

Coaching Tip - Contour Reading

There are 3 types of features on every orienteering map - point features, linear features, and contour features. While the first 2 types are pretty obvious to most everyone and used all the time for navigation, sometimes contour features fade into the background and even the best orienteer forgets how valuable they are to his navigation. Part of that is a mindset passed down orienteer to orienteer from the old days when contour features weren't well mapped. Back when I started orienteering, maps were commonly based on USGS contours, which were often iffy and small contour features were often missing. Now, with good basemaps, you can count on the smaller reentrants, hilltops and other contour features to be mapped pretty well. So, it's time to break any bad habits you have of not using contours and start relying on contour features to make your navigation tip top.

So what do the contour lines mean to you? Contour lines are elevation lines, but knowing the elevations in numbers isn't necessary, what's important is their relationship to each other. Look on the map for the contour interval, that's the distance in height between contour lines. On most maps it'll be either 3 or 5 meters. This means between each 2 contour lines, the elevation changes by that amount. So, if the contour lines are close together, you only go a short distance horizontally to achieve that vertical interval change, so the hillside is steep. If the lines are further apart, then the slope is gentler and you have to go further to achieve that vertical elevation change.

Contour lines also help you visualize the terrain. Those wiggly contour lines, because they follow a given elevation, show the shape of the hills, reentrants, spurs and other features. So the ups, downs, dips and bumps in the terrain are all on your map, right there for you to see and follow, just as if they were linear features like trails and streams. You just have to pay attention and not let them fade into the background. The orienteer who uses contour information well is never lost, always knows where he is, and can out navigate anyone who's only using point and linear features.

There are 5 basic contour features - hills, reentrants, spurs, saddles and depressions. Get in the habit of reading them when you look at the point and linear features that just happen to lie on top of them. You'll find they are a huge help to your reading of the terrain and thus your navigation. Don't wait for when there are no point or linear features and "fall back" on contour features, that's ignoring valuable navigational information. Don't just say, "I'll follow the trail," say "I'll follow the trail that goes over the spur and around the reentrant." That way, you're also keeping track of where you are and have less chance of making an error, plus you're noticing important information that will help you zero in on your control site.

Here's a good exercise for practicing reading contours, I've tried it with several school teams and it really works. Get out one of your O maps, preferably from a course you've run recently. Now, pretend there are no point or linear features on the map and tell someone out loud how you ran your course. You need to speak out loud, and it's even better if you do it with someone who will stop you if you forget and say "here I followed

the stream..." You must describe everything you did, but never say "trail, stream, or any other feature that's not a contour feature. Describe how you ran the course using only the terrain terms of hill, reentrant, spur, saddle and depression. You can say, "I ran down the ridge (but not "the trail"), to the 3rd spur (but not "the trail junction"), then followed it down to the main reentrant (not the stream) and ran up it to the saddle that was my attack point." Even if you followed a linear feature, don't say so, just describe the contour feature it was on. It's not easy at first, but you'll pick up speed mentally as you go along, and the next time you run a course, you'll be more likely to notice the contour lines those point and linear features are on.

And the next course you run, remember, you are running on contours all the time. Acknowledge them, use them, enjoy your success in navigation with their help.

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