mules could not carry a case (1,250 rounds) on each side so the cases were opened and split, thus exposing the ammunition to the weather. It was also impossible to keep moisture away from ammunition stored on position. Belts became wet and ammunition corroded so that it could not be used.

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A constant resupply was necessary to replace ammunition rendered unserviceable by the weather.

Section 26. Pioneer Equipment of Infantry Units

The A and P [Ammunition and Pioneer] Platoon had sufficient equipment to accomplish the repair and construction which it was usually required to perform. Its work consisted mostly of preparing light field fortifications, clearing gaps through mine fields for the passage of foot troops and light vehicles, and performing light maintenance of roads and trails. Most A and P Platoons in Italy did more supply work than pioneer work, i.e., they carried ammunition, water, and rations to assault companies and usually controlled the pack-mule train of the Battalion. The tool kits were seldom used during offensive combat, but were used extensively in defensive situations. The shovels and picks were not used a great deal by the A and P Platoon but were issued to front line rifle companies where they were used for digging fox holes, gun emplacements, and shelters. The number of axes in the A and P tool chest were not ordinarily sufficient to provide for the needs of the platoon and also of the front line companies. Axes were used not only in construction work and for clearing fields of fire, but also to procure the fire wood which was used to heat the buildings and shelters in which the men lived when not actually out in position.

Section 27. The Soldier's Pack

The pack carrier and haversack were considered suitable for their purpose until troops reached the forward assembly area. From there forward into the attack, however, it was questionable as to just what to carry. It was learned that procedures considered normal in manuals were usually impractical in rugged mountain terrain. The dropping of the rolls meant in most cases that they would not be available again until

the unit came out of the line, or went into reserve. For this reason in many units the men carried a light roll consisting of either a blanket or shelter-half, or both.

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When the blanket was carried it was usually made into a roll, tied with a tent rope and slung over the man's shoulder. When only a shelter-half was carried, it was folded and looped over the back of the soldier's cartridge belt. The procedure of bringing the rolls forward with the rations was usually not practical. In many cases the rations and ammunition were hand-carried over trails impassable for jeeps and mules, and to hand-carry the rolls in addition was an impossible task for the carrying party. Many night attacks were made and by daylight troops found themselves where movement was restricted, and were therefore unable to get their rolls forward. It was usually impossible for Infantry commanders to develop any SOP for bringing up rolls at night during offensive operations; normally decisions had to be made from day to day according to existing conditions. Some units did not use individual rolls, but made squad blanket rolls because of the reduced space required for their transportation. After the issue of sleeping bags to the individual soldier, in the Winter of 1944-1945, the same difficulties were experienced as with the blankets, in getting the bags forward during offensive operations.

Only when advancing over terrain which had a roadnet suitable for jeep and trailer transportation did the procedure for transporting the blanket rolls or sleeping bags to the areas of the assault troops work satisfactorily. At other times the soldier carried his blanket or shelter-half in some improvised manner.

The combat pack was seldom carried into the attack; essential items, normally carried in the haversack, were carried in the soldier's pockets or inside his shirt. Mess equipment, except for the spoon and canteen cup, were left behind with the pack. Few hot meals were served during attack operations, and the emergency ration required no mess gear other than the spoon. When it was possible to serve hot meals it was also possible to bring up the blanket rolls and packs.

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In defense, the men carried their full packs up to their forward positions. In cold weather additional blankets were issued as needed.

The Infantry soldier of the British Eighth Army carried a combat pack during all offensive operations, except on patrols and raids. This pack contained a water bottle, mess gear, towel, washing and shaving kit, extra pair of socks, and an emergency ration. The gas cape, which was also used as a raincoat and was very light in weight, was made into a roll and fastened to the top of the combat pack.

The German soldier carried his full pack to his forward position when on the defense, but carried no pack of any sort in the attack.

[end of chapter]

[The document as presented here is - within the limits of the my vision, alertness, and stamina - an accurate rendering of the original; but it is not a "true copy". Occasional misspellings and typographic errors in the original have been corrected. Further annotations - primarily abbreviation and acronym expansions - and insertions of clearly dropped words appear in 'square brackets'.

- Patrick Skelly, for milhist.net]

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