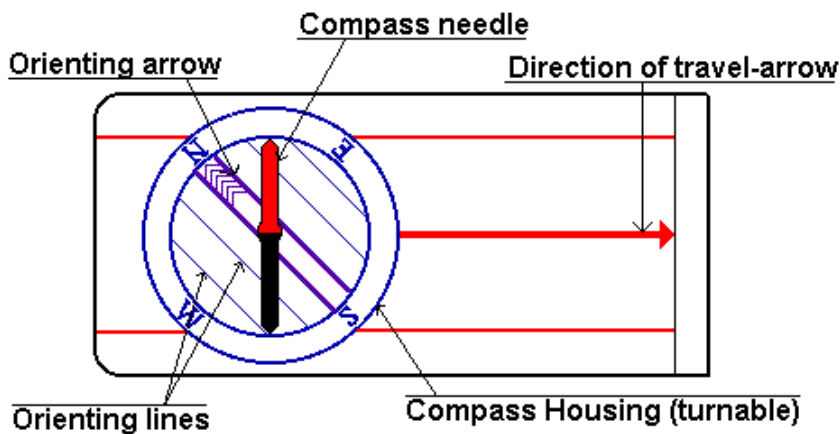


Orienteering compass basics



This is a simple Orienteering compass that has a rectangular base, a rotating dial, and housing made of clear plastic.

1. Find the directional signs, north, south, east and west. Now find the orienting arrow, magnetic compass needle, and the direction of travel arrow on your compass.
2. In addition to N, S, W and E: there are 360 Degrees marked on the Compass Housing ring.
3. Notice that the magnetic needle points naturally towards the earth's magnetic north pole. Be careful to keep your compass away from metal, like a zipper, watch, or saddle horn which will "pull" the magnetic needle off North.
4. Hold your compass flat and level in the palm of your hand. If your compass is not level the magnetic needle will get "stuck" instead of rotating to always point North. Test it: tilt your compass base then rotate it. Now hold it flat and level. Watch the Magnetic Compass Needle swing to point steady North.
5. Hold the compass level in the palm of your hand near your chest, with the direction arrow facing away from body.
6. Turn the housing ring so the direction you want (lets go East) 90 degrees is lined up with the direction of travel arrow.
7. Turn your body and compass base to your right so the Red side of the magnetic compass needle points N.
8. Look straight ahead down the "Direction of travel-arrow". Now you are ready to walk or find an object East of you.

Brands: Brunton Classic with a yellow base and big numbers is a favorite.

Practice using a compass

The angle on the compass from north is called an "azimuth".

"Bearings" are numbered degrees. A compass has 360 degrees starting at 0-North and going clockwise around the dial.

0 = North, 90 = East, 180 = South, 270 = West

To travel using a compass: set the "azimuth" angle on the compass to the "bearing" you want. Keep the red magnetic needle aligned with North, which keeps you going in the right direction.

Pick out a prominent object ahead of you along the direction of travel, go to it, and then use the compass to pick your next landmark (this way you can detour around obstructions but still stay on your bearing)

Try it: Pick up four stones or twigs to use as markers. Put them in your pocket.

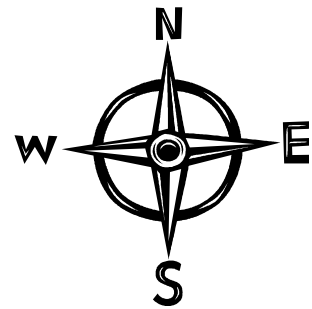
Place a marker where you are standing.

1. Turn the housing ring on the compass so that N (0 degrees north) lines up with the direction arrow.
2. Hold the compass level in the palm of your hand, chest high, with the direction arrow facing away from your body.
3. Turn your whole body, including your feet, until the red magnetic needle lines up with the North orienting arrow on the dial.
4. Look up. Choose a landmark, like a rock, tree or sign which is exactly ahead of you in the distance. Take six steps toward that spot without looking at the compass. Stop. Place a marker here.
5. Turn the housing on the compass so that W (270 degrees west) lines up with the direction arrow. Repeat steps 2, 3, and 4
6. Turn the housing on the compass so that S (180 degrees south) lines up with the direction arrow. Repeat steps 2, 3, and 4
7. Turn the dial on the compass so that E (90 degrees east) lines up with the direction arrow. Repeat steps 2, 3, and 4.



Did you return to your first marker?

What shape did you make? You should have made a square.



Using a compass for orienting the map

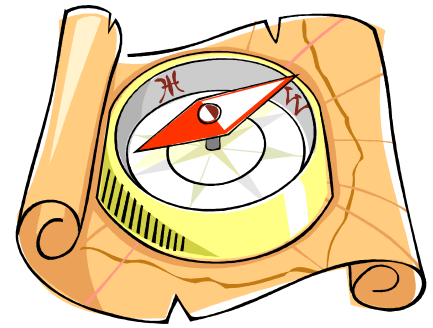
This is a simple skill, and is really handy if you feel like you are all turned around and not sure which way to go on the map:

Hold your map horizontally.

Place the compass flat on the map.

Rotate the map until the "north lines" on the map (a series of evenly spaced parallel lines drawn across the map, all pointing to magnetic north) are aligned with the compass needle.

The map should now be oriented to the terrain. This makes it much easier to read, just as text is easier to read right side up than upside down.

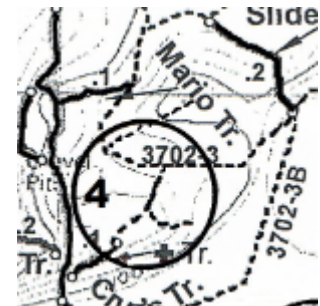


The Map:

At the start of your CMO ride you will get an 8x11 Map and Clue sheet. Usually the map will be in a plastic page protector or Ziploc baggy. On one side is a map, the second side has clues/landmarks. You can expect to see the Ride Camp, Roads and Trails on the map. Some maps will have Terrain features like rivers and creeks, bridges, gravel pits, mountain tops and contour lines. Not all roads and trails will be on most maps as they are constantly changing.

Magnetic north and a distance scale will be on the map.

On the map will be 5 Short Course Circles and 10 Long Course Circles. Inside each circle there is a Target Paper Plate hidden. The circle does not need to be centered on the Target Plate. Some clues may be located outside the circle.



The Clues:

On the other side from the map are 1-10 numbered Targets with clues (landmarks) with compass directions to/from the hidden Target Plate.

To find a Target Plate, ride until you are in the circle on the map. Then locate the landmarks described in the clues.

There will be 3 (and occasionally 4) Clues for each Target. Sometimes one of the Clues will be a "directional" clue that sends you down the right trail to find the other Clues for the Target.

The Target (9" paper plate) is attached to a tree or stump or other object and will be found where the 3 compass bearings from the Clues meet in the middle. The Targets are usually well

hidden so they won't be found and removed by hikers cleaning up "trash". Look up in the trees, down in holes, on the backsides of trees and stumps or clumps of ferns... even up a creek! They can be tricky to spot. The targets are visible from horseback... but sometimes after an overnight rain soaked and folded it or a hungry squirrel attacked the plate, they are harder to find than the ride manger intended. You can dismount and search on foot at any time.

The Azimuths from the Clue to the Target can be either a "From" Direction or a "To" Direction.

Types of Clues and tactics:

This is called the Thinking Horse Sport for a reason. Think about the given clues and where they are likely to be in the Circle. This can shave miles off your ride.

1. Road/Trail Marker Clues – Easy clue! If they give you a mileage post or direction sign look for that trail on the map and follow that trail. Most likely to be where it intersects another trail or road.
2. Horse/Hiker Crossing or other Warning sign – warnings are found where a trail intersects a road.
3. Fire circle – look in the dead ends where kids like to party
4. Trash Clues – Cans and bottles. Roads where trash doesn't get picked up like it does by hikers on trails
5. Orange/Pink ribbons – by itself, this is a worthless clue. Don't even bother looking at ribbons unless you have the 2nd or 3rd clue. Most places have ribbons all over the place.
6. Rounds of wood or rocks on a stump – common trail markers in clearcuts.
7. If you only find 1 clue out of the set - it's either a directional clue (does it point down a trail?) or it's not the clue you are looking for. Sometimes the ride manager doesn't know that in addition to the "abandoned car" they used as a clue... there were 4 other "abandoned cars" down the 4 spurs they didn't go down. Even if it's a great clue, if you only find 1 out of 3 clues move on.
8. If the azimuth from the solitary clue you just found shoots off the edge of a cliff... that's not the clue you are looking for.
9. Warning: large metal clues will mess with your compass! Use it to get a vague direction then take a good compass reading from the non-metal clues. If the ride manager was clever they did the metal clue as a "To" reading but don't count on it.
10. Look for the "Highway" – if you are one of the later teams out, the teams before you have made a path into the plate. Channel your inner tracker!
11. Alternatively, if you are one of the middle-of-the-pack teams, think about doing the course backwards or in a different order than the other teams. There is nothing worse than getting bunched up with a lot of other teams and riders searching for the same plate in the same places and everyone trying to be sneaky about it.

Remember it's better to ride smart than fast! Blowing past the clues, then back tracking really adds to your time.

How to find a plate using Clues/Landmarks, an Example:

3	308° To	DELS
	192° From	Short Crossed Logs
	224° From	Pink Bow

The “To” would assume that you are Standing at the Target shooting an azimuth back to the “DELS” feed label that was stapled to a tree.

The “From” assumes you were standing at the Logs or the Pink Bow shooting your azimuth at the target.

To find the Target using the 224° From the Pink Bow Clue:

1. Stand at the Pink Bow
2. Turn the housing ring on the compass so that the 224° Degrees number lines up with the direction arrow.
3. Hold the compass level in the palm of your hand, chest high, with the direction arrow facing away from your body.
4. Turn your whole body, including your feet (or your horses feet), until the red magnetic needle lines up with the N orienting arrow on the dial.
5. Look up. Choose a landmark, like a rock, tree or sign which is exactly ahead of you in the distance.

Have a team mate do steps 1-5 using 192° From the Short Crossed Logs.

Walk a straight line From the Pink Bow towards the landmark you picked out. The team mate standing at the Short Crossed Logs tells you when the line you are walking crosses their Log azimuth.

Back-Shoot an azimuth To the DELS clue from where you are standing. If the line of the bearing from your azimuth is past the DELS tag you have gone in too far. If your bearing falls before the DELS tag, continue farther down the path you shot from Pink Bow Clue.

When everything is lined up... Start searching! I start with obvious trees and stumps then use a spiraling pattern to systematically move out from where my azimuths crossed.

Here is the trick to changing any “To” into a “From” or any “From” into a “To”:

You could subtract 180° from the degrees given next to the clue... but who wants to do the math! Reverse step 4 above to put the white South magnetic needle lined up with the North on the dial.

What to do when you find the Plate:



On the Plate are Two Words and a Date.

1. After you find the plate, first check the date!

More than once riders have found old plates and come in with the wrong words! One ride manager put his new plate 10 feet higher up a tree than an old plate. About half the riders came in with the old plate's letters because they didn't check the date.

2. Write down the first letter of each word to prove that you found the plate.

You can write the letters on your map, or a notebook, or your arm if you like... just so long as you or the ride manager can read them after you finish.

Targets and Clues must not be tampered with in any way. No taking or moving plates or clues! (And it's bad form to tie your horse to the clue tree and let him nibble on the clue while you search for the plate)

Finally: figure out a clever way to tell your team mates you've found the plate and it's time to move out without giving it away to other teams riders who may be still searching.

Riding as a Team or an Individual:

You can ride solo as an individual or in teams of 2 or more riders.

The Ideal team has the following skills:

1. A navigator
2. A good plate finder/seeker
3. A steady azimuth shooter

The navigator is reading the map and picking the best route while the finder and shooter get the plates so they can move fast with no downtime.

The more you ride together the better each player gets to working as a team and knowing and trusting team members strengths.

Riding as an Individual has its pluses too: you can go at whatever speed you like and when you come in with all 10 plates you can take full credit for finding them!

When a team gets too big it's hard to find a good speed for everyone and some riders don't really get to participate fully in the game. On the other hand sometimes big non-serious groups have the most fun!

For full rules see <http://nacmo.org/rules.php>