

Movement and Position

Scale

Scale is an important issue in every wargame. The scale of the terrain, the miniatures, and the measurements have to make sense: playing on a warehouse floor with 6mm trooper-level miniatures and micron-scale movements would just be silly. In reality, a 6mm game would likely be company or brigade-level, on a 4'x4' or 4'x6' table, possibly smaller, and the ground scale unit would probably be centimetres.

The concept of the Ground Scale Unit, from now on known as GSU, is what makes the Emlia system able to translate from scale to scale efficiently. By defining things in terms of GSU instead of a fixed unit, different board sizes can be used for the same level of combat. If a game was to be played on a warehouse floor, it would be much better to play it in a larger scale, such as 54mm, with a large GSU, such as 10cm, 25cm, or another round number, unless it is a HUGE game. When choosing GSU, a round number is always preferable, and a standard unit, with measuring devices clearly marked for it, is optimal. Because of the nature of GSU, it can also be defined in terms of grid squares or hexes, if an Emlia game is to be played on a fixed board. When choosing GSU, you are effectively trying to optimize the space you have available to the size of the game being played. For almost all situations, 1cm or 1" (2.5 cm) are good GSU choices, the latter for larger-scale games.

The other issue of scale in a game is that of time – every turn should take some given amount of time in the game world, which varies depending on the scale of the battle. Unlike the notion of ground scale, time is left abstract and relative: there is no specific description of how much time a turn is supposed to represent. Still, the distances moved relative to the scale of the figures gives a rough approximation, good enough for players to write about their battles. As a guideline, though, turn time should be relative to the scale of the miniatures, ground scale, and organization used. A chart of examples follow. For more about time and timing, see Timing and Turns.

Miniature Scale	GSU	Detail Level	Time Scale (in order of)
54mm	1" (2.5cm)	Individual Characters	Seconds
25mm	1cm*	Squad	1 Minute
25mm	1cm*	Platoon	1 Minute
15mm	1cm*	Platoon	Minutes
10mm	1cm*	Company	Tens of Minutes
6mm	1cm*	Battalion	1 Hour
3:1	1 m	Brigade	Hours**

* This shows that games of varying scales can have the same GSU. Using the time scale as a variant makes it easy to play games of different scales using the same rules, as time scale has no direct rules impact.

** But you're insane. If you can afford miles of terrain and giant miniatures, though...send pictures!

Making Measurements

Wargames are abstract simulations where players have near-omniscient knowledge of battlefield events. The knowledge of a unit's position relative to the terrain and units on the field is important information, and whether or not this information should be completely available is a point of contention between many players and developers alike. In the Emlia system, this information is open – any player may make any measurement he or she so wishes, at any time, as long as it does not disrupt or delay the game unnecessarily. This is subjective, but the general principle is to behave in a sportsmanlike way, and open measurements avoid most debate over precision.

The other concept of measurement that needs to be noted is resolution: how accurate should measuring devices be? In Emlia, when there is any doubt as to whether a measurement is correct, it is resolved by any sort of 50/50 resolution (die roll high/low or even/odd, coin flip, etc.). In addition, any dispute over anything roughly equal to or smaller than 1/8 of a GSU is considered pointless – any such disputes are to be ignored.

Example: Jack's Veritan Snipers are firing on a squad of Tony's TUMC marines. The snipers have a medium range of 60cm; the snipers are in fact 60.1cm away. Jack's measurement comes up roughly 60cm; Tony would call it out, but the

dispute is definitely over a millimetre or so, so Tony shuts up and Jack takes his shots at medium range.

Tony could have easily avoided the medium range of the snipers: as positions and unit attributes are open information, Tony should have known and determined the extent of the snipers' range. Note that a position, once measured, does not change if it is measured again: if Tony did in fact determine the extent of the medium range of the snipers and position the TUMC marines outside of it, with Jack's acceptance, the shots in the previous example should be fired at long range. Again, this, to most players, should be basic sportsmanship.

All of this can be avoided, of course, by using a board with fixed squares or hexes – these have their disadvantages in the limited positions they offer, but especially for company-level and larger games, they can make the game much easier to play.

Defining the Battlefield: Position and Visibility

Terrain

Terrain is an important part of any wargame – playing on a flat battlefield is (usually) tactically uninteresting, and provides for a boring and drab game. Adding some scenery to the tabletop can give a battlefield a much more interesting appearance, as well as provide tactical advantages to players who use the terrain in effective ways. Common terrain elements include hills, scrub, buildings, walls, hedges, barricades, fields, streams, and rivers; rules are provided for those and other pieces, such as full forests, villages, fortified buildings, and more.

Generally, terrain can be divided into several categories, as follows:

Rough Terrain: Rough terrain impedes movement; any unit moving through rough terrain does so at half of its normal speed.

Very Rough Terrain: Very rough terrain is even more difficult to move through, reducing speed to one-quarter.

Impassable Terrain: Impassable terrain is exactly that – impassable by ground transport. Unless one can fly over, dig under, or crush through it, one must find another route.

Elevated Terrain: Elevation is always considered relative to another point – if a piece of terrain is higher than another, it is considered elevated. Note that this means that the “flat tabletop” is elevated to models in foxholes, craters, rivers, and other depressions. Elevated terrain does not restrict movement unless it is also rough, but fighting uphill grants a benefit to the defenders; against melee attacks, attackers are at -1 to hit, and the defenders at +1. With ranged attacks, the same bonus applies, but they may also draw line of sight as though their size was their own plus the size of the hill. Finally, units fighting melee combat uphill suffer an additional -1 morale penalty at the end of every turn.

Visibility-Limiting Terrain: Forests and other dense terrain can limit visibility. If a piece of terrain is visibility-limiting, it always provides at least partial concealment to anything inside it, from all directions, and provides total concealment to anything more than 10cm into the terrain, relative to the attacker.

Example Terrain:

Scrub (what most games call forest): Rough terrain, size 1 or ½

Forest: Very Rough Terrain, Visibility-Limiting, Size 1 or more

Hill: Elevated Terrain, size based on how big the hill is

Wooded Hill: Hill with Scrub on top of it

Heavily Wooded Hill: Hill with Forest on top of it

Stream: Rough terrain, flat board is elevated relative to stream

River: Very Rough or Impassable Terrain, flat board is elevated relative to river

Crater: Rough terrain, circular hill, flat board is elevated relative to centre.

Line of Sight

Sight is the most important sense on the battlefield; sound does not carry nearly as far, and the other senses are largely useless in maintaining one's awareness of combat. As such, rules are needed for determining which units are visible to which others. Note that this is not the same as awareness; a unit may be within another's line of sight, but might not

actually be **seen** by that same unit. For example, it could be sneaking behind a hedge, or swimming in a mudhole.

Every object in Emlia has a Size characteristic, measured as a doubling or halving of a previous size. 1 represents something roughly the size of a human, ranging from about 1 to 2.5m tall, and up to about 1m wide and/or deep. Size $\frac{1}{2}$ represents things smaller than human-size, down to about half. Size $\frac{1}{4}$ represents smaller, and size $\frac{1}{8}$ and $\frac{1}{16}$ represent things so small they will rarely have significant game effect – an example would be a small hanging sign above a tavern (size $\frac{1}{8}$). Larger sizes would include creatures such as horses (size 2), mounted men (size 4) and various machines (size 4, 8, and so on), as well as terrain features such as hills.

A unit has line of sight to another if there is at least one line from some point on the boundary of the unit to a point on the boundary of the other unit. If a unit can see, it can be seen. Total concealment prevents a unit from being seen.

Concealment

There are two types of concealment: partial, and total.

There are four ways to have partial concealment. Only one of the following must be satisfied:

1. A unit has partial concealment relative to another unit if it can be seen, but at least one line between the two units is drawn through another unit. Terrain features may also provide partial concealment.
2. Partial concealment by terrain can be determined by a unit's elements; if at least half of the unit's elements, treated as separate units, would have total concealment, the unit has partial concealment.
3. If all lines between the two units would pass through terrain that provides concealment, and is at least half the size of the unit being seen, it provides partial concealment.
4. If all lines between the two units would pass through terrain that provides concealment and is less than half the size of the unit being seen, and within 5cm of the unit, it provides partial concealment.

A unit has total concealment relative to another unit if it could be seen, but all lines from a point on the unit to another pass through terrain that provides concealment, and is at least the same size as the unit and within 5cm, the unit has total concealment. If the terrain is larger than both the unit being seen and the unit drawing sight, the 5cm restriction is removed.

Cover

Cover: Provided by objects that are solid enough to block an attack; an object with a Hits value higher than the base damage of the attack provides cover equal to its concealment.

Taking Cover

Taking cover can help improve a unit's use of concealment. A unit in the Taking Cover state increases its concealment in the following ways:

- If the unit has no concealment, but by elements, if at least half of the unit's elements, treated as separate units, would have partial concealment, the unit gets partial concealment.
- If the unit has partial concealment, it gains total concealment.

Awareness

Awareness is a key element of warfare – one cannot fight what one cannot find. As models are static, a player cannot visualize them moving around cover, hiding behind it, and maximizing their available defences. For these reasons, a simple model-to-model line of sight system is weak – a soldier hiding behind a hedge would not be jumping around on top of a rock, waving a huge axe in the air! More realistically, he'd be knelt down behind the hedge, sneaking around and hoping nothing shoots him. A more proper system would allow for artistic expression, while still keeping a semblance of realism about the game.

By default, a unit is aware of all units that it can see, that have less than total concealment. If a unit has total concealment, units are by default unaware of it, just as if it had succeeded at a Stealth check (see below).

In Emlia, there are two skills that provide for hiding: Stealth and Alertness. Stealth is used when a unit is trying to

conceal itself behind cover, to reduce the chances an enemy will detect it. Alertness is used to detect hidden enemies.

Conceal Self (Free Action)

Condition: Source must be in concealment.

Skill Used: Stealth

Subject: Self

Base Difficulty: 5

Subject forfeits both movement and primary action: +2

Subject does not forfeit either movement nor primary action: -2

Success: If the source scores at least one success, all units immediately lose awareness of it. Detect Hidden Enemy checks must be made to restore awareness, unless the source is spotted in the open (see Spotted, below).

Failure: No Effect

Fumble: Any units that had lost awareness of the source regain it, unless the source has total concealment to the unit and is more than 20cm away.

Duration: Until next activation.

Detect Hidden Enemy (Free Action)

Skill Used: Alertness

Subject: Enemy Unit Source is Unaware Of

Base Difficulty: 5

Target's Concealment:

Total: -2*

Range:

Under 20cm: +1

Over 60cm: -2*

Size:

Per Doubling of Source's Size: +1

Per Halving of Source's Size: -1

Actions:

Subject Visible on its Last Activation: +1**

Subject Moved Last Activation: +2

Subject Made an Attack Last Activation: +2

Subject Made an Attack Against Source Last Activation: +2**

Subject was the target of a ranged attack by a unit visible to the source: +2

Other:

Subject Unaware of Source: +2

*If over 20cm away, and in total concealment, no successes are possible, unless at least one condition marked ** is true. (note: some units will have abilities that ignore this, such as super-hearing, ethereal vision, or RADAR).

Success: If more successes are rolled than the subject has scored successes on its most recent Stealth check, plus one if the unit is in total concealment, the source is aware of the subject.

Failure/Fumble: No effect.

Spotting an Enemy

Without any Stealth or Alertness rolls, an enemy caught without concealment is automatically spotted, regardless of how skilled at concealing itself it is. Since concealment is relative, only the unit(s) that can see it without any concealment (re)gain awareness of it.

A unit may make a Pass Awareness check as a move action to make all nearby units within 20cm aware of the target. It may be made as a free action if the unit targets the enemy unit with any ranged attack action during that activation.

Pass Awareness (Move Action)*

Skill Used: Leadership

Subject: Enemy Unit

Base Difficulty: 5

Success: All friendly units within 20cm become aware of the subject.

Failure/Fumble: No effect

* May be used as a free action if the source makes any ranged attack action against the same subject.

Note that all actions require awareness of their subject, unless specifically excepted.

Movement

During its activation, many of the actions available to most units will be movement actions. Nearly all units will have at least one speed, making them capable of movement. In the general case, characters move individually: characters within a unit move individually, but must maintain formation or break that formation (see below). The move actions a unit may take follow:

Normal Move: Characters in the unit may move their Speed in GSU, in a path chosen by the unit's controller, as restricted by their formation (if any). When measuring distance moved, always measure the entire length of the path followed – units may often find themselves moving in twisting, turning paths around terrain instead of trying to navigate battlefield hazards such as swampland, rough terrain, mines, or other impediments.

Double Pace: The unit may take a Normal Move action in addition to any other move actions taken this activation. All skill checks made by the unit are at a -4 penalty. *Note: Some skills may have even more penalties applied for double pace!*

Drop Down: The unit enters the prone state. When moving, a prone unit counts every GSU moved as 2 GSU. Prone units are also subject to certain modifiers for visibility and attacks, among others.

Get Up: The unit loses the prone state and returns to standing.

Take Cover: The unit enters the Taking Cover state, representing the characters in the unit finding optimal use of the available cover, getting good firing posture (if applicable) and otherwise concealing themselves and preparing to fight from behind cover. The effects of taking cover are shown above.

Movement Modes

There are a large number of different movement modes in Emlia; in addition to a unit's movement modes, further limits may be placed on its movement by formation, terrain, and other special effects. In a unit's stats, its movement mode is described under its Speed, in addition to its various speeds.

Ground Movement(G): A unit has a single speed for ground movement, representing its maximum speed. If given no other restrictions, a unit using ground movement may move up to this speed in a single Normal Move, with no minimum speed needed.

Flying Movement(F): A unit with flying movement works just like ground movement, except it moves through the air, ignoring terrain on the ground. Rules for variable altitude affect flying movement.

Example: A unit of magical wisps with movement 15F wish to move at a 45 degree angle downward, 6 GSU forward and 6 GSU down. Ignoring the downward component, it is moving 6 GSU and has 7 GSU of movement left for a Normal Move.

Boat Movement(B): A unit with boat movement may only move over water, but moves otherwise like a unit with ground movement.

Hover Movement(H): A unit with hover movement moves like a unit with ground movement, but may cross water and ground. It is also affected differently by certain terrain.

Acceleration-based Movement(A): A unit with Acceleration-based movement, or A-movement, cannot go from zero to maximum speed within one turn's time. It must instead accelerate and decelerate based on its current facing. A-movement is mostly used for vehicles and large monsters, and is shown after the affected movement mode as a set of "gears", each representing a top speed. The unit may set its speed to any number less than or equal to its current gear's maximum, and greater than the maximum of the next-lowest gear, freely. It may also freely accelerate to any speed in the next gear, or brake to any speed in the previous gear.

To move in reverse, the same gears are used, but with all numbers halved. The vehicle must begin its action in its lowest gear before it can shift into reverse; it may enter the first reverse gear freely then, or the second as a Double Pace.

Vehicles using A-movement may not Double Pace normally; instead, taking a Double Pace action allows the vehicle to shift its speed two gears in one action, representing all-out acceleration or stomping on the brakes.

Example: A sample tank has a speed of 60G10/20/40/60A. Last action it moved 42 GSU. Taking a normal move

action, it may move any speed from 21GSU to 60GSU, by braking or accelerating respectively. If it took a Double Pace action, it could move as slowly as 11GSU. It could not slow down to 10 GSU or slower in a single turn – the tank is just moving too fast! If the tank needed to go in reverse, it would have to spend two turns slowing down before it can start backing up; it would probably be better to slow down, then turn around, than attempt reverse at that speed.

Turn-Limited Movement(T): A unit with Turn-limited movement, or T-movement will almost always also have A-movement, becoming a unit with AT-movement. T-movement is represented as a number of GSU required before being able to make a 45-degree turn. Every gear the unit has for A-movement will have a corresponding value to turn for T-movement. This represents how much more difficult it is for the vehicle to turn at high speeds.

Example: The sample tank has been made more realistic with the addition of T-movement. Its movement code is now 60G10/20/40/60A2/5/20/40T. If the tank wishes to move 25GSU this turn, it could make a single 45 degree turn after moving 20 GSU, and no other turns.