

Land Navigation

A Critical Skill

CAPTAIN H. STOGNER, JR.

As the balance of ground power in an increasingly hostile world continues to shift against the West, unit and individual initiative becomes increasingly important. On a modern battlefield, however, initiative without knowledge is usually clumsy, inefficient, and deadly.

One critical area of military knowledge in which most soldiers are deficient is land navigation. By "land navigation," I do not mean so much a soldier's ability to solve theoretical intersection or resection problems on administrative tests. I mean a soldier's ability to determine his own location on a map by using his knowledge of cardinal direction and terrain association, to determine an enemy's location, and to accurately navigate to any point on the map.

Land navigation is a critical area of military knowledge for several reasons. First, if a soldier cannot find the objective, he cannot accomplish the mission, and if a soldier whose leaders are killed or wounded cannot navigate, he cannot continue the mission. Second, that same soldier cannot call for indirect fire because he cannot determine his own location accurately. And, finally, he cannot call for aerial resupply or medical evacuation.

In the past, and to an alarming extent today as well, the Army's land navigation courses have actually been compass courses. A soldier plots a line to a grid coordinate and follows a magnetic azi-

muth, hopefully, to the correct numbered stake. On relatively short, easy courses, soldiers can meet the standards by following an azimuth without ever understanding cardinal direction or terrain association.

To see if your soldiers understand cardinal direction, give them the simple test shown here. You may be surprised by the results.

If a soldier cannot successfully answer these five questions, he will always be lost without a compass, and he will probably be lost even with a compass.

There are many things a leader can do to ensure that every subordinate leader and every soldier he is responsible for is qualified in land navigation. The following are only a few of the key points to be considered:

CARDINAL DIRECTION TEST

1. If you are facing south, which way is west?

A. Right
B. Left
C. Front
D. Rear

2. Write the azimuth for the following cardinal directions.

A. North
B. South
C. East
D. West

3. If you are moving due southwest, what is your azimuth?

4. What is your back azimuth?

5. If you are facing west, which way is south?

A. Right
B. Left
C. Front
D. Rear

First, it is impossible to learn to read a map without a map. Maps of local training areas should be procured, acetated, issued, and signed for by every soldier at squad or platoon level. Leaders who try to do this will hear various reasons why this inexpensive but critical training aid cannot be made available in ample numbers. But leaders who use persistence, patience, and imagination will solve the problem.

If every soldier has a map in the field, a platoon leader can expect each man to know his location at all times and can require some kind of punishment for him (and his squad leader) if he is quizzed and does not know—perhaps 25 push-ups for each of them. A unit's mission is not just the designated leader's mission—it is every soldier's mission.

Map-carrying, oriented soldiers can also reasonably be expected to plot target reference points (TRPs) for indirect fire along movement routes and in support of defensive positions. Leaders whose soldiers are trained, oriented, and capable of calling for and adjusting fire will greatly improve the combat effectiveness of their units. Post forward observer training centers (FOTCs) or local artillery units can aid in initial and sustainment training.

Next, leaders should make sure every soldier has a firm understanding of direction and azimuth. Given two points on a map, a soldier should be able to "eyeball" an ap-

proximate azimuth between the points. He should also know the methods of determining all cardinal directions day or night without using a compass.

Finally, orienteering courses should be sought out or established in order to train soldiers better in land navigation skills. Fort Benning, for example, has transformed its old, familiar Yankee and Furman Road courses into orienteering style courses. And the June 1986 edition of FC 21-26, Map Reading and Land Navigation, devotes 20 pages of Appendix B to orienteering.

Leaders should strongly encourage

their soldiers to participate in the sport of orienteering, which is both challenging and enjoyable. Experienced orienteers can think on the move and are highly competent in quickly finding and reaching any point on a map.

In order to fight and win against superior numbers and possibly superior firepower as well, the U.S. Army must have soldiers who are confident of their ability to find and reach an objective. Such soldiers are much more likely to generate the kind of initiative and leadership necessary to accomplish the mission.

Unfortunately, mediocrity creeps

into the fabric of every profession. Even among officers and NCOs at many levels, we find excuses instead of standards, flab instead of fitness, and consensus instead of excellence. When leaders plan training, they do their soldiers no favor if they settle for marginal standards. Marginal soldiers seldom survive desperate battles.

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Terrain Appreciation

LIEUTENANT KENNETH G. NIELSEN

One of the most vital skills a soldier can have is the ability to look at a map and visualize a three-dimensional image of the information he sees. As a unit training officer and a college laboratory instructor, I have used several techniques that others may also find useful in teaching soldiers how to interpret what they see on a map.

When I teach map reading and terrain appreciation, I follow a four-step process:

- Preparing a graphic cross-section.
- Constructing a cardboard contour model.
- Constructing a terrain model.
- Going on a terrain walk.

The goal of this teaching process is to take someone who is unsure of his map reading ability and teach him the skills that will enable him to pick up a map and conduct a reasonably accurate terrain analysis based on that map.

First, each soldier should have the following equipment:

- A local map (1:25,000 or larger scale, if possible).
- A pencil.
- One sheet each of plain paper, tracing paper, and graph paper.
- A scrap of cardboard (two to four square feet).
- A sharp knife or scissors.

The first step of this process, preparing a cross-section, helps a sol-

dier get a better feel for the relationship of the space between contour lines on a map and the slope of the ground.

The soldiers should be given these directions to follow:

- Choose two points on a map. Draw a line between them, labeling one end A and the other B, as shown in the example in Figure 1.

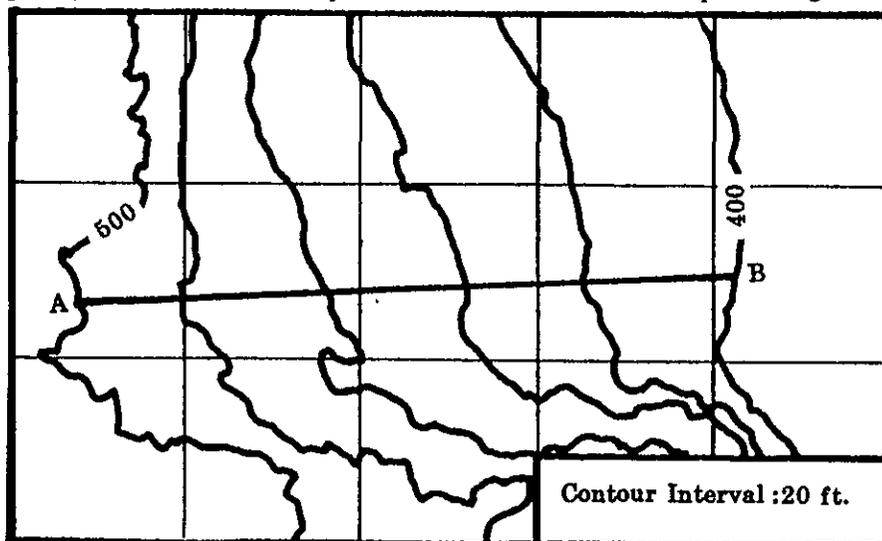


Figure 1. Map for graphic cross-section.