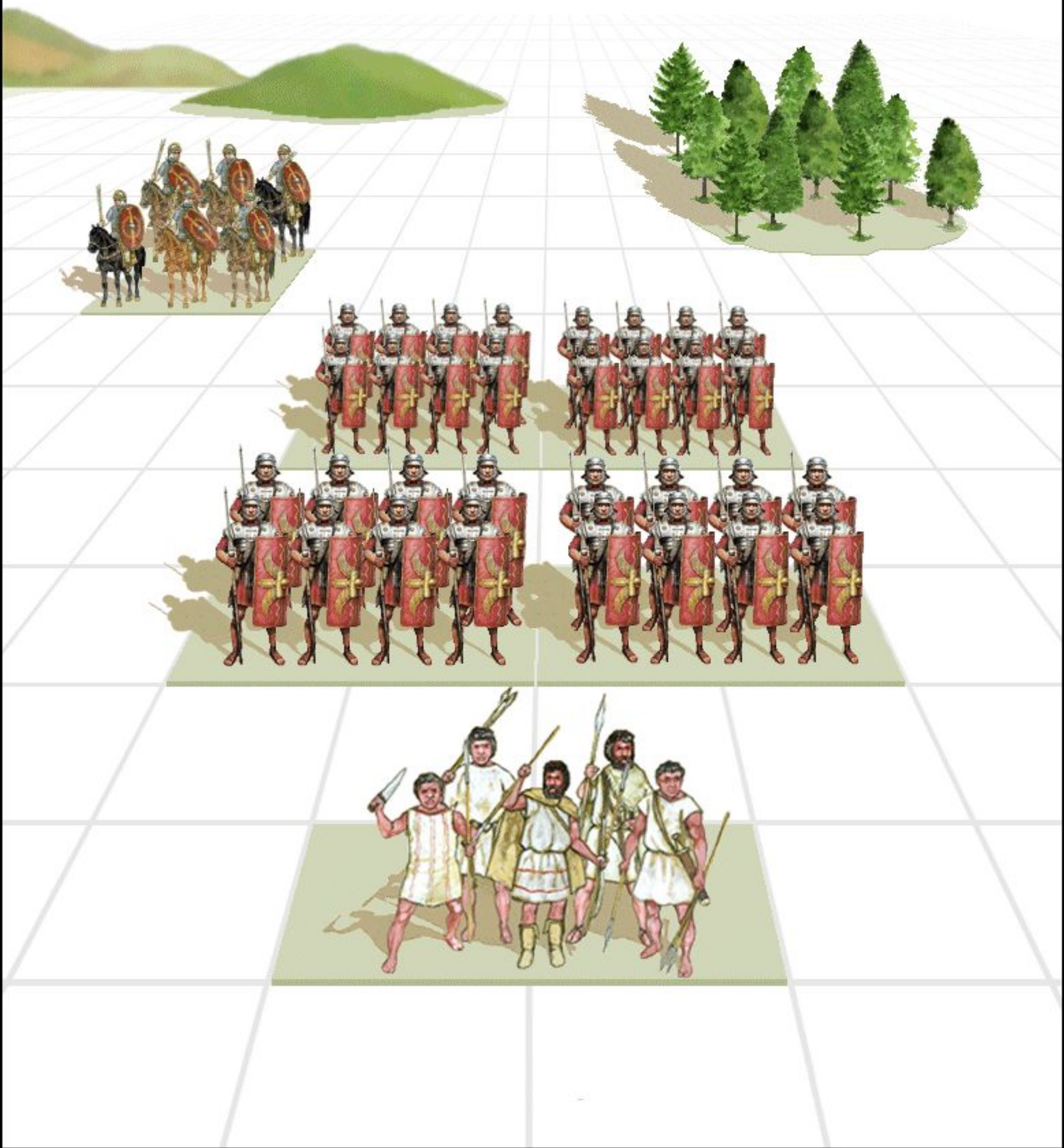
Playing DBA & HoTT on a Grid

For those that dislike 'micro-measuring'...



PLAYING DBA & HoTT ON A GRID

...by Stevie , 27th of March 2020.

Playing a wargame on a grid is hardly a new idea. Indeed, some of the very first wargames conceived over a century ago were played on square grids. And playing on a grid does have certain advantages compared to the free measuring method as it makes a tighter, faster, more rigid game by taking out the necessary but fiddly and frustrating 'micro measuring', often causing lengthy debates, that both DBA and HoTT require.

Of course, the main disadvantage of playing on such a rigid tightly controlled grid is the distortions that this can sometimes create compared to free measuring...but such distortions turn out to be quite small and are hardly noticeable in the majority of cases.

So here is a in-depth study of how DBA and HoTT can be played on a grid with the minimum of distortions. These techniques could also be applied to other periods and other rulesets as well, including naval warfare.

Contents

Acknowledgements

I'd like to thank Simon, Snowcat, Hammurabi70, Cromwell, Vic, Wjhupp, Mhrguth, Greedo, Wargamerdale, Oriel, Baldie, Chgowiz, Wingman and others for all their suggestions and comments, as well as some of my DBA wargaming friends (Ian, Nigel, Alastair, Darren and Sally) for helping with the playtesting to make sure that everything works as it should.

Introduction

Some players might think that hexagons are the answer, but this turns out not to be the case in practice. Hexagons are fine for strategic movement of whole armies on a map, but they are not suitable for tactical movement of individual units because of the impossibility of forming neat straight lines in certain directions.

Squares on the other hand allows movement in eight rather than just six directions, and can form nice neat straight lines of units. But it is important to eliminate any distortions when compared to free measuring, or certain things would be or would not be possible on a grid, and would therefore give quite different results, leading to a completely different type of game.

The ideal situation would be to have playing on a grid giving the same (or at least almost the same) type of movement as when free measuring, and giving players the same results, so that no false positioning habits are picked up or any opportunities are missed no matter which way the game is played.

The method chosen here is to have the grid squares ½ a BW in size, which is 20mm if using 40mm bases. And rather than counting squares, count instead the distance in centimetres from one front-corner to the desired distant 'node' where the grid-lines cross. This gives remarkably close distance determination as when using a ruler or measuring stick or rod, and counting in centimetres is what free measuring requires.

Note however that although node-to-node distance along a grid-line is 2 cm, the same as when measuring, the diagonal node-to-node distance has been rounded up or down to whole numbers for simplicity. These small distortion are hardly noticeable during play, but it does make group wheeling a bit more complicated. (Single elements don't wheel or have an offical 'pivoting point' as such, they just move and turn individually to reach their final destination).

So this booklet has been divided into two separate sections: the simpler basic 90° only orientation method (either with or without group wheeling), and the more advanced 45° orientation method, which although slightly more complex has far fewer distortions and more closely matches the free measuring style of play. This division into two separate sections allows players to choose which system they prefer.

Playing HoTT on a grid

HoTT is unusual in that it uses two completely different measuring systems together.
Some things are measured using BW like DBA (i.e. ZOC's, shooting arcs of fire, recoiling, passable routes to Strongholds, etc), but other things like movement is determined by the arbitrary concept of 'paces'...
...which then have to be mentally translated into something more useful such as inches or centimetres.

The best solution found for playing HoTT on a grid when using 15mm figures on 40mm bases is to adopt the following formula: paces ÷ by 100 then +1 = the number of nodes, and each node is 2 cm or ½ a BW.
For example:-

100 paces is 4 cm or 2 nodes or 1 BW...........(it should be 2.54 cm or 1")
200 paces is 6 cm or 3 nodes or 1½ BW........(it should be 5.08 cm or 2")
300 paces is 8 cm or 4 nodes or 2 BW...........(it should be 7.62 cm or 3")
400 paces is 10 cm or 5 nodes or 2½ BW......(it should be 10.16 cm or 4")
500 paces is 12 cm or 6 nodes or 3 BW.........(it should be 12.70 cm or 5")
600 paces is 14 cm or 7 nodes or 3½ BW......(it should be 15.24 cm or 6")

An exception is 1200 paces is 30 cm or 15 nodes or 7½ BW.....(it should be 30.48 cm or 12")

There is a bit of distortion here, but it's very little, and '100 paces' is only used if a front-edge is in water, while roads should only add 3 cm for every extra PIP spent to move along them (the adding of 3 cm and not 2 cm is to allow elements to gain extra speed when travelling at 45° diagonally down a road).

SECTION 1: BASIC 90° ONLY ORIENTATION

The grid itself

The grid consists of a number of ½ BW (2 cm) squares in a chequerboard pattern.
There are several ways of marking out the grid lines...some less obtrusive and more visually appealing than others. The traditional method is to simply mark out the squares with faint straight lines, although this can sometimes give the impression that a boardgame is being played.

An alternative is to only mark the 'nodes' where the grid-lines would cross, as these are all that is needed when positioning and calculating distances, and some players may find this less distracting.

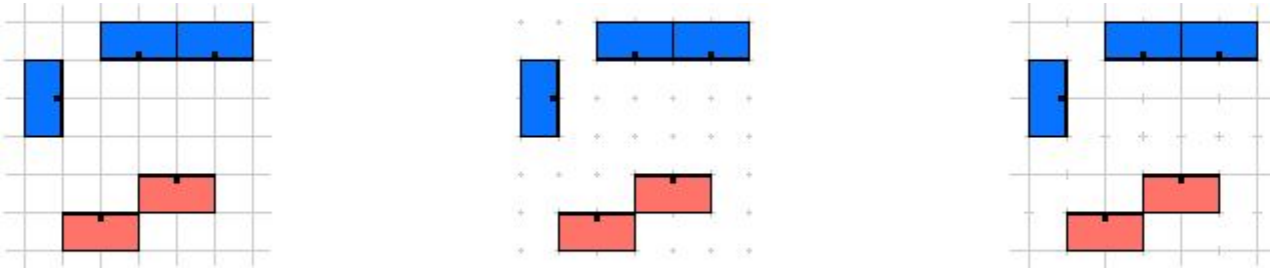


Figure 1

I myself prefer to combine these two methods, and have solid grid-lines to mark out a full 1 BW (4 cm), but I also like to use small crosses to mark the ½ BW (2 cm) positions. This greatly helps to visually see Threat Zones, and to judge long distances without the need to tediously count-out every single node distance.

Positioning when using 90° only orientation

With this system, all elements and groups must end a move 'straight on', facing either North, South, East or West, with *both* front-corners *plus* the front-edge on or touching a 'node' where the grid-lines meet and cross.

Troops may still travel diagonally, and all distances between the nodes are also counted diagonally, but their final resting place at the end of the move phase must be in a 'straight on' orientation, as shown by the green circles.

(The advanced 45° orientation method will be covered later in Section 2)

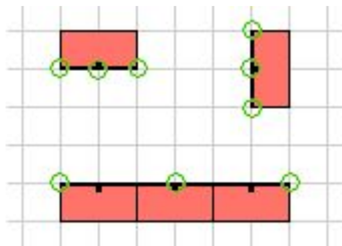


Figure 2

Deep elements and recoiling

If the rear of an element's base protrudes into a grid square, they are considered to have filled that square, and their rear is assumed to be touching any rear square nodes, as shown here by the grey shadows.
Columns make physical contact with the element in front.

Recoiling on a grid:
Mounted always recoils a full 1 BW (4 cm or 2 nodes).
Foot that recoil always move ½ a BW (2 cm or 1 node).
All pursuing is the same as the normal DBA & HoTT rules.

Figure 3

Sometimes troops recoiled while 'hard flanking' will only recoil a bit because their rear contacts something. Movement from such a position is treated as if its front-edge/corners were touching the nodes to its front.

Moving only 1 BW (4 cm) without changing facing

Here an element is in rough or bad going and has a speed of only 1 BW, or 4 cm.

Shown are all the positions its front-corners could move to *without changing its facing*, as well as the grid distances travelled (note that the measured diagonal node distance is actually 2.83cm, but for grid purposes this is treated as 3 cm). Any left over 1 cm movement it lost, as there is no way to spend 1 cm.

Those positions it could not reach due to its limited movement are not shown.

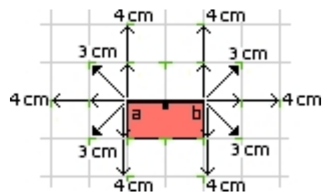


Figure 4

Turning 90° with only 1 BW (4 cm) of movement

Here an element wants to change its facing by turning 90° to its right, but only has a 1 BW (4 cm) move:-

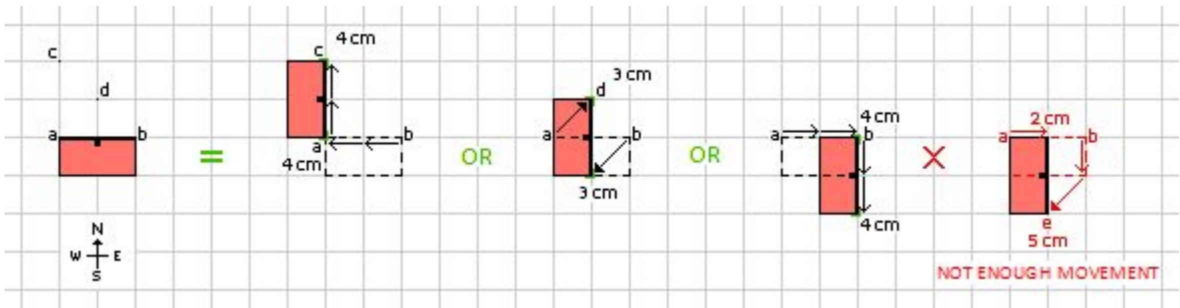


Figure 5

In the **2nd** picture the left front-corner on node 'a' moves 4 cm to the North to node 'c', which drags the right front-corner on node 'b' 4 cm to the West to end on node 'a', and the element finishes facing East.

In the **3rd** picture the left front-corner on node 'a' instead moves *diagonally* to node 'd' (3 cm). The right front-corner on node 'b' also moves diagonally and the element also ends up facing East.

In the **4th** picture the left front-corner on node 'a' moves 4 cm to the East, causing the right front-corner on node 'b' to also move 4 cm to the South, and again the element ends up facing East.

However, the **5th** picture shows what the left front-corner on node 'a' *cannot* do, which is move just 2 cm to the East, as that would cause the right front-corner on 'b' to end on node 'e', which is a move of 5 cm. (Actual measured distance is 4.47 cm, which is more than the 1 BW limit of 4 cm for this particular element)

Turning 180° 'about face' with only 1 BW (4 cm) of movement

To turn 180° to face South, both the element's front-corners swap places by each moving 4 cm, forcing the rear to shuffle back. Notice that the front-edge stays in its original location.

But it *cannot* just turn-about on the spot, as that would cause both front-corners to move 5 cm, and it doesn't have enough movement for this.

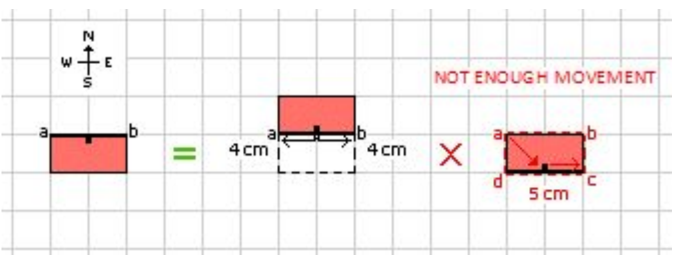


Figure 6

Hard flanking with only 1 BW (4 cm) of movement

Here are a few of the hard flanking opportunities available to an element with only a 1 BW (4 cm) move:-

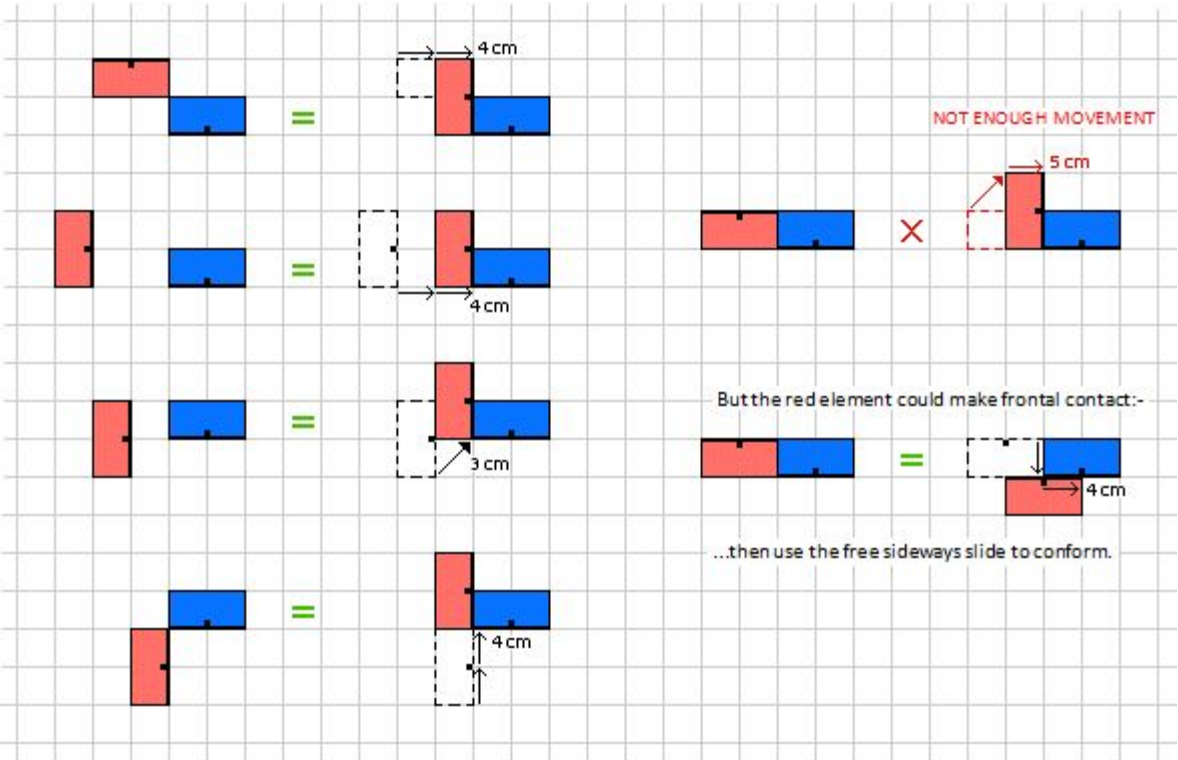


Figure 7

The picture on the right, where both parties are in mutual side-edge contact, shows what is *not* possible. Again the red element does not have enough movement to be able to hard flank (the distance is 4.47 cm).

However, the red element in mutual side-edge contact *could* move back and then to the side in order to make partial *frontal* contact, and then use the free sideways slide to get both front-corners touching. But it *cannot* move forwards then sideways to prevent the blues from recoiling, as both parties *rear-edges* would be in contact (which is not a legal contact position - see "Contacting the Enemy" on page 9 of the rules).

A note about conforming: moving players decide which way the *conforming element* must move to conform. After all, when measuring you only need to wiggle 1 mm one way or the other to control this. So when an element moves into contact with two enemy elements, *it* decides which one to conform to.

Hard flanking with 2 BW (8 cm) of movement

Here the red Spears, now with a 2 BW move, have forced the blues to recoil, and wish to hard flank them:-

The Spear on the left has enough movement to successfully reach a legal hard flanking position (actual measured distance is 7.2 cm), but the Spear on the right does not (the actual distance is 8.48 cm).

Had the blue element recoiled a full 1 BW (4 cm or 2 nodes) rather than just ½ a BW (2 cm or 1 node), then *neither* of the flanking Spears would have been able to hard flank it (because the actual measured distance would then be 8.94 cm or more).

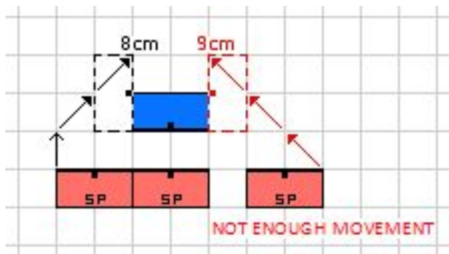


Figure 8

On the other hand, had the flanking red elements been say 3Ax or Kn with a movement of 3 BW (12 cm), then they *could* still hard flank an an enemy that had recoiled a full 1 BW/4 cm/2 nodes.

Double-Wheeling on a grid

Normally groups can only move straight forwards, unless wheeling, double-wheeling, or lining-up in a TZ. A double-wheel is when a front-corner of a line becomes a fixed 'pivot point' while the other end uses half the move allowance to wheel, then the other front-corner does the same, all in a single bound. The effect is to move forwards and slightly to one side, so the group moves diagonally but keep their original facing.

Now you might think that the easiest way of doing this on a grid is to simply let a group shift say 1 node sideways for every 1 or 2 nodes it moves forwards...but that is *not* how double-wheeling actually works. The real sideways effect when measuring is far smaller, and is almost minimal for slow moving groups.

Therefore, to better mimic the true effect, double-wheeling on a grid should use the following procedure:- the group's *entire move* is used but is *halved* to move forwards, with a 2 cm sideways shift:-

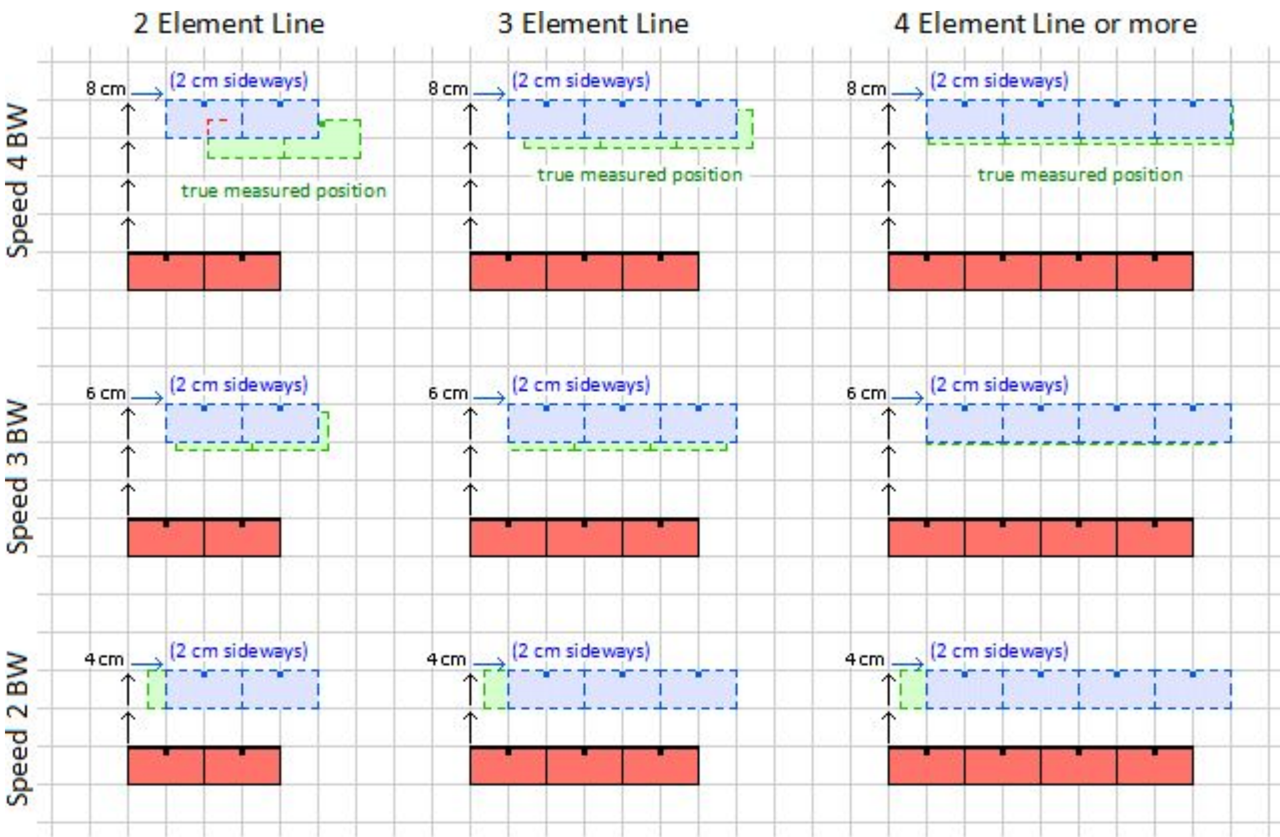


Figure 9

Here the items in green show the true positions reached when using a ruler to measure things, and the items in blue are the compromise positions necessary for grid play. Note that the first picture, showing a 2 element line with a speed of 4 BW, should really be able to shift 4 cm sideways as indicated by the red mark, but to keep things simple it's better to apply the 2 cm sideways procedure in all situations. *(The true measured sideways shift can be more accurately mimicked when using the 45° orientation)*

In the third scenario, double-wheeling a line with a speed of only 2 BW, the effect has been exaggerated. But having no benefit at all seems too harsh, and when measuring even a small wiggle can be enough to stop an enemy from hard-flanking as it may prevent them from being entirely beyond the flank side-edge. Certainly a group with a speed of only 1 BW should not be allowed to shift sideways as the effect is trivial.

Remember that there is another way for a group to shift sideways; when they line-up in a enemy Threat Zone...although this sideways shift is not free and must be paid for with PIP's and the distance travelled deducted from their normal move allowance (see DBA 3.0 rules, page 8, third paragraph from the bottom).

Single 90° ½ Wheeling on a grid *(this is optional...alternatively, don't allow wheeling)*

When measuring, if you cannot fully wheel this bound you can at least partially wheel, then finish off the manoeuvre next bound. With 90° only orientation, if you can't fully wheel 90° this bound, then you won't be able to next bound either...or ever! The best that can be done is to plot where the measured positions would be *after two bounds*, then try to mimic this so that the final grid positions will also end in the same location after two bounds, thereby rectifying any distortions...but this procedure may seem to be a little bit complicated, as shown in Figure 10 *(this is much simpler when using the advanced 45° orientation method).*

The procedure for 90° ½ wheeling on a grid

Actually, 90° ½ wheeling is really quite easy if you follow these four simple steps:-

1) **How many can wheel:** due to the speed of the wheeling group and the distance to be travelled by the furthest moving front-corner, you will find that the following is true:-
   A line with a speed of 4 BW will allow 4 elements to wheel, 3 BW allows 3 elements, while 2 BW only allows 2 elements to wheel. Other elements are left behind and no longer part of the wheeling group.
2) **Placing wheeling elements:** place the wheeling elements on the '90° line', with one front-corner still touching the original 'pivoting point'. Now calculate the distance the furthest moving front-corner has travelled by counting the node distances. If it has enough movement to reach or exceed this '90° line', then fine, they have no need for any ***'pivoting bonus'*** (since no 'pivoting bonus' was used, any excess normal movement still remaining can be used either before or after the wheeling manoeuvre is made).
3) **If the group *cannot* reach the 90° line:** add on the ***'pivoting bonus'***, which is 1 extra cm for each BW of speed the line has (this is like the 'free sideways slide' when conforming...a bit of extra movement is added in certain situations to make wheeling groups manoeuvre properly). However, *no* 'pivoting bonus' can be added if the group makes *any* kind of movement either before or after the wheeling manoeuvre, and any excess 'pivoting bonus' movement is lost once the 90° line has been reached.
4) **If the group <u>*STILL*</u> cannot reach the 90° line:** then they must make a ***'½ wheel'*** instead. This means moving the furthest front-corner straight back to a node that they *can* reach with their move and the ***'pivoting bonus'*** combined. Unfortunately, this means that the 'pivoting point' and part of the line will end up moving backwards...but such distortions are unavoidable when trying to wheel on a grid using the 90° only orientation method (interestingly, the 'pivoting point' will always move back by the same number of nodes as the BW speed of the line attempting the wheel, making calculation very easy).

Optional House Rule for PIP costs when wheeling *(this also applies to the advanced 45° wheeling)*

One of the main advantages of wheeling is that it is not PIP expensive, and multiple elements get to move for (usually) a single PIP. This advantage is lost if a group in a long line has to break-up because only some of them are able to wheel and the whole body cannot stay together as a single continuous group.

To help mitigate this distortion, apply the following optional house rule:-

> *The PIP's spent on a wheeling group applies to **ALL** elements within that group, so they can **ALL** move, even if some wheel while the others only get to move straight forwards, thereby splitting the group.*

*This actually helps to mimic the situation shown in Figure 10 diagram 9 when '**½ wheeling**' a long slow line. For example, consider 2 x 4Bd and 2 x Sp in that order in a line, and 1 PIP is spent to move the entire group. Because of their speed of 2 BW, only the innermost 2 x Sp can **½ wheel**, as shown in Figure 10 diagram 9. However, the two left-behind 4Bd also get to move (forwards only), either as single elements or as a group, since the 1 PIP was spend on all of that group when they were all together at the beginning of that bound.*

*In the second bound the **½ wheeled** Sp group, now turned 90°, may remain stationary while a PIP is spent **½ wheeling** the newly formed 4Bd group as shown in Figure 10 diagram 7. In the third bound, this 4Bd group can now move straight forwards to join the end of the Sp group to form a single body once more. Thus over the course of 3 bounds, 1 PIP is used each bound to end up looking as if they had all wheeled as in diagram 9.*

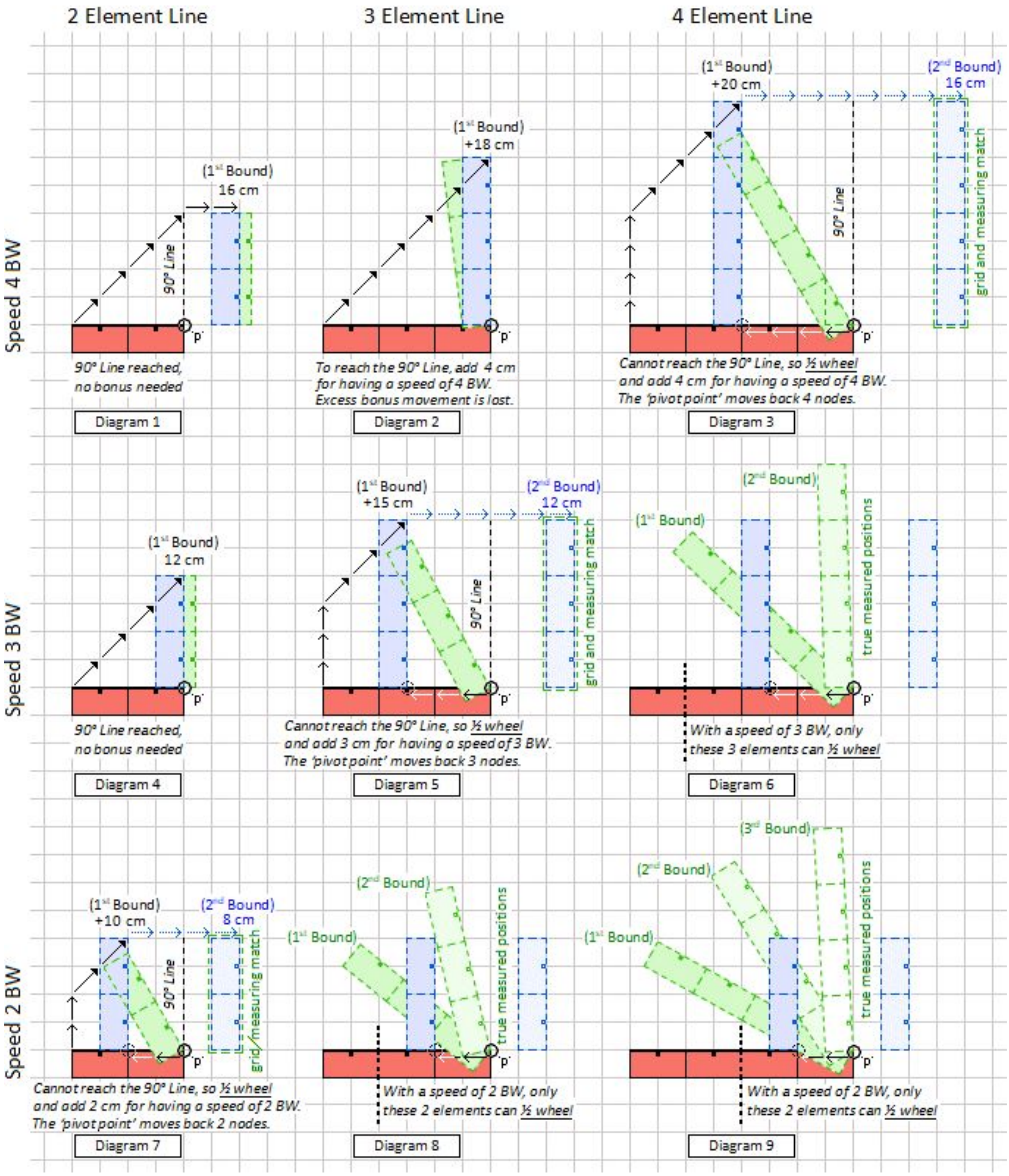


Figure 10

Figure 10 explained

Diagrams 1 & 4: 90° line is reached so no bonus is added, and the final position is similar to that when measuring.
Diagram 2: the **'*pivoting bonus*'** is needed to reach the 90° line, and the final position is similar to measuring.
Diagrams 3 & 5: a '***½ wheel***' is necessary, which after two bounds ends up in the same location as measuring.
Diagram 6: measuring takes two bounds to wheel almost 90°. With a speed of 3 BW, only 3 elements can wheel.
Diagram 7: even with the **'*privoting bonus*'** a '***½ wheel***' is needed, which after two bounds matches measuring.
Diagram 8: with a speed of only 2 BW, only 2 elements can wheel, and it takes measuring over two bounds.
Diagram 9: as in diagram 8, but the longer line means it takes measuring *three bounds* to wheel almost 90°.

Being 'at', 'within' or 'beyond' on a grid

Being on or touching a node is considered to be 'at' or 'within' in most cases, except for the following:-

* You are only 'in' terrain if a corner or edge of an element is on or touches *a node* within that terrain.
* When deploying, you are *not* 'within' the table centre-line or 'within' range of a table-edge if on or touching a node that is exactly the right distance away (consider this as being a BW+1mm distant, which is far too small to be shown on a grid).

In all other cases, being on or touching a node is considered as being 'at' or 'within'. For example, being exactly 1 BW/4 cm/2 nodes of an enemy City or Fort <u>is</u> being 'at' or 'within', so you cannot deploy there.

DBA Threat Zones and HoTT Zones of Control

TZ's and ZOC's are somewhat different to the 'at' or 'within' protocols mentioned above, as only the troop *edges* that are inside or touching the far-edge are affected, *not the nodes*. For example, here a line of blue elements have their 1 BW Threat Zones shown in light green, with their TZ far-edge in dotted blue:-
(TZ's and ZOC's act in effect as if they were 1 BW+1mm in depth, but only 1 BW-1mm in width)

The front red Pike element is clearly inside the TZ of blue element 1, but the rear Pike element is not, because none of its *edges* are inside a light green square, and none of its *edges* is touching a dotted blue line. (Although the front-edge is touching a dotted far-edge TZ *node*, the nodes don't count...only a TZ far-edge *grid-line* matters).

The red Warband element has its left-edge touching a dotted far-edge TZ, so it is affected by the TZ generated by blue element 2.

The red Spear element has its front-edge toughing the dotted far-edge TZ grid-line generated by both blue elements 3 and 4, so it is affected by two TZ's, but its own TZ is also affecting both blue elements as well.

The red Cavalry element is facing away from the enemy, and its rear-edge is considered to have filled the rear square as shown by the grey shadow, so it is affected by the TZ generated by blue element 5.

The red Blade element, like the rear Pike element, is unaffected by the TZ generated by blue element 6, and for the same reasons...none of its edges are inside or touching a dotted far-edge TZ *grid-line*.

All the above would also apply if the line of blue elements were replaced by an enemy Camp, an *occupied* Fortress, or by a City.

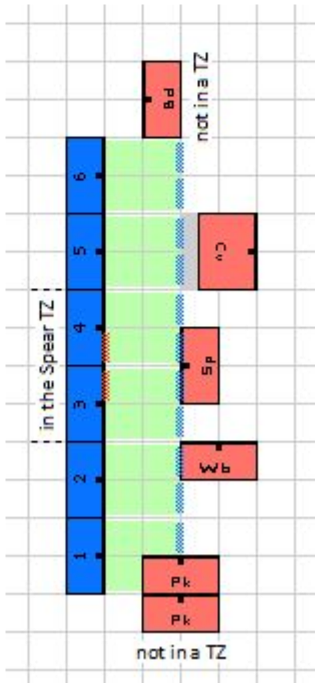


Figure 11

The penetration of DBA Threat Zones and the blocking of HoTT Zones of Control

DBA uses 'X-Ray Threat Zones', which penetrate all elements, while HoTT uses 'Zones of Control', which are blocked by any partially intervening troops.

In DBA, all the red and blue elements shown here are under the influence of a TZ, and the front blue element could move into contact with the red Psiloi, as it's in both red TZ's.

In HoTT, the rear blue and the rear red elements are free to move, and the front blue element cannot contact the red Psiloi as it can only react to the red Blades, who's ZOC it's in.

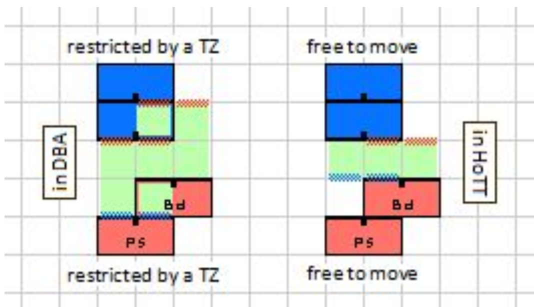


Figure 12

Grid terrain and BUA's

Because of the curved edges of most terrain pieces, some further examples are required of when an item is actually 'at' or 'within', and when it is not.
Remember, if a node is *fully* 'in' terrain, any element on or touching that node will also be in that terrain.

Terrain gaps: here a small hill, a small wood, and a ploughed field (each of them 3 x 1½ BW in size) have been placed as near to the table edges and each other as possible.

Notice the 1 BW gap completely free of any terrain nodes left between each terrain piece plus the table edge, and that none of the red elements are in any of the terrain as all the nodes they touch are entirely in good going.

Hills: the hill shown here has the three contour levels marked on each hill node, and instead of the usual 'ridge line' there is a small 'x' to mark the 'hill peak'. This is better as elements closest to this hill peak are further up the hill...from *all* directions. Simply extend this hill peak to see who is in front or behind the ridge-line for command and shooting purposes.

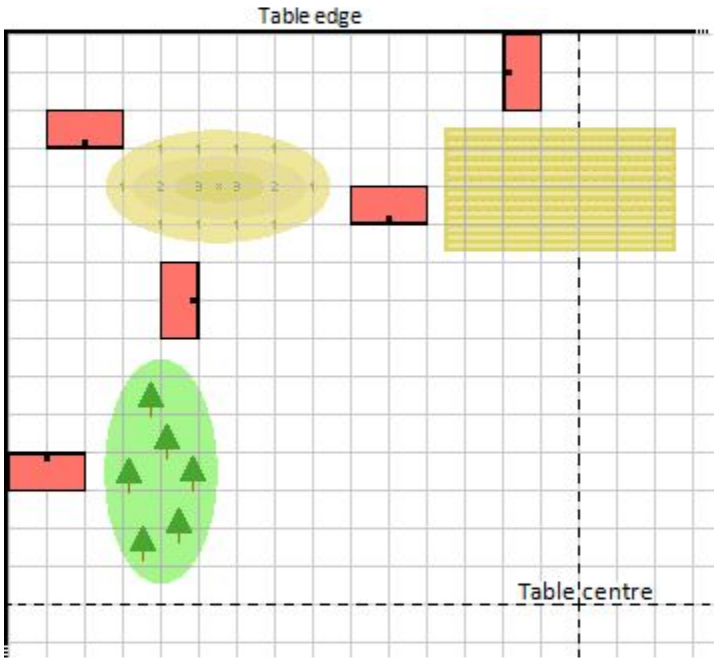


Figure 13

Roads: have roads following the grid-lines, so that an element using the road has its centre touching the centre of the road and its flanks are parallel to it (the same applies to gates).

Waterways: these are impassable, so the grid-lines stop right at the water's edge, with the nodes not actually touching the water.

BUA defences and Camps: unlike Waterways, these are best if the defences or perimeter actually touches a node. Front-edges must make partial contact to be able to assault. *(Although it is possible to come up with many weird City, Fort and Camp shapes, players are expected to use a bit of common sense here)*

Rivers: like Area Terrain, if you touch a node in a River, then you are in the water, as shown by the dark blue crosses on the River-nodes.

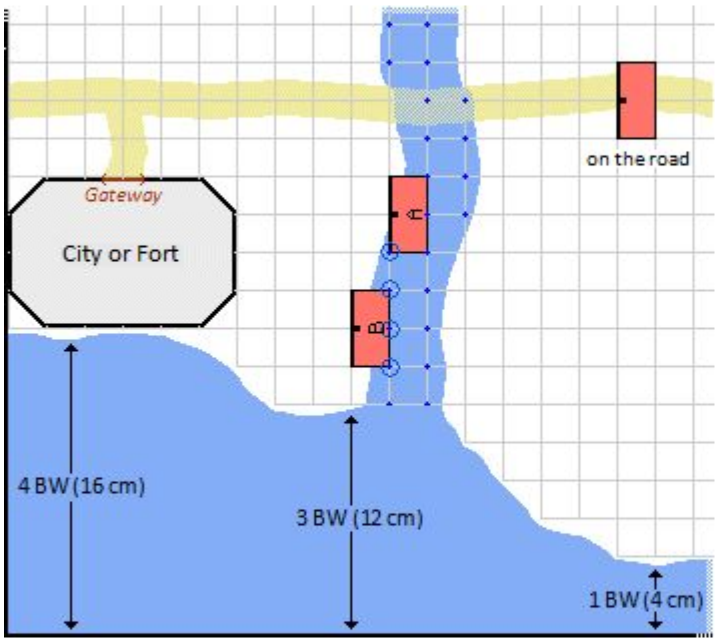


Figure 14

Note that here element 'A' has its front left-corner touching a River-node, as shown by the blue circle, so has its move reduced to 1 BW. Element 'B' on the other hand has no River-nodes touching its front-edge or front-corners so its speed is *not* reduced (however, its rear-edge and rear-corners *are* touching some River-nodes, so if attacked it will give the enemy a +1 for the River-bank bonus as it is still in the water).

SECTION 2: ADVANCED 45° ORIENTATION

All the things covered in Section 1 will still apply (apart from '***½ wheeling***' which is replaced by 45° wheeling instead), and all that follows is *in addition* to everything mentioned before.

Positioning 45° elements

Whereas 90° positioning still requires the front-edge and *both* front-corners to be on or touching a node, the 45° positioning only requires the front-edge and *one* front-corner to be on a node, as can be seen here by the green circles. The other corner not on a node is left 'free floating'.

Notice how this results in elements being in two slightly different possible positions, depending on if the left or the right front-corner is the one that is left 'free floating'.

There will be 2 mm gaps between the bases when in a 45° orientation, but these are small and do not look unsightly. (Only 90° and 45° positions are allowed...nothing else)

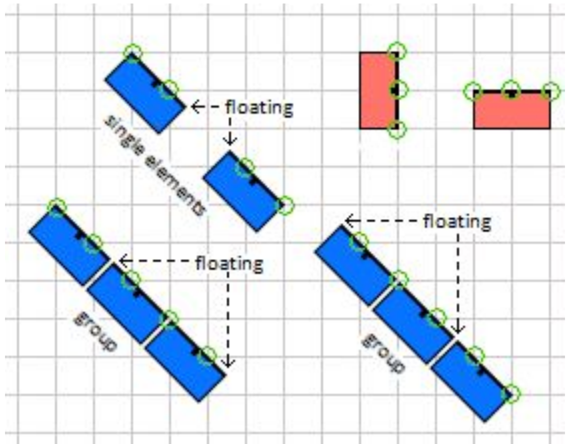


Figure 15

45° movement

Here a group is doing what they usually do, moving directly straight forwards in a line. The green circles again show the final 45° alignment positions.

This is much the same as the 90° method, except it costs 1 cm to move to or from a 'free floating' position to an adjacent node.

But you have to be careful...sometimes moving straight forwards appears more expensive when counted from one front-corner than from the other front-corner. This is because the true diagonal distance has been rounded up or down to make node counting simple.

So in order to help reduce any distortions, when moving 45° diagonally in a straight line always remember to check the total distance to be covered from the starting to the final position from *both* the front-corners, and only count the distance from the front-corner that has the <u>*lowest*</u> cost. Thus only when *both* front-corners exceed their move allowance is a move disallowed.

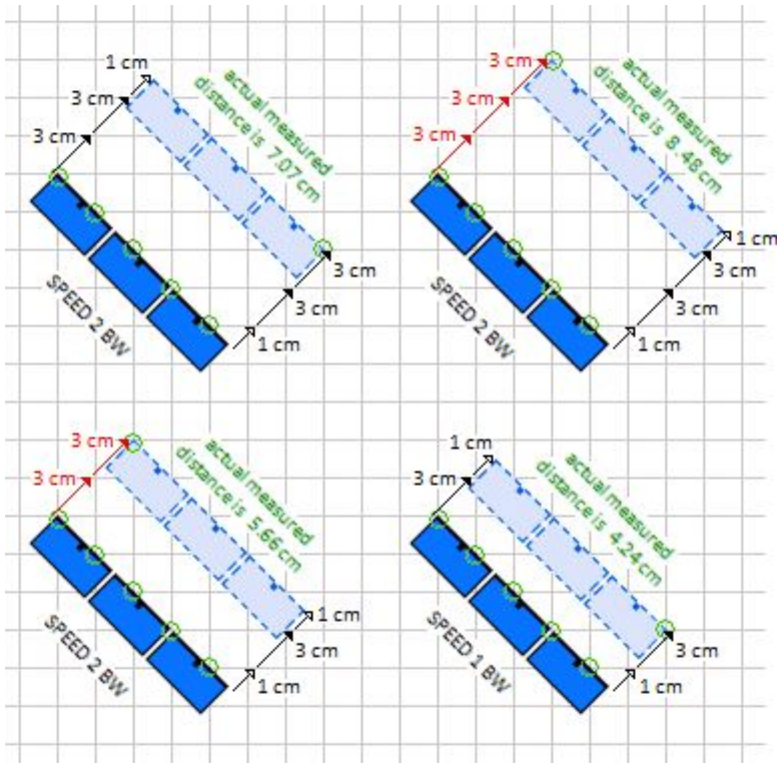


Figure 16

Alternatively you could count from the front-corner with the <u>*highest*</u> move cost and disallow any straight move that results in either front-corner exceeding its movement allowance, but then some of the diagonal distances will turn out be less than what they should be when they are actually measured with a ruler.

45° Groups making a double-wheel

Again the group's *entire move* is *halved* to move forwards, but this time with just a **1 cm** sideways shift:-

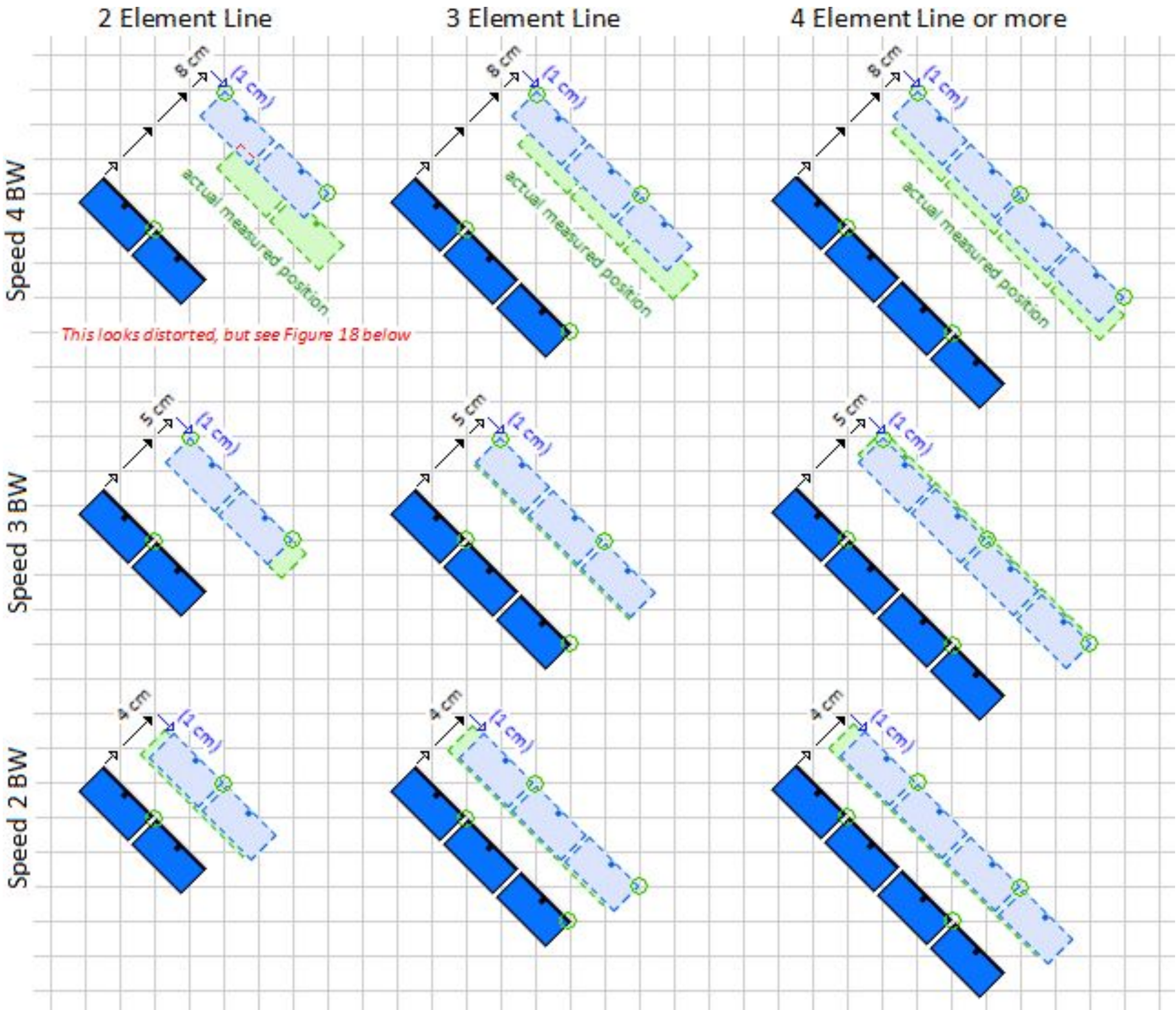


Figure 17

In the first example above, that 2 element line with a speed of 4 BW does look a bit distorted. But the true measured position can be reached by splitting things into two parts if you wish, as shown here.

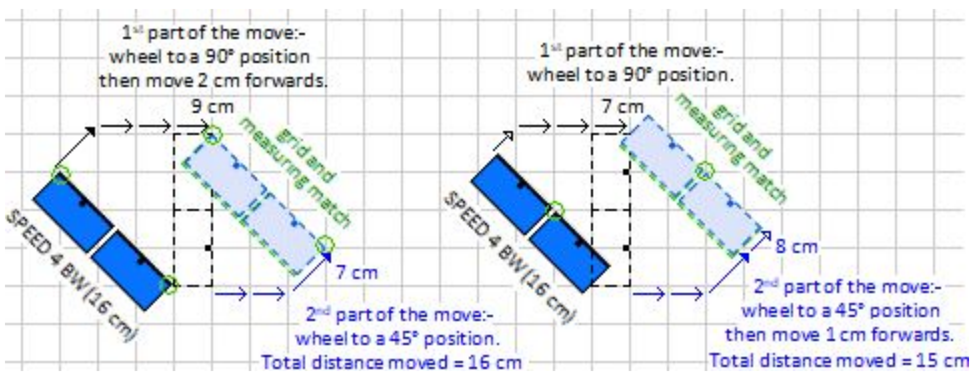


Figure 18

First wheel to a legitimate 90° position counting from one front-corner, then to a legitimate 45° position counting from the other front-corner, making sure that the entire move does not exceed the 16 cm move limit. Since each individual wheel can reach a 90° or 45° position, no '***pivoting bonus***' is needed nor added.

45° Groups making a single wheel

Much the same as in Figure 10, but this time if they cannot reach the 90° line they stop instead at 45°. The 'pivoting point' <u>doesn't usually move</u>, and to help reach a 90° or 45° line the '***pivoting bonus***' is now **<u>2 cm</u>**. But remember, *no* '***pivoting bonus***' can be added if the group makes *any* kind of movement either before or after the wheel (so moving sideways or straight forwards prevents you from claiming the 2 cm bonus):-

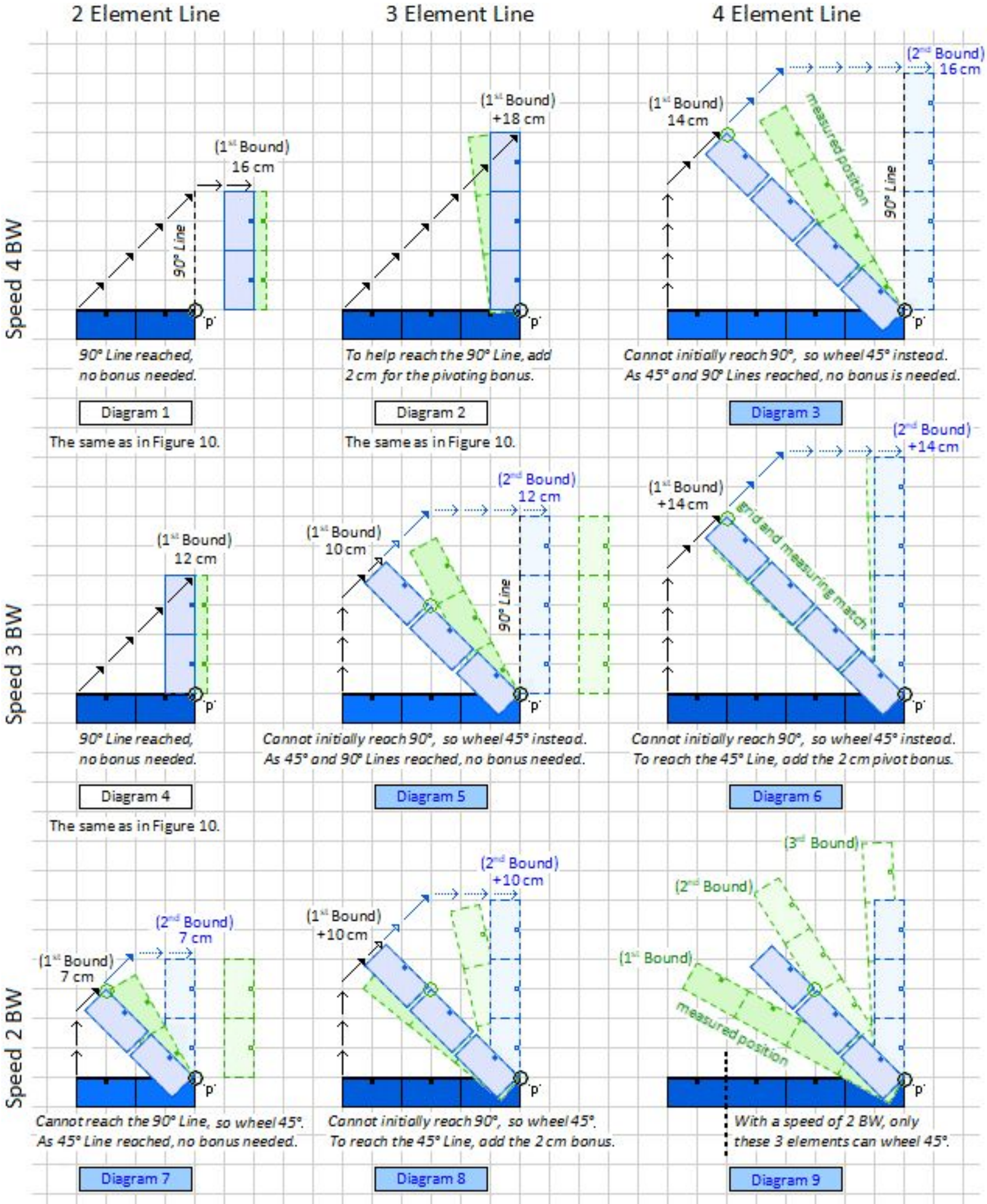


Figure 19

Figure 19 explained

Diagrams 1, 2 & 4: the 90° line is reached, so no bonus is added, the same as when using 90° only orientation.
Diagram 3, 5 & 7: cannot reach the 90° line, so wheel 45° instead, and no ***'pivoting bonus'*** is needed nor added.
Diagram 6 & 8: cannot reach the 90° line, so wheel 45°, but add the ***'pivoting bonus'*** to help reach the 45° line.
Diagram 9: as in diagram 8, but the longer line means it takes measuring *three bounds* to wheel almost 90°.

Wheeling from a 45° to a 90° position

Usually wheeling from a 45° to a 90° position is fairly simple, as shown here in Diagram 1. Unfortunately this sometimes results in an illegal grid alignment position when the front-corners end up not touching a node, as shown in Diagram 2. In such cases the 'pivot point' needs to be moved slightly to the position shown in Diagram 4 (basically, the node the end element's *front-edge* is touching, and *not* from the 'free floating' front-corner, becomes the 'pivoting corner'):-

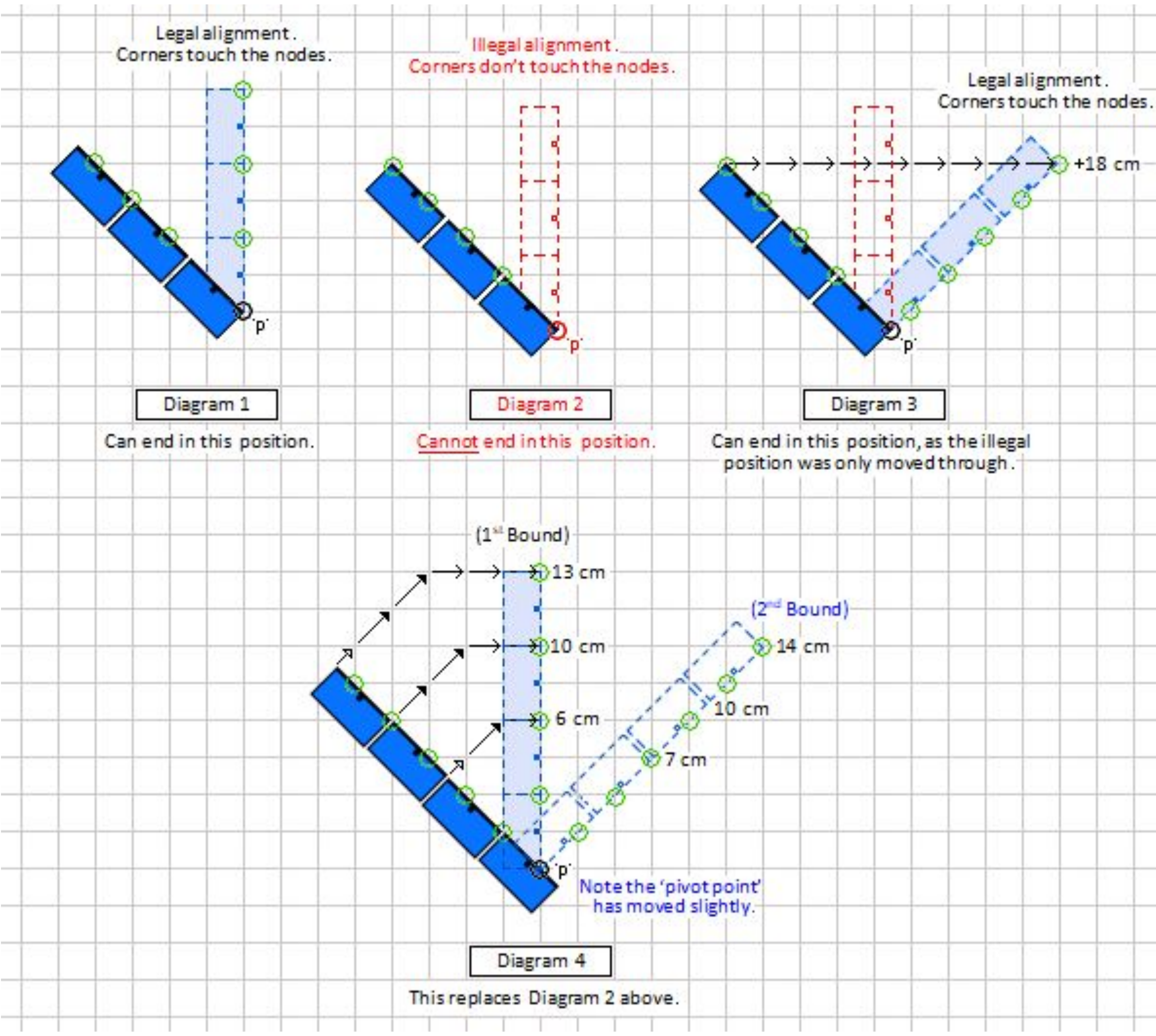


Figure 20

Any excess movement beyond that required to reach the 90° or 45° positions can still be used to move forwards or sideways (if in an enemy TZ), either before or after the wheeling manoeuvre, but if you do so you cannot then claim the ***2 cm*** '***pivoting bonus***'.

45° recoiling and pursuing

As mentioned under Figure 3, foot recoils 1 node while mounted recoils 2 nodes. This is a bit more tricky when in a 45° position. So when troops are aligned diagonally the recoil and pursuit distances for foot is for the front-corners to move to the very next aligned node position (1 cm) and mounted front-corners to move 2 node positions (4 cm).

There is a little distortion here, as 1 cm diagonally on a grid is really 1.41 cm when measured, and foot should recoil 2 cm...but that would leave the all the front-corners 'free floating' and not aligned to the nodes. It also covers those players with heavy foot on 15 mm deep bases.

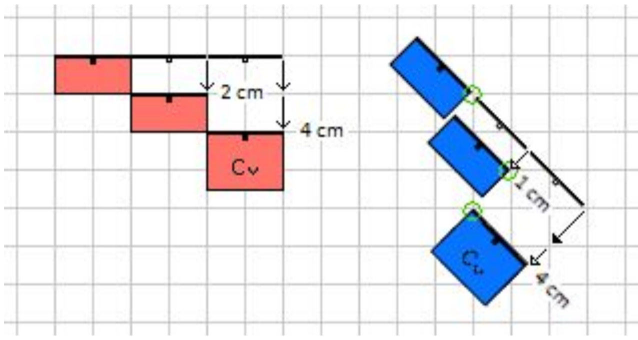


Figure 21

Contacting the enemy

Front and flank contact is fairly obvious. If the enemy's front-corners are touching a node, then so will your elements.

Rear contact depends on the base depth. All the Red elements shown here have contacted the Blue's rear, who will turn-to-face once the Move Phase is over.

The third picture is slightly different. The moving Red group is ***not*** in contact unless it moves to the black dotted line. As the Red group are the movers, they get to decide which element the single Blue element must conform to.

Had the single Blue element been entirely in hindering terrain or part of a group, then the moving Red group would have to do the conforming instead.

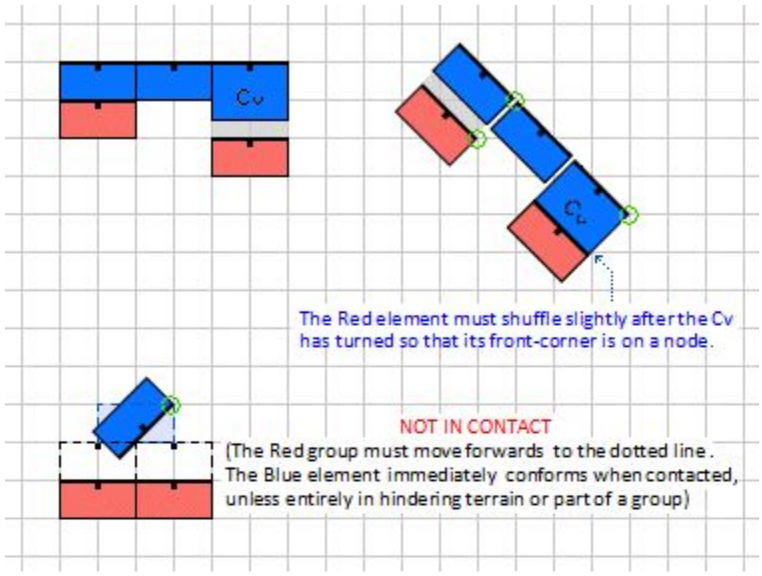


Figure 22

45° Threat Zones and HoTT Zones of Control

You *can* work out TZ's by counting the node distances diagonally... but what the hell...I just use my old trusty 'Barker Marker' instead, as it's a lot easier and quicker.

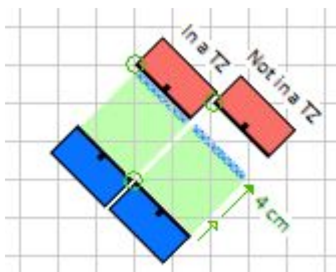


Figure 23

Command Range

As the diagonal nodes across the empty grid squares is treated as 3 cm when they are actually 2.83 cm, the Command Range (and all long distances) on a grid can sometimes be less than what they should be.
So you know what I do?...
...I just use a tape measure to measure from one node to the distant node!

Yes, I am aware of the irony of using a tape measure on a grid, but the whole point of grid-play is NOT to completely eliminate all measuring, but to eliminate short distance close-up fiddly finicky measuring. Besides, it would be absurd to abandon a quick and easy procedure with one that entails tedious and repetitive distance counting, and actually makes things slower!

Anyway, you only need to quickly measure in a dead straight line, and only if an element looks like it will be at or near the extremity of its Command Range...which doesn't happen very often.

Alternatively you can simply accept the counted grid distances, as the the counted diagonal 8 BW distance will be 48 cm when the real measured distance will only be 45.25 cm (which is a difference of just 2.74 cm, or less than 1 diagonal grid square or ½ a diagonal BW).

Final Thoughts

So there you have it...one way of playing DBA and HoTT on a grid with as few distortions as possible.
No doubt other players can think of simpler mechanisms, but these will incur more and more distortions.
And too many distortions will cause your troops to have more manoeuvrability than they would have when measuring, leading to the picking-up of bad habits, or they'd be too rigid, and many opportunities available when 'free measuring' won't be possible.

About the Back Cover

A small sample grid has been provided so that players can print it out and use it to practise manoeuvring on, and to see if playing on a grid is for them or not.