LAND NAVIGATION WITH A COMPASS

By Terry Haider

Can you find yourself on a map with a compass, or without, by looking at a map?

The goal of orientation is to determine that precise point on the surface of the earth were you stand. Finding out exactly where you are is usually a relatively simple affair. It's done by looking around and comparing what you see with what is on a map. In our map class we covered color and contour lines. By color we know the vegetation that were in, (trees, brush, or a meadow, or at the Rivers edge.) And contour lines tell us whether were in a valley or on a mountain. Another way is by using a compass in finding where you're at on a map.

Three types of compass:

A) **Base plate compass**
B) **fixed Dial compass**
C) **magnetic card compass**

A base plate compass has many features;

1) **Needle**
2) **Direction of travel line**
3) **Transparent base plate**
4) **Rotating case, or as azimuth, with the graduated dial.**
5) **Rear sight**
6) **Front sight**
7) **Orienting arrow**

Fixed Dial compass;

1) **Needle**
2) **Dial**
3) **Pivot**

Magnetic- card compass;

1) **the needle and Dial are joined on a card to operate as one.**

Orientating your compass:

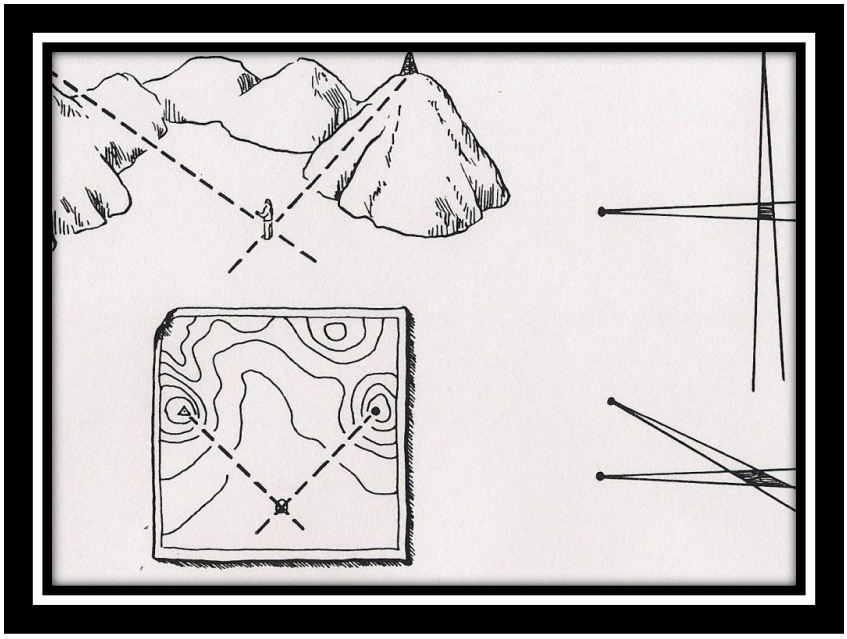
Base plate compass or inundated to magnetic north, all readings are in degrees magnetic. Base plate compasses orientate to geographical North in a place (e.g. San Diego in 1994) with the declination is 14° East. In a place (e.g. New York City in 1994) where it is 14° West. In both cases, all readings are true or map degrees.

Bearings

A bearing is a direction of one object from another, measured as a horizontal angle from a fixed baseline. The baseline is either true North or magnetic North, in our case. When taking a bearing with a fixed plate compass or a fixed Dial compass, always hold it straight in front of you; looking at it from the side does not give you a correct reading. They compass with an optional direction of travel arrow, this memory aid to Mark the desired bearing on the dial.

Direct bearings

Whether or not you know your position, they compass tells you the direction towards a landmark you can identify on the map. For example, the compass shows that the tower bears 060° from my position. (To avoid confusion, careful navigators always use the three digit notation with bearings.)



Hold a compass level at your waist or chest pain in your left hand if you are right-handed point the direction of travel line at the landmark. Turn the case with your right hand until the orientating arrow is aligned with the South then of the needle. Read the back bearing with the direction of travel line intersects the case Dial

Because a back bearing his exact opposite of the direct bearing it differs from it by 180° therefore, it's simple to calculate one from the other if the direct bearing you observe is 180° or greater subtract 180° to get back bearing. If the direct bearing is less than 180°, add 180° to the direct bearing to get the back bearing.

“Navigation and use”

Let’s recap

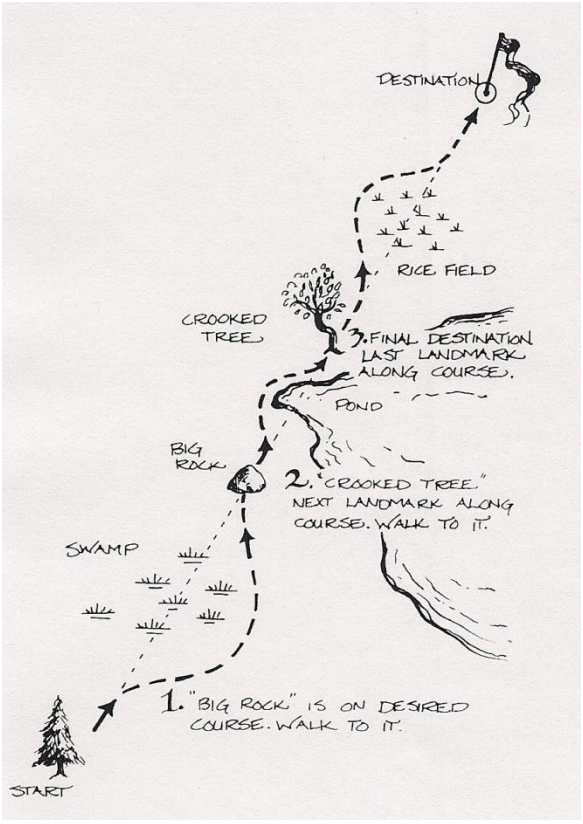
- No one has an innate sense of direction. So don't trust yours, trust they compass instead.
- You are not capable of walking in a straight line over a long distance without the aid of an external clue.
- Most of the directional guidance found in nature is unreliable on their own; they need legitimate maps and compass work to reinforce them.
- A compass and a map cannot get you there or back without skill and effort.
- You cannot start navigating when you feel lost; it must be ongoing from the start.
- When lost there is no assurance that others will find you. Do what you can to avoid getting lost. If it happens, do what you can to help others find you.

Route planning

Going cross-country

Before you head into the wilderness, it's wise to plan where you want to go and for how long. A little pre-trip planning is essential. To start with spend some time studying your map. Look at the terrain you will be traveling. How it affects your choice of routes if you are following a trail or out hunting for a new hunting area, and how it affects your choice of routes. Locate your starting point and your objective.

Put an imaginary straight line between the two points. It will be the most direct route (the shortest distance between two points is a straight line!) But not always the best, quickest or by far the easiest route! Listen to what your map has to tell you. Note the vegetation, ground surface, and slope graduates. Think; are the contour lines along your route to close together?



Rather than stumbling up and down a hillside it would take less effort to follow a single contour line. It would be a longer journey but you will stay at one level. This also makes easier traveling when you're on a horse.

Seek out the potential obstructions, Hills, cliffs, rivers and lakes etc. A map is a bird's eye view of what's around and ahead of you; plan your route in short segments. Consider the difficulty of the terrain and how far you realistically want to travel. This is a good time to consider potential campsites, and feed for your horses, and water.

After selecting a route, highlighted it on your map, to stand out from the jumble of other lines. On a straight stretch, write the compass courses toward and away (in case you have to backtrack) from your objective, and the distance traveled between course changes. Things often look different on a the trail things often look different on the trail – you can't know everything from a map – but at least you are heading out with a plan from which intelligent choices can be made.

Consider your route back as well. The most straightforward way to return is along the path that takes you in. In Maine not be as interesting as a different return route, yet it may be necessary if the weather turns bad! Cover your options.

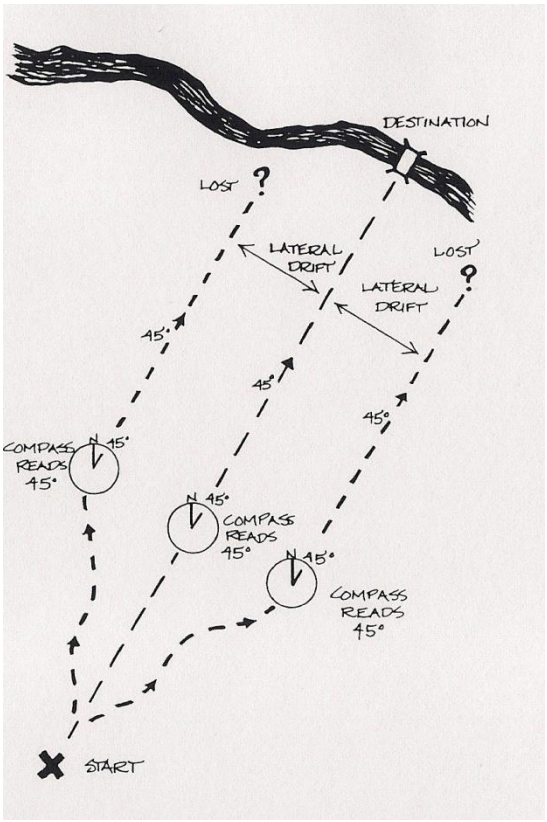
“The practice of navigations”

Navigation is more a <u>state of mind</u> than a set of procedures.

Effective navigation requires imagination he takes all your skills! Utilizing the mind as well as the senses. By all means hone your map and compass abilities, but never stray from the rules of basic wayfaring. Look at your surroundings as if you were looking down from an airplane compare what you see with your map. Most important watch where you are going and practice total awareness of the indicators around you.

Always orientate your map with the landscape and compass before referring to it. The map may be upside down or at an angle, but it is easier to correlate what you see with what's on the map. It helps you choose the correct fork at a junction where the correct direction on a mountain dissent. Know where you are on a map at all times, and the direction in which you are heading. Don't wait until you get an uneasy feeling that you are not 100% sure. In reality it is rare to know precisely where you are at every moment.

Constantly update your position through the use of landmarks or by keeping track of how far and in what direction you have traveled. Typically, we leave a known location, pass through areas and intervals of relative uncertainty about our exact whereabouts, and then reestablish an accurate position at every opportunity. Continue this pattern until you reach your destination.



Restrict time of ambiguity to a minimum and to keep the area of uncertainty down to a circle of a few hundred yards, rather than a few miles. Do this by frequently checking your position.

Confirm your position on a map every time you reach a landmark, junction, and fork in the trail and you when you break clear from the woods so you can see the surrounding terrain. Or discipline yourself to stop every 20 min. to keep a running track of where you might be.

Keep a running log or notes or a scratch trap of your route

when traveling cross-country this is usually impractical and though rarely done but you can thank yourself for taking it trouble and time. Be willing to question your judgment. Keep an open mind and observed objectively then determine or confirm your position. Do not choose your position on the map first and then make the world conform to it. This except that you cannot hold a compass course better than 4° and the lateral drift may be occurring. By all means, try to prevent it, but make allowances for this possibility when estimating your position. As much as possible, stick to your chosen route, this way, even if you can't find your destination you will be able to retrace your steps. Never depend on your sense of direction, a feeling or a hunch. Base all decisions on fact.