

Selecting a Magnetic Compass

By Blake Miller



The triad of wilderness travel is the GPS, map and compass. Don't take a GPS without a map and compass, and make sure you have the right map along.

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I felt fortunate to have been invited to attend a presentation on compass navigation by a senior Boy Scout troop leader. It was a quick overview on the key components of a compass and its use in land navigation. The troop leader quickly touched on purchasing a compass. His overview made me consider just what an outdoorsman should look for in a good compass.

My experience has been that most sales clerks in the large box stores and major retail outlets have no experience in the use of a compass. Their assistance is generally along the line of "...they are on aisle 12, half way down on the right;" and their knowledge isn't that great. The folks at REI are generally dialed in and best of all, their selection is better. With a little research you will find a nice selection available at REI, Cabelas, and most of your outdoor stores that specialize in hiking and backpacking.

You don't have to spend a lot of money to buy a good quality compass. Consider the following when looking for a compass:

- Brunton, Sunnto, and Silva all make good compasses. There are other companies, of course, but these manufacturers can be found nationwide. Prices start at about \$20. Each company has less expensive models but I would pass on those.
- The compass dial (the circular component with the degree markings) should be "graduated" in two degree increments. Those models with 5 degree increments or the small ball compasses (with the large safety pin type of clip) will give you a trend of direction through the woods but fall short when being used for serious land navigation.
- A compass with a good base plate is very handy. A base plate is essentially a clear, flat plastic rectangular plate. It is a straight edge when drawing bearing lines or measuring information on a map. I like a large base plate. The better compass will have good scaling and measuring information etched into its surface. Some models have a magnifying lens in the plate for reading the details on a map.



- I won't buy a compass that cannot be adjusted for declination. Brunton's models can be adjusted by simply turning two components while the Sunnto and Silva models come with a small flat screw driver to make adjustments. The adjustable compass eliminates the requirement to calculate declination. Do remember that the magnetic needle always points to magnetic north and the adjusting accounts for the angular measurement of declination.
- The compass housing should be liquid filled. The liquid inside the housing dampens the movement of the magnetic needle when motion stops. This does make a difference and there are a few compasses out there without this liquid; the difference is noticeable.
- I appreciate a compass that has a small hole in the base plate that allows me to run a short length of parachute cord through it for a lanyard.
- For more precise navigation, a compass with a sighting mechanism is very useful. The Silva Ranger model immediately comes to mind. I would urge you to be careful if you intend to purchase a military style or lensatic compass. A quality lensatic will cost between \$40 and \$80. There are several "knock offs" that aren't worth your time and lack that liquid filling.

After purchasing your compass, test it out right away. I have sold several hundred compasses and a handful didn't work correctly. In one case, the magnetic needle was painted incorrectly and the red arrow pointed south instead of north. In my navigation classes I'll use features (roads, trail segments) that I know are laid out in true north to stay dialed in. Faulty compasses jump right out with their inaccuracies when you trek along a route that you know runs true north.

So, now that you have your compass, how do you use it? Well, if you live in Central Oregon you could take my class! Otherwise, my suggested list of references includes:

- www.landnavigation.org – This is a great web site that features the US military's lensatic compass. That's OK as the concepts presented are universal.
- Staying Found, The Complete Map & Compass Handbook, by June Fleming. This book offers a simple, straight forward approach to land navigation.
- Be Expert with Map and Compass, by Bjorn Kjellstrom. This is a common reference and was a text book for me at Oregon State in 1973.

Compass navigation is a perishable skill; it takes practice. In my compass classes I suggest that, as a minimum, two weeks before your next outing work with that compass frequently. Practice bearing triangulation and increase your familiarity with a topographic map.

Compass navigation provides the foundation for GPS navigation. The more you understand how your compass works the easier it will be to use that GPS!



Blake Miller

Blake Miller *has made a career out of staying found and knowing where he is at all times. His formal navigation training began when he joined the U.S. Navy in 1973. He served as an officer aboard several Navy ships over his twenty-year career; many of those tours included the duty of Navigator. Blake began working with satellite navigation systems at sea in 1976, culminating with the then-new Global Positioning Systems aboard the Battleship WISCONSIN in early 1990s.*

In 1998 Blake started Outdoor Quest, a business dedicated to backcountry navigation and wilderness survival. Blake has taught classes to wild land firefighters, state agency staffs, Search and Rescue team members, hunters, hikers, skiers, fishermen and equestrians. He regularly teaches classes through the Community Education programs at Central Oregon (Bend), Linn Benton (Albany) and Chemeketa (Salem, OR) Community Colleges.