

# INFANTRY LETTERS



## NAVIGATING IN THE DESERT

Navigating in the desert has always been difficult because of the scarcity of identifiable terrain features and the need for speed in mechanized operations. And if U.S. units equipped with the Bradley fighting vehicle are to use their night vision advantage, night navigation is another challenge they must meet.

A sound method of night navigation is to use an automatic computerized navigational aid such as the LORAN in conjunction with a standard military map and a lensatic compass. The LORAN can store up to 100 points on the ground (that is, way points) using the latitude and longitude information available on a standard military map. Once the points have been stored, the LORAN will give a distance and direction to the points needed along the route and can provide course information such as the direction of travel in degrees and the current speed. It also provides steering corrections and an alarm that can be programmed to go off 200 meters before arrival at the next point. With a map and compass to confirm the LORAN information, half the navigation battle is already won.

Another important element of mounted navigation is giving the Bradley driver good directions. The key to this is to identify a feature or point in the distance that will fix the driver on the proper azimuth. During day movements, the driver can be oriented to a piece of terrain and given the clock direction and distance. The farther out the identified terrain feature, the better, because this will enable the driver to "terrain drive," maneuvering his vehicle around high ground and sand dunes to reduce skylining.

The same process works for night movements when there is enough illumination to identify terrain features. A Bradley commander, using his PVS-7

night vision goggles, can orient on the desired azimuth and scan for an identifiable feature and then orient the driver (as he does in day movements).

During periods of limited visibility—20 percent illumination or less—identifying a feature to orient on, even with night vision devices, can sometimes be a futile effort in the flat open desert. In this situation, orienting on stars and constellations can be an effective last resort. The relative position of a star moves, of course, as the earth rotates, so movements must be short when orienting on a particular star. One to two thousand meters is a good distance to travel before checking the azimuth again.

Orienting the driver on anything identifiable will accomplish a number of things:

- Reduce the frequency of deviation corrections.
- Reduce movement time as the driver will pick up a straight line to move on and therefore reduce lateral deviations (commonly called S-ing).
- Reduce confusion within the crew as the need for corrections is reduced—not to mention the chatter over the internal radio net.
- Enable the Bradley commander to concentrate on his job, which is scanning with his night vision device for possible enemy vehicles or positions.

The LORAN will place a unit within the range of the desired point and will tell how far off the point is and its direction. Once the point is within range, the gunner and Bradley commander can quickly scan in the specified direction to locate

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it. They can then quickly resume normal scanning once the point or a terrain feature is found.

When using the same ground and route during the day that is to be used again at night (quartering party or leaders reconnaissance, for example), one technique is to have the gunner scan with the thermal sights on the Bradley's integrated sight unit to get a good picture of the terrain the way it will look at night. The gunner in the night exercises can then remember the same terrain as he scans with his thermal sights.

Navigating at night in the desert is indeed challenging. Using such techniques as these, a unit can easily overcome the challenge and drive on to its objective.

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## TALKING TO TANKS

In the article "Tanks with Infantry, Part 1" (INFANTRY, September-October 1990, pages 12-16), the authors (Captain John J. Wintels and Captain Kris P. Thompson) addressed an issue that is important to all infantrymen. In some cases, however, they failed to take into account the equipment differences between non-mechanized infantry units, inadequately explained key points, and mentioned trouble areas without presenting solutions.

Their logistical discussions focused on an infantry unit with HEMTTs (heavy expanded-mobility tactical trucks), which are found only in mech country. If light infantrymen were the target of the article, better illustrations might have come from assuming a unit with five-ton or two-and-one-half-ton trucks or even HMMWVs for resupply, cargo, and tank

and pump units (TPUs). The best answer if tanks are attached to an infantry-heavy task force is to get an appropriate number of the tank battalion's cargo and fuel vehicles.

When the authors discuss POL, their main emphasis is on fuel, but another important consideration is that many of the package POL requirements for the M1/M1A1 are different from those of light, motorized, and M113 infantry. Infantry units that receive M1 cross-attachments must plan to stock and distribute the tanks' distinctive hydraulic fluid and grease.

The article did not adequately explain ammunition problems that will develop if tanks receive an infantry support mission. Only M1 and M1IP (initial production) tanks have the capability to fire high explosive plastic (HEP) and antipersonnel (APERS) rounds. The first of these would be helpful in urban terrain and the second in the authors' proposed "pill-box" or POW missions.

In addition, some M1/M1IP tank units include only sabot and HEAT (high explosive antitank) rounds in their basic loads, since their primary mission is to kill armor. HEP and APERS may have to be specially requested by the receiving unit, or planned for in the receiving unit's basic load. The HEP/APERS option is not even available with the M1A1 120mm cannon, which now has round and fire control capability for only HEAT and sabot. Units receiving M1A1s should plan on making correspondingly smaller holes in bunkers and buildings.

The authors discuss communication difficulties between tanks and the infantrymen on the ground, and this problem became worse when the external phone box was left off the M1/M1A1. Some solutions that platoons have used to solve this problem are tying the tank into platoon hot loops and, in an urban situation, running a land line from the nearest fighting position to the tank so they can inform the tank commander when to unmask and fire.

Another solution, if mounted radios are inoperative or inadequate to handle the nets required, is for a platoon leader to let the tank crew use an AN/PRC-68 or AN/PRC-126. If a tank commander feels

that his close-in security is in doubt because nobody is talking to him from the ground, he may decide to move to his alternate or supplementary position.

There is no substitute for tank support, but the only way it can work is to make tank attachments an effective part of the infantry unit's offensive and defensive plans. And the only way to do that is to train with them and know their special requirements.

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### LET'S SAVE THE SQT(WC)

So, the written component of the Skill Qualification Test —SQT(WC)— is out the window! Too bad! And just when the test results were coming back in a timely manner.

There was a time when the SQT results took so long that we unit training NCOs were allowed to score the tests administered to corporals and below, and it was worth the extra work.

The SQT's written component served a valuable educational purpose: It gave our unit members a good reason to open their Soldier's Manual, and the test results were posted every year, not just every two years as required in the Reserve Components. The soldiers took pride in seeing their scores improve each year.

Some leaders may think that the NCOs are doing such a good training job that the SQT is no longer required, but the national scores for the two components of the test don't really bear that out. Besides, the SQT is another good tool to use in educating and evaluating our soldiers, and its written component should stay!

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### ARMY FOOTGEAR

There have been many changes in the type of footgear issued to the U.S. sol-

dier over the years, but to date it all leaves something to be desired.

There is no doubt in my mind that the U.S. Quartermaster Corps has taken the trouble to see that our soldiers are properly fitted with shoes and boots of the best quality. That is not my criticism. It is the style of the footgear that needs to be changed to insure the wearer's comfort and efficiency—particularly the infantryman's.

I have had a bit of experience with wet and cold feet. I spent some time in the Minnesota National Guard on strike duty (1936) when the daytime temperature was in the minus thirties and the nighttime temperature in the minus forties. We originally wore the G.I. shoe (with frosted feet) until we were issued shoepaks.

I also served in the artillery and the infantry during World War II and wore the G.I. shoe with canvas leggings. At the time, there were people around us who wore combat boots and later paratrooper boots, with their advantages and disadvantages.

Aside from this military experience, I have spent some time in northern Minnesota hunting, fishing, and the like and am quite familiar with wet and cold feet and the way we handled these problems.

When your feet are wet, or wet and cold, there is only one thing to do, and that is to get the footgear off and change socks, dry out the boots, and rub some circulation back into your feet. With boots that require lacing and retying you often can't take the time to do that (you may be a sentry or outpost man, or in a squad, just taking a rest break).

Even so-called waterproof boots get wet under combat or hunting conditions. Go into water that is over the top of them, and that's it. There was a time in my infantry experience when the rules were relaxed and some of us sent home for our Chippewa boots, and our feet were warmer and dryer than when we depended on G.I. supply.

In my early days in Minnesota, the Finns there had a boot called a mukluk, a slip-on with a soft upper. You put on your sock and then placed your foot in the middle of a folded newspaper and wrapped the paper around your foot and leg before pulling the boot into place.

When you came in from outside duties, you took your boots off, threw the perspiration dampened paper away, and put on slippers until you had to go out again. Not all of this can be adapted for the Army, but some of it can.

On strike duty, we faced another problem. We had to wear our shoe-paks inside the building so we could be ready to rush outside on a moment's notice. Inside, our feet got sweaty and when we went outside the sweat turned to hoarfrost in our boots. If we had had slip-on boots, we could have licked such a problem, just as infantrymen bivouacked inside but subject to alert could pull on their boots quickly and be ready when needed.

In the case of soldiers making parachute landings, I am sure the boot they wear is better adapted to preventing broken or sprained ankles than a slip-on boot would be. But after a soldier is on the ground and exposed to the other hardships brought on by the weather, his feet will be wetter and colder than those of the soldier with slip-on boots.

Changing all of the shoes in the Army at the same time would be impossible, but it could be done a little at a time. At first, the soldiers in the infantry could get the new boots while those in the support branches continued wearing the combat boots. Support soldiers get their feet wet too, of course, but chances are they can take time to dry them more often.

A friend of mine who was a paratrooper at Bastogne said that in his unit they had to wrap their boots in cloth (burlap?) because the rear area troopers had taken all of the common sizes in overshoes intended for the men in combat. I suppose we will always have this problem, regardless of shoe or boot design.

But let's get some footgear that soldiers can take off and put back on quickly.

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## MORTAR EMPLOYMENT

The three mortar articles in INFANTRY's September-October 1990 issue (pages 36-43) do a good job of describing the many fundamental problems units

find in the process of planning, coordinating, supporting, executing, and synchronizing mortar fires.

These articles discuss several key issues that commanders, S-3s, fire support officers, and mortar platoon leaders often do not fully consider in employing mortars. While I concur with most of what the authors had to say, I do have several comments and corrections.

Colonel Robert D. Sander, in his article "Mortars: Tactical Employment" (pages 36-39), says, "Doctrine on the specific responsibilities and roles of the S-3, the FSO, and the mortar platoon leader varies from one publication to another." This is not really true. The doctrine doesn't vary so much as the tactics, techniques, and procedures (TTPs). Our doctrine gives rise to the command and staff latitude in the employment process that is reflected by the TTPs. In this instance, Colonel Sander is discussing procedures, not doctrine.

Later in his article, Colonel Sander states, "Again, we must focus the mortar platoon's mission on critical targets that are compatible with its capabilities and then maneuver the platoon into a position to provide these fires at the time and in the volume needed." This statement is the "bottom line" of mortar employment planning. The focus on what, where, how, and when, as determined by the commander and his staff, is the essence of the top-down fire planning process. This focus also supports the synchronization process that uses the decide-detect-deliver approach to battle management. By deciding up front what type of targets mortars are to shoot, where to shoot and when to shoot, the mortar platoon leader and fire support officer can better integrate mortars into battle plans.

In his final paragraph, Colonel Sander says, "Admittedly, this approach (that I have described here) to mortar fire planning can be said to contradict current doctrine." The approach he describes is, in fact, completely supported by our doctrine. Chapter 6, Field Manual 71-2, The Tank and Mechanized Infantry Battalion Task Force, provides a good discussion of the doctrine for and the tactical employment of mortars. What is needed is

a more enlightened application of our doctrine (fundamental principles) and tactics (general guidance) as demonstrated by METT-T-driven techniques and procedures. A good example of this is the matrix.

Matrices similar to the ones Colonel Sander and Lieutenant Craig S. Linderman ("Mortar Platoon Matrix," pages 41-43) illustrate are a standard part of most tactical orders now used at brigade and below. In fact, the fire support tasks in ARTEP 71-1, 71-2, and 71-3 MTPs all require the development of a fire support execution matrix as a task standard. Whatever their titles and formats, matrices have become an essential tool for commanders and staffs in the battle synchronization process. Matrices are not doctrine, however. They are formats for displaying information. Their use, the staff sections that should prepare them, and the information that should be entered on them should be a matter of standing operating procedure (SOP).

Lieutenant Christopher J.L. Allen, in his article "Heavy Mortars: New Thoughts on Tactical Employment" (pages 39-41), says, "Our current doctrine states that the mortar platoon leader will succeed the battalion FSO in the event he becomes a casualty. . . ." Again, this is the wrong use of the term *doctrine*, and in any event is not correct. Field Manual 6-20-40, Tactics, Techniques and Procedures for Fire Support for Brigade Operations (Heavy), states (page 1-7) that either the targeting officer or the fire support sergeant acts as the FSO in his absence. Additionally, FM 71-2 (page 6-9) states that in the event the fire support element (FSE) is lost, the FSO must designate the least committed fire support team (FIST) to assume the FSE's functions.

The procedures for the replacement of personnel or battlefield functions during combat operations should be outlined in a unit's tactical SOP or contained in the operations order.

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