GTA 05-02-013

HOW TO AVOID GETTING LOST

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PREFACE

This GTA illustrates the fundamentals of map reading. It supports individual and unit training for basic map-reading programs of the Active Army (AA), the Reserve Component (RC), and the Army National Guard (NG).

The information presented herein conforms as closely as possible to approved Department of the Army (DA) doctrine and is intended to complement existing training literature.

The proponent for this publication is Headquarters, US Army Training and Doctrine Command (TRADOC). To submit changes for improving this publication, use DA Form 2028 (Recommended Change to Publications and Blank Forms) and forward to Commandant, US Army Maneuver Support Center (MANSCEN), ATTN: ATZT-DT-WR-E, Fort Leonard Wood, Missouri 65473-8929.

INTRODUCTION

When you get lost in combat, you may encounter the enemy, fail your mission, and have trouble getting back to your unit.

To avoid getting lost, use—

- A map.
- A compass.
- Other ways to find directions.
- Common sense.

From this GTA, you will learn what you will need to know about military maps and direction finding so that you can move about with confidence without getting lost.

The first thing you should know about a map is that it is nothing more than a drawing of a section of the earth's surface as you would see it if looking straight down from an airplane.

Maps show man-made objects such as roads, buildings, and bridges. All of these man-made objects are represented by a symbol, and the symbols are explained in the lower left hand corner of every map in a section called the "legend" (Figure 1).

Besides giving symbols for man-made objects, the legend gives the color coding used on the map and explains the meaning of other symbols, which gives you a better idea of what the ground actually looks like. Be sure to always look at the legend before using your map.

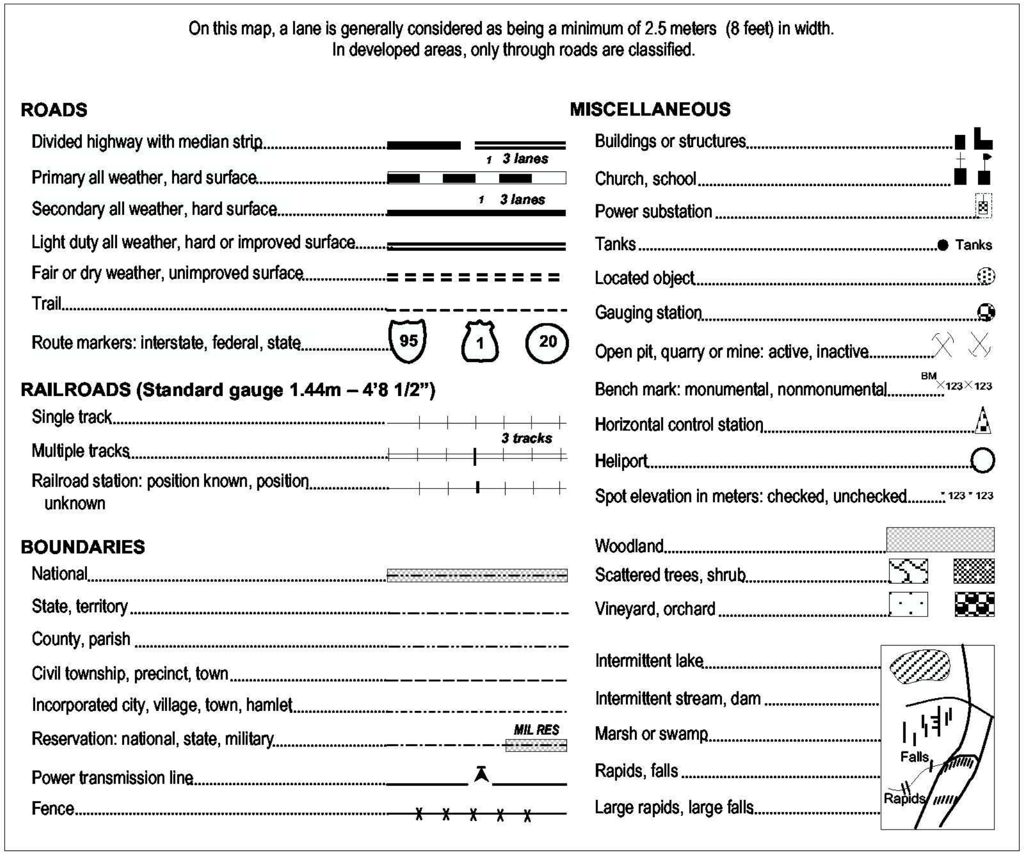

Figure 1. Example Map Legend

FINDING YOUR LOCATION

To avoid getting lost, you have to know how to find your location. There are no street addresses in a combat area. However, by using a military map, you can find your location without difficulty. Maps have black lines running up and down (north and south) and crosswise (east and west). These lines form small squares called "grid squares" that are numbered along the outside edge of the map picture. Using these numbers, you can identify each grid square.

No two squares have the same number. To get the right numbers for a certain grid square, read from left to right along the bottom and locate the line that borders the grid square on the left. Then read up and find the east-west line that borders the grid square along the bottom (Figure 2).

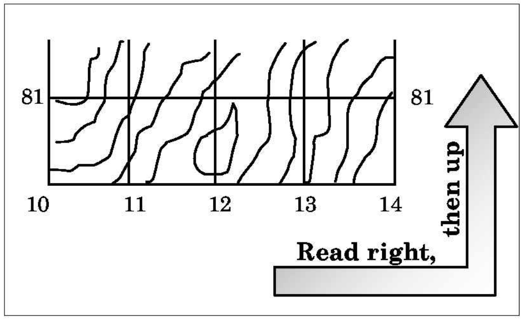

Figure 2. Map Grid Squares

Figure 3 shows your location as grid square 1181. How do you know this? Start from the left and read right until you come to 11, and then read up to 81. Your location is somewhere in the grid square of 1181. Remember to read from left to right, then up.

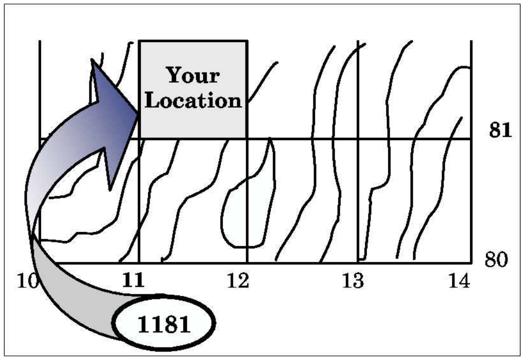

Figure 3. Grid-Square Location

Grid square 1181 gives your general location, but there is a lot of area inside that grid square. To make your location even more accurate, you will need to add another number to the first half and another to the last half.

To get these numbers, imagine that each grid square has ten lines inside it running north and south, and another ten lines running east and west. This makes 100 small squares (Figure 4). You can estimate where these imaginary lines are.

Suppose that you are halfway between line 11 and line 12. Your first added number is 5 and the first half of your location is 115. And suppose that you are also three tenths of the way between line 81 and line 82. Then the second half of the number is 813. (If you were exactly on line 81, the second half would be 810.)

Figure 4 shows that if you were located where the dot is in grid square 1181, your location would be *115813.*

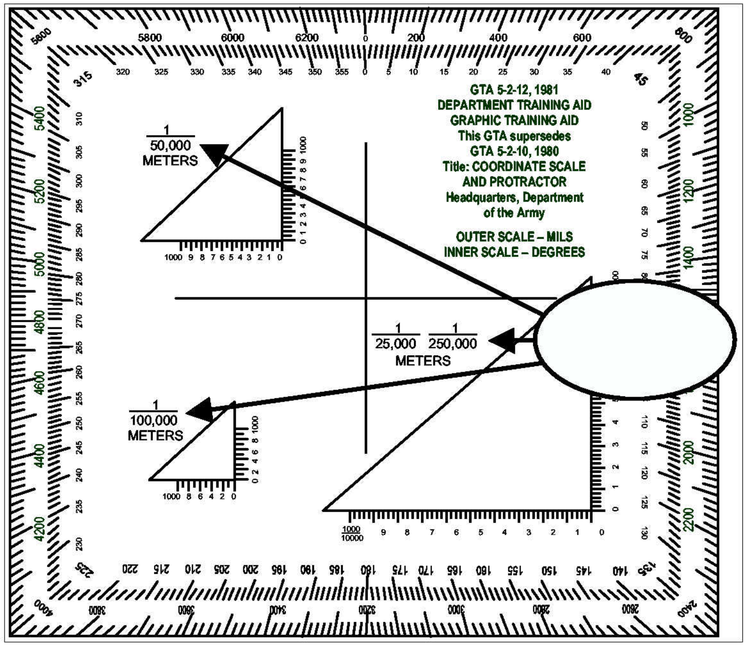

Figure 5. Coordinate Scale and Protractor

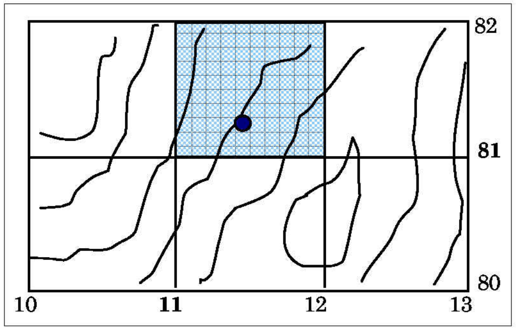

Figure 4. Grid-Square Coordinates

These six numbers are called your "coordinates." They give your location, and if you always know your coordinates, you can never be lost.

If you have GTA 5-2-12, you do not have to worry about estimating where you are inside a certain grid square or use imaginary lines because you can determine your exact coordinates (Figure 5).

The coordinate scale and protractor is a square piece of clear, thin plastic—frequently called a "protractor" for short. The protractor helps to measure small distances inside grid squares. You can also measure angles with it. You will learn more about measuring angles later. Your squad leader can show you exactly how to use the protractor.

DETERMINING THE DISTANCE

You can also use your map to measure the distance between two places because maps are drawn to scale. This means that a certain distance on the map equals a certain distance on the earth. This scale is printed at the bottom and at the top of the map (for example, *Scale 1:50,000*). This signifies that 1 inch on the map equals 50,000 inches on the ground. In fact, any ground distance equals 50,000 times that distance on the map.

NOTE: Always check the scale on your map before trying to measure distance because different maps have different scales.

Two methods by which to determine distance are the—

- Bar scale method.
- Pacing method.

Bar Scale Method

There are three different bar scales at the bottom of your map. Use these scales to help convert map distance into miles, meters, or yards. To figure the distance on the ground using the bar scale method, take a ruler (straightedge) or use the edge of a piece of paper and put a tick mark on it at the straight-line distance between your two points (Figure 6). Then put the ruler or paper beneath one of the bar scales and read the ground distance in miles, meters, or yards.

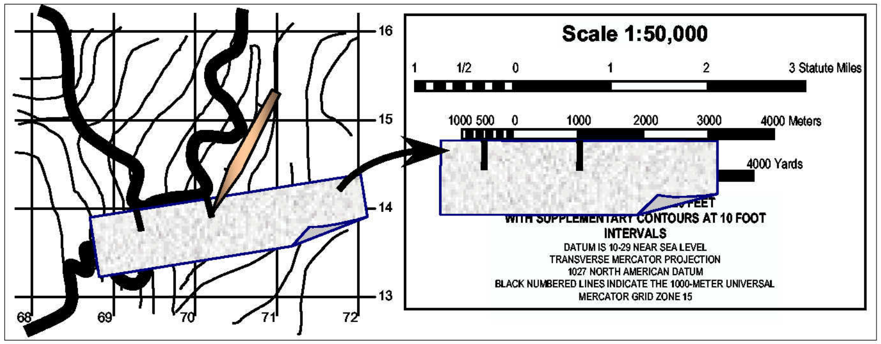

Figure 6. Finding Straight-Line Distance Using Bar Scales