

General Orders

JOURNAL FOR LIVING HISTORIANS OF WORLD WAR TWO

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FROM THE EDITORS

Never Let A Crisis Go to Waste.

So, here we sit. Months into a health crisis that puts our collective enjoyment on hold. It will likely be months before we return to normal hobby activities.

We can clean our weapons once a week. We can get into arguments on Facebook. We can always get falling-down drunk—always a standby, but not a very productive one. Or (get ready for it) we can make good use of the time by learning things we didn't know. Yes, we're knee-deep in details of impression: correctness of uniforms and gear. But a living history impression is more than that, and most of it isn't packed in a footlocker: it's stored between our ears.

Soldiers in WWII knew a lot of things—not because they sat around studying, but because they were living it. The intelligence level of soldiers varied—the U.S. Army was a conscript army, and period equivalents of Homer Simpson and Doctor Strange might be sharing the same squad bay. You might be reading a Superman comic; the guy on the next bunk might be immersed in the Meditations of Marcus Aurelius. In peacetime, you might never be in the same room. Now, you share an experience (being pretty well screwed, maybe, but that's an experience!).

Whatever your differences, you both knew the daily schedule from First Call to Taps. You knew the way to the end of the line for everything: the mess hall, the PX, sick call, mail call. You knew your company and your regiment, your post (if you were stateside). You knew more than you realized about the Army: how it was organized, how it worked, the few and precious ways you could use its little quirks to your advantage.

You knew some things that all soldiers learn: basic drill and ceremonies, basic squad tactics, basic first aid; you knew not to toss cigarette butts in the urinal (it makes them damp and hard to light). If you were lucky enough to be in the Signal Corps, you might have learned how to send Morse. You might have learned basic circuitry (radio was hot stuff in those days: kids built crystal receivers for fun the way kids obsess with Minecraft today). You might be trained to fix vehicles. Lots of people knew how to do that in the days before electronic ignition systems replaced carburetors, and now you had a chance to practice. If you were in the infantry, of course, you learned other things—not least that fighting and winning require skill, knowledge, teamwork, and guts.

Too many reenactors look okay, but they don't know much. Commanders don't know basic tactics or how to read a map. We know broad history and what we see in the movies. But historical context was not essential at the snuffy level (or higher). What was important was mastering the necessary knowledge and skills so you could make it home without relying overmuch on luck.

So: we have a wealth crisis, we're confined to barracks. Use that time. Learn stuff. Learn stuff that will make you better at living history and interpreting it for the public. Learn stuff because it's inherently interesting to us. You can start by taking the online courses on ReenactorPro. (We're going to be revising them and adding more material over the coming restricted to barracks months.) Read books. Know stuff. Knowing stuff is just as important as how you look. Look to your physical condition. Sitting through an epidemic is destructive to fitness and health.

Never let a crisis go to waste.

* * *

Note: General Orders is not supposed to be a private soapbox for the editors. If we deliver on our potential it will be because serious reenactors are willing to contribute. That's a slow process.

We accept articles written by reenactors and addressing (with eloquence and dignity—no trolling, complaining, or accusing) learning topics, suggestions for improvement, and other issues that interest our community.

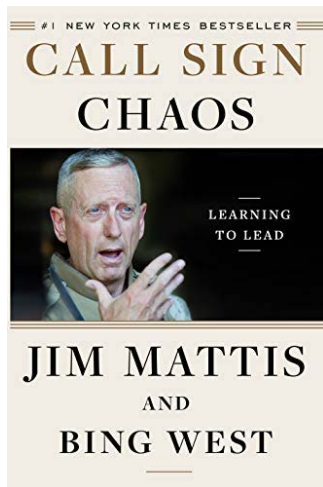
We also accept letters to the editors. Again, professional discourse, not insults.

THE READING LIST

What should be on the living historian's reading list?

In each issue of *General Orders* we will consider at least one book that will contribute to your impression, your performance, and your enjoyment of the hobby. Original references, including FM's and TM's and special texts are available in the resource library. But some works are longer, much richer, and must be read in the complete and original form.

Some will be nonfiction historical impressions (like Rick Atkinson's WWII trilogy); some will be useful for leaders. Some are reference works for impression.



Call Sign Chaos — Learning to Lead by Jim Mattis and Bing West

Every war produces its share of biographies by important generals and theorists. The Napoleonic Wars had its Clausewitz, our Civil War its Grant, WW2 its Patton and Bradley, and countless others from countless eras, all adding to the vast and detailed body of knowledge strategy, tactics, and leadership that every serious scholar of military history must access. Ignore them at your peril.

Jim Mattis, former Secretary of Defense and a retired General of the United States Marine Corps, has spent his entire military career “learning to lead” — which never stops, that is, at least the learning. While not a how-to treatise on leadership like Mike Malone’s *Small Unit Leadership – A Common Sense Approach*, Mattis lays out how the lessons he learned about leadership early in his career formed the basis, and the progressive formulation, of what I will call three “realms” of leadership: Direct, Executive, and Strategic Leadership. Mattis simply calls them “parts”, since he does not consider one any more important than the other; the lessons of all three are intertwined, mostly inseparable, yet distinctly apply to the performance of the jobs at hand.

Direct Leadership, which Mattis learned as a young lieutenant and captain, constitutes the foundation of leading men by instilling confidence in themselves first, yet at the same time, building confidence in yourself by learning everything about performing your own job. Confidence is a *weapon*. He emphasizes that making mistakes is fine, just get up and deal with life and learn, always learn, which evolves into the Marine credo of “Improvise, Adapt, Overcome”. Realize as well that you, and everyone else, belongs to something greater than yourselves. For a junior leader, this means developing a sense of “leadership fundamentals” of Confidence, Caring, and Conviction, which together shape the fighting spirit of a team — and the realization that any mission is always “our” mission.

The second part that Mattis calls Executive Leadership encompasses the higher realms of command at battalion and above, where leadership now applies to thousands of troops, but the basic concepts of leadership have not changed. Now, instead of a direct hands-on approach, Mattis emphasizes that inter-command harmony must be created, relying upon personality and an understanding among commanders to execute the mission – which again is always larger than yourself. “Attitudes are caught, not taught” is a premise Mattis repeats frequently; force of personality can do more to drive a mission than direct orders. Nonetheless, a commander must observe, orient himself, decide, and then act; but the concept and intent must be clear, and must convey confidence – again, something learned as a junior leader, but applied now at a more senior level.

Last, in the third part, Strategic Leadership, Mattis describes the challenges of leaving these direct leadership applications behind, while at the same time applying their lessons to the rarefied atmosphere of

command at the strategic and political level, where the outcome between intent and result is always clouded by the realities of war and the political leaders' human aspirations. Now, commanding armies in Iraq, Afghanistan, and the Far East, Mattis is confronted with reconciling militarily defeating terrorism while at the same time satisfying his political superiors desire to draw-down forces in favor of exiting these theaters of operations – a situation that cannot be reconciled to any satisfaction, yet must be. Mattis again draws upon his experience of leading by force of personality, and confidence, which, after the end of his military career, will propel him into the Trump administration as Secretary of Defense.

Although *Call Sign Chaos* does not have a great deal of how-to advice and concepts useful to us as reenactors, the book is still valuable for the sense of how lessons and concepts can be learned and applied along the way in a military career. At the very least, the book is simply timely and entertaining.

— *Lynn Kessler*

PUSHING THE TRAINING ENVELOPE

The Combined Arms Team: Armored Reconnaissance

By Timothy O'Neill

Reference: FM 2-7, FM 2-20 (1944).

The special impression of armored or light mounted reconnaissance has been growing in the hobby, along with the availability of more and more special vehicles and equipment. This is a good time to step back and consider what reconnaissance is, how it works as a part of the battle, and how we can best adapt it to large tactical exercises.



First, a word about the word. *Reconnaissance* (two *n*'s, two *s*'s) is derived from an old French verb meaning “to recognize” (*reconnâitre*). To perform a reconnaissance is to *reconnoiter* (ree-con-NOY-ter). The term “recon” is short for both words; the Brits generally preferred the word “recce” (WRECK-y), but I’ve never been sure why.

What are we to recognize? A recon can be used to gather information about the enemy and the battlefield that is not easily derived from a map or from aerial photographs. Either can show the general lay of the ground and of its military potential. A military map (or, as was often the case in the ETO, a civilian topographic map using the same standards) can show great detail about the battlefield, including information not found in an aerial photo (for example, topography—the shape of the ground). Topographic maps, on the other hand, are frequently out of date with respect to details, while photos are likely to be very current. Neither, however, is a good substitute for an experienced leader seeing the actual ground and applying that vital *coup d’œil*—the military “stroke of the eye” that immediately recognizes the possibilities of the battlefield.

Similarly, a map will not show the presence, description, dispositions (locations), movements, or intentions of the enemy. An experienced officer may be able to make educated guesses based on his experience (what he would do if he were the enemy), but that is no substitute for a look-see. Of course, the enemy is unlikely to cooperate, which is why we have to be prepared to fight even though that is not the real object of a recon.

The reconnaissance

Anyone who can walk and see can perform a reconnaissance. An infantry patrol can do it (see FM 21-75). The regimental intelligence and reconnaissance platoon can do it. But a foot patrol is slow and limited in range, while the I&R platoon is limited in firepower; and neither can perform the other missions of armored recon.

Kinds of reconnaissance—route, zone, and area

Route recon: Military formations move most efficiently by road. This increases speed and control, but it also can lead to problems if the advancing force is surprised by an enemy; a column on a road that encounters the enemy must quickly deploy into combat formations (and the terrain may not permit easy

deployment, something the enemy knows well). A reconnaissance of the route or routes to be used is always helpful. The reconnoitering officer can identify critical points and obstacles, make sure the bridged haven't been blown up, and if he is careful, detect the presence of enemy elements.

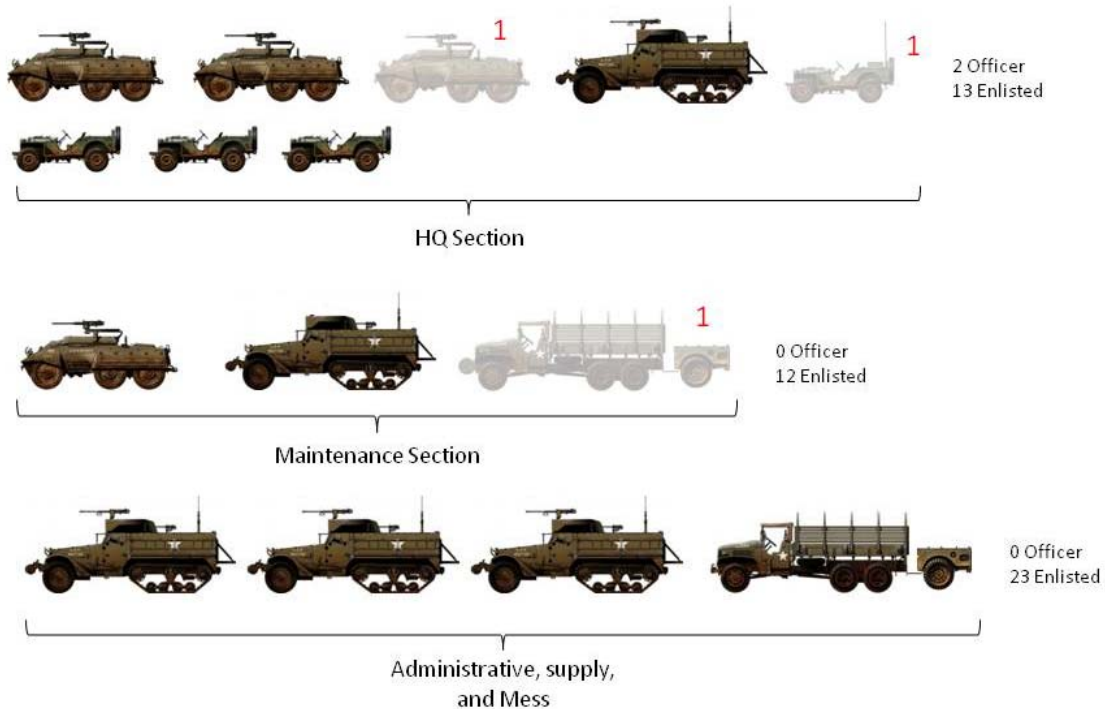
Zone recon: A recon unit is generally organic to a larger unit (like the recon troop of an infantry division). When the higher unit advances it does so within a *zone*. The zone has a width equal to the unit's front, and projects to the front and rear—a sort of maneuver corridor within which the unit will operate. The recon unit moves ahead of the division, scouting routes, observing key terrain, and gathering information of tactical use to the division commander. (It also provides security functions, which we'll discuss later.)

Area recon: The commander can also assign a recon unit the task of investigating a specified area or location ("Go check out the village of Pumperudel and see if there are any krauts there").

Organization of armored recon

The armored cavalry troop, mechanized, is a fairly large and powerful unit—though lightly armed in comparison to a comparable tank or armored infantry unit, it isn't designed to get into a fight (but it must be strong enough to shoot its way out of one). The troop has a simple organization: a headquarters and headquarters section and three recon platoons.

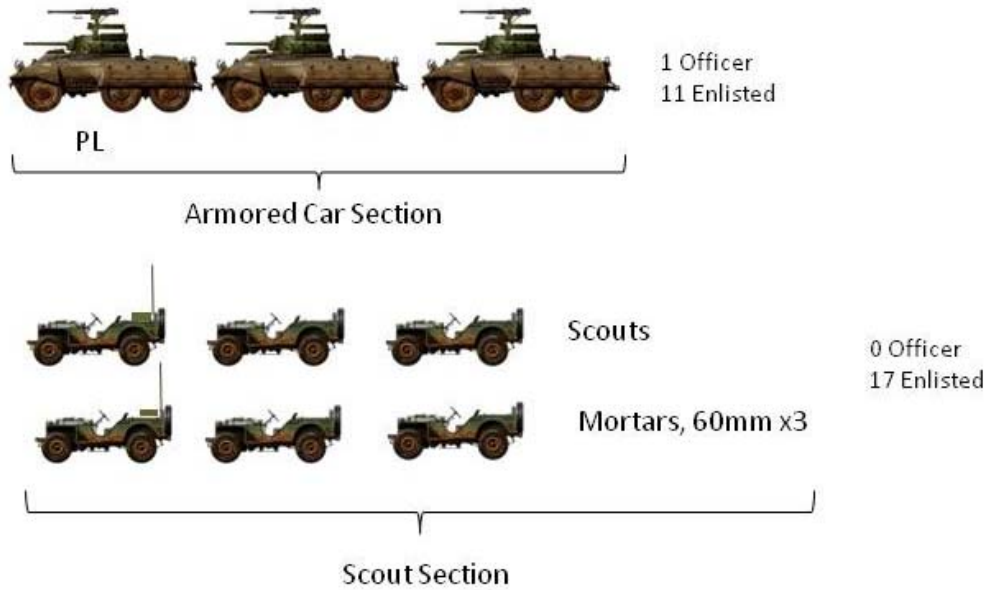
Here is the HQ & HQ Section:



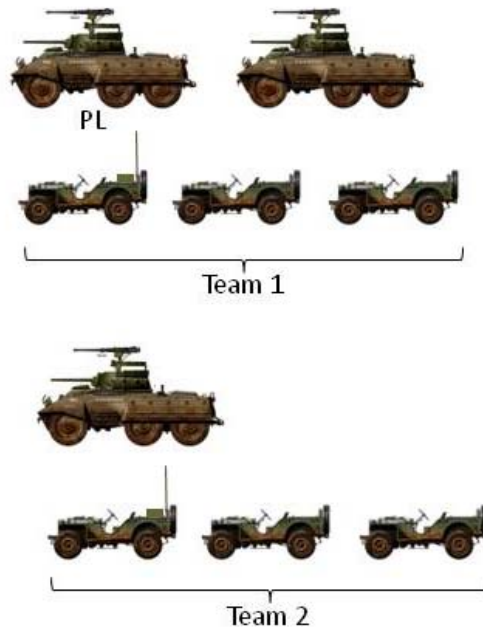
Why does the HQ Section have both M20 armored cars and jeeps? Simple: the troop commander leads forward, and rides in a (very lightly) armored vehicle. Leading from a jeep is not a great idea in recon missions. The M20 is a compromise between mobility and protection. Frankly, it was a lousy compromise: protection from small arms and shrapnel (a 75mm or 88mm wouldn't slow down as it passed through), and the M20 looks mobile, but isn't good at managing rough ground and especially woods. But it's what we have, so we make the best of it.

The maintenance section provides second-echelon (unit) maintenance for the troop's vehicles. (First-echelon is driver or crew maintenance.) The admin, supply, and mess section carries ammo, rations, spare parts, and the troop mess (the deuce with a trailer).

And here is the recon platoon (three in the troop):



This is all the vehicles, but this isn't how the platoon organizes for combat. When the mission kicks off, the platoon usually splits into two reconnaissance teams:



In this case, the armored cars (note that these are M8's with the 37mm main gun) are split between the teams. Team one in this illustration has an extra M8 because that is the platoon leader's command vehicle (the PL may give the team leader, who is in the other M8, latitude to run his team). So what we have is basically one M8 and three jeeps per team, with the platoon leader in the third M8 located near one team or the other.

Tactically, the teams usually operate dispersed (the three platoons together on zone recon, for example, would be covering a division front—that's a lot of acreage). As a matter of practicality, the teams generally operate on roads unless they are close to the enemy—a factor that can change quickly! Movement through wooded areas is difficult for jeeps, and even more of a challenge with the A/C's. The problem, as those who operate M8 and M20 will tell you, is that the footprint of the vehicles is like that of a 2½ ton truck. If the woods are fairly open, the vehicle may be able to maneuver into position without too much trouble; getting out, however, is different. In most cases the vehicle will have to move in reverse. Try that some time. Tanks have the same problem, but there is always the option to drive over the trees unless they are too large to knock down. This isn't an option for the A/C. If the A/C's—mostly the M8's—need to deploy in a tree line for cover and camouflage, this means crewmen have to nudge the thing into place and then break out the tools and cut down trees to make it possible to pull out fast (something cav has to do quite a lot).

Using recon at a reenactor tactical exercise

Now we come to the big question: how to use recon units in the field. Let's start with some basic principles.

1. **A recon unit isn't used for direct combat** (until it is, which I'll explain later). German tanks use armored cars and jeeps for toilet paper. (I write this during the 2020 toilet paper famine, so the simile is even more accurate.) It is used for reconnaissance and security missions as described in FM 2-20. Reenactors who own M8's or M20's tend to think their treasured gas-burners are tanks. No umpire is likely to agree. Don't do a Custer, gather information and provide early warning.

2. **Combine resources.** This is a sensitive issue. There are units that have vehicle and equipment assets that can be used effectively for recon and other missions, but no single unit has enough on its own to put together a realistic or effective force. (Same applies to armor units.) This means that to be real players in the exercise, units will have to combine. A lot of units don't like to give up their independence, not one little bit. Think about this.

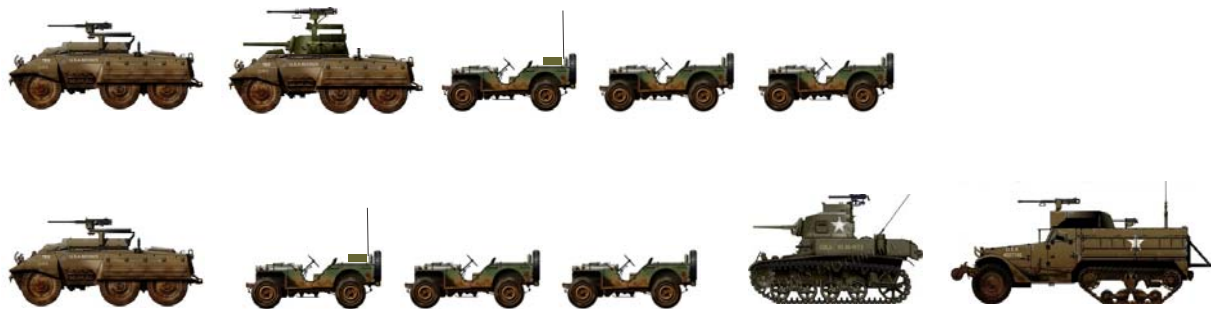
3. **Comms count.** The supply of working radios has expanded in recent years, and the number of short-range sets at an exercise now often exceeds distribution in WWII. There are always problems, largely because most radios are low-power FRS walkie-talkies that are FM and hence transmit line of sight instead of bouncing off the ionosphere like old 1940s AM transceivers. Contact is often iffy even at shorter ranges; but that's authentic, so don't let it discourage you. In any case, a recon unit can gather all the essential elements of information the tasking commander could dream of, but if it can't report quickly and clearly the recon is wasted. A unit with vehicles and mission dreams of this kind should consider buying better radios and a GMRS license that allows more transmitting power. (This is not a big thing—the FCC license is cheap and many radios we now use have GMRS, UHF, and other capabilities built in, so all you need is the license or a tolerance for risking a fine. I recommend the former.)

4. **Learn how to reconnoiter.** The full monty is packed in the reference library (and this article was adapted from it): FM 2-20. Learn the doctrine. Go out and practice. There are a lot of skills involved in being a cav man that muzzle-monkeys, grunts, and other lower life forms only dream of. (In the interests of disclosure, my military occupational specialty was 1204—armored reconnaissance unit leader. My first command was Lima Troop, 3rd Squadron, 6th Armored Cavalry Regiment. This was also Prince Harry's trade, which explains a lot. I admit a certain prejudice.)

Putting together a team. Let's say we have a large exercise on ground suitable for mounted operations. Let's say we have a lot of units coming that have vehicle assets suitable to form a recon force, and the units want to try operating together. Selecting a commander may involve anything from a coin toss to a fist fight, but somehow we make a decision. How do we organize?

First, it is very unlikely we will be able to put together anything larger than a platoon, if that. There are vehicles assigned to a troop or a squadron that are simply not in the reenactor arsenal (GMC M8, a tank chassis with a 75mm gun, comprising the assault gun troop at squadron level). Late war these started to get replaced by the 75mm GMC (gun motor carriage, an ordnance term), which was a 75mm gun mounted on the M5 light tank chassis with a trailer to hold the extra ammo that wouldn't fit in the tiny turret.

This is a new thing: a big event with a large mounted component ready to organize tactically and not politically. I've seen it happen. From various units we've brought in two M20's and one M8. Other units who are jeep mounted bring in six more vehicles. A light tank shows up, and one armored infantry squad with a half track joins up.



The first thing you notice is that there are vehicles not organic to the recon platoon. This is no problem. Commanders often task-organize their forces, tailoring them to the needs of the mission by reinforcing or cross-attaching them. (See the article on armor from an earlier volume of GO for an explanation of cross-attachment.) Remember that the cav *squadron* has special assets—a troop each of assault guns and light tanks. These elements are not used by themselves: generally assets are cross-attached into teams tailored for their combat missions.

Although it is not clear from the diagram, this organization includes one or two jeep-mounted 60mm mortar teams. Keep this in mind.

A recon platoon will most likely be reinforced if the mission may require the team to engage in actual combat as part of its mission (for example, a delaying force), or if its mission entails a risk that it might get into a shootout whether it wants to or not. The only questionable part of this team is the addition of just one tank; armor doctrine discourages using tanks broken up below platoon level. But it sometimes happens if losses have been heavy (and if somebody signs up for the event with an M5, it makes sense to use it).

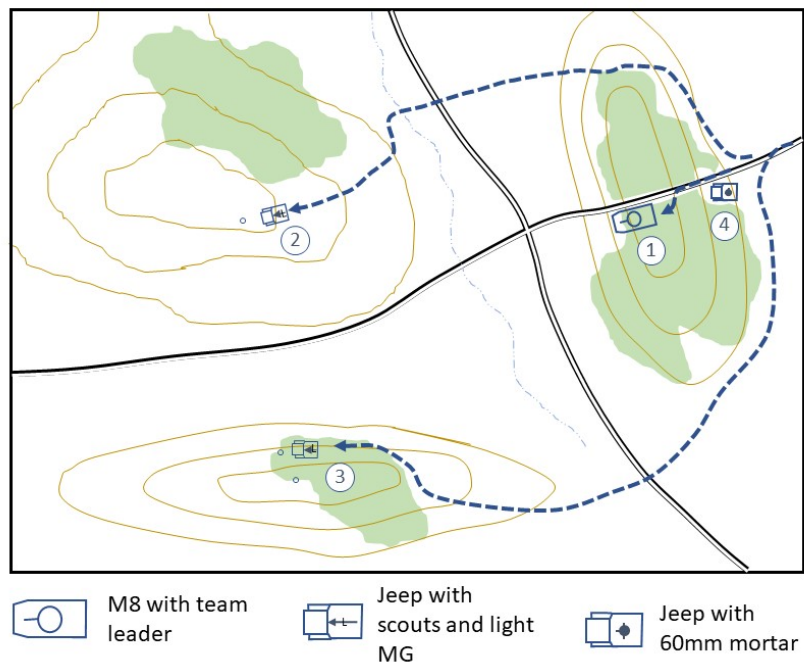
Tactical tips. Let's consider what the tactical doctrine for recon was in those days. Where it is helpful, I'll add personal experience with armored cav from the 1960's, when it is essentially the same.

From **FM 2-20**, we find:

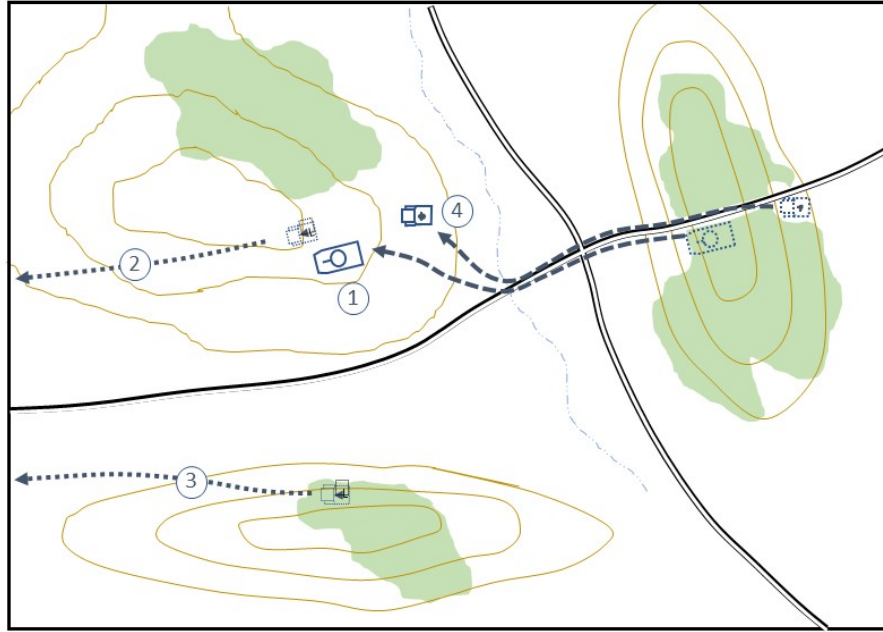
28. OPERATION OF PLATOONS. a. The platoon is the basic reconnaissance unit. It is organized to operate under troop control within a designated zone or area, or along a prescribed route or axis. The frontage for a platoon reconnoitering a zone should not exceed 4 miles. The number of reconnaissance teams formed and their composition depend upon the frontage assigned, routes available to the enemy, terrain, and the rate of advance required.

For reenactors, a front of four miles (based on the front of a regiment) is a bit excessive. Practically speaking, we won't have a maneuver area large enough to exercise on that large a zone. Let's stay reasonable. We can reasonably shrink that to a kilometer (remember the four-mile figure is the *maximum*—not the normal zone).

How to move forward: The general rule is to scout forward with light elements, support and overwatch with the heavies. The reasoning for this is pretty simple when you think it out. The A/C's have the range and firepower to support the light (jeep-mounted) elements, and the light recon elements have more mobility to shift position as the terrain and enemy permit. If you lead with the A/C's and let them do the sneaking and peeping, you're likely to lose them. And if they run into trouble, jeep-mounted elements in the rear don't have the firepower or range to support them. Nowadays we call this method "traveling overwatch."



In this example, the light team (team leader in the M8, two scout jeeps, and a mortar jeep) are advancing east to west across hilly ground with patches of woods. The team leader's vehicle (①) halts in a tree line with good observation and fields of fire to provide support as needed with the on board 37mm and cal. 50 HMG. The mortar team (④) is positioned on the reverse slope; dismounting the mortar for firing is at the team leader's discretion based on the tactical situation. (Remember that dismounting and setting up the mortar takes time, as does breaking down and remounting it; if the team is on the move, the mortar will usually remain on the jeep.) The two scout jeeps (②, ③) advance to the next position offering observation to the front. Note that the vehicles move by routes offering concealment (edges of woods, on the reverse slope of high ground), and the scout jeeps dismount observers, leaving the jeeps out of sight.



After the lead scout elements report that the area to the front is clear, the team leader's M8 advances to a new position to provide fire support and the scout jeeps move to the next selected positions to observe the front. At discretion, the team leader moves the mortar team to its next position, out of sight of enemy to the front but close enough to allow observed fire.

Other missions: The principal mission of the mechanized cavalry is reconnaissance; however, there are other tasks the recon often performs, and you should be able to execute them.

—Screening and security. When the higher unit (e.g., regiment or division) is in the defense, the recon units are generally posted to the front, well ahead of the outpost line manned by the infantry. Note that the area within a unit's zone from the main line of resistance (MLR or "front line") to the cav screening force is called the *security zone*. Reminder: from the MLR back we find the *combat zone*, the *reserve zone*, the *support zone*, and the *communications zone*. No reenactment is likely to include anything to the rear of the combat zone, but it's comforting to remember that you are part of a virtual universe of war stretching from the front edge of the army all the way back home.

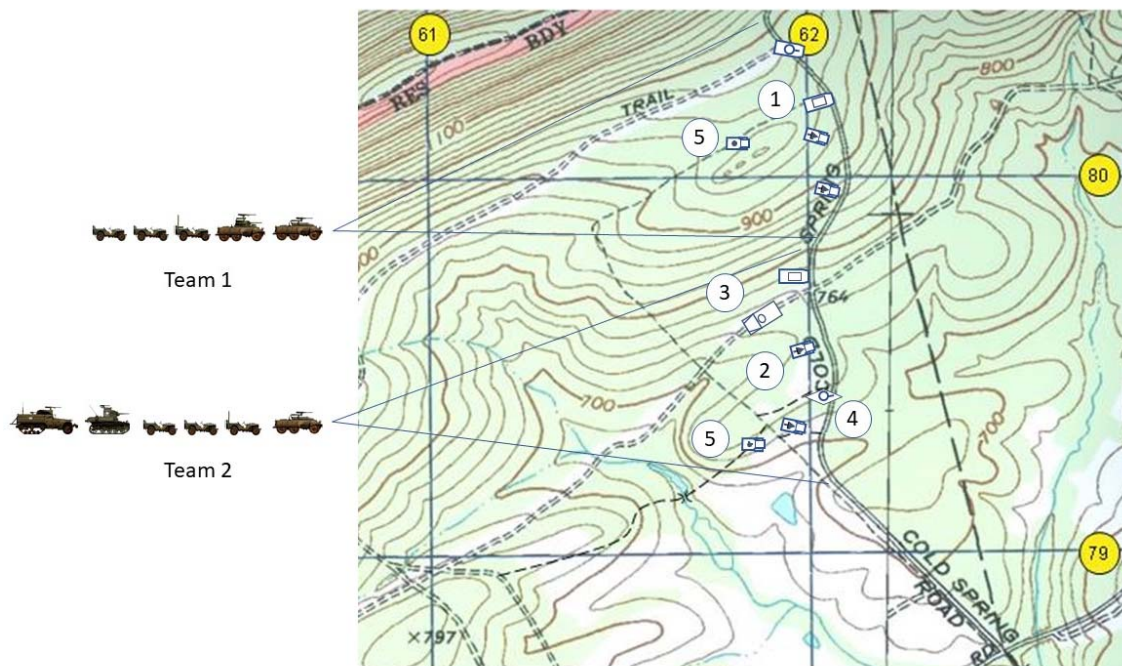
A recon unit manning the screening force is naturally dispersed: remember that 4-mile maximum zone that you would have to cover (for our purposes, let's call it a recon platoon zone of about a kilometer).

Your teams should be deployed much like the advance described above, except that you will not be moving forward (because the enemy is in the way). You may shift around as time passes and the enemy changes his positions, but most of your recon/scout elements will be forward. The scout teams in jeeps will not be in jeeps: the jeeps will be positioned and camouflaged to the rear (to shift as needed or for a quick getaway), with the scouts dismounted and manning OP's. The M8's will probably be forward as well to provide fire support but will be carefully positioned to provide maximum observation and clear fields of fire. They will also be camouflaged and, where possible, in defilade (that is, behind dirt—for example, behind a rise in ground so that only the turret is exposed so you can fire the 37mm main gun and/or the M2 cal. .50 while offering the enemy the smallest possible target). You should also prepare alternate positions (they will eventually see you shooting and take you under fire, including artillery, so it makes sense to have a position ready to occupy so they will place fire where you used to be) and supplementary positions (you may not be able to cover every possible way the enemy will come, so you

prioritize; but the enemy may surprise you and come the way you thought they wouldn't), so there should be a prepared position to counter that move.

The platoon's two mortar teams should be a bit to the rear; however, since they are used for observed fire they can't be too far back.

If you are part of a cav squadron, you will probably be backed up by some light tanks and some assault guns. Positioning these assets (they will probably be attached to the troop) is critical. Tanks are supposed to be used offensively, not as tank destroyers. The M3 or M5 has the same main gun as the M8, and not a lot more armor. If you put them to the front, use camouflaged and defiladed positions, and designate alternate and supplementary positions.



This illustrates a somewhat compressed position for a recon platoon reinforced by one light tank and an armored infantry squad in a halftrack. The enemy is presumed to be to the east of this position. Note that heavy weapons (①,④)the two 37mm's, which is heavy by comparison to the rest of the force) are positioned forward to provide maximum firepower to meet an enemy advance. No, that doesn't look like a lot of firepower, but it's likely enough to force an advancing enemy to change from an approach march to combat formations, a process that takes time because the commander will have to assess the situation, try to locate your positions, and deploy his elements into a new formation. This delays the advance, allowing you to report the enemy's approach back to the main force command post.

The critical point is the road junction at 620797, which lies across the most likely enemy axis of advance and offers high ground with observation and fields of fire. This is also the position of the platoon leader's vehicle (②). The armored infantry squad is near this point for local security and the additional firepower; however, the squad is deployed on foot to covered and concealed firing positions. The halftrack is oriented facing to the rear; in this case, the platoon may have to withdraw under pressure and it will take time for the squad to mount under fire. Facing to the rear will save a little time.

The two mortar teams are dismounted from their vehicles and set up slightly to the rear, allowing the squad leaders to adjust fire.

All vehicles are placed adjacent to roads or trails that will allow them to move to the rear on order. When the time comes to withdraw, light vehicles (the jeeps) move first while the heavier vehicles provide covering fire.

Yes, if you do any of this you are likely to be the first reenactor to take the trouble. Somebody has to set the example!

But if you're not there to get into a fight, why set up these firing positions? Easy: if the enemy decides to attack in force, you have two essential tasks: (a) tell the commander the enemy is coming, where, and in what strength, and (b) get out alive. HINT: Your duty is to do (a), then worry about (b). But you should have a plan, developed and briefed to all your leaders, to execute (b). That's where the M8's and the tanks and the assault guns come in. They bring max fire on the enemy while the light elements bug out for the MLR, then the light armored vehicles move to the rear.

“Move to the rear” doesn't mean “Run away! Run away!” The best way to do it is by prearranged plan.

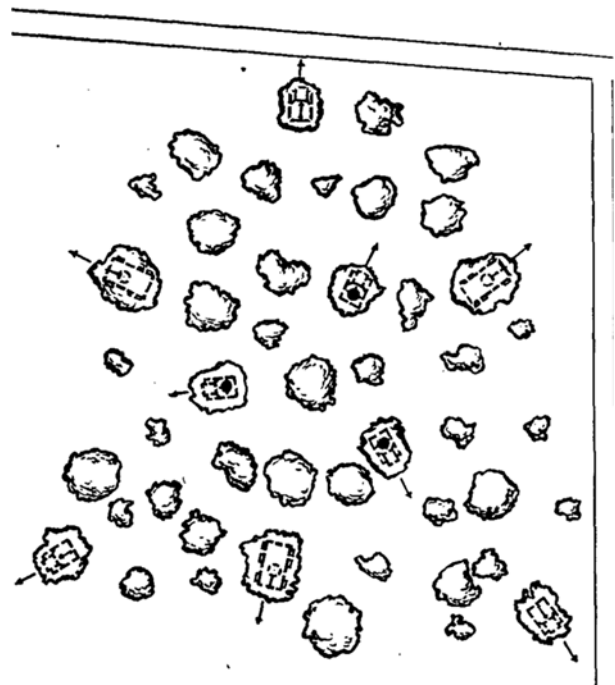
The laager: In countless old western movies, the wagon train moving through Indian country “circles the wagons” as a defensive move. This was actually started by the Hussite Protestant armies in Central Europe; but it was used effectively by the Boer population as it moved north into the Transvaal and the Orange Free State in the late 19th century. In the Afrikaans dialect of Dutch, this was called a *laager* (camp). In armor, we still call it a laager.

When the platoon halts in a position that may be exposed, it automatically deploys into a laager to provide all-around defense. Just like the wagon train.

I commanded a tank company in combat for nearly a year, and actions like forming a laager were second nature because they were done again and again on a daily basis until the process became something very like muscle memory. If you have your platoon together, it might be a good idea to practice things like this. Find a good position—cover and concealment, observation, fields of fire—the “Holy Trinity” of tactics, much like celery, onion, and green pepper in Cajun cooking!

Here is an example of a hasty laager from FM 2-20. Here, a recon platoon has occupied a small grove of trees to make the vehicles less conspicuous from the air (cover and concealment), and adjacent to the roads they will use when it's time to move out. The M8s are positioned to cover critical directions (observation and fields of fire), and the mortars are placed within the perimeter. The terrain may call for OP's placed to watch possible enemy avenues of approach that are hidden by vegetation or dead space from the laager itself.

Summary: Recon operates in its own world, unique from infantry and armor. Recon leaders and soldiers require mastery of quite a few skills, a broader range of requirements than other combat maneuver teams. Soldiers may ride in vehicles, but they also have to be able to fight as infantry and, in particular, perform dismounted patrols and other special activities. The platoon leader has to be able to do the scout duties, as



well as manage direct and indirect fire (the 37's and the 60mm's). It's challenging. Reenactors are shy about trying new things, but all this is basically fun (since you're not actually going to get shot or shot at).

This is a very sketchy description of recon. If you want to master the real job, I urge you to look at FM 2-20, which is in the reference library on ReenactorPro.org. Good hunting, and *Gary Owen!*



PUSHING THE TRAINING ENVELOPE

WW2 U.S. and German Infantry Squad Tactics – The Main Differences

By Jud Spangler

When asked to write an article on the differences between U.S. and German infantry squad tactics, my immediate reaction was a gut-level, possibly over-simplified thought: “The German squad was centered on employing a light machine gun and the U.S. squad was not.”

Of course, there is a little more to it than that. My premise here is that doctrine and resources had the greatest influence on the weapons and in turn the tactics.



Opposing infantrymen face many of the same problems and in practice will often land on similar or identical solutions. Many of the elements of cover and concealment such as rocks, trees, hills, fog, and darkness are available to any infantryman of any army and their proper use should be no secret to them. What was not available to opposing soldiers were the *exact same* weapons at the squad level, and from there came from the tactical differences.

The role of resources in the aftermath of the Great War is hard to overlook. The U.S. spent the inter-war period pursuing disarmament and facing budget cutbacks, and many of the problems left unsolved in 1918 were, from the standpoint of a WW2 U.S. rifleman in 1942, still unsolved. In contrast, the German infantry squad was grounded by far more inter-war doctrinal evolution and weapons development. The result was that by late 1942 when U.S. and German infantry faced each other for the first time, the Germans had a light machine gun organic to their squads (the MG 34) and the U.S. did not.

How did this happen?

With the Versailles Treaty mandating a small German military of 100,000 enlisted, NCOs and officers, it didn't have the intended consequence of suppressing military activity—it accelerated a radical re-evaluation of everything that was now regarded as the lost luxury of having a huge land army, from the rigid and ultimately counterproductive social barriers between officers and men to making the best use of a limited number of men. The development of a powerful but “squad-mobile” light machine gun seems almost inevitably obvious in hindsight and actually reflects German experience with its *strosstruppen* or Stormtroopers in the Great War. And so, as the 1920's ended, Germany's new light machine gun was already off the drawing table and being tested. It went into production in 1934 and was issued to *Heer*

(army) units starting in 1936. Thus, the light machine gun became the primary weapon of the German infantry squad because it achieved the right balance between “light but lethal”:



1) It was light enough at 26 pounds to be moved with relative ease by just one man supported by at least one but preferably two Assistant Gunners carrying ammunition and parts.

2) It could be fired from a prone position on the ground using a small bipod attached to the barrel, or from a standing position (which further facilitated rapid movement). The bipod could fold toward the gunner and be gripped to stabilize the barrel, but it helped to have something like a tree branch for support.

3) It fired the same 8mm ammunition used in the rifleman’s K98 Mauser.

4) The rate of fire was in the 900 rounds per minute range which was better than the U.S. Browning .30 cal. at 600 rounds per minute and as good as the heavy “Ma Deuce” .50 cal.—neither of which were organic to U.S. rifle squads. The doctrine and the weapon went into combat in 1939 and performed well enough that the Germans were already in the process of upgrading the MG 34 with an improved and more powerful version, the MG 42.



mount, which added the burden of finding a firing position, getting the crew on the ground, covered, and so forth. There wasn’t much that could be done with this design to make it lighter, more mobile, or less complex, and the arms limitations policies postwar spread scarce resources even thinner.

At 47 pounds and using 30-06 ammunition, the American M1917 water-cooled .30 cal. Browning was found during WWI to be too heavy and cumbersome to be moved by a rifle squad; at 31 pounds, the air-cooled M1919 was not much better regarding mobility. In practice, a crew of four was still required to move and keep either one operating. The M1919 also required a heavy tripod



MACHINE GUN PRACTICE. CAMP EDWARDS, MASS.

With war on the doorstep by Christmas of 1941, the U.S. was scrambling to hold the Pacific together, and it began applying experience from the Pacific theatre and working out the bugs of another WWI designed, but more practical squad weapon, the Browning Automatic Rifle. By 1942/43, the Army was also replacing Springfield rifles with the M1 Garand semi-automatic rifle. Given the choice between putting an up-to 600 rounds per minute, 15 pound .30-06 BAR with a 20 round box magazine (200 rounds total in mag pouches, plus more carried by the Assistant Gunner, but period BAR manuals are unclear on this point) into the squad, or carrying a 600 round per minute, 31 pound .30-cal machine gun and tripod with two 200 round ammo cans to feed it, or developing an entirely new light machine gun from scratch, the U.S. made a rational choice for the ETO and instead “up-gunned” squads with riflemen with semi-auto M1s and a BAR team, carrying a minimum of 200 rounds, integrated from the platoon’s pre-war discontinued BAR 4th squad.



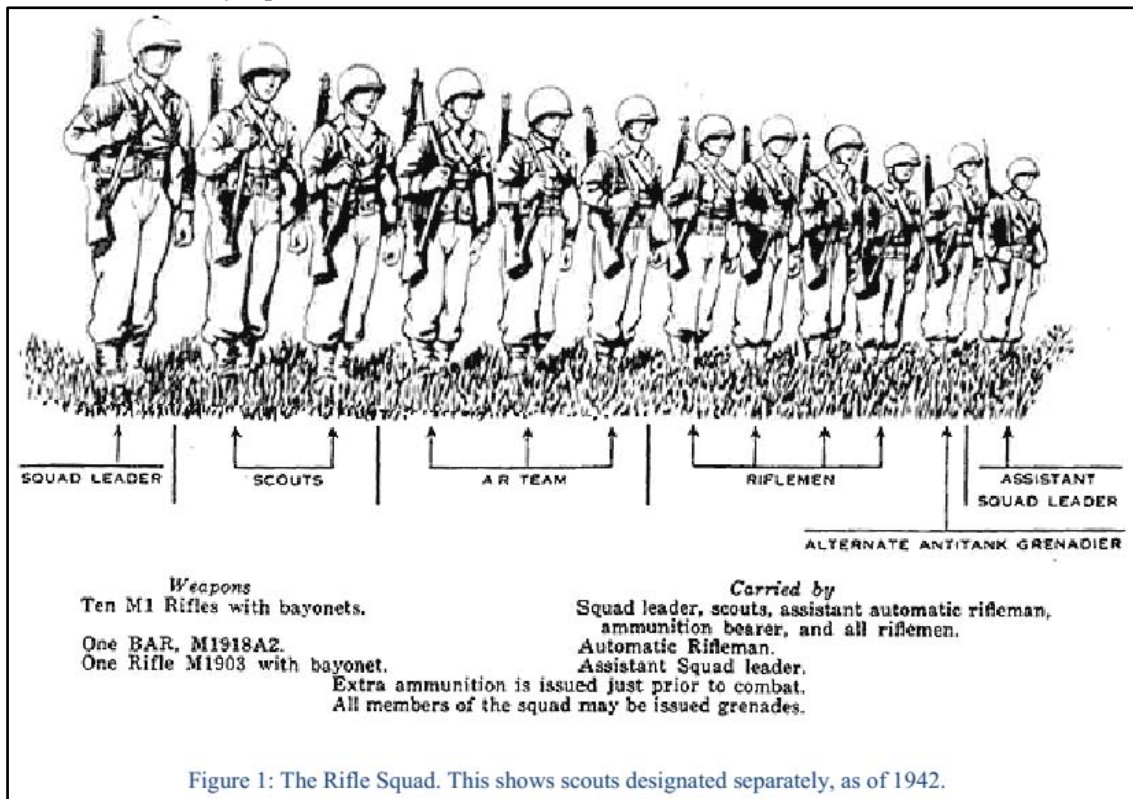
Which is not a lot of rounds overall with the BAR, compared to the German squads, which will be shown in a moment. But American doctrine also played a role: our military has long believed—rightly—in the utility of artillery, and U.S. artillery in WWII was often decisive – a prime example of the American method of solving problems by “overwhelming” them. If U.S. infantry squads and platoons had good-performing light semi-automatic and automatic weapons, the right tactics and leadership, heavier firepower could be brought to bear from outside the squad and platoon.

What did it look like in practice? The following graphics are excerpted from Tim O’Neill’s lesson on “The Rifle Squad” online at ReenactorPro:

<https://reenactorpro.org/wp-content/uploads/2017/12/Lesson-1-the-Rifle-Squad-2.pdf>

Since ReenactorPro has already done a thorough job on the U.S. rifle squad, it won’t be repeated here, but it will include enough to make meaningful comparisons:

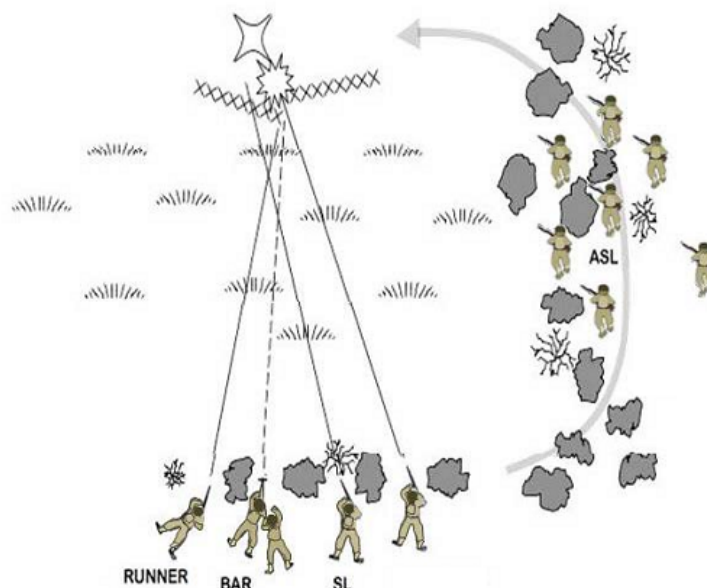
The U.S. infantry squad looked like this:



And it often attacked like this:

Squad in the attack

A squad may attack by itself or as part of a platoon attack. In the case of a rifle squad assigned to assault and secure an enemy position, the procedure is simple:

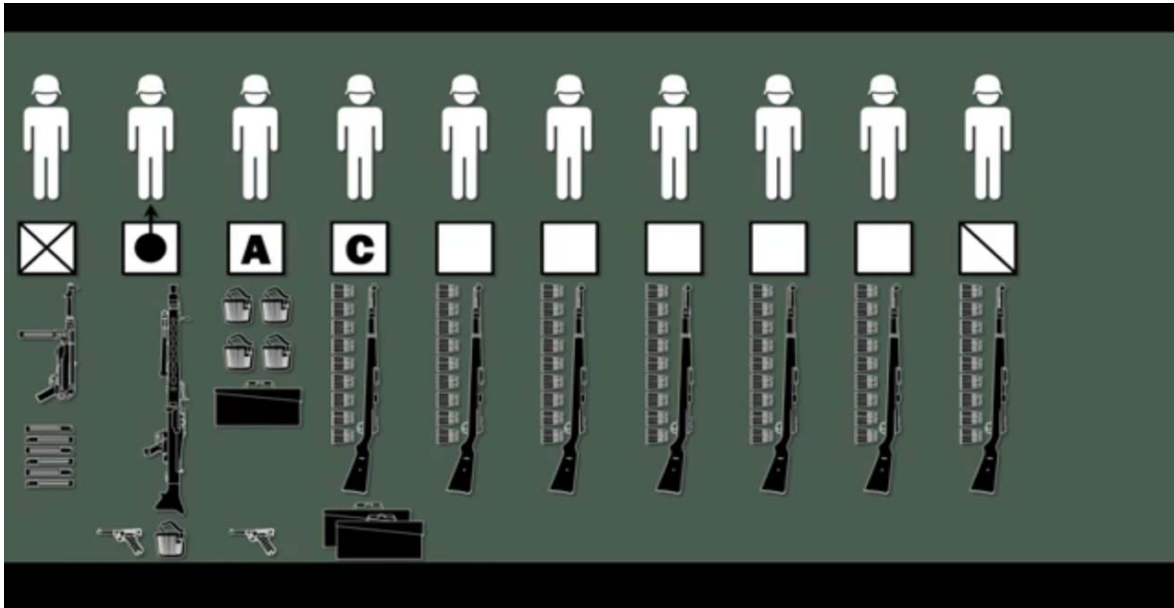


A full strength squad (admittedly a rarity after some time in combat) assaults an enemy position, dug in and protected by wire. The squad could attempt a frontal assault, but this would probably fail disastrously. The squad leader wisely chooses to use fire and maneuver.

He places the command group (SL and a runner, plus the NAR team and the grenadier) as a fire support element. These keep the German position amused while the rest of the squad, led by the ASL, maneuver using cover and concealment to engage the enemy from the flank.

Of course, squads of both nations fought more often as part of a platoon, and platoons formed rifle companies. The tactical differences begin to blur as the formations get larger, but the basic building block was the squad.

The German infantry squad looked like this, on the following slides from a video clip lifted from Military History Visualized on Youtube.com that are based on a wartime German manual called *H.Dv. 130/2a* that I will show shortly: <https://www.youtube.com/watch?v=-rKRt5zVZgw>



The squad leader (man with the boxed “X”) was armed with the MP 40 machine pistol and 6 magazines each with thirty-two 9mm rounds. The effective range was 100m. He would also have carried a pistol—NCO’s typically carried the P.08 designed by Luger. (The smaller PPK and P38, among other lesser known pistols, were favored by officers.)

The squad depicted above is carrying the MG 34 with 5 assault drums, each drum holding a belt of 50 rounds. The MG34 could be drum fed or belt fed. The gunner (Gunner 1, with the boxed “O” and arrow) carried one drum, the first Assistant Gunner (Gunner 2 with the boxed “A”) carried the other four, plus a box with 250 rounds in two extended belts made by connecting the 50 round belts together—one extended belt contained 100 rounds and the other contained 150 rounds. Both Gunner 1 and Gunner 2 carried a P.08 pistol. The second Assistant Gunner was called Gunner 3 (with the boxed “C”) and was armed with the Mauser K98 rifle. He carried two more boxes of belts, each with 250 rounds configured like that of Gunner 2.

A total of 1,000 rounds. For *one* machine gun, in *one* squad. Against a BAR gunner with 200 rounds.

The counterargument from an American point of view is that a .30-cal machine gun could be assigned from a Weapons Squad for support. But the MG 34 was *organic* to the German squad, while the .30-cal was not to the American, and that makes all the difference.

Add to that, all riflemen were armed with the K98 and carried 60 rounds of 7.92x57mm “8 mil” ammunition, the same used in both the MG 34 and 42. Rifle rounds were carried in 6 belt pouches, each pouch containing 10 rounds on two 5 round stripper clips. At least two grenades were carried by each rifleman as well. While it would be reckless to claim that the *Steilgrenate* (aka “potato masher”) wasn’t deadly, its intent was not so much to kill (although it did), as it was to disrupt, disorient, and wound the target so that riflemen had freedom to move wherever they needed to.

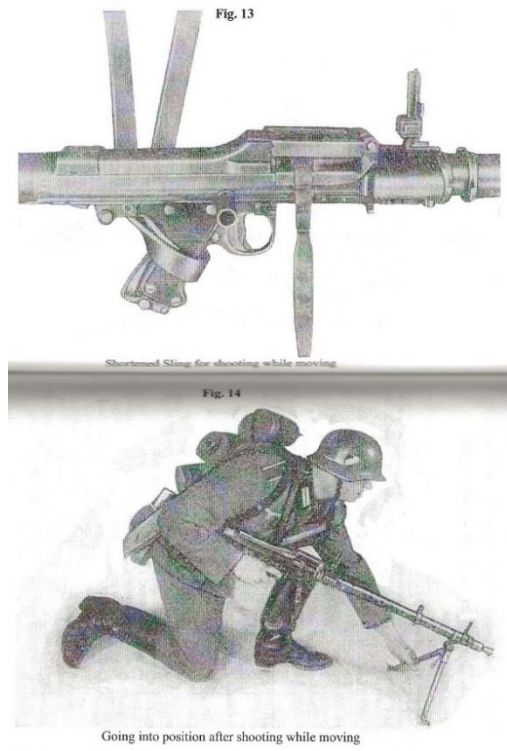
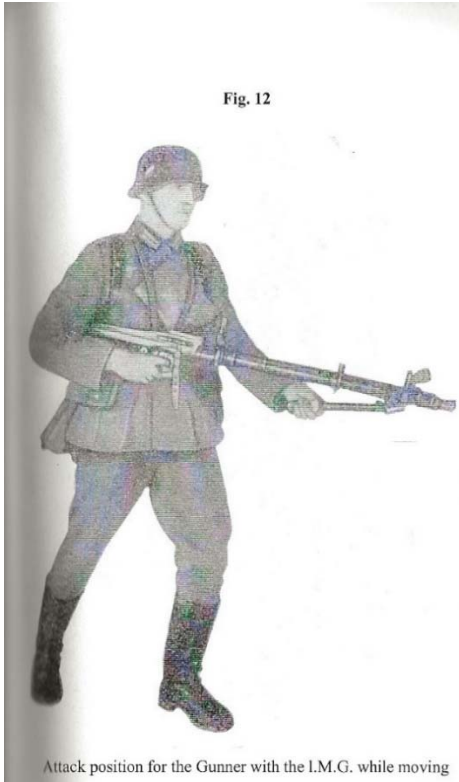
Since we don't have an in-depth article on the German infantry squad at Reenactorpro, I've included below a table translated from the same source as the graphic above, *H.Dv. 130/2a: Instruction Manual for the Infantry Vol. 2a The Rifle Company, 1942 edition*. (Translation by John Baum). This gives the reader the exact design and intent that the German soldier of 1942 would have found in his training manual.

B. The Squad		
I. In General		
229. The Squad consists of the Squad Leader and 9 Riflemen.		
II. Equipment and Duties of the Squad		
230.		
	Equipment	Duties
Squad Leader	M.P. with 6 Magazines in the Magazine Pouch Magazine Filler Binoculars Wire Cutters Signal Whistle	The Squad Leader is Leader and Spearhead for his Squad. He is responsible for: 1 Achieving his combat mission 2 Directing the fire of the I.M.G. and, as far as the combat allows, the Rifle fire 3 Battle usefulness and full count of Weapons, Munitions and Equipment for his Squad
Gunner 1	M.G. 34 with attached Belt Drum Pistol Tool Pouch Flash Light	Gunner 1 is the Shooter. He is responsible for: 1 Operation of the I.M.G. in combat 2 Inspection of the M.G. for shooting (No. 98) 3 Maintenance of the M.G.
Gunner 2	Barrel Guard with one spare Barrel 4 Belt Drums, of these, 1 Belt Drum is with Armor Piercing Munition 1 Cartridge Can Carry Strap 34 Pistol Short Spade Sun Glasses (Of equipment with the Carry Pouch: a) 1 Carry Pouch for Belt Drums b) 4 more Belt Drums instead of the Cartridge Can.)	Gunner 2 is the assistant to the Shooter in combat After going into position he lays sideways on the left or sideways behind the I.M.G., in full cover if possible. He remains lying next to the I.M.G. when cover is present or firing superiority is achieved. When the position requires, he is also available for close combat, e.g. in assault defense. Gunner 2 is responsible for: 1 Providing enough Belt Drums 2 Assisting with going into position when loading from the Cartridge Can
Gunner 2 cont'd.		3 Refilling empty-shot Belt Drums with Belts from the Cartridge Can 4 Assisting with clearing stoppages, Barrel change, and setting the Bipod straight 5 Assisting in the maintenance of the I.M.G.
Gunner 3	Barrel Guard with one spare Barrel 2 Cartridge Cans Carry Strap Rifle Short Spade	Gunner 3 is a Munitions Gunner In fire fights he lies according to possibilities at the rear in full cover Gunner 3 is responsible for: 1 Sufficiency of the Munition 2 Refilling empty-shot Belt Drums with Belts from the Cartridge Cans 3 Care for Munition and Equipment left laying with a position change 4 Inspection of the Munition for shooting (No. 97) 5 Independent work as Rifleman and in close combat when the situation requires it
Gunners 4 - 9	a) Rifle 2 Cartridge Pouches Short Spade b) The most accurate Hand Grenade thrower: also the Hand Grenades c) In addition, depending on orders: Belt Drums, especially with armor piercing Munition Smoke Grenades Balled Charges {stick grenade heads attached to a stick grenade} Munition Tripod	a) Gunners 4 - 9 lead the fire fight with Rifles, they are close combat fighters b) The acting Squad Leader is also responsible for: 1 Preservation of cohesion within the Squad (no individual Riflemen left behind) 2 Supervising the execution of all orders 3 Communicating with the Platoon Leader and the neighboring Squad 4 Indicating the front line. He carries the Flag to the front line

It should be clear at this point that German light machine guns were intended to be the primary offensive weapon of the infantry and therefore the focus of the German infantry squad. Put the MG fire on the target. As soon as it opened fire, riflemen maneuvered in for close combat, generally throwing grenades first but not before the MG opened fire.

A word should be mentioned here about the difference in individual training philosophies between the German and American armies. In the U.S. Army, from WW1 through today, individual marksmanship and expertise with the M1 rifle was paramount, while in the German army, even though every man was expected to qualify with the K98 on the range, the best marksmen were assigned to the MGs. Always.

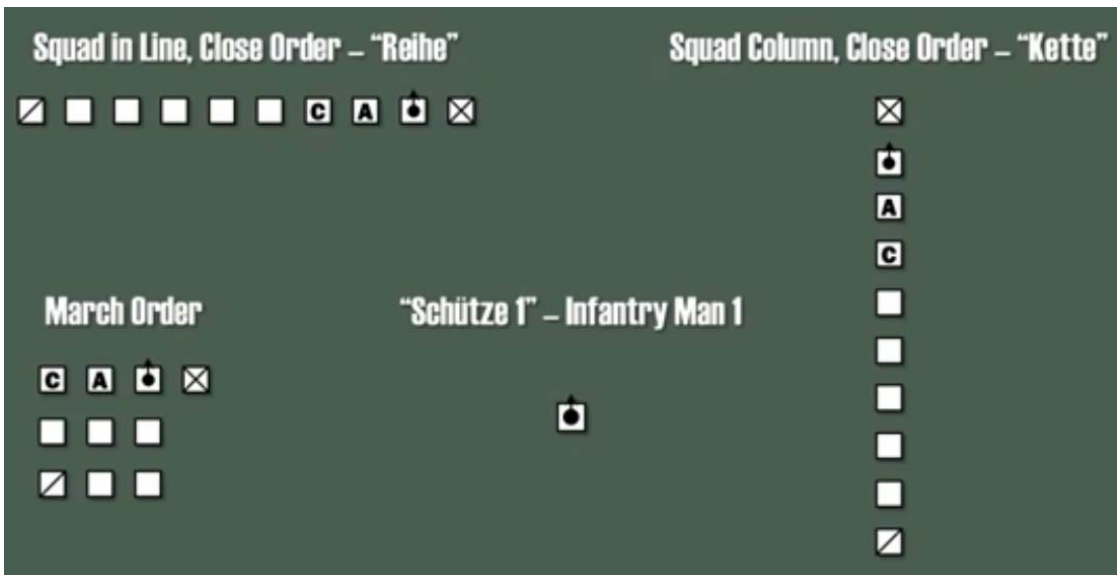
Earlier we mentioned that the light machine gun could be carried and fired by one man while moving—before we get to squad movement, below are some illustrations to help visualize that from the 130/2a manual:



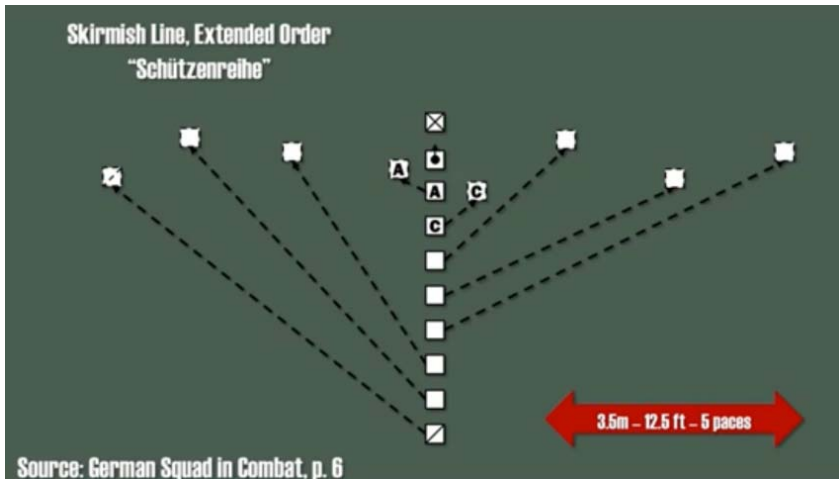
Which brings us to squad movement, and it helps to understand “eine bisschen Deutsch” or in English, “a bit of German language.”

- Schütze* Infantryman
- Schützenreihe* Skirmish line
- Schützenkette* Squad column

Below are a series of illustrations that show squad movement, beginning with the close-order march formations used in garrison:



In combat, movement looked like this on patrol. A squad column or *Schützenkette* was favored since it presented a minimal target forward but was potentially vulnerable to flank attacks where there was no natural flanking cover. That could be modified to the *Schützenreihe* and was done so rapidly—the leading three riflemen broke right and the remaining two plus the assistant squad leader broke left.



Note that the squad leader and Gunner 1 with Gunners 2 and 3 (AG's) were always in front and together so that the squad leader was closest to the decisive point and could put the primary weapon on that point immediately. This follows at a micro-level the overall doctrine that you can never be strong enough at the decisive point.

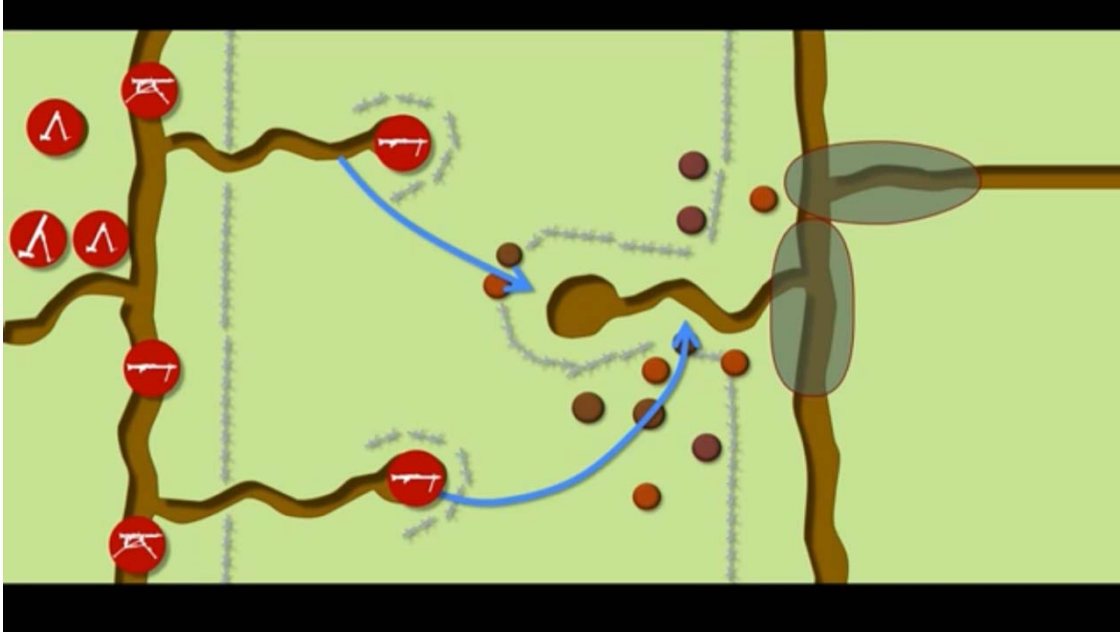


If the squad was advancing without support and drew fire, the MG was already forward—it could fire if standing or immediately find a covered position from which to fire.

If advancing with support, the *Schützenkette* formation not only presented a minimal target, with its primary weapon forward, but it also allowed for a clear line of supporting fire from squads with machine guns on both flanks.



Naturally, like their U.S. counterparts, German squads typically worked together in platoons and platoons in turn formed a company. When combined in a platoon and assaulting a fixed position, mortar fire was directed at the enemy's routes of retreat while machine gun fire was directed simultaneously at the enemy's forward position and along the spine, so that there was no opportunity for movement without significant risk.



Dare we ask how well re-enactors of today get these differences right in practice?

Believe it or not, my gut read after 20 plus years is that reenactors have generally got their respective side's *single squad* fire and maneuver right more than they have got it wrong. U.S. reenactors are generally trying to figure out when the MG 42 is going to pop them in the face (not literally of course) and German reenactors are generally looking for U.S. rifle teams to pivot off a BAR team and catch them on the flank just when their attention is diverted.

I think where we reenactors have always struggled is operating at *actual platoon and company* levels. If a unit is fielding just two squads because they have only that many members, when they work at a platoon level, they must combine in the field effectively with at least one or more reenactor "units." And that works well when the unit leadership knows and trusts each other and God willing, the combined units have similar training and skill levels. However, that has proven that it can be a little too much to ask of God's will. Fair enough, He does have other things to worry about.

One of the unique things about reenacting is that it creates entire weekends where we have opportunities to compare each side's way of doing things, albeit without the same level of training and everything else that actual soldiers of the war had to contend with. When comparing opposing armies, it is natural to attempt a conclusion that renders a judgement on which army "got it right" on each aspect of combat. We are still debating whether the Spitfire was a better fighter plane than the Bf 109. The comparisons are fun, but generally the argument runs down an endless rabbit hole because there are so many intervening variables and pre-conditions that tip scales back and forth. Like so much of World War 2, the answers can be found before the war started, underneath a pile of unintended consequences accumulated over the two decades from June 1919 to September 1939. It always boils down to asking a different question, which is, "Why did they do it what way?" which we have answered here with respect to infantry squad tactics.

PUSHING THE TRAINING ENVELOPE

Artillery: The King of Battle

By Mike Martorelli



“I do not have to tell you who won the war. You know, the artillery did.”

—*General George S. Patton*

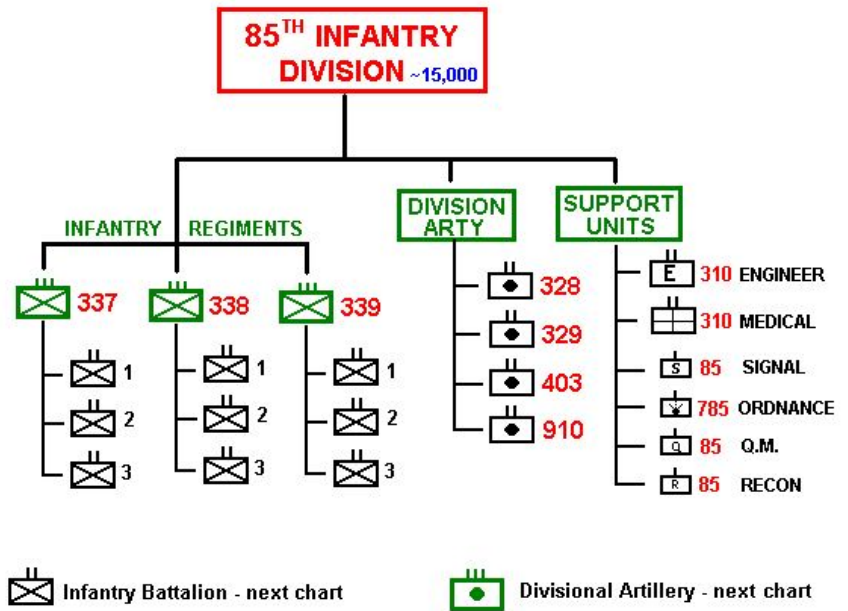
“Our artillery...the Germans feared it almost more than anything we had.”

—*Ernie Pyle*

Only a few of us have worn the crossed-cannons insignia in the Army/National Guard or served in a Marine Corps artillery unit. But many have worked in the field as soldiers or marines with those who did. And even more of us have participated in reenactments in which we've been pretty successful in adding some radio calls for artillery support. But given the limited numbers of participants at our events and the restricted geographic spaces over which we are permitted to maneuver, it has not been practical to truly mimic the type of infantry/artillery interaction that occurred during World War II. We'll keep working on integrating artillery into our field exercises. In the meantime, this essay presents some detailed information about the artillery in the European Theater of Operations (ETO) for the reenactor who wants to deepen his appreciation of how that branch of service operated.

Artillery Doctrine

During the late 1930s, military planners anticipating our country's participation in what would become WWII were aware of the mobile nature of that likely conflict. The King of Battle's primary mission would continue to be providing close and continuous fire support to all maneuver elements. But officials recognized that operating in a mobile environment would require many changes in the way the infantry and artillery operated separately and together.



- In the early 1940s, the army dropped the square division structure (organized into two brigades consisting of two regiments each) and adopted the triangular division structure (organized into three regiments directly under division control). The Division Artillery (DivArty) adopted the new triangular structure of the infantry. Within each typical infantry division, DivArty consisted of one headquarters battery, three light-artillery firing batteries to provide direct support to each of the three infantry regiments, and one medium-artillery firing battery to provide general support to the entire division. (We reenactors simplify the notion of calling for artillery by identifying only one battery that's equipped with only one type of weapon – usually the 105mm Howitzer.) But infantry unit commanders normally knew exactly what unit(s) to call and worked with artillery liaison officers to determine the amount and type of fire support they needed.
- Artillery battalions would continue to deliver neutralization, destruction, registration, harassing, or interdiction fire. Artillery would be considered most effective when providing massed fires, with entire batteries (and frequently multiple batteries) providing coordinated fire against a specific target. Many new techniques would facilitate the ability to provide such fire support.
 - Target acquisition would be done more frequently by forward observers or aerial observers and less frequently by light and sound ranging methods.
 - Radios such as the SCR-619 and SCR-536 would greatly improve communications.
 - Fire direction would move from the responsibility of the battery commander to the fire direction center (FDC).
- The anticipated mobility of maneuver forces meant it would no longer be adequate to count on artillery support from large guns in fixed positions. Tractors and trucks would replace horses as the prime movers of most artillery pieces. Some light and medium guns would use a modified tank chassis to become self-propelled.
- Light artillery pieces such as the 75mm Howitzer would be replaced by guns with improved power and range - such as the 105mm Howitzer. Light artillery divisional battalions equipped with the new 105mms would conduct direct support missions, most frequently for their organic regiments.

- Medium artillery pieces would also be replaced by more powerful and more mobile versions - such as the 155mm Howitzer and 155mm Gun. Medium artillery divisional battalions equipped with 155mms would conduct general support missions for both organic and non-organic regiments.
- Heavy artillery pieces would be also be replaced by more mobile versions. Non-divisional battalions equipped with the 8 in. Howitzer, 8 in. Gun, or 240mm Howitzer would be available to conduct general support missions for infantry or armored units and reinforcing support missions for other artillery units as needed.
- Artillery battalions organic to a division would frequently be moved to other commands as part of various task forces assembled for specific missions.
- Artillery liaison officers would continue to partner with infantry and armor unit commanders to coordinate supporting fires.

Different experiences in North Africa, Italy, the Pacific, and Europe certainly influenced the commanders of Army Ground Forces and the War Department as they prosecuted the war on many fronts. Among other changes, they often altered the distribution of medium and heavy artillery units. In describing the basic aspects of the artillery arm, we do not need to dwell on organizational changes within different types of divisions or the shifts in the TO&E of various artillery units. The typical infantryman in the ETO did not have to worry about such things. He just needed to know that he could count on receiving the right amount of fire support from light, medium, or heavy artillery units when and where he needed it. Most of the time, that support was there.

Light Artillery

The lightest weapon operated by the field artillery during the war was the 75mm Pack Howitzer...



...and its close cousin the 75mm Field Howitzer.



The "Pack" version used an old-style box trail and had no shield assembly to protect the gunners. The improved "Field" version used a split trail, was equipped with more rugged tires, and included a shield assembly. Both were lightweight pieces that could be disassembled for easy transport. This feature made them especially

suitable for use in airborne and mountain infantry divisions. There were several styles of each version. The 75mm's barrel was 3 ft. 1 in. long and could be elevated to 45 degrees. It could propel a variety of 17-pound projectiles out to a range of about 9,000 yards. These 75mms were used by most Army and Marine Corps units in the Pacific and by many Army units in Africa, Italy, and Europe. Over time,

however, they were replaced in most straight-leg infantry divisions in the ETO by the larger, more powerful version of the 105mm howitzer that a special board of review recommended as the 75mm's replacement after the conclusion of World War I.

In early 1941, the army began equipping light artillery battalions with the 105mm M2 Howitzer.

The M2's barrel length was 7 ft. 6 in. and could be elevated to 65 degrees. It could fire a variety of 33-pound projectiles out to a range of about 12,000 yards. A shell bursting on impact would leave a crater about 5 feet deep and spray a lethal combination of shrapnel and shell fragments in a circle with a 40-yard diameter; some fragments would be effective at up to 300 yards from the impact point. Each



of these measurements was markedly superior to those of the 75mm howitzer. In infantry divisions, trucks or tractors towed this howitzer. Armored divisions were equipped with the self-propelled model. Initially, the tube was mounted on the M3 half-track.

Later in the war, most units were equipped with the fully tracked M7 version. The troops nicknamed it the Priest because of its pulpit-like machine gun ring.



The Cannon Company

As some of you undoubtedly know, because the appropriate FM 7-37 is listed on our Resources page, each infantry regiment had its own organic Cannon Company with three cannon platoons equipped with a pair of 105mm M3 howitzers.

The M3 was a smaller and lighter version of the M2 used in the artillery's own 105mm batteries. It was also suitable for airborne divisions and was the weapon that eventually replaced those divisions' 75mm howitzer. This towed weapon's tube was 5 ft. 7 in. long and could be elevated to 65 degrees. This shorter-barreled gun could fire the standard 33-pound shells out to a range of about 8,300 yards.

The cannon battery was included in the typical infantry regiment so company commanders and platoon leaders could have their own organic howitzers to use for fire support. Its howitzers were intended to be used against point targets such as bunkers, pillboxes, strongly fortified buildings, mortars, and roadblocks. They were manned by infantrymen trained by the artillery and were intended to be used when confronting a local and immediate threat. They traveled with the infantry and could engage targets quickly - generally before the maneuver unit could call for fire from its direct support artillery battalion. They were especially suitable for



firing just a few rounds here and there - the type of fire mission not generally appropriate for a traditional field artillery battalion. The Cannon Company's howitzers were frequently used to supplement the fire the unit was receiving from its direct support artillery battalion. Confused? Don't worry about it. Contemporary reports suggest that soldiers were also confused about the most appropriate way to use this "infantry" stepchild unit of the regiment. The Cannon Company had a mixed level of success in various theaters and at various times. It remained a part of the typical infantry regiment until after the end of the war.

Medium Artillery

The standard weapon in the medium artillery battalions was the 155mm M1 Field Howitzer.

The M1's tube was 10 ft. 2 in. long and could be elevated to 65 degrees. It fired a variety of 95-pound shells out to a range of about 16,000 yards. The M1's shell would leave a crater about 7 feet deep and spray its shrapnel and shell fragments in a circle with a 70-yard diameter; some would cause damage at up to 500 yards from the impact point. It was towed with a truck or tractor.



Because the next piece I describe will be the 155 mm *Gun*, this is a good place to differentiate a gun from a howitzer. To put it simply...a gun has a long barrel and fires a round at a relatively flat trajectory; a howitzer has a shorter barrel and fires at a higher trajectory.

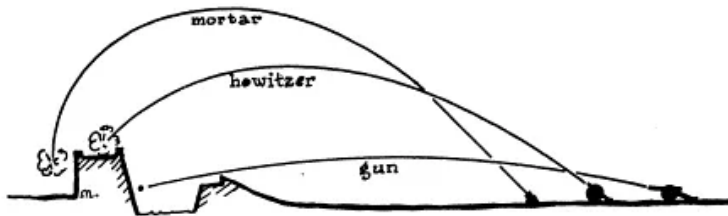


FIGURE 22—TRAJECTORIES. Maximum range of eighteenth century guns was about 1 mile.

Guns could: Batter heavy construction with solid shot at long or short range; destroy fort parapets and, by ricochet fire, dismount cannon; shoot grape, canister, or bombs against massed personnel.

Mortars could: Reach targets behind obstructions; use high angle fire to shoot bombs, destroying construction and personnel.

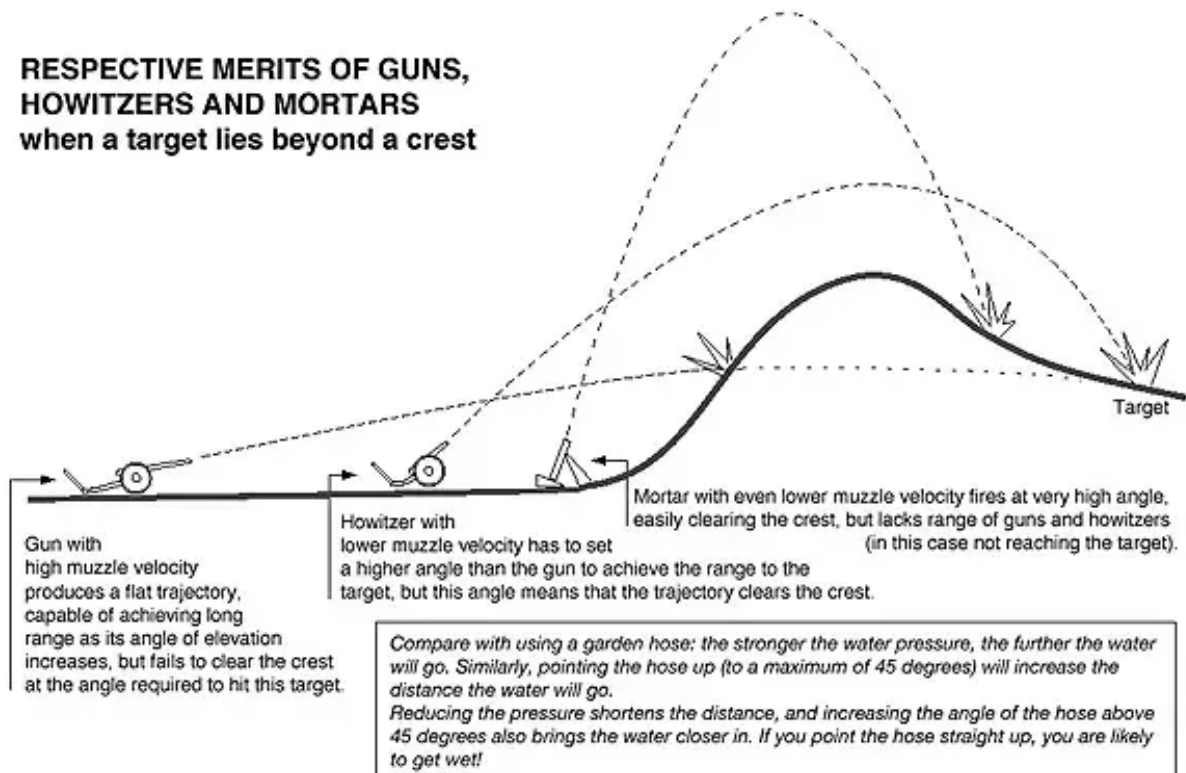
Howitzers could: Move more easily in the field than mortars; reach targets behind obstructions by high angle fire; shoot larger projectiles than could field guns of similar weight.

Both are differentiated from a mortar, which has a very short barrel and fires at a very high trajectory. This diagram illustrates the differences among these three weapons and suggests how they can be best used when aiming at different targets. (Pay no attention to the note about the maximum range of eighteenth-century guns.)

I won't describe the 81 mm mortar or the larger 4.2 in. mortar used in the ETO during WWII. But I will acknowledge that each was a very useful weapon for providing indirect fire against visible or non-visible targets up to about 3,000 yards away.

Yet another diagram has some descriptive language explaining how guns, howitzers, and mortars can be used against targets at various locations on the battlefield.

**RESPECTIVE MERITS OF GUNS,
HOWITZERS AND MORTARS
when a target lies beyond a crest**



As I hope you can tell, deciding which type of artillery would be best suited to provide indirect fire support against any particular target could be a complicated task. While I've mentioned "various types of shells" a couple times, I haven't itemized the different characteristics of shells labeled high explosive (HE), high explosive anti-tank (HEAT), armor piercing (AP), chemical, or smoke. I haven't described the weight of the separate powder bag charge used to propel the round out of medium and heavy pieces. And I haven't discussed the variety of fuses such as percussion, time, proximity, and delay that were available to guns and howitzers of all sizes. The artillery liaison officer embedded within each supported maneuver element was charged with providing advice on the employment of artillery to that unit's commander; he would assist that commander in obtaining the type of fire support he needed; and he would keep his artillery commander informed of the plans, operations, and disposition of the supported maneuver element. As I said before, we face many limitations in mimicking the extensive interaction that occurred among maneuver unit commanders, artillery liaison officers, and artillery unit commanders during World War II. But I hope this article helps every reenactor gain a greater appreciation for the type of coordination that needed to occur on a daily basis.

Let's get back to the weapons. The 155mm *Gun* M1A1, nicknamed the Long Tom, straddled the categories of Medium and Heavy artillery. Unlike the 155mm M1 Field Howitzer, it was not assigned to maneuver divisions, but to separate artillery battalions responsible for conducting general support missions in corps-level operations.



The Long Tom's tube was an unusually long at 22 ft. 10 in. Like most weapons I've already described it could be elevated to 65 degrees. This monster fired a 95-pound shell out to a range of almost 26,000 yards. It was towed by first by a 7-ton truck and later by the M4 HST (High Speed Tractor).

The 4.5 in. Gun was another piece of medium artillery. It was also assigned to separate artillery battalions tasked with engaging in corps support missions.



It looked a lot like the 155mm M1 Howitzer and shared the same carriage. This gun had an unusually long barrel of 15 ft. 7 in. It used a relatively small powder charge to fire a relatively light 55-pound HE shell out to a range of about 20,000 yards. The exploding shell broke into relatively large fragments that made this weapon well-suited for conducting counter-battery missions. But it performed no better than the 155mm M1 Howitzer or the Long Tom Gun. And it used shells that were unique to this weapon, thus complicating the logistics of ammunition supply. So the army supplied only a couple dozen battalions with fewer

than 426 4.5 in. Guns during the war. By comparison, American arsenals manufactured more than 4,000 155mm M1 Howitzers and more than 1,880 155mm Long Tom Guns.

Heavy Artillery



Many soldiers never saw them. But the U.S. Army equipped 38 divisional and non-divisional battalions in the ETO with the 8 in. Howitzer M1.

This popular howitzer's barrel length was 22 ft. 10 in. long and could be elevated to 64 degrees. It fired a 200 pound HE shell out to a range of about 18,500 yards. It was used for corps and army support missions and was especially suited for destroying bridges at long range. It was towed

by a succession of specialized tractors and Mack trucks.

As had been the case with the 155mm weapon, the Army also designed a companion "Gun" version of this effective piece of artillery.

The 8 in Gun was designed with a longer tube than the howitzer and was capable of firing a more powerful shell on a flatter trajectory and at a longer distance. Its tube was 33 ft. 4 in. long and could be elevated to only 50 degrees. But it could throw a 240-pound shell out to a range of about 35,000 yards. The size and weight of its particular shell/propellant combination caused greater barrel erosion and less accuracy at long range than expected. So the Army produced only 139 8 in. Guns and equipped only five non-divisional battalions in the ETO with this weapon.



The artillery had another big gun available for fire missions requiring the destruction of concrete fortifications or enemy artillery formations. The 240mm Howitzer M1, nicknamed the “Black Dragon”, was difficult to move and emplace. But the soldiers of fifteen battalions in the ETO did their darndest to send this weapon’s rounds downrange whenever they were summoned.



The 240mm’s tube was 27 ft. 6 in. long. It fired a 360-pound shell out to a range of 25,000 yards. Moving such a large and heavy gun was a special challenge. Plans to deploy it to Italy were delayed until a suitable prime mover could be designed and built. The cannon and its carriage had to be towed separately by

specialized transport tractors. While the 240mm was used in Europe, it found its greatest use against the concrete fortifications in the high Apennines of Italy.

Last, here is a description of the Army’s artillery weapons in World war II with this table showing some comparative data about the various weapons’ basic characteristics.

	Barrel Length	Projectile Weight (Pounds)	Maximum Range (Yards)	Rate of Fire per Minute
75mm Pack Howitzer	3 ft 1 in	15	9,700	16
105mm Howitzer M2	7 ft 6 in	33	12,200	3
105mm Howitzer M3	5 ft 7 in	33	8,200	15
155mm Howitzer M1	10 ft 2 in	95	16,000	2
155mm Gun M1A1	22 ft 10 in	95	25,400	1
8-in. Howitzer M1	16 ft 9 in	200	18,500	<1
8-in. Gun M1	33 ft 4 in	240	35,000	1
240mm Howitzer M1	27 ft 6 in	360	25,000	<1

The Call for Fire

I'll conclude this essay with an invitation to all infantry reenactors – *learn how to call for artillery fire support*. Believe it or not, it was not until October 1944 that the army allocated organic forward observers to the divisional artillery battalions. Before that time, infantry units had to send in their own calls for fire. During our events, we usually restrict the people who are authorized to send a call for fire to the Artillery Liaison Officer/Umpire (ALO) at the Tactical Operations Center (TOC) to company commanders or platoon leaders. But everyone should be prepared to fulfill this task if necessary.



Here's a simple Call for Fire:

I'll call the TOC Umpire *Notorious Seven* and the infantry platoon leader *Blue Item 1*; this is only the dialogue for Blue Item 1; the Umpire at the TOC would repeat and confirm each order.

- *Notorious Seven this in Blue Item 1 Fire Mission, over...*
- *Coordinates 377628, a platoon of machine guns in two long pillboxes, over...* (Don't forget to **READ RIGHT UP**)
- Blue Item 1 could also specify the type of adjustment, ammunition, and fuse if they differed from the standard Will Adjust, HE, and impact.
- Assuming the mission is approved, the Umpire at the TOC will send "Shot Out" when the gun is fired and "Impact" at the appropriate number of minutes after that. A Maneuver element's direct support artillery battalion was usually prepared to respond quickly to a Call for Fire; but it could not do so instantly in real-time. So we typically use a delay in response time of 5 minutes for US artillery and 8 minutes for German artillery. By the way, sometimes the Umpire will not approve the mission...that did happen, and we want to try to mimic reality as much as possible.
- If the target is still at the specified coordinates, Blue Item 1 can report "*Target Destroyed*".

Fire missions could also be called on prespecified targets (Registration Point Alpha Three), or on a spot nearby (from Registration Point Alpha Three, Right 500 Up 700.) It was also possible to call more than one fire mission on more than one target at the same time – it was called a Fire Plan. Maybe we can get to that level of detail someday. For now, I hope this information is helpful to my fellow reenactors who wear the crossed rifles of the infantry. I hope you can remember some of my earlier points about the most effective use of the artillery's indirect fire support when you're planning a call for fire against an appropriate fixed target on the battlefield.

Mike Martorelli is a former artillery officer in the Pennsylvania National Guard. He is a member of two artillery reenacting units: Union Army Battery F, 1st Pennsylvania Light Artillery, and WWII's 261st Coast Artillery Battalion, Delaware National Guard. He is also a member of Historic Military Impressions, and prefers acting as an Umpire, clerk, or administrative staff member to portraying a rifle-toting infantryman.

BARS AND STRIPES: LEADERSHIP NOTES FOR REENACTORS

The Platoon Sergeant – A Primer

by Sgt. Drilldich



Most reenactors envision a Platoon Sergeant as a grizzled old veteran of 12 years' service or more from the prewar Army with vast experience and battle scars, dispensing harsh discipline and folksy wisdom with fatherly understanding and an iron fist. Think Gunny Highway in *Heartbreak Ridge*, or Sergeant Kinney from *Battleground* (do **not** think Sergeant Horvath from *Saving Private Ryan*). Now stop thinking, and then think again, because this image is completely wrong. Especially for WW2.

In those days, with the Army's expansion and later casualties, the need for the striped arms of authority was so great that nearly any **body** with combat experience would fit the shirt. Think Don Malarkey in *Band of Brothers* instead. And those striped-arm bodies tended to be young and not much older than the charges they led. There was no school of the NCO, other than the basic training and combat they had experienced. But above all, there was the need to take care of the men assigned to them. What these sergeants were, was *good*.

The Platoon Sergeant is the *leader* of his platoon. That's it. He's the leader not in the Platoon Leader (i.e., 2nd Lieutenant) sense, who takes the platoon into combat and other undesirable places, but in the platoon *builder* sense. Through the NCOs beneath him, the Platoon Sergeant makes sure that his platoon operates at top efficiency – in uniforms and comportment, drill and ceremony, tactics, safety, accountability, presentability, care-and-feeding, and a hundred other details that make the platoon the essential building block of the company.

Who Is the Platoon Sergeant?

The Platoon Sergeant (Technical Sergeant by 1944, which is a *rank*, by the way – Platoon Sergeant is a *job*) parallels a Squad Leader's duties. He is more experienced than the Staff Sergeant Squad Leader but does not really differ from him in authority so much as *sphere of influence* — he has daily contact with all soldiers in his platoon and has more sergeants under him. He *makes* backbones and is most responsible for the success of the platoon.

The Platoon Sergeant is the key advisor for the platoon, making sure that everyone (through their Squad Leaders) is trained, healthy, and ready for the day's duties. The Platoon Sergeant must have a great deal of experience in all areas — he must know how **all** squad weapons function, where and what his platoon leader and company commander is and does, and especially the platoon leader, for frequently he must take over those duties. Likewise, he makes sure that each NCO knows the duties and responsibilities of the next NCO above, because inevitably, those duties and responsibilities will have to be assumed when necessary. *Learn* one level up, *teach* one level down.

A good NCO is not going to be tough just because he can be by virtue of the stripes he wears. He will be tough because he has learned from experience (especially others' experience) and also because he understands that *responsibility*, more so than *duty*, is a rarefied element that means he must be *personally accountable* for all that happens within the unit he leads. He must make sure that all of his soldiers understand that everyone is responsible for what they do or do not do, that is, for their personal conduct.

The good NCO must assume *command responsibility* — the unit he leads is part of a collective organizational entity and it must function efficiently as part of that entity. His role in this cannot be delegated, and he must be responsible for his own personal conduct. So *DO IT*. Set the example. *Lead*.

What Is Done?

As Platoon Sergeant, you'll never be bored, because there are always things that the Platoon Sergeant is ultimately responsible for. First and foremost, since he is the key advisor for the platoon as noted above, he is the primary trainer for the platoon, particularly regarding drill and tactics. Yet more importantly, he is the role model of behavior for his platoon. He *wants* his soldiers to be like him, *do* as he does, and ultimately *think* as he does. He doesn't get there by tearing them down like Gunny Highway or intimidating them; yelling at your charges will get you nowhere, especially in this hobby. But he doesn't baby them either. He's *tough*, but fair. Tough comes from *knowing* his job; fairness comes from *remembering* that, once upon a time, *he was just like them*, and just as inexperienced.

The elements a Platoon Sergeant has to attend to, or at least keep in mind at all times:

1. Welfare of his soldiers—they're *your* men, treat them right.
2. Platoon leadership—*learn* one level up, *teach* one level down.
3. Personnel accountability—if you *say* it, *do* it.
4. Platoon's senior trainer—assigning, instructing, assisting and evaluating squad training.
5. Formations and inspection of soldiers' appearance and capabilities.
6. Platoon's physical fitness program (hopefully).
7. Weapons maintenance supervisor.
8. Field operations (tactics), mission support (logistics), medical and support (care and feeding).
9. Maintain cleanness and appearance of common areas.
10. Garrison operations, detail support.
11. Administration of platoon paperwork.
12. Weapons qualification.
13. Additional duties as assigned.

Detailing out each of the above isn't necessary; suffice it to say that common sense should dictate the course of action. Just take the above as the overall outline of what must be done to function as an efficient Platoon Sergeant.

How Is It Done?

A well-drilled unit generates an image of discipline and proficiency, and a pride in themselves, to anyone that sees them. Mastering the basics of close order drill and the manual of arms is integral to developing discipline and precision. This is the *big job* for the Platoon Sergeant. The fundamentals of drill are the first thing that any soldier learns, regardless of branch of service, nationality, or period in history. It is the foundation upon which all other aspects of being a soldier are built. For the reenactor, it's the foundation upon which to build the rest of your impression – mastering these drills will help you look and even feel more like a GI.

The Manual of Arms, and Close Order Drill

Platoon Sergeants build *teams*, and nothing builds the collective sense of team more than drill. The more proficient each man can become in performing the individual movements, the easier it will be for him to mesh with the team when the platoon is functioning together. If someone needs help in mastering some of these skills, all of the NCOs in the platoon should be willing to help; but *primarily* it is up to the Platoon Sergeant to see that this happens.

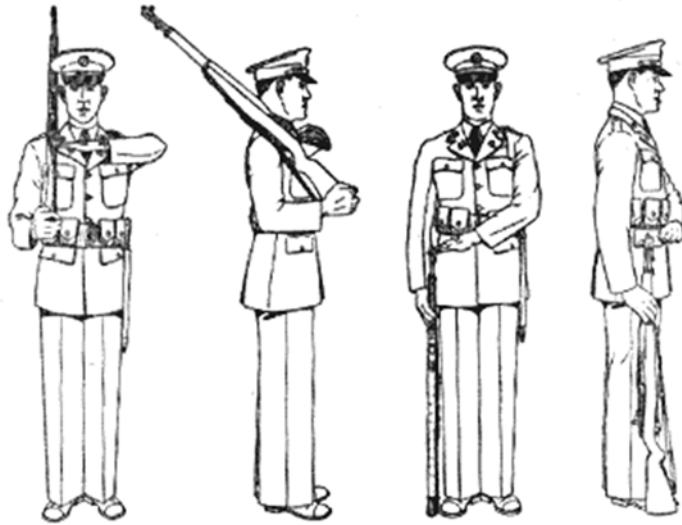


Plate 12. Rifle Salute at Right Shoulder Arms and at Order Arms.

individually in performing the correct evolutions of drill, and then again as part of the platoon, contributes to the pride, confidence, and trust in both himself and his fellow soldiers. This is much harder than MOA, which can be practiced alone. And yes, drill can be practiced alone, but it must be practiced *as part of* the larger unit, meaning the platoon. And that's the Platoon Sergeant's job. Each Squad Leader must make sure his own charges know drill, but it's up to the Platoon Sergeant to make it all function together.

The full detail of how to march a platoon would take up too much space here; you can find this in the appropriate sections in FM 22-5 Infantry Drill

Regulations. The basic elements of marching itself and the MOA are in FM 21-100 The Soldiers' Handbook. Both together comprise "The School of the Infantry." The *primary* thing to know is how to form a platoon, and a well-formed platoon is a thing of beauty.



Drill with the rifle, referred to as the Manual of Arms, is the primary level that each individual soldier must accomplish. Gaining proficiency and "snap and pop" in performing these movements, both as an individual and when functioning as part of the platoon, will ultimately develop pride, confidence, and trust in both yourself and your fellow soldiers. Nothing looks sharper than a platoon performing the "Marching Manual", with every hand and every weapon moving as one. But, to get there, each man must first learn and become proficient in the basics.

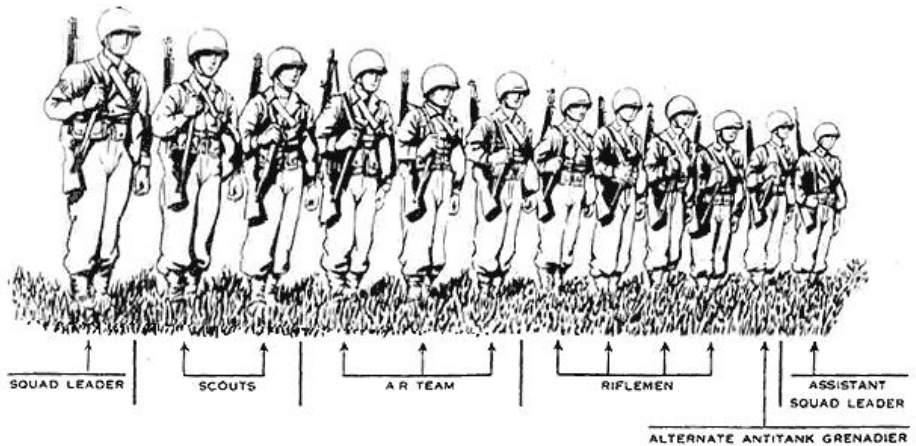
The second element of the basics is close order drill. Like manual of arms, the proficiency each squad member develops

How Do You Make and March a Platoon?

In the Army, then as now, there was a formation for *everything* – reveille, chow, drill, school, colors, retreat, you name it – and there are standard procedures we always use to form and march the platoon that the Platoon Sergeant must know and teach to his subordinates. The creation of a basic formation is usually lost on most reenactors; practicing it and doing it right will put your platoon far above those of other units.

1. Forming the Platoon

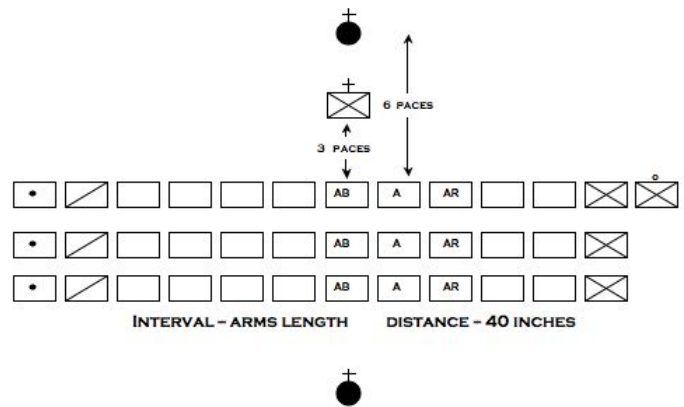
In a full company formation of 2 to 3 platoons (which we almost never have, but the commands are the same, so *learn them*), the 1st Sergeant will take his place on the drill field and call “Company, FALL IN”. At that point, you take up your position 3 paces to the front and 6 paces to the 1st Sergeant’s left (if you are 1st Platoon Sergeant), with your back to the 1st Sergeant. You



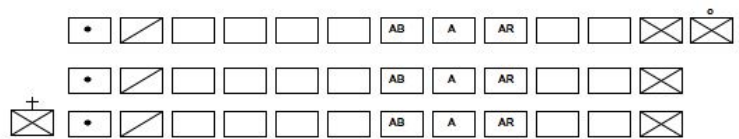
yourself then call “1st Platoon, FALL IN” with a blast of the M1A1E2 Whistle, Brass, Thunderer, for emphasis. The *Platoon Guide* (a position covered in FM 22-5, but is generally unknown to reenactors; see “Mysteries of ‘The Grinder’: The Platoon Guide” in *General Orders Fall/Winter 2018* for a fuller description of his function) positions himself first, dressing off of you, again 3 paces to the front and 6 paces to the left, and everybody else in the platoon forms on him. The three squad leaders take their positions, and the squad members fall on them, quickly checking dress and cover. (Note: if only one platoon is forming, the position of 1st Sergeant is eliminated, but the platoon still forms in essentially the same fashion, forming directly off in front of the Platoon Leader instead of the 1st Sergeant.)

The Platoon Sergeant then commands “Dress right, DRESS”; the soldiers shift as needed to align properly, followed by “Ready, FRONT.”

The Platoon Sergeant then takes reports: Orders “Re-PORT”; each squad leader in turn states the personnel status of his squad (“Private Slipschitz on detail”; “Private Schmuckatello absent”; “all present”; [NOTE: “All present and accounted for” is not correct – if a soldier is present, he is by definition accounted for]).



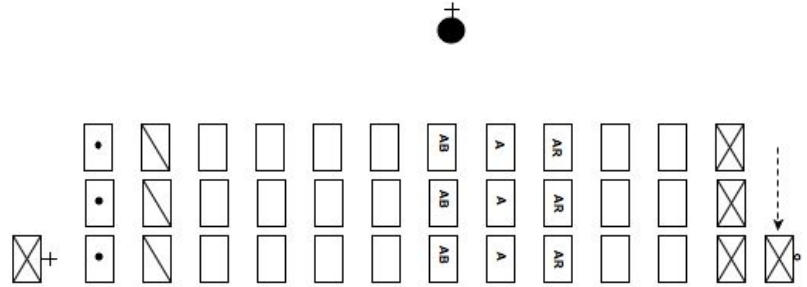
If the platoon is under arms (that is, carrying their weapons), the Platoon Sergeant then gives “Inspection, ARMS” and listens for the distinct clink of a round ejected from the rifle of an unlucky soldier. (Those carrying other weapons – carbine, BAR, pistol — execute inspection arms as prescribed elsewhere.) The Platoon Sergeant then brings the platoon to “Order, ARMS”



and faces about. If the platoon is formed alone (in reenacting, it usually is) the Platoon Leader steps in front of the Platoon Sergeant, who salutes and gives the report. The Platoon Leader returns his salute and proceeds by ordering “Post”, in which case the Platoon Sergeant takes his position at the left end of the rear file (as in the 2nd illustration above). The platoon is now formed.

2. *Getting Ready to March a Platoon*

To march the platoon as a separate element, we generally first change the face to march to the right (right because the platoon falls in from right to left, and a left face to march would put the guide and squad leaders at the rear of the formation).



The Platoon Leader commands “Right, FACE”; at this command, all members of the platoon face to the right (illustrated above) except the Guide, who faces about, steps to the front of the rightmost squad, then faces left. (The Guide unless otherwise instructed is on the right, which explains this dance.) The Platoon Leader faces *left*, to finish facing in the same direction as the platoon.

NOTE: There is no such command as “Counter March” for close order drill in FM 22-5 (it is sometimes used to change direction in a band). To change direction front to rear while keeping the guide in front, use successive commands of “Column Left” or “Column Right, MARCH.” The command “Right (or Left) **Turn**, MARCH” is used only in company mass formation (see FM 22-5, para. 155).

ALSO NOTE: The platoon will fall in at regular interval (“FALL IN”) but can also fall in at close interval (“At Close Interval, FALL IN”). Close Interval is used when space is limited (not usually an issue for reenactors but knowing how puts you ahead of the game). A problem with falling in at Close Interval is that when you face right or left, cover is reduced (ranks are compressed front to rear), which makes it difficult to march.

Again, see FM 22-5 for the full intricacies of marching the platoon.

Parting Shots

There’s a lot left out here because there’s just not the space to describe it – map reading, R/T comms, mortar and MG placement and control, first aid, latrine digging – but that is the fun stuff in reenacting, all the flash and drama and polish to make you puff your chest and strut like a peacock. But remember that there’s more to being good at your job — you have to *prove* every day that you care about your men, that you have *their* interests in mind, just as you did when you were a Squad Leader. If you’re good at this job, it’s because you’ll have *learned* it and *earned* it by having been good at your past jobs. If you were just awarded it via longevity in your unit . . . well, then you have *a lot to learn*. But you should be selected for the position because you’re *good*.

Prove it every day.

Reference Materials

Below are manuals referenced above, plus others that you’ll consult frequently in your career as a Platoon Sergeant:

- FM 21-100 The Soldiers’ Manual
- FM 22-5 Infantry Drill Regulations
- FM 21-75 Scouting Patrolling and Sniping
- FM 21-25 Elementary Map and Aerial Photograph Reading
- FM 21-26 Advanced Map and Aerial Photograph Reading
- FM 7-5 Organization and Tactics of Infantry
- FM 7-10 Rifle Company

Author’s Note: The best source for these manuals is ReenactorPro.org, since most have been “glossed” with critical explanation notes by Tim O’Neill. If nothing else, read the gloss notes; you will find them entertaining at least, enlightening at best. And you will have opened the manuals.

THE ART OF WAR

Napoleon's Military Maxims

by Robert Mosher

Quite a few things happened long ago that influences World War II and military thought. In this issue, Robert Mosher discusses the contributions of Napoleon Bonaparte.



Even today, Napoleon remains one of history's greatest masters of war and worthy of study. While the range and firepower of modern weapons is far greater than those of his day, Napoleon's ideas on tactics, strategy, and the operational art are the underpinnings of modern war. They are likely to remain so as long as we make war primarily with gunpowder or a modern equivalent.

Originally published in 1830 in Paris as *Maximes de Guerre*, they are derived from the *Correspondence de Napoleon*, Napoleon's Maxims were not written or compiled by Napoleon but by "General Burnod", a Sardinian-born officer in the French army who transferred to service in the Russian army in 1820. Serving mostly in the Caucasus as Karl Ivanovich Burno, he would rise to the rank of Major General. In the preface to the original French language edition, Burnod explained that he selected the original list of maxims and then elaborated upon each maxim in a second

part of the published work.

The military maxims can be found today in numerous editions, in part because they're linked to Napoleon but also because no one collects royalties on them anymore! The first edition presented 78 maxims in the work's first section and then presented a second section which repeated each maxim with commentary. (If you are presenting a West Point graduate impression, you might even look for a period French language copy of Maxims, both Patton and Robert E. Lee included French language works in their professional libraries.)

I have at least three versions on my shelves (it's what I do; I have at least five versions of Sun Tzu):

1. *Napoleon's Art of War, With Notes by General Burnod, Trans. Lieut.-Gen. Sir G.C. D'Aguilar, C.B. – 1995, Barnes and Noble Books*

The first listed above is one of the classic books marketed by Barnes & Noble these days. This edition presents 88 of the Maxims and the original comments by General Burnod published in 1827, but translated into English by a British officer. Major General Sir George Charles D'Aguilar, K.C.B. (1784-1855) was an industrious translator, compiler, and commentator on French works of military history, theory, strategy, etc. in addition to his 26 years plus of active military service in India, Europe, and China. According to Col Lanza (see Napoleon and Modern War below), this version was similar to the version first circulated in the U.S. in the 1830s and in different editions again in 1845 and in 1861, the latter featuring the commentary on the Maxims.

2. *Military Maxims – Napoleon, A.D. 1827 from Roots of Strategy, a collection of military classics, John Lane the Bodley Head, London, 1943*

In “Roots of Strategy” (1943), the maxims are “translated from the original French” and though not stated the implication is that editor Major Thomas R. Philips (later Brigadier General) rendered these translations himself. “The Military Maxims of Napoleon” is the last of the five military classics included in the collection originally published in 1927. While the “Roots of Strategy” collection presents 115 maxims including those on naval war, it omits General Burnod’s commentary and offers no modern commentary in their stead.

3. *Napoleon and Modern War, His Military Maxims, Revised and Annotated by Conrad H. Lanza, Colonel, U.S.A., Military Service Publishing Company, Harrisburg, 1944*

The third volume, “Napoleon and Modern War, His Military Maxims” is probably the most useful to the WW2 reenactor and presents 115 maxims with commentary by Lanza reflecting contemporary aspects of the thoughts attributed to the French Emperor. First published in 1943 by the Military Service Publishing Company (later Stackpole Books) its Fourth Printing was issued in February 1954. Revised and edited by Colonel Conrad Lanza, Field Artillery, U.S.A., it opens with a five page chronology of Napoleon’s life and career and one plus page index to the Maxims.

Some Selected Maxims

Maxim I: The frontiers of states are either large rivers, or chains of mountains, or deserts. Of all these obstacles to the march of an army, the most difficult to overcome are deserts; mountains come next, while broad rivers occupy the third place.

Maxim II: A plan of campaign should take into consideration everything the enemy can do, and prescribe the necessary measures to counteract him. Plans of campaign may be modified, *ad infinitum*, according to circumstances, the genius of the commander, the character of the troops, and the topography of the theater of war.

Maxim V: War should be made methodically, for it should have a definite object; and it should be conducted according to the principles and rules of art. War should be made with forces proportionate to the obstacles which can be foreseen.

Maxim VI: At the beginning of a campaign, to advance or not to advance is a matter for grave consideration; but when once the offensive has been assumed, it must be maintained to the last extremity. However skillful the maneuvers in a retreat may be, it will always weaken the morale of an army, because the chances of success pass to the enemy. Besides, retreats always cost more men and materiel than the most bloody engagements, with this difference, that in a battle the enemy’s loss is nearly equal to your own, whereas in a retreat the loss is on your side only.

Maxim IX: The strength of an army, like power in mechanics, is the product of the mass by the velocity [speed of action]. A rapid march augments the morale of an army, and increases its means of victory.

Maxim XVI: It is a well-established maxim of war never to do what the enemy wishes you to do, for the simple reason that he desires it; hence, a field of battle which he has reconnoitered and studied must be avoided; and even greater care must be taken to avoid a field which he has fortified and which he has entrenched. One corollary of this principle is never to attack in front a position which can be taken by turning.

Maxim XIX: The change from the defensive to the offensive is one of the most delicate operations in war.

Maxim XXVI: It is contrary to true principle to require forces which have no communication with each other to act separately against a central force whose communications are good.

Maxim XXIX: When a commander intends to give battle, he should collect all his forces, and overlook none; a battalion sometimes decides the day.

Maxim XXXII: The mission of an advance guard is not to advance or retire, but to maneuver. It should be composed of light cavalry, supported by a reserve of medium cavalry and battalions of infantry, with batteries in support. It should consist of selected troops; and the generals, officers, officers and soldiers should well know their tactics according to the needs of their grades. An untrained unit would be only an embarrassment to such a force.

Maxim XXXVIII: It is difficult to prevent an enemy who has bridge trains from crossing a river. When the object of the army defending the passage is to cover a siege, the moment the general, as soon as he is certain that he cannot prevent the passage, should take steps to confront the enemy at an intermediate position between the river he defends and the place he is covering.

Maxim XL: Fortresses are useful in offensive as well as in defensive warfare. True they will not in themselves arrest an army; but they are an excellent means by which to retard, embarrass, weaken and annoy a victorious enemy.

Maxim LVIII: The first quality of a soldier is the ability to support fatigue and privation; valor is only secondary. Poverty, privation and misery are the school of the good soldier.

Maxim LIX: There are five things from which the soldier should never be separated his musket, his cartridges, his pack, rations for at least four days, and his pioneer tool. Let his pack be reduced to the smallest size possible, if necessary; but he should always have it with him.

Maxim LXI: Speeches preceding a battle do not make soldiers brave; the old soldiers scarcely listen, and the recruit forgets them at the first cannon shot. Discourse and argument are useful to destroy innuendo and false rumors during a campaign, to maintain good morale in camp, and to furnish subjects for conversation in bivouac. The printed order of the day should meet these needs.

Maxim LXIV: Nothing is more important in war than unity of command. Thus, when war is waged against a single power there must be but one army, acting upon one line and led by one chief.

Maxim LXV: If a commander sees wisdom in debates and conferences, he will arrive at the result which in all ages has followed such a course, namely, by making the worst decisions, which almost always in war is the most pusillanimous, or if your wish, the most prudent. True wisdom in a general means energy.

Maxim LXXII: A commander-in-chief is not exonerated for his mistakes in war, committed by virtue of an order of his sovereign, or of a minister, when he that gives it is far from the field of operations and knows little or nothing of the latest developments. Hence it follows that any commander-in-chief who undertakes to execute a plan which he considers bad is guilty. He should give his reasons, insist the plan be changed and finally resign rather than become the instrument of the ruin of his army. Any commander-in-chief who, in consequence of superior orders, gives battle when certain that he will lose it, is equally guilty. He should refuse to obey; for a military order requires literal obedience only when it is given by a superior who is present in the theater of war at the time he gives it. Having then full knowledge of the situation, he can listen to objections and give necessary explanations to the officer who is to execute the order. But if a commander-in-chief receives an absolute order from his sovereign to give battle, with an injunction to yield the victory to his adversary, and allow himself to be beaten, should he obey? No. If the commander-in-chief understands the reason for such a strange order, he should execute it; but if he does not understand it, he should refuse to obey.

Maxim LXXIII: The first quality for a commander-in-chief is a cool head, which receives a correct impression of things. He should not allow himself to be confused by either good or bad news. The impressions he receives successively or simultaneously in the course of a day should classify themselves in his mind in such a way as to occupy the place which they merit, for reason and judgement are the result of the comparison of various impressions taken into just consideration, since it is upon a just comparison and considerations of the weight due to different impressions that the power of reasoning and of right judgment depends.

Some men are so physically and morally constituted as to see everything through a highly colored medium. They raise up a picture in the mind on every slight occasion, and give to every trivial occurrence a dramatic interest. But whatever knowledge, or talent, or courage, or other good qualities, such men may possess, Nature has not formed them for the command of armies, or the direction of great military operations.

Maxim LXXIV: The leading qualifications which should distinguish an officer selected for the head of the staff are, to know the country thoroughly; to be able to conduct a reconnaissance with skill; to superintend the transmission of orders promptly; to lay down the most complicated movements intelligibly, but in a few words, and with simplicity.