

# The Little Book of Orienteering Techniques

Jean Cory-Wright, March 2000

How many red course orienteers actually have a "Little Book of O Techniques" hidden away in the back of their minds somewhere?

How many orange course orienteers have "read" or had explained to them the first half of this imaginary book?

How many yellow and white course orienteers have had instruction in the basics section from this book?

I am asking these questions because I feel that we don't consult this imaginary book often enough. To help people know what I am talking about, I am writing a series of articles on these techniques and together they should form the basic "bible" for any orienteers and coaches. I tell the National Squad that they should be able to do all of these techniques at any time, even if the techniques are not something they would use in their orienteering generally. Also, if they run a race and they just go for it, they should have the words "go by the book" etched on the back of their mind so that the rules of the book can pull them up short before the errors happen.

This "Little Book of O Techniques" is just as useful for the general orienteer. Even if they are not something that you use in your normal orienteering, it is good to master them as a back up. I suggest that you try and deliberately practise one or two of them each small event that you do. Even those techniques applicable to the white course are useful to red course people!

I have tried to go right back to basics and put the list in a vague order getting progressively more difficult. Please feel free to add any of your own and let me know what they are!

## Section 1 Basics

### 1. Map setting or orientation

Make sure you are holding the map the same way as the ground features. This means if there is a large hill to your left and a paddock to your right on the ground, then the corresponding hill and paddock are on the left and right of where you are on the map. Maps are only held with the writing the right way up when you are facing north as most maps are drawn with north at the top.

You can do this using the ground features as described above, or by using the compass. All you need to do when using the compass is to turn the map so that the magnetic north lines on the map run the same way as the floating north needle in the compass and that the red end of the needle matches the magnetic north arrows on the map. There is no need to turn the compass or the compass housing to do this.

- a must for everyone
- use compass and features
- map and compass in same hand recommended (i.e. use a baseplate like a thumb compass or use a thumb compass. A Map Guide compass is ideal for White course)

### 2. Map Folding

This is often over looked by people but is essential for a smooth run. It is good to have your map folded small so that you can get your thumb on to the place that you are located. You also need to have a method that allows you to run over the folded bit of the map and not lose your place. I suggest using a double fold so that one fold is beyond a control so that the control is visible, but when you get to the control swap to fold before the control so that the original control is still on the visible bit of map.

devise a system that complements the way you hold the map and compass  
it needs to be flexible to allow for long legs and courses

### 3. Thumb on map

Have some means of keeping your location in view on map, compass edge, thumb etc. This requires good map folding.

### 4. System

Have a system that you apply to every leg, e.g. CARE (Control, Attack point, Route, Exit).

## 5. Relating map to ground

This means looking at all the features around you and seeing if you can pick them up on the map and vice versa.

Do this as often as you can without wasting time

Beware of relating parallel features that look like the ones on the map but are actually somewhere else.

## 6. Observation (Relates to above).

Look all around you as often as possible

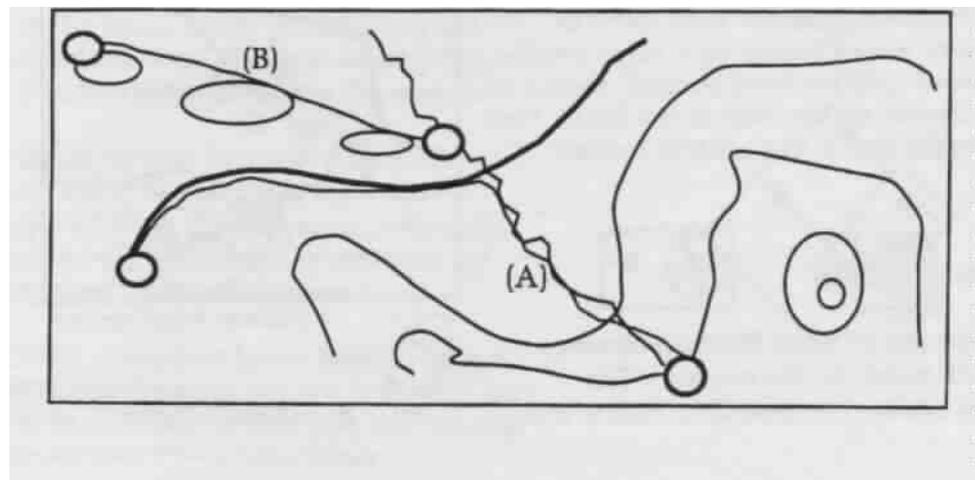
Vegetation boundaries often made more visible by looking up (very relevant in European broadleaf forest).

## 7. Handrails

These are an essential part of any route. It is worth going a bit out of your way to follow them for basic and intermediate level orienteering. They can be tracks, edge of vegetation,

mapped fences, streams, clearings etc. You can link point features together to make a line.

- easy line features to lead you on your route (A)
- can be lines (e.g. track) or points linked together (B)



## 8. Attack Points

- large or obvious features near control
- safest version is the crossing of two handrail features
- advanced example is a special shaped knoll in amongst many knolls
- use as preview to finding control
- advanced technique may use 2 or more attack points e.g., a huge knoll about 1-200m from control, then a re-entrant on the side of the knoll, then the pit that is the control feature.

## Section 2 Intermediate Techniques

In the last section I started by describing the "Little Book of O Techniques" and stated that every orienteer should have some of the sections of the book etched on their mind and should "open" the relevant pages in the mind throughout an event. The first article dealt in the last issue of "NZ Orienteering" with the basics and in it I said that these techniques should be known to all of orange standard and above. The first one was map setting or orientation and I am sure that even white course orienteers know about that one! However, I have been surprised how many times this technique is not applied, even by national squad members! How many of you hit a track and just hare along it with out checking its direction by simply lining the map up with north on the compass? Or worse still, you do it too quickly, see that it is nearly right and make everything else on the leg fit in with the mistake, even though it would have only taken 2 seconds to check it properly?

The moral of this story is that as well as having a "Little Book of O Techniques" etched in your mind that you also actually keep referring to (in your mind) while you are on the course. If you do this meticulously throughout a course, you will make far fewer mistakes of less duration!

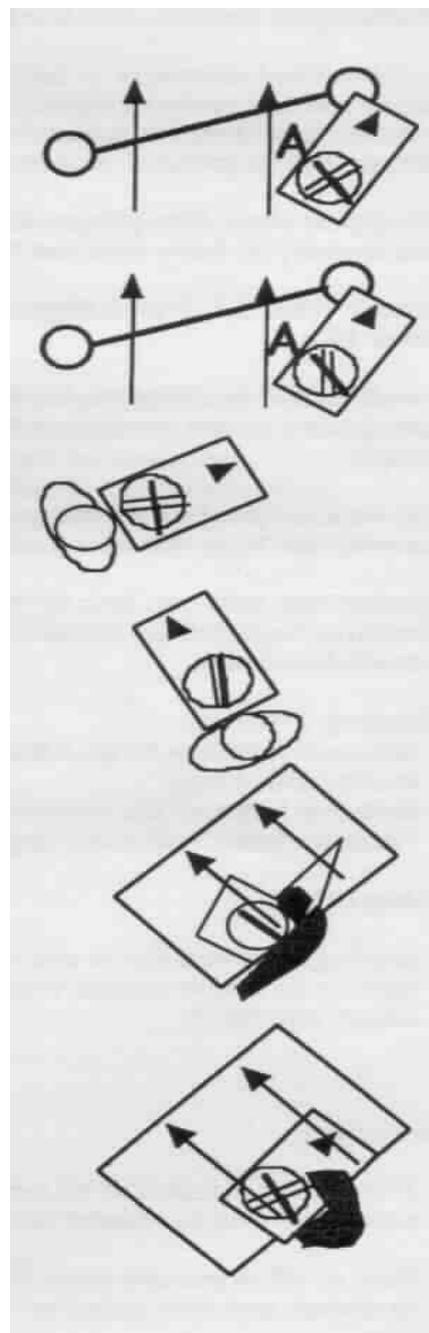
### 9. Compass Bearings

These can be used from an obvious attack point to the control. The basic method is described below but you should be practicing more advanced compass use as described after the basic method

- Put compass on map with edge along where you want to go
- Turn dial till lines in dial match the north lines on the map (note north to north!)
- Hold compass with edge you used in stage 1 pointing away from you
- Turn self and compass until the red end of the needle lies over the north arrow in the dial and you will be facing the way you need to go

Thumb compass technique does these stages automatically but misses out turning the dial.

If you use a base plate try holding it on the map all the time like a thumb compass and then you will always have a permanent rough bearing  
Compass and map are meant to complement each other and I strongly recommend that you hold them both in the same hand, preferably your steadiest



hand which is usually the one that you naturally carry the map in.

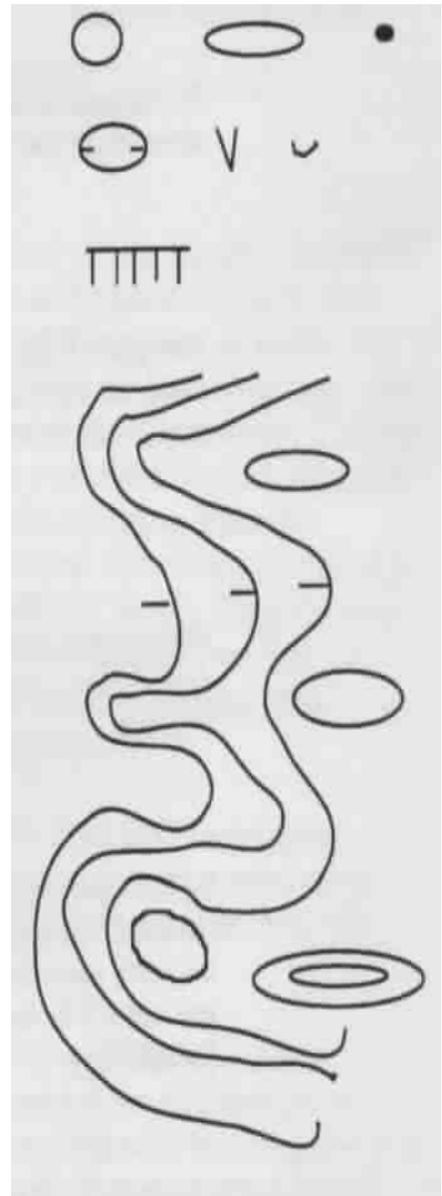
If you do this you will always be applying the 1st basic technique described in the last issue ... orientate your map and check everything off against that orientation.

Most orienteers know how to take a compass bearing but it is included here in its full form so that you will be able to explain it to a newcomer.

### 10. Contour Interpretation

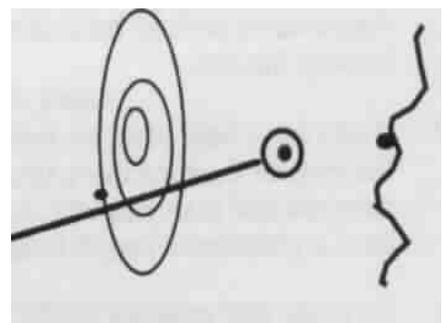
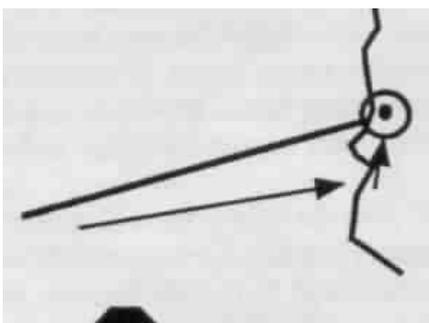
Know some basic contour and earth features such as knoll, depression, earth bank and steep slope. Such a level of skill would overlap with the basic techniques described in the last issue

- Understand contours in terms of being lines joining spots of equal height and realise that they are a picture of the shape of the ground, not measured
- Mappers may draw them slightly differently to how you see them
- Know what 2.5, 5 and 10m contours look like
- Understand features such as slope steepness, spurs, re-entrants, break of slope
- Have a method of working out up and down, use tags, streams and tops
- Notice that you can link contour features together or simplify them to create handrails



### 11. Collecting Features

- Obvious features to go hard for on the route (collecting)
- Features beyond the control to "bounce back" off (catching)



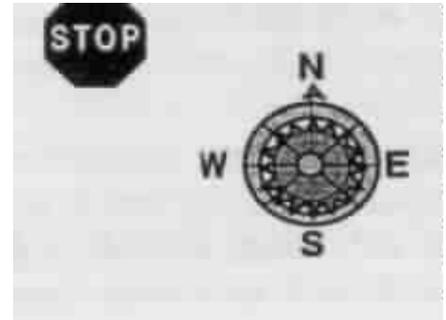
## 12. Aiming off

Aiming deliberately to one side of a feature to know which way to turn when you hit it.

## 13. Relocation

This skill is needed at all levels, but would be one to master at this stage

1. First of all orientate your map and try to match any line features
2. Then look at contour features and vegetation and try to match this up
3. Beware that there might be more than one possible match and take all into consideration
4. Try to think how far you have come and in what direction since a last known feature
5. Be prepared to run on further in the direction of the control to find something bigger to relocate on
6. Be prepared to back track to a big feature to relocate properly if necessary
7. It is often more efficient to get out to something big than to wander around in one place for a long time



The techniques I have described in this section are what I would call "basics for red courses". These will get you around a red course reasonably well. However, there are many more advanced techniques which I will be describing in the next section. So, revise the first section and practise these ones in the mean time and be ready for some advanced ones in the next issue!

## Section 3 Advanced Techniques

In the last 2 sections I have written articles about an imaginary book of techniques that we should carry around in our head and use when we are orienteering. These first 2 articles have dealt with basic and intermediate techniques and the article in this section moves on to more advanced techniques.

With some techniques it is hard to fit them into a difficulty category as they span across all the categories at different levels. Some of the ones described here may be very useful when used at a lower level of technical difficulty and some of them may be too much for the average red course orienteer to carry in their head until they have had time to practise.

One technique that is often overlooked is that of reading the control codes and descriptions accurately and in detail. This is a must at all levels as it saves disappointing disqualification, unnecessary misreading errors and helps you to find the flag quickly once the feature has been located.

The important thing is that you decide which techniques are best to include in your "Little Book" and make sure that you understand them all and can apply them all in the real situation. As you get more confident and automatic with those techniques you can add to your little book by reading up on, talking about and practising new ones.

These techniques need to be practised. Too many orienteers spend every event racing and not enough time practising skills. You should either get out to a map for extra training, or use some events as practice time. Try choosing two techniques to practise at each event; try going through the whole of this "book" over the course of a year or as much of it as is possible for you.

The next thing to remember is that although you may have a huge repertoire of techniques and skills, you may actually forget to apply them. All I can say on this one is that you have to take responsibility for making sure that you do apply the techniques. I would go as far as saying that if you do apply all these techniques all through the race, then your chances of a clean run are ten times higher than if you don't. It's worth taking 5 seconds to apply a technique in order to save 5 minutes of mistakes, especially if the consequences of not applying techniques (i.e. time loss) is happening at every control!

### **8. Observation in the broadest sense**

Many orienteers observe what is immediately around them but miss out on looking further afield. Look further away to see ridges and valleys, vegetation changes and other features.

Look behind you as well as to left, right and straight ahead.

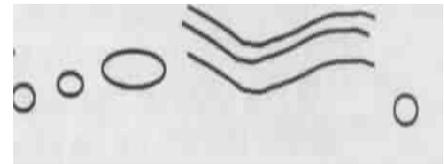
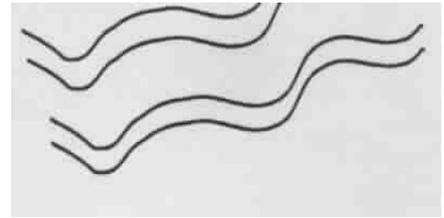
## 9. Linking points or contour features together to make handrails

Form "leading lines " to guide you on your route.

Try to follow "lines of least resistance" through the terrain e.g. terraces along slopes etc.

Link point features together to make a handrail.

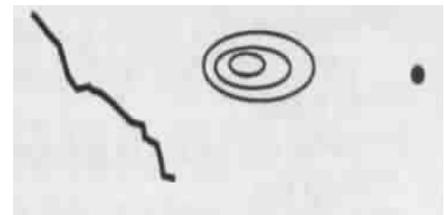
Use edges of slopes, long valleys or ridges as handrails.



## 10. Simplification

Break a route down to key points and don't read the detail until after the attack point

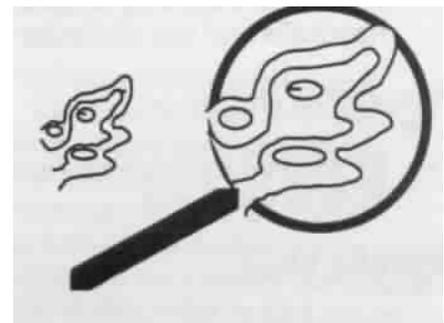
Allows you to shorten the length of time you look at the map for.



## 11. Magnification

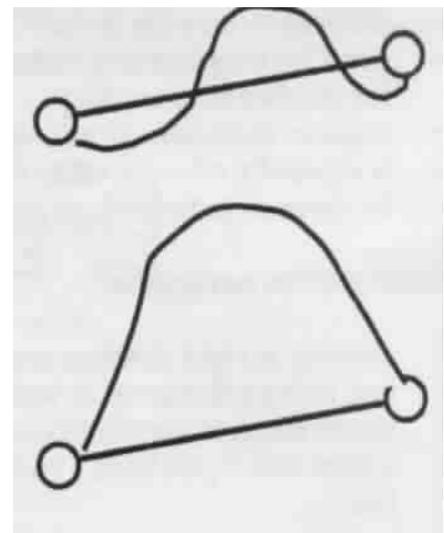
Magnify control circle in your mind.

Magnifiers on compasses are not just for crumblies.



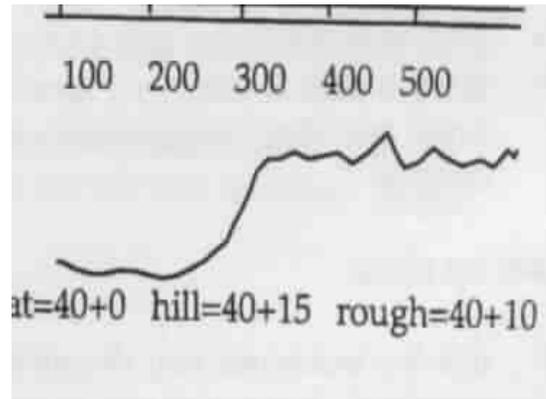
## 12. Route choice

- always look at route to attack point
- consider quality and size of attack point
- practise this in armchair or running training settings
- rule of thumb: going across the line between controls twice means long route
- going more than half the leg distance to the side of the line is only faster if more direct route is big hill or fight
- choose a route that allows for your strengths and weaknesses i.e. hill vs. flat
- choose a route that compliments the stage of the course you are at, i.e. you may choose a safer option to no.1 than to no.5



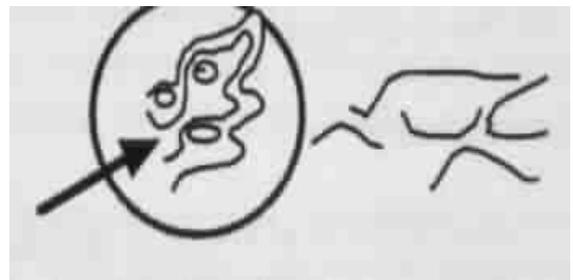
### 13. Distance judgement

- You should know what 200m, 100m, and 50m looks like in different terrain and what it feels like to run in different terrains and on a track.
- You should be able to estimate how far features are away from you just by looking at them.
- Pacing is under rated and has its value if you practise it.
- Counting double paces is easier.
- Recommend pace in blocks of 100m and adjust as you go if you use it, i.e. flat=40 + 0, hill=40 + 15, rough=40 + 10 Know your 100m pace for tracks, flat terrain, rough terrain and hills. Pace the base 100m (i.e. 40 paces then add on 5, 10, 15 or whatever depending on that terrain. That way you can adjust as you go along and you are actually sensing the distance as well.) Never measure off a distance in paces i.e. 320 paces to the next control, this is hard to adjust.
- Never use pacing in isolation, read the map too.
- It is an ideal back up in areas with few handrails and lots of similar features.
- It is worth noting here that one leg on the 99 world champs short qualifier course was along a uniform slope covered in similar boulder and vegetation features with many indistinct streams going down it Nothing could be relied upon so a distance check was essential. Many runners came unstuck on this leg and lost valuable time. Yvette Baker (GB) won her heat convincingly and I asked her how she did that leg. "I pace counted" she said, "I don't do it often but its really worth it at times like that!" She went on to win the World Short O Champs.



### 14. Visualising the control circle

Try to have a picture of the control circle in your head



### 15. Running blind

- go hard knowing direction and distance to hit a big feature
- good for long legs as it reduces need for detailed map reading
- requires confidence in relocation skills
- is especially effective when backed up by distance judgement or pacing

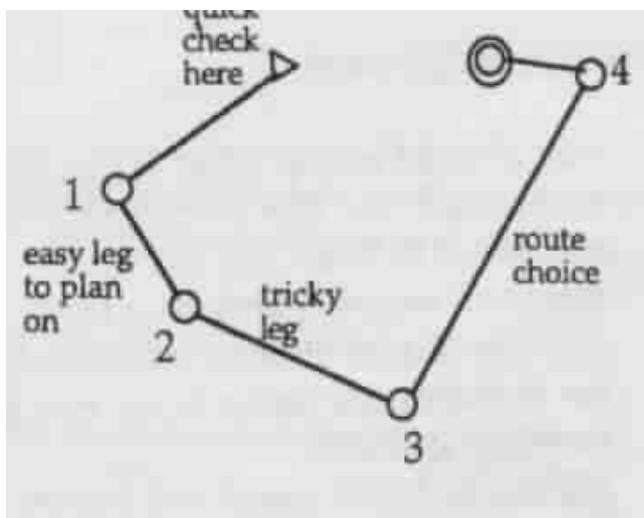
## 16. Retrospective navigation

Running in the right direction and distance and picking things up as you go.

- worth doing in certain terrain types
- works well if you have a back up plan too.

## 17. Planning ahead

- check out course at start for tricky or long legs
- do while on easy legs
- look at route choice legs early
- always plan at least your next attack point and check compass while exiting control

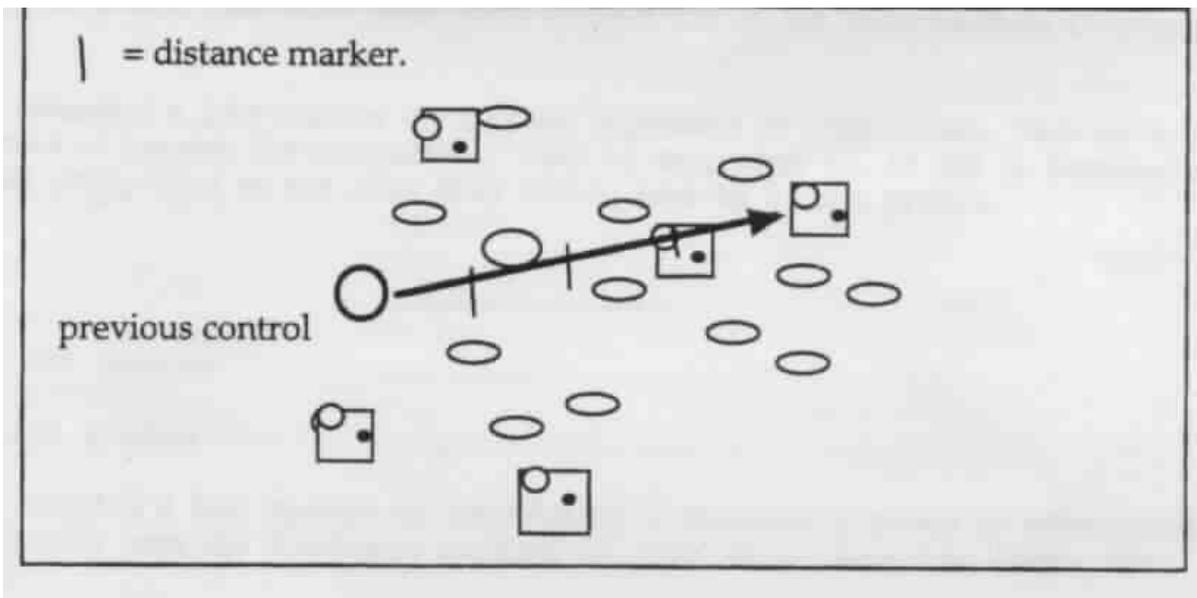


## 18. Back up plans

This is a technique you should think about when the others have been practised! It involves you in actually orienteering by intuition (which many people do anyway) but you have a "technical backup" going on in your head, e.g. you are just running along a ridge looking for a double spur on the left, but in your head you know the direction of the ridge and spur, how far along it should be, what you will see if you go too far, what you might see before the spur and which ridge you might be on if you don't see the spur and have made a parallel error!

It's a matter of being able to use as many techniques as possible to back up your position on the map. This means that if something looks different from how you expected it to on the map, you still know that it is the feature you think because you know how far you have come and in which direction and you saw an open area about 200m to your right while half way along the leg which could only have been one particular place.

The most widely applied back up plan is to know your distance and direction from your last known feature. This can be done with pacing and compass. In the diagram below you could lose contact with the knolls and could actually relocate at any of the double knoll features marked with a square. However, if you are sure of your compass direction this narrows the option down to two of the double knolls and if you know your distance this narrows it down to only one of the double knolls. This is a great confidence booster and also helps to pick up on mistakes before they get too big.



**GOOD LUCK!**

That's all for this section. Hopefully you have already been out there practising and will put it all into action during up and coming events.

