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Infantry weapons, observations and personal experiences of the Ordnance Officer, 2d Infantry Division, by Lt Col A. J. Stuart, OrdC. Command and Staff College. 1946-47.

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13 Mar 51

Army—CGSC—P2-1798—7 Mar 52—5M

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COMMAND AND GENERAL STAFF COLLEGE

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School of Combined Arms

Regular Course

1946-47

INFANTRY WEAPONS,

(Observations and personal experiences of
the Ordnance Officer, 2d Infantry Division.)

Type of Operations Described:

Infantry Division in the attack and defense,
June to December, 1944 4

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Bibliography

- "Combat History of the 2d Infantry Division
in World War II", published by Army & Navy
Publishing Co., 234 Main St., Baton Rouge, La.
- "St. Lo", by Historical Division, War Department

My discussion of the subject of infantry weapons will include a description of several different combat actions. In order to place the infantry weapons in proper perspective, the parts played by all the supporting arms will be touched upon. The purpose of this discussion is to analyze these actions from the standpoint of weapons, with the idea of arriving at several basic principles. It is hoped that the application of these lessons in the future will assist in guiding our future decisions on matters pertaining to the development of weapons and our planning for the basis of issue of the various type weapons in future operations.

The first three principles are as follows:

1. MAXIMUM SUPPORT SHOULD BE PROVIDED BY OTHER THAN HAND CARRIED WEAPONS.
2. WEAPONS AND AMMUNITION SHOULD BE VERSATILE, BUT EASY TO OPERATE, MAINTAIN, AND SUPPLY.
3. FIRING SHOULD NOT REVEAL LOCATION OF WEAPON.

In order to illustrate these principles, I will describe several operations of the Second Infantry Division in the ETO, starting with operations in the hedgerows of Normandy, south of Omaha Beach.

The German paratroops were occupying a well-organized defensive position. The front line positions

were so well concealed that it was impossible to detect individual positions from as close as 25 yards to the front.

The Germans had burrowed into the hedgerows in such a way that, although they could fire to the front or to the flanks, the earth of the hedgerows gave them almost complete protection from fragments of artillery or mortar shells so long as they stayed in their positions. Prolonged artillery preparations affected their nerves, but wounded few men.

In addition, the Germans had artillery support, and very good mortar support. They were armed with a high proportion of automatic weapons, and were provided with standard German anti-tank hand-carried weapons, as well as a number of anti-tank guns.

Our initial attacks against these positions were made, employing the standard infantry-artillery team. These attacks were costly and unsuccessful because it was impossible to neutralize the enemy machine guns with artillery, or with the automatic weapons normally available in the assault.

The division revised its tactics and equipment as follows:

1. Artillery preparations were increased.
2. Tactics were based around the rifle squad as a more or less independent unit. The squad had the following attachments:
 - a. A medium tank.

b. A light or heavy machine gun squad, employing improvised machine gun mounts.

c. A small engineer detachment of two or four men to blast down the hedgerows. After the perfection and manufacture of the hedgerow attachments for the tanks, these men were not required.

3. Rifle squads were issued a sub-machine gun.

4. Tanks were equipped with attachments which permitted them to push through the hedgerows, as well as with telephones.

5. Several types of improvised machine gun mounts were built in the Ordnance Company. These replaced the tripods, increasing portability of the weapons, and enabling them to be fired effectively at short ranges from the tops of hedgerows or from the ground. One type employed a spike attached to the pintle of either the light or heavy machine gun. Another was simply a rocker arrangement supporting the light machine gun.

The idea behind these changes was to overcome the handicap we faced in not being able to destroy the enemy by artillery, and in not being able to locate his positions so as to place aimed fire on his front line elements. We proposed to smother the entire area with fire in order to attain fire superiority.

This new technique was first employed in the capture of Hill 192, overlooking St Lo from the east. Observation from Hill 192 covered most of the area back to Omaha Beach, as well as the St Lo area, and hence was the key to the German defense. The Germans employed every available reserve, and yet so successful were the assaulting elements, that the regiment which took the hill did not even commit its reserve battalion.

Ten days later, in the big breakthrough during operation "COBRA" the tanks went out alone under an umbrella of artillery time-fire, penetrated the hostile positions, and returned to the line of departure for the assault. This initial penetration did much to weaken the enemy morale, as well as to raise that of our own troops. When the combined infantry-tank assault was made, it was successful, and casualties were moderate in both tanks and infantry.

One feature of our small-arms was brought out very clearly in this operation. This was the fact that, while it was relatively easy for the enemy to detect the location of any of our automatic weapons at ranges up to 200 yards by the smoke of firing, the German weapons were relatively smokeless. In such close fighting, this factor was most important. A discussion of the matter is in order.

It seems that some time ago, when the military characteristics of our small arms were being decided, great emphasis was placed on high muzzle velocity, primarily for accuracy at long ranges. In order to attain this high muzzle velocity with the length of barrel and weight of bullet desired, it was necessary to employ a flash reducer in the powder, in order to prevent spontaneous ignition (flashing) of certain of the powder gases upon reaching the air. However, this flash reducer created a small amount of smoke. Apparently, at that time, this was not considered objectionable, or at least not sufficiently so to warrant reducing muzzle velocity. It is interesting to note that the Japs and Germans avoided this difficulty by using muzzle velocities of 2200 to 2400 feet per second. Until some way can be found of eliminating the smoke by other means, it appears that our only course is to use a lower velocity.

To get back to the three principles or lessons listed at the start of this discussion, we see that only after ways and means had been devised to provide the maximum support by other than hand-carried weapons, could our attacks be successfully conducted.

Regarding the versatility of weapons, we notice that it was necessary to make important changes in

the field, to the machine-gun mounts and the tanks, in order to permit their successful employment in this type of combat.

Finally, as discussed above, our troops were at a distinct disadvantage because their automatic weapons revealed the locations of the weapons by the smoke of firing.

In order to develop these lessons more fully, let us examine the operations of the division at Brest. Certain phases in the early part of the reduction of Brest were fought in the same type of terrain as that encountered in Normandy. The positions were similarly organized, and were equally well defended by more paratroops.

However, from our standpoint, there was one significant difference. Our division had no attached tanks.

The assaults were carried out employing the same methods as described above, except that there were no tanks. Since a great part of the fire power and shock action of the infantry assaults depended on the tanks, our attacks had much less punch. As a result, it was necessary to assault some positions again and again, each time with heavy casualties.

Several means were employed to compensate for the lack of tanks. Smoke was employed, with only

limited success, to blind the enemy. Night attacks were tried, but mine fields and an alert enemy reduced the effectiveness of this type of action. 705 fighter-bomber sorties were flown over the division front, but were no more successful than the artillery in destroying or neutralizing the enemy. In other words, tanks were needed in order to provide maximum support by other than hand carried weapons, because they were best suited for this type of warfare.

Due to very heavy losses in BAR men, officers, and NCO's, there were very few men left who were thoroughly trained on the assembly and maintenance of the BAR. As a result, the weapons were not being taken apart for cleaning and began to malfunction frequently. This brings up the matter of the military characteristics of this weapon. Prior to the war, in an effort to obtain a higher degree of accuracy at the longer ranges, a mechanism was introduced into the BAR which reduced the rate of fire from the natural rate of about 500 rounds per minute to only 375 rounds per minute. Although this slow rate provided increased accuracy on the target range, it further complicated the mechanism of the BAR. In view of the above described difficulties experienced in maintaining this weapon in combat, there seems to be some question as to whether

or not the added accuracy justified the complications in maintenance resulting from the change. .

Thus we see in this operation a confirmation of the lessons learned in Normandy, particularly the principle of providing the maximum support by other than hand-carried weapons. Although considerable artillery and air effort was expended, the very close support previously rendered by the tanks was not provided, and infantry casualties were extremely high.

Before leaving the subject of the Brest operation, I shall touch briefly on the city fighting there. The battle continued right into the streets of the city. Here the Germans had the streets covered by fire. Houses were therefore entered from adjacent buildings, either by way of the roof, which was preferable, or by means of blasting down the cellar wall, and entering through the basement. In either event, the weapons with which the infantry were normally armed served the purpose satisfactorily. Additional fire support was obtained from tank destroyers. These weapons were employed in the outskirts of town in hit and run missions to knock out definitely located pin point targets at some distance from the tank destroyer firing positions. Artillery fire was not very effective in the city.

Leaving France, the division went to the St Vith area in Belgium. Here it was employed in a defense of a 34 Km front. The need for additional automatic weapons to cover gaps in the line was quite apparent. The T/O&E allowance of machine guns was inadequate,

leaving the infantry unprepared to occupy so broad a front. However, this has been rectified in later T/O&E's by the inclusion of extra machine guns. Anything that can be done to further increase the defensive capabilities of our existing weapons will contribute to the versatility of the infantry division. Modification of M1 Rifles to give them an automatic feature and a light detachable bipod might be one approach to the problem.

The next operation demonstrated the versatility often required of infantry units. The division's next mission involved penetrating the Siegfried Line east of Elsenborn. Here the pillboxes were protected by a large anti-tank ditch, extensive mine fields, and very heavy obstacles of barbed wire. In addition, these defenses were supplemented by strong artillery and mortar support. Our tanks could not negotiate the ditch nor the mine fields. The infantry could not move in daylight, due to the fire from the pillboxes and other supporting fire. The artillery could not destroy the pillboxes by indirect fire, and although self-propelled 155mm guns were available, they could not get close enough to employ direct fire on the pillboxes. It was necessary for the infantry to go in alone at night with bangalore torpedoes, blow out the wire, lift the mines, and knock out the pillboxes one by one with

hand-carried explosives. The lesson here is that sometimes it is impossible or impracticable to employ any supporting weapons, and the infantry must be versatile enough to do the job alone with its own hand-carried weapons.

Now we have two more lessons which pertain especially to defending against a tank-infantry attack. They are:

4. LARGE INFANTRY WEAPONS SHOULD, WHEN TERRAIN PERMITS, BE ARMORED AND SELF-PROPELLED.

5. EMERGENCY HAND-CARRIED ANTI-TANK WEAPONS MUST PENETRATE ANY TANK.

The division's defense against the attack of the 6th Panzer Army in the initial stages of the Ardennes Offensive illustrates these principles. The division was in the process of penetrating the Siegfried Line as described above, when it was suddenly required to reverse its direction of movement from north-east to south-west, in order to block a breakthrough on its right rear in the sector of an adjacent division.

Elements of the division were committed piecemeal as they came down the road, going into very hastily selected positions along the road and to the east. Some units arrived in position as little as a half an hour before the German assault struck.

The German attacks usually consisted of an artillery preparation, followed by a tank-infantry assault in great strength, with large numbers of tanks and many infantrymen following in close support. Because of the woods in the area, the tanks frequently were confined

to the roads. The Germans attacked our positions on an average of every two hours, day and night, for 56 hours in a desperate effort to make a breakthrough. In many cases they succeeded in passing tanks through our positions in considerable numbers, but the accompanying infantry had been largely destroyed by our defensive fires. These unsupported tanks were promptly knocked out by anti-tank action in the immediate rear areas. After expending the greater part of their tanks and infantry in these vigorous but costly attacks, and with but very little ground gained, the Germans finally gave up their attempts to break through the division, and some elements deflected westward into the bulge.

Our defense against these attacks consisted of the maximum utilization of all available artillery, mortars, and anti-tank weapons, as well as the intensive firing of every weapon in the hands of the infantrymen to the limit of available ammunition. An analysis of the effectiveness of the various weapons is the purpose of the discussion which follows.

In the first place, the artillery was instrumental in breaking up some attacks before they reached our main line of resistance. The 155mm howitzers were credited with destroying about a dozen tanks. The light artillery and mortars helped kill off the accompanying infantry. In the final stages of the assaults, the light and heavy machine guns were probably the most effective weapons in the defense, although every small

arm was fired to the limit of available ammunition. For example, the Congressional Medal of Honor was awarded to two machine gunners who stayed at their guns under the very noses of the German tanks, mowing down the enemy infantry at close range. These men were credited with killing about a hundred Germans each, and both came out alive.

Of particular interest was the performance of the various anti-tank weapons. First, all anti-tank mines which were available in this hasty defense were placed on the roads, and, in the poor visibility prevailing, were effective in stopping at least a half-dozen tanks.

The anti-tank rifle grenade was used to a limited extent, and actually knocked-out a few tanks. However, these lacked the power to penetrate Mk V tanks except in a few places, and could not be relied upon to any great extent. However, it was a different story with the 2.36" Rocket Launcher. The rockets would not penetrate the frontal armor of the Mk V, but they were very effective against the sides of the tanks, and were so employed in any number of cases. A typical use for the rocket launcher was to cover a hasty mine field on a road. When a tank was stopped by a mine, one round from a rocket launcher from the flank would generally set the tank on fire. Most tanks were engaged at under 50 yards, but several were knocked out at ranges up to 200 yards. At the conclusion of the operation, the

infantry expressed great confidence in the "Bazooka".

The 57mm guns, towed by 1 1/2 ton trucks, lacked maneuverability on the battlefield, particularly after the enemy appeared on the scene. It was out of the question to try to move a gun during daylight, and almost equally hazardous at night, with the Germans attacking at two hour intervals, day and night. As a result of this lack of mobility, and of the difficulty in manhandling the guns in the deep snow, it was impossible to get them into suitable firing positions from which they could get the flanking fire required in order to penetrate the Mk V Tanks. After the battle started, it was again impossible to move the guns, especially after their location had been detected. Many of our 57mm guns which got in position were over-run and crushed by enemy tanks. The infantry lost all confidence in them, and re-armed the personnel with rocket launchers at the first opportunity.

Towed tank destroyer guns located further to the rear were able to penetrate the Mk V tanks frontally, but suffered from their lack of battlefield mobility almost as much as the 57mm guns.

The self-propelled 76mm guns of the attached tank destroyer battalion, firing from partially concealed positions among buildings, were effective in destroying enemy tanks as the latter attempted to enter a small town in rear of the main line of resistance.

M-4 Tanks armed with 75mm and 76mm guns were equally effective when similarly employed in the town against enemy tanks. Tanks were also used successfully in a small delaying action. Both the tanks and the SPM's took full advantage of their mobility during firing in order to attain surprise, and to protect themselves from enemy fire.

Getting back to our last two lessons, we see that this action clearly demonstrated that large infantry weapons, such as anti-tank guns should be armored and self-propelled, so as to attain the necessary battlefield mobility.

Lastly, we see demonstrated in this action the fact that regardless of the excellence and the amount of supporting fire, it will often be necessary for the Infantryman to have available an emergency hand-carried anti-tank weapon which, with its ammunition, is light enough to be carried habitually, but which will penetrate any tank.

To summarize, the five principles of Infantry weapons are:

1. Maximum support should be provided by other than hand-carried weapons.
2. Weapons and ammunition should be versatile, but easy to operate, maintain, and supply.
3. Firing should not reveal location of weapon.
4. Large infantry weapons should, when terrain permits, be armored and self-propelled.

5. Emergency hand-carried anti-tank weapons
must penetrate any tank.

