



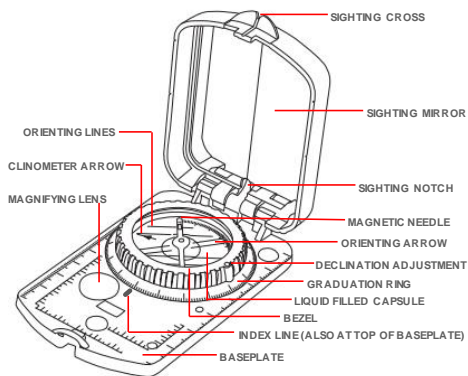
Pathfinder Sighting Compass & Survival Whistle

Package Contents

- 1 Compass w/attached lanyard and LED light
- 1 Flat screwdriver for declination adjustment
- 1 Microfiber cloth
- 1 Survival whistle

Features

- Sighting mirror and protective cover
- Adjustable declination
- Clinometer
- Luminous bezel/needle/markings
- 3X magnifying lens
- 6 measurement scales
- Silicone anti-slip foot pads
- Water resistant
- Safety lanyard with attached LED light
- Survival whistle included
- 1 year limited warranty



Declination Overview

There is a difference between True North and Magnetic North. Their poles are hundreds of miles/kilometers apart.

Your compass needle points to Magnetic North, while most topographic maps are oriented to True North. The angular difference between these directions is called Declination. For accurate compass readings, you will need to adjust your compass to correct this angular error (declination).

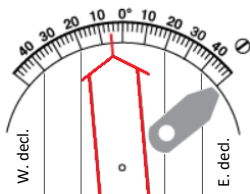
Declination varies significantly from place to place, and even in the same location over time. Therefore, it is important to know the current declination in the area in which you'll be traveling. One free resource that offers reliable, up-to-date declination information for nearly any location in the world is www.magnetic-declination.com.

Another source of declination information is your topographic map. On U.S. maps, the declination is typically provided near the bottom of the map. The line marked "★" denotes True North, while the line marked "MN" denotes Magnetic North. IMPORTANT: Note whether the declination provided is Easterly or Westerly.

Declination Adjustment

To correct for declination, use the enclosed flat screwdriver to turn the small screw on top of the bezel until the red orienting (North) arrow (not the red magnetic needle) moves the correct number of degrees from "N" on the bezel. If the declination is Westerly, rotate the screw counterclockwise; if Easterly, rotate the screw clockwise. In the image above, the declination is set to 5° Westerly.

Be sure to use the orienting lines at the bottom of the capsule and not the orienting (North) arrow as reference lines when correcting for declination.

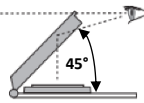


Key Compass Functions

(IMPORTANT: Correct for declination first)

1. Sighting

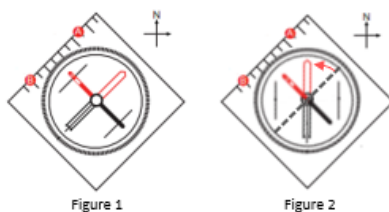
- Hold the compass level, with the mirror at about a 45° angle.
- Use the sighting cross on the cover to align the compass with your target.
- While looking into the mirror, turn the bezel to align the Orienting (North) arrow with the red magnetic needle.



2. Taking a bearing on a map

Bearing: the clockwise angle between two lines, such as the line from True North to True South and the line from your current position to desired location.

- Lay either long side of the compass baseplate along the imaginary line connecting two points of interest on your map (e.g. Point A – current location and Point B – desired location). See Figure 1 below.



- Envision an imaginary line running between the "N" and "S" markings on the bezel.
- Rotate the bezel until the imaginary "N-to-S" line is exactly parallel to the North-South lines on your map. See Figure 2 above. (NOTE: the "N" on the bezel must correlate to North on the map.)
- Read the current bearing at the index line (luminous marking at top of baseplate).

3. Following a bearing from a map

- After completing the steps above, remove the compass from the map and hold it in front of you with the baseplate level and index line (luminous marking at top of baseplate) directly in front of you.

- Turn your entire body (and compass) until the red magnetic needle is centered inside the red orienting (North) arrow. Then move forward, keeping the red magnetic needle centered inside the orienting (North) arrow.

- After navigating around obstacles, realign yourself with the original line of travel. Then reposition the red magnetic needle inside the orienting (North) arrow and continue on.

4. Taking a bearing in the field

- Identify a landmark you would like to reach in your nearby surroundings.
- Holding the compass level so that the needle moves freely, point your body and the index line (luminous marking at top of baseplate) toward this landmark.
- Rotate the bezel until the red magnetic needle is centered within the orienting (North) arrow.
- Read the current bearing at the index line.

5. Following a bearing in the field

- After taking your bearing in the field, travel in the direction of the index line (luminous marking at top of baseplate) while holding the compass steady.
- Make sure to keep the red magnetic needle centered inside the orienting (North) arrow as you travel.
- After navigating around obstacles, realign yourself with the original line of travel. Then reposition the red magnetic needle inside the orienting (North) arrow and continue on.

6. Orienting your map to True North

The following procedure can help you quickly and easily understand how your map relates to your surroundings:

- Rotate the bezel until "N" aligns with the index line at the top of the baseplate.
- Place one long edge of the baseplate parallel to the left or right edge of your map. The map and compass must be level so the needle can move freely. The index line must point to the North edge of the map, which must be furthest from your body.
- Turn your entire body, map, and compass until the red magnetic needle is centered inside the orienting (North) arrow.
- Look up. Your map is now oriented to your natural surroundings. Try to locate and match landmarks in the field and on the map.

Using the Clinometer to Measure Height

The clinometer within this compass can help you determine the height of a landmark or other object by following the steps below:

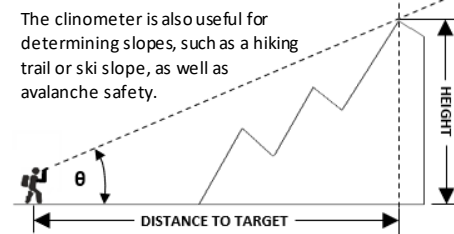
- Rotate the bezel using the enclosed flat screwdriver so that the declination is set to zero. The orienting (North) arrow should be aligned with the "N" on the bezel.
- Rotate the bezel so that "E" on the bezel aligns with the index line (luminous marking at top of baseplate)
- Fold the sighting mirror to approximately a 45° angle relative to the baseplate.

- Rotate the baseplate 90° from horizontal to vertical so that the right edge is on top.
- Hold the right edge of the baseplate close to your eye and sight along this edge so that the edge points directly from your eye to the target.
- While sighting, look at the mirror and read the angular measurement of the red clinometer arrow along the curved declination scale. This is the angle between your position and the target.
- To calculate the height of the target, use the formula below:

$$\text{Height} = \text{Distance to Target} \times \text{Tangent} (\theta)$$

One way to determine the distance to the target is use the appropriate scale on the baseplate to measure the distance between your position and the target on your topographic map. To find the tangent of the angle between your position and the target, you can use the conversion table below:

Angle (Deg)	Tan	Deg	Tan	Deg	Tan	Deg	Tan	Deg	Tan	Deg	Tan
1	.0175	16	.2863	31	.6009	46	1.0361	61	1.804	76	4.011
2	.0349	17	.3053	32	.6249	47	1.0762	62	1.881	77	4.332
3	.0524	18	.3243	33	.6494	48	1.1163	63	1.963	78	4.705
4	.0699	19	.3443	34	.6744	49	1.1564	64	2.050	79	5.145
5	.0874	20	.3643	35	.7002	50	1.1965	65	2.145	80	5.671
6	.105	21	.3833	36	.7264	51	1.2366	66	2.246	81	6.314
7	.1228	22	.4044	37	.7538	52	1.2807	67	2.356	82	7.115
8	.1409	23	.4243	38	.7813	53	1.3268	68	2.479	83	8.144
9	.1584	24	.4453	39	.8098	54	1.3749	69	2.609	84	9.514
10	.1763	25	.4664	40	.8397	55	1.4247	70	2.748	85	11.433
11	.1944	26	.4874	41	.8693	56	1.483	71	2.904	86	14.30
12	.2127	27	.5094	42	.9004	57	1.5407	72	3.078	87	19.08
13	.2309	28	.5313	43	.9324	58	1.6007	73	3.271	88	28.63
14	.2493	29	.5543	44	.9657	59	1.6647	74	3.487	89	57.29
15	.2679	30	.5774	45	1.000	60	1.733	75	3.732		



Precautions

- Always check to make sure your compass is working properly before heading out.
- Never expose your compass to extreme high or low temperatures or magnetic fields from objects such as mobile phones, speakers, and ferrous materials. These can cause permanent damage to the compass.

CONTACT INFORMATION

✉ support@outdoorguardian.net

📘 facebook.com/outdoorguardian

📍 @outdoor_guardian

OUTDOOR GUARDIAN
APEX, NC 27539
USA

WWW.OUTDOORGUARDIAN.NET