

# ROBMM



## Combat Tactics and Procedures

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# MechWarrior 4: Multiplayer Combat Tactics and Procedures

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## Contents:

**Introduction to maneuver warfare**

**Requirements for successful lance combat**

**Combat ranges**

**Extreme range: 801m-1000m Long range: 601m-800m Mid range: 301m-600m Short range: 0m-300m**

**Weapon Classes**

**Extreme range, direct fire: Light Gauss Rifle, ER Particle Projection Cannon**

**Long range, direct fire: ER Large Laser, Clan Gauss Rifle**

**Extreme range, support fire: Long Range Missile**

**Close range, direct fire: LBX, UAC, SSRM**

**Assessing the map and the primary and secondary combat types**

**Selecting mechs to take advantage of the tactical conditions**

**Offensive tactics**

**Long-range flanking attacks Reducing range (flanking) attacks Supported in-fighter attacks**

**Unsupported in-fighter attacks Crossfire attacks Attrition combat**

**Controlling the battle and the denial of choices to your opponent**

**Sensor warfare**

**Using terrain for your maximum weapons effectiveness**

**Initial contact and recon by fire to assess enemy capabilities and the ideal engagement range**

**Using the assets of your mechs to their fullest**

**Constantly assess the relative damage levels**

**Fire concentration**

**Targeting Priorities**

**In closing**

This document has been written with the assumption that the reader already has a great deal of MW4 experience behind them and is familiar with all the basics and many of the advanced skills possible within the game. It is not designed for a new player to browse for hints on how to play the game although they may find some, it is intended for individuals and teams that already have significant experience but are finding themselves lacking that certain edge in combat that the best teams display. It provides a summary of the basic tactics used in no-respawn games by myself and The Avatar Knights as well as some general concepts about mech combat.

All information contained within this document assumes several additional factors that relate to game play. Firstly, that the game is set to Forced First Person (FFP). Secondly, that both heat and ammunition are set to "realistic" and thirdly, that the game is no-respawn. Some of the information may apply to other game types but it is incidental rather than intentional. Enjoy the read.

For additional information about No Respawn MW4, you might check out [{HRR} Insanity's Guide to Mechwarrior 4: No Respawn <mw4\\_nr\\_guide.html>](#)

# Introduction to maneuver warfare

This document will explore several of the basic tactical ideas of warfare and of how they relate to mech combat in particular. Many of the principles of modern armored combat can be applied directly to mech combat while others need to be refined to deal with the specifics of the game and the equipment available to choose from in order to become useful to us. In military studies there are three theories of warfare; Attrition warfare, Maneuver warfare and Revolutionary or Low intensity warfare. The first is not practical for MW4, a commander does not have a reserve of mechs to call upon to replace his losses, indeed he may not even have a numerical advantage to begin with in which case attrition warfare would be dangerous to attempt. The last also does not apply, an attacking unit will always be prone to counter-detection and fire and lacks the ability to fade away against superior numbers or firepower. We are left with maneuver warfare, the theory of which has many applications in mech combat. It does not rely on numbers or firepower to succeed but boldness, initiative and surprise. The size of forces taking part has no correlation to the end result of the battle, it is the concentration of effort at a critical time and place against an enemy weakness that counts most strongly toward victory.

Maneuver warfare and mech combat consist of two primary elements, maneuver and fire. The correct understanding and application of these two elements will deliver a victory in combat over any opponent who does not understand them almost irrespective of the initial balance of forces. They form the foundation of maneuver warfare tactics and must be part of the culture of a team, it is not a fighting style that can be switched on and off as the need seems fit. A team either trains and fights using maneuver tactics or it doesn't.

In combat all things gravitate towards a state of disorganization as a battle progresses and the more your forces move the faster this disorganization can take hold. Because of this a team must be well drilled in procedure in order to avoid being overcome by chaos once combat is underway. A team cannot simply go from fighting static battles to battles of movement as if they were similar concepts. Maneuver requires all persons involved to be constantly making their own decisions within the framework of the commanders intent and the ability of line pilots to make the correct decisions at the correct time must be practiced over a period of time. Specific training involving drills, simulated combat and actual battles to develop the teamwork and understanding of the theory at all levels of the unit is required to make the theory work in practice.

For a precise definition of maneuver I turn to The U.S. Army field manual FM 100-5, Operations: *"Maneuver is the movement of combat forces to gain positional advantage, usually in order to deliver or threaten delivery of fire upon the enemy. Maneuver is the means of positioning forces at decisive points to achieve surprise, shock, physical momentum and moral dominance."*

It is this positional advantage that is generally most important of all the factors although the others do play a significant part in undermining an enemy teams' ability to fight back. If a commander can concentrate all his available combat power on an enemy's point of weakness this local yet real superiority in firepower can achieve decisive results against greater overall numbers. The ability to position one's mechs so that they are engaging a smaller fraction of the enemies forces allows one to destroy an enemy force a part at a time rather than face his whole strength at once. Thus a smaller force can defeat a larger one by using mobility to separate the enemy's combat units from mutual support or otherwise render a portion of their firepower unusable by positional or range advantage. Once this is achieved you apply concentrated fire to rapidly destroy the chosen targets after which point you move on to destroy the remaining portion of the enemy force.

# Requirements for successful lance combat

In the military, it is taught to commanders that they need to keep as many options open as possible while at the same time, making your enemy use up his own options in responding to you. Eventually your enemy will run out of options while you still have some remaining and then its just a matter of choosing the right one and exercising it to crush your opponent. As your opponent has no tactical options of his own left to respond with, they cannot match your maneuver and so will be destroyed at a time and place of your choosing. It works exactly the same in MW4. You must take the initiative and force your enemy to react to you until he has nothing left he can do. There are 4 requirements for this to be successful in this order of priority;

## **Voice communication**

Voice communication is the tool that allows a team to respond instantly and as a group. Without it, the best tactics in the world will fail, as you just can't communicate fast enough or in sufficient without it.

## **A confident and experienced lance commander who understands offensive maneuver and tactics**

The Commander is the guy that makes things happen. The best pilots in the world will be lead to defeat by a commander who doesn't understand the tactics of the game. On the other side of the coin a superb commander can lead a group of average pilots to stunning wins simply by applying what he knows to take advantage of his enemy's weaknesses. It takes a great deal of experience to become competent at leading a mech lance and it is a constant process of learning and adjusting to new enemy tactics. You must strive to stay ahead of the guy you are fighting in the thought process. In my experience, 90% of no-respawn games are won by the tactics, not the pilots or weapons so it is the lance commander that bares the burden of success or failure for a team.

## **Mechs that can move as a group at sufficient speed to make maneuver useful**

The speed of the lance is very important to its ability to move around the battlefield quickly enough to take advantage of the tactical opportunities presented. A lance slowed down by assault mechs will not be able to react fast enough against a more mobile lance of heavy and medium mechs and so places the whole team at a disadvantage. The best speed for a lance in MW4 is from about 65kph to 75kph. Faster than 75kph and the heavier mechs start to give up too much payload weight to get the speed increase but slower than 65kph and the lance will not be able to maneuver fast enough to make rapid changes of tactics useful against a faster opponent. Fortunately all the heavies have minimum speeds in the low to mid sixties or better so this is not usually a problem. Some of the faster assaults can be useful as heavy hitters when their speed is boosted to match the rest of the lance but slow mechs like the Daishi and Atlas are just not capable enough for a mobile battle and should be avoided unless you know you will not have to maneuver quickly in the coming fight.

## **A mix of weapons to allow for a variety of tactics**

In order to take instant advantage of a changing situation, the lance commander must have the tools at his disposal to give him more options than his enemy. By fitting out an entire lance with say ER LL you give yourself highly accurate and heavy firepower at mid to long range but if the battle moves beyond 800m the lance has no firepower at all and hence no choices to engage. If it moves to In-Fighter range then they will be heavily outgunned and overheating while trying to fight a battle they are not designed for. Flexibility and versatility are the keys. The lance must have the weaponry available to meet every likely situation or otherwise have the power to prevent situations that it cannot handle.

# Combat Ranges

A good deal of the tactics in this game are based around range control. That is to say, the team that chooses where to fight also chooses how to fight. If your lance carries some Light Gauss Rifles and your opponents does not and you are able to keep the combat range at near 1000m then you can dominate the enemy. With no way to return fire they have no way to win. But in order to maintain your advantage you must control the range of the battle, if the enemy has control over the combat range then it negates your weaponry advantages. This is a significant difference between mobile and static combat. If you are mobile you can constantly adjust the range of the battle to suit your force and disadvantage the enemy force. If you fight from one place the enemy will control the range and put you at the disadvantage. There are four broadly defined combat ranges in Mechwarrior that exist as a result of the weapons and tactics that are effective on the field. They are not as well defined as the ranges in meters would suggest but more of a guide to the theory of tactics based on range control.

## **Extreme Range: 801-1000m**

Extreme range is where the lightest combat usually occurs. Few weapons can reach this far and so the damage that can be inflicted on you at this range is not usually heavy unless the enemy lance is overbalanced with weapons of this range category. You can usually operate with some degree of safety in this range so long as you are not reckless in your maneuvers or your choice of cover. The weapons in this range generally give up some damage potential in order to reach so far and hence overbalancing a lance with these weapons can leave you dangerously short on firepower should the enemy be able to get closer. Snipers and dedicated LRM boats are most effective when used at this range.

## **Long Range: 601-800m**

This is the most dangerous range in the game as all big hitting long-range weapons can reach out into this range bracket. As well as the extreme range weapons that are able to hit in this bracket you also have to contend with the powerful beam and ballistic weaponry that both the Clans and the IS have on offer. ER Large Lasers, Large Xpulse Lasers and Gauss Rifles are the most commonly used and all pack a huge punch. The team that controls when and if combat occurs in this range will most likely win the game, the firepower available is so great that any engagement here will be swift and bloody and in favor of the team that holds the initiative.

## **Mid Range: 301-600m**

This is not a real combat range in Mechwarrior4. It is what I would term as "no-mans land" because if drawn into it you no longer have control of the game. Should the enemy be planning a short-range engagement you cannot prevent it no matter how clever your tactics. A frontal assault that only needs to cover 200m or so will be in your lap before you even realize it is happening. While the firepower of the longer range weapons is a great deterrent to charging in the open, when only a few seconds separates you from being out of enemy range and being pummeled by LBX20 there is little you can do to prevent the range and the battle disappearing out of your control. Avoid all combat at this range. You either fight from long-range with long range weapons or at short-range with short-range weapons. There are no useful weapons that operate best in this range bracket.

## **Short Range: 0-300m**

You should only ever be fighting at this range if your lance is built predominantly around short-range weapons or you are in the clean-up phase of a victorious fight and finishing off a beaten enemy force. Being sucked into this range or having the enemy charge at you to get this close will mean likely destruction as weapons of longer ranges are significantly underpowered when faced with LBX and UAC fire. LRMs also become nearly useless at short range and so a lance optimized for long/extreme range combat will be butchered should a prepared enemy catch it up close. Combat at this range is the most intense, all direct fire weapons have maximum impact up close and so deliberately choosing combat at this range must be weighed against the likelihood of heavy damage to your force even in a victory.

# Weapon Classes

The weapons in MW4 all have strengths and weaknesses that can be used and exploited by a player or team who knows what they are. The weapons classes are designed to be complimentary and as a whole are able to engage an enemy under any conceivable circumstances. Used exclusively, any weapon can be beaten by a better equipped opponent simply by engaging in combat outside of that weapons' parameters and so the correct balancing of all classes of weapons within a lance in order to deal with the largest variety of situations is a valuable skill. Leaving a gap in lance capability by omitting a whole class of weapons can make you extremely vulnerable to an opponent who has all classes represented. It is not a matter of using 25% of your available lance payload for each class, some classes may be omitted on occasion in favor of others that will be more effective in the coming battle. In order to balance a lance effectively you must understand how and when to use each class of weaponry and how they relate to the effective combat ranges and combat types in the game.

There are four main weapons classes that can make up a combined arms lance. They are:

**Sniper weapons, (extreme range, direct fire): Light Gauss Rifle, ER PPC**

**General-purpose weapons, (long range, direct fire): ER Large Laser, Clan Gauss Rifle, Large Xpulse Laser**

**Support weapons, (extreme range, indirect fire): LRM**

**In-Fighter weapons, (close range, direct fire): LBX, UAC, SSRM**

Other weapons also play their part in mech combat but the weapons on this list define their class through outright effectiveness in combat. Other weapons tend to support those I have listed to give alternate or enhanced capabilities but lack the effectiveness on the whole that this list of weapons possesses.

In order to understand how to apply tactics to the battlefield a commander and indeed every pilot in the lance must understand how to get the most from each class and how to take defensive action against each class. Viewing all weapons as one homogenous mass of firepower will have you walking into devastating firestorms time and time again while finding you are not equipped to respond adequately or to take effective defensive action.

## Sniper weapons, extreme range, direct fire: Light Gauss Rifle, ER Particle Projection Cannon

Primary offensive factor: **clear, 1000m visibility**

Primary defensive factor: **movement**

These two weapons at first seem to be completely different. The Light Gauss Rifle is relatively heavy, ammo dependant and generates no heat while the ER PPC is light, requires no ammo yet produces a great amount of heat. It is what they have in common however that makes them class defining weapons. Both have exceptional range, deliver heavy damage in one shot and are direct fire (i.e. a straight line of flight to the target). They are what I refer to as sniper weapons. You hit without warning, from any range and with heavy damage to the target. Unlike LRMs they do not require the shooter to be exposed for several seconds or to be radar active. Any target you can see, you can hit without them having prior warning of your presence. In contrast, the UAC2 also has the range of ER PPCs but because they only do 2 points of damage per hit and not 14 they are not nearly as devastating in the sniper role. In order to get value out of them the target must remain in the open and mostly still while you hit them, an unlikely scenario. A sniper should hit seldom but hard.

Sniper weapons form the point of the lance on any map that has clear fields of fire out to 1000m and the clear weather needed to make the maximum use of them. They are tactically strongest when used outside the range of the ER LL so you must be able to reasonably control the range of the battle to deny the enemy a chance to bring their long-range weapons into use. By holding the battle at 900m or greater you become invulnerable to nearly all other weapons in the game simply because they don't have the range to hit you. Not all maps allow this degree of range control so you must think carefully about the terrain and visibility before selecting weapons of this class. If your enemy can close to under 800m then the great range advantage of sniper weapons is lost and you are forced to fight an enemy that has less range but more firepower (ER LL and CGR). You must keep your lance mobile to prevent an enemy getting close and force them to cross open ground under fire if they make the attempt. A sniper must use movement as a weapon to gain surprise and firing position, you cannot do that while camping and it shouldn't be tried.

When intending to fight with sniper weapons, cover becomes less important than is normal. With so few weapons able to fight back at your preferred range there are very few threats to have to consider. Only the LRM is able to counter your range but their long travel time to target and requirement for the shooter to remain in the open and radar active makes the job of avoiding them much easier. If the enemy has LRM's then it is desirable to have some good cover close at hand or to shoot right from 1000m and back out of LRM range should you be targeted. If they do not have missiles you can operate in the open with little or no threat of damage so long as you keep moving.

Due to the inherent lag of online play, sniper weapons must be aimed ahead of a moving target in order to register a hit. If your lance is in the open yet moving perpendicular to the enemy line of fire then the chances of them hitting you are small. When fighting a lance that is not mobile and prefers to hold a terrain feature they will have to stay exposed a little longer when they fire to judge the correct lead to land a hit on your moving mechs. While they are taking this extra time your own lance should be firing on them causing both damage and impact knock, forcing them to take yet more time to realign their sights and correctly judge their shot. You are in effect baiting the enemy to fire on you under unfavorable circumstances while your own ability to hit him is unimpaired.

Sniper weapons are not really suitable to use against teams that are highly mobile due to the above mentioned lag. Their primary use is in engaging mechs that are camping a terrain feature in such a way that they are unable to return effective fire. If you are going to be fighting a team that relies on movement then ER Large Lasers and LRMs are far more effective.

## General-purpose weapons, long range, direct fire: ER Large Laser, Clan Gauss Rifle, Large Xpulse Laser

Primary offensive factor: **range control**

Primary defensive factor: **cover**

These weapons usually form the largest fraction of most teams' firepower. They are the best balance of all round capabilities but cannot match the other classes for specialist tasks. If there is significant doubt about what the enemy intends then basing your lance on a mix of these weapons will give you the best level of flexibility in dealing with the many possible scenarios that may arise. So long as you are aware of their limitations when put up against more specialized weapons they form an excellent foundation with which to build a strong lance. The ER Large Laser is the most potent weapon in the game. It has the range and damage to make it a serious threat in most games but it is the incredible accuracy of lasers that gives it real power. Lasers are the only weapons in the game that virtually ignore all lag and effects of the No Damage Bug (NDB). They consistently hit fast moving targets out to 800m so anything in the open inside this range is vulnerable to pinpoint fire. The all ER LL "boat" is a common and effective mech design because it has unmatched accuracy against all moving targets to compliment it's heavy firepower. Only another ER LL boat can realistically kill a moving ER LL boat at 800m in a short enough time to be useful.

To make the best use of large numbers of ER Large Lasers you must have the ability to exercise a great degree of control over the battle range. You must be able to safely get within 800m of the enemy while denying them the ability to get within 300m of you, the range at which In-Fighter weapons become effective. Provided you can do this you will be able to use the ER LL at it's most effective. When fighting against ER LL boats you must therefor control the range as a defense either by staying outside 800m and using extreme range weapons to return fire or getting inside 300m with heavy short-range weapons and flamers. There is no mid-range defense against lasers, if the shooter can see you inside 800m you will be instantly hit.

The Clan Gauss Rifle is the ballistic counterpart to the ER LL and makes an excellent low heat companion weapon as it has identical range. Unfortunately it suffers the same lag drawbacks as the Light Gauss Rifle and so cannot be used reliably against moving targets at long range. It is best used in attrition battles where firepower is far more important than range or against teams that are known to favor camping over mobile tactics. The heavy damage that the CGR is capable of inflicting makes it a dangerous weapon in the right hands however and on mechs that rely primarily on ballistic firepower it is an excellent choice of weapon. To compensate for its vulnerability to lag and the NDB the lance commander must plan to use appropriate tactics to make effective use of the CGR and not end up carrying tons of unusable weaponry.

The Large Xpulse Laser operates identically to the ER Large Laser in firing characteristics. It has two features that make its combat role different though. One is the shorter range, which is a slight disadvantage, and the other is its faster recycle time that balances the scales and gives it a useful quality over other heavy beam weapons. It is not well suited to being used as the sole weapon in a "boat" due to the excessive heat it can and does build up when at maximum rate of fire. It is far more useful in smaller numbers as a "knock" weapon that can fire continuously and keep an opponent off balance and unable to return effective fire. When moving in on an enemy position they make excellent suppressive-fire weapons and are twice as effective at close range as other heavy beams provided you can manage the heat.

When extreme range combat is not possible then the weapons of this class become most useful. With their heavy damage at long range they are the best on offer to win long to mid range fights and are still quite useful as short range. Many teams make the mistake of arming only with these weapons (especially the ER LL) because of their general effectiveness but as I mentioned earlier, they are general-purpose weapons and a smart opponent can and will take advantage of their weak areas. A lance armed with a variety of weapons for greater capabilities and under the control of a commander who knows the tactics to make best use of them will destroy an all ER LL/CG lance with ease despite their power in a 1v1 face-off.

## **Support weapons, extreme range, indirect fire: Long Range Missile**

Primary offensive factor: **targets in the open**

Primary defensive factor: **cover**

The Long-Range Missile is one of the hardest weapons to effectively use in a lance situation. They require the launching mech to be radar active, exposed to fire for several seconds while achieving a missile lock and have a very long travel time to target making it easy to move into cover before they can hit. Despite these very serious drawbacks they can still have a valuable role to play in a balanced lance. Because they require the target to be in the open in order to engage it effectively, LRMs are not suitable weapons for a defensive lance posture. If the attacker is controlling the battle then you cannot guarantee they will be in the open when you need them to be. If you are taking a substantial number of LRMs then you must also commit your force to the attack.

The most effective and reliable way to force an opponent into the open is to flank their position by one of the methods described in the tactics section. Once the enemy is forced by you to fight without cover your LRMs become devastating weapons. Their range and damage potential against moving targets make them ideal for engaging an opponent that is on the run from your advancing mechs but may be outside the range of ER Large Laser fire. They are still a support weapon however. Overloading a lance with LRMs can lead to disaster if you are unable to force the enemy into the open with direct fire weapons. If he can hold a protected position with good cover then no amount of LRM fire will have an impact on the situation except in churning up dirt. You must have a good number of extreme range and long range weapons to directly engage the enemy and use your LRMs as additional firepower to keep him engaged once he is on the run and less vulnerable to Gauss fire.

## **In-Fighter weapons, close range, direct fire: LBX, UAC, SSRM**

Primary offensive factor: **range control**

Primary defensive factor: **range control**

Close range weapons are the most tactically limited in the game. They offer you only one type of engagement possibility and give you no alternatives should you be unable to get close to the enemy. Arming yourself or your lance with these weapons commits you to an attack at point blank range and leaves you out-gunned at any other combat range. Because of this you must have a plan to, and the probability of, closing on the enemy without taking (more than light) damage and only engage them in fire at the time and point of your choosing. Taking a load of LBX cannons "just in case" the enemy gets close on a map that does not necessitate it is a recipe for disaster. If the enemy chooses instead to remain at long range and prevents you from getting near them then you are carrying tons of weapons that will never be fired and so are at a serious disadvantage in firepower for the whole game.

On the good side, short-range weapons are the most devastating available. They offer unrivalled firepower, often with faster than average recycle times and reasonable weapon weight. Should you manage to get close to the enemy you have the best opportunity possible to destroy them in a minimum of time and with a minimum of losses. In any situation that does allow the possibility of getting close to your enemy the fitting of substantial numbers of short-range weapons will give an overwhelming advantage in firepower at your preferred combat range provided the correct tactics are used. If both sides carry short-range weapons then the odds are equal but that is unavoidable.

# Assessing the map and the primary and secondary combat types

Each map in MW4 has what I consider to be a primary and a secondary combat type drawn from the four weapon classes just described. They are the most common and most practical ways in which to fight and win on that map. The primary battle type is the most important to consider and is the kind of battle that is most suited to the terrain and conditions of the drop you are about to do. A map like Mine HQ for example has LRM duels as its primary combat type. This is because it is generally very flat with little cover and very long visual ranges allowing LRM armed mechs to dominate large areas of the map if they are properly located. Other combat types are quite possible but it's the effective use of LRMs that will most often decide the outcome of games played on Mine HQ.

The secondary combat type for Mine HQ is long-range combat. It is possible to maneuver in to 800m of most positions with some skill and so some direct fire, long-range capability is very desirable should you get into a firing line engagement with an encamped opposition. There are some locations that make sniper battles advantageous and again, some direct fire capability is needed to counter this possibility but it does not need to be a strength of your lance. It is not a true sniper map due to the general lack of cover and concealment to protect you from counter-fire, which rules this out as a primary or secondary combat type. In-fighting is out of the question, as only the most inept team would allow you to get so close on such an open map.

There are also many other variables to take into account when assessing the primary and secondary combat type. Time of day is important. If it is at night then the inability of mechs to use zoom with light amplification can reduce the effective combat range of even a very open map to just a few hundred meters. The same applies with heavy fog. Using passive radar will guarantee you can get to at least 600m of your enemy undetected, maybe 500m if they have no BAP, which gives you significant tactical options should you choose shorter ranged combat. The known style of your opposition can also play a part in the kind of fight that is coming. If they consistently make bad planning choices then you must be ready for the unusual while maintaining your primary capabilities.

All maps are open to debate as to precisely what their primary combat type is and each pilot will have their own different ideas on exactly how to judge them but the example I have provided is only a guide and the tactics of a team can for example turn a map from a sniper map to an long-range map quite easily. The secondary combat type is often interchangeable with the primary type as maps can be equally suitable for multiple types of fights so don't get too attached to any particular fighting style on a specific map. Adaptability within the boundaries of good and proven tactics is the key.

# Selecting mechs to take advantage of the tactical conditions

Once you have assessed the primary and secondary combat types for the map you must then select mechs that have slots that allow you to carry the required weapons. If you have decided you will need a lot of LRMs and ER Large Lasers then taking a mech like a Thanatos is counter productive, as it cannot carry a useful load of weapons in the primary and secondary type. Mechs like the Catapult and Madcat are however ideal for such a role as they can take both weapons classes in significant numbers. There is no need to take every mech in the lance armed with only Beam and LRM weapons though, so long as those weapon types are well represented and form the bulk of your offensive power. A few ER PPCs for example spread through a lance armed with mostly Lasers will give you more options than just pure Lasers without sacrificing any combat capability. Pick your strengths and stay with them but try and wedge in some small additional capabilities, you just never know what will happen.

## Offensive tactics

There are 5 basic methods of maneuver-based attack and one of attrition attack in MW4 and I will describe each in detail.

**Long-range flanking attacks**

**Reducing range (flanking) attacks**

**Supported in-fighter attacks**

**Unsupported in-fighter attacks**

**Crossfire attacks**

**Attrition combat**

## Long-range flanking attacks

This is a staple maneuver of MW4 combat. It can be reliably used on any open or semi-open map that is usually fought at long range but is not suitable for maps that have shorter lines of sight. It provides a method of attack that is relatively safe when compared to some other methods of attack that require a full commitment to a course of action and cannot be reversed should it go badly. The strengths of the lance in this tactic are its concentration of fire against any opponent that attempts to fire on your formation and the range that you choose to fight your opponent at. If only some or none of your other mechs can hit the targets that are hitting you then you have no advantage at all and the maneuver will fail. You must respond to incoming fire with massive and accurate outgoing fire as an additional means of protection for your own mechs.

This maneuver also requires the commander to have solid control over his lance and the ability to adjust the speed and direction of movement in order to keep his forces tightly grouped. Allowing the lance to draw out in one long string will make both the lead and tail elements extremely vulnerable to fire from a sudden enemy attack. Despite these potential problems this maneuver is relatively simple to carry out in practice providing the terrain and loadouts of your forces are suitable.

Upon locating the main body of the enemy you must identify the directions of attack from which they have no cover or a reduced ability to return fire due to terrain features. This requires an excellent knowledge of the maps in order that you do not need to send out a scout before you can make any decisions on the direction of movement. Consideration needs to be given to your own maneuver room in performing the attack, you must not drive your forces into a map edge or corner or a similar position where no easy escape is possible if the enemy should choose to advance on you. Your intention is to keep the maximum number of options open regarding where you can move and how you can react. By becoming trapped in a terrain feature that allows only one course of action you invite attack, as the enemy knows what your response must be and so can position himself favorably in anticipation of your only available path of movement.

Operating ranges for this maneuver should be from approximately 850m to 1000m depending on your lance's weapons. To be effective at this tactic you must have an ample quantity of Light Gauss/ER PPCs and LRMs in order to take maximum advantage of the range of the engagement and inherent lag. The normal lag in multiplayer games makes any mech on the move at very long-range quite difficult to hit with ballistic weapons while the defender in his static positions will be relatively easy to hit in return. The range must be kept outside 800m unless you have a significant advantage in firepower at that range. If the enemy can bring their ER Large Lasers/Large Xpulse into play then the advantage of movement is gone due to their "instant hit" nature and you become merely a lance of mechs in the open and exposed to heavy fire. Over time you wear down the enemy by direct fire and eventually destroy him outright or cause him such severe damage that a reducing range flanking attack or even frontal assault becomes an appropriate choice to close the range and finish them. It is perfectly acceptable to travel back and forth over the same area of ground if it is the only suitable terrain for this kind of flanking combat. The size of this piece of ground should be at least enough to allow you some movement onto a vulnerable enemy flank as well as their front, if the piece of ground is only small then there is little chance of taking an enemy flank and an alternative tactic may be a better choice. The weapons you have in the lance will determine what alternatives you have available if the terrain does not suit a long-range flanking attack.

The ultimate aim of attacking the flanks from range like this is to leave the enemy without cover from your new direction of attack and fully exposed to all your fires while yourself remaining mobile as protection against counter-fire. Alternatively they may retreat, knowing they cannot hold the position in which case you should make every effort to pursue them and deliver as much damage as possible while they are making for new positions and cannot easily return fire and certainly not return concentrated fire. Forcing the enemy lance out of their position and into a retreat nearly always results in a quick attacker victory. Retreats under fire are usually chaos if the enemy is pursuing and few commanders have the necessary skills to hold a lance together when they are desperate to save themselves for the storm of fire that is following them. Should the enemy refuse to cooperate and simply takes cover from your fire knowing they are outmatched in this combat style and instead await you to close inside their effective range then a reducing range flanking attack or other similar closing range attack may be required to defeat them.

## Reducing range (flanking) attacks

This is very similar to the long-range flanking attack except the ultimate aim is to force a decisive engagement with the enemy by gradually closing the range on their position and forcing them to stand and fight or retreat under fire. It can be used to approach a position that cannot be rendered vulnerable to flanking and uses the same movement and concentration of defensive fire to protect your forces from incoming fire as the long-range flanking attack. This maneuver also offers the same advantage of guns on target by having all your mechs facing the enemy position as they pop up and down out of cover in an attempt to engage you. Movement is again the key, by rapidly changing your axis of attack as the range reduces you force equally rapid responses from the enemy to adjust their firing front towards your lance if they are to have a chance of winning. Most defending lances cannot respond fast enough as it takes time to assess the attackers' intention and then decide on a defensive action. Hence the defender is often caught out of position with a weak flank as he tries to counter your moves. The attacker must determine which flank is more vulnerable a few seconds before he commits to a close range engagement and then hit it with full and sudden force, taking advantage of the brief period of confusion and weakness in the enemy position.

It carries greater risks as you will spend a significant period of time inside the lethal 800m range bracket and also be subjected to a greater concentration of enemy fire at close range but it also offers virtually no chance for the enemy to escape the maneuver either and so is more inclined to guarantee a result. The intelligent use of ECM and passive sensors where appropriate to cover your movements is of great help in gaining an element of surprise. If they can see you coming from 1200m and track your every movement they will have already made plans of their own by the time you arrive to do battle. Preferably, by the time they realize you intend to close to point blank you may already be inside 500m or less and be only seconds away from entering their positions and destroying them. However, once you are inside 800m or so, even if they realize you intend to close their only choices are to stay and be destroyed or run exposed to all the fire you can deliver while they have their backs to you. They are not enviable choices.

There are two typical patterns to this maneuver. One looks like a spiral as you circle the enemy position, driving them around it as they try to stay behind some cover while you constantly reduce the range down until you are on the other side of their cover. At this point the attacking commander must make an immediate decision to attack either the center, left or right, (which ever is weaker) as his whole lance breaks cover to engage. No delay in decision or pause in movement can be allowed as it is more time for the defender to react. It is the speed and surprise of your direction and type of attack that gives you the advantage, if the defender has time to realize what you are planning you have no advantage.

The other typical pattern looks like a triangle with a zigzagging line running through it from base to point, the point of the triangle being at the enemy position and the long base being the start of your chosen ground to work the maneuver. This triangle pattern is used when there is no suitable terrain to use in a spiral maneuver, for instance if the enemy is holed up in a map corner. You cross from one side of your chosen terrain and then when you hit the boundary you reverse course as a team and head to the other boundary, all the time reducing the range to the enemy as you go.

This triangle pattern maneuver can be difficult to coordinate due to the frequent direction changes having to be made under fire. Like with the above flanking tactic, the lance commander must keep his mechs in a tight formation, able to deliver mutually supporting suppressive fire at any target that attempts to engage your force. Frequent attention must be paid to force cohesion as the fight progresses in order to prevent the lance becoming widely separated and strewn across the whole area of maneuver.

Due to the risks of closing on the enemy your vulnerability to fire increases significantly. The volume and accuracy of your suppressive fire is what will keep you alive as movement alone will not protect you from laser fire although it will lessen the effectiveness of Gauss and LRM fire.

Direct fire weapons with short to medium recycle times are a vital part of success to this tactic, if your lance discharges all its weapons on one target but cannot fire again for another 8 seconds your force will take hideous damage in the mean time. ER Large Lasers, ER Large Pulse Lasers, Large Xpulse and Light Gauss are ideal for this as they all have good recycle times (Pulse and Xpulse in particular) and good range. The ability to have weapons always ready to fire to suppress the enemy cannot be overstated. The impact knock created by being hit will

cause the enemy to miss their shots and take additional fire while they try to line up another. Each opposition mech that shows itself must be hit by fire be it a little or a lot. If they can fire unhindered then you are going to take losses whatever else happens.

When you have reached the enemy positions and assuming they are still occupying them you must still be careful to maintain force cohesion. Allowing your lead mech to go "over the top" with the rest of the lance in line behind him will get him dead as he is the obvious target for the enemy to concentrate on. You must send your entire force to attack simultaneously, preferably without a break in movement that would alert the enemy to your intentions, it just looks like one smooth motion of approach and attack. If the position is a hill or other terrain feature you can move around the side just as easily as go over the top, so long as your lance maintains a tight, mutually supporting formation and the initiative of action. Should the enemy attempt to flee their positions you should pursue them with vigor, targeting those mechs that have 360 degree torso twist first as they can fight effectively on the run. Then rest of their lance can be destroyed at will once you remove the threats to your own forces.

## Supported in-fighter attacks

This maneuver is excellent for use against teams that do not properly balance the capabilities of their lances. Many teams practice only a single type of combat and try to fight all battles the way they practice them no matter how inappropriate the circumstances. The most common forms of one-dimensional teams are the all "snipers" or all "in-fighters". In both cases they are very poorly equipped to fight any kind of battle except that which they plan for and so become highly vulnerable to more versatile lances. The tactics described in this section requires a map and set of conditions that allow for long-range combat in order to take maximum advantage of your own ranged firepower. Close range maps are not suitable for tactics involving snipers or fire-support mechs.

The lance configuration for this tactic is to separate your force into two maneuver teams, fire support (here after referred to as the fire team) and in-fighters. The exact balance of power between the two teams depends on the circumstances of the fight but giving 40-50% of your available weight to the fire team and 50-60% to the In-fighter team is a fairly solid place to start.

The fire mechs should be of 55T to 90T each, dependant on the total weight and number of mechs you have available. This is because of the capabilities of smaller mechs in comparison to larger ones when conducting fire support. Smaller mechs have more vulnerable weapons hard points due to their lighter armor, they have limited choice in weapons slots and loadouts and generally cannot be configured to meet a large variety of tactical scenarios. In contrast, mechs like the Ryoken, Catapult and Madcat can hold a substantial amount of both heavy beam weapons and LRMs making them highly configurable as well as significantly tougher to kill than their smaller brothers. This allows the larger mechs to take some serious punishment before being forced to withdraw and hence robbing their In-fighters of the support they are counting on. Mechs like the Shadowcat or Hellspawn simply cannot withstand a reasonable level of damage and continue to function in their role.

When selecting weaponry for the fire support team, long-range lasers and LRMs are the best choices. Both have identical aiming points to hit the target, they both hit moving targets with a high degree of reliability and they both have excellent range and recharge rates. Ballistic weapons and PPCs tend to be of reduced value as normal internet lag will result in a greater percentage of misses than the preferred weaponry. While some pilots are able to adjust to using several types of weapons that require different techniques to use, as a general rule it is best to make mechs as simple to use in their role as possible.

The In-fighter team should consist of smaller mechs than the fire team in order to give the enemy a greater number of targets to keep their attention. Three Hunchbacks are faster and harder to bring down as a group than two Thanatoses although they are they same total tonnage. Large and slower mechs are vulnerable to concentrated fire, it is much harder to concentrate fire and of much less value against smaller mechs as any kill on them does not represent a large fraction of the teams combat power destroyed. Speed is also a vital factor in denying the opposition commander the time he needs to devise a defense against your maneuver and so smaller mechs give an additional advantage in that area as well.

The exact tactics needed to make the best use of both teams depends on what the enemy is configured for. Should they be configured for in-fighting then the fire team should endeavor to do as much damage as possible to them before committing your own in-fighters to battle. As the enemy has no heavy firepower to respond with the fire team has ample opportunity to inflict serious damage on the enemy forces without significant risk to themselves. If or when the enemy moves to some cover and is then out of the line of sight of the fire team then your own in-fighters should be committed to battle to dig them out of it. There is no great need for secrecy of movement or in the use of cover as the enemy has no suitable weapons with which to hinder your actions and any attempt to do so will simply result in your own fire support inflicting further damage upon them.

The fire-support team should make every effort to maintain the longest practical range from the enemy. Should your own in-fighters be destroyed in battle then it is the fact the remaining enemy mechs have to cross many hundreds of meters of open ground to get to you that will be their downfall. There is simply no way a few damaged mechs with short range weapons can charge open ground against heavy fire support mechs and survive.

The advantage in splitting your own lance into two teams is to give your opponent two choices in responding to your attack, neither of them

very good. If they engage your in-fighters then your fire support can operate unhindered and rain death and destruction on them from range. If they try and rush your fire support to destroy your heavy mechs then they will have to fight through your In-fighters to get there. Only an equally balanced lance as your own can evenly split its attentions against your team in the way you are doing to them. A one-dimensional lance has no such hope.

It should be noted as an important aspect of this tactic that the in-fighter team should never leave the line of sight of their fire support, if they do then the whole advantage of having a fire team is lost. They must try to keep the enemy force in the engagement range and sight of their fire support team and so threaten them with damage from both close and ranged attack. It is the responsibility of both team leaders to know where each can move and still maintain mutual support. If at any time the in-fighter team leaves the line of sight of their fire support then the fire leader should immediately broadcast over channels that they no longer have visual contact with the battle. The in-fighters must then of course bring the battle back to a suitable location from which they can enjoy the benefits of standoff support mechs.

Against a team of snipers or dedicated long-range mechs this tactic becomes harder but still remains effective when carried out correctly. The advantage it offers against snipers is that it puts your mechs right at their feet, totally removing them from their preferred combat range and style. At the same time they are taking damage from range giving them the same bad choices as described for the all in-fighter enemy lance above.

When you are faced with a team of snipers you cannot put your fire support mechs into the battle on their own as described above. They will be out-gunned by a factor of two or more and by doing so you violate the rules of attrition combat as that is the kind of battle you are effectively asking of your ranged mechs. Instead you must push your in-fighter team right up to the enemy positions, making use of movement, stealth and cover to avoid taking damage on the way in. Your fire support team can offer themselves as distractions or targets so long as they are not taking substantial damage by doing so while staying at the maximum practical range to make best use of their weapons. Sometimes your in-fighters have no choice but to rush in under fire and if this is so, all mechs in the lance should apply the maximum suppressive fire to the enemy mechs to reduce the damage your force sustains while closing.

Once both your teams are in position (but still in cover) a simultaneous attack by both groups is ordered, giving the enemy more problems than they can deal with. Even medium weight In-fighters can cripple and strip a heavy sniper in a short time and several of them with the support of heavy mechs at stand off range are utterly devastating to mechs like laserboats and missile boats that have very limited combat power at close range.

As many situations will have the enemy lance behind some kind of cover if they are snipers, a simultaneous attack will obviously have the In-fighters moving to the reverse side of that cover and therefor out of line of sight of their friendly support. What is often required is a flanking maneuver that brings the fire support mechs into line of sight of the enemy. As the fire team moves to one flank the in-fighters follow around to the same direction while avoiding a fight or being shot at by the enemy on the other side of the cover. The instant fire support gains a useful line of sight (i.e. not easily blocked again by a slight enemy movement) the In-fighters engage the enemy mechs and draw their attention. The result should be predictable as the enemy snipers are ripped into by LBX and a barrage of long range fire to which they have no defense.

Which ever method you are obliged to use by the enemy, you can expect to take some losses from your In-fighter team. You just can't put (for example) three of your own mechs in close combat with all five of the enemy and expect to come out clean. The effectiveness of the tactic lies in holding the enemies' attention at close range while they are being destroyed from long-range. Even if your in-fighter team is totally wiped out the damage state of the remaining enemy mechs will likely be so severe a few more shots from the as yet undamaged fire team will finish the job and the game. There is almost no way to counter this tactic provided it is carried out properly and as long as you are comfortable with taking a few losses it can be relied upon to deliver wins time and time again. That is one of the beauties of this tactic, even if the enemy suspects you are going to try it on them there are still very few things they can do to prevent it.

## Unsupported in-fighter attacks

Of all common tactics, this is the most dangerous to commit to. It forces you to close to point blank range with the enemy in order to engage him, if the enemy can prevent that or engage you sooner and at longer range than you are capable of then you are doomed to failure. Only maps that have significant cover over their entire area are suitable for this tactic. Your success relies on your ability to avoid taking fire until the moment of your choosing and if you have to cross any amount of open ground under fire then you lose the control of the battle type.

There is very little complexity to this tactic although there are some basic rules to follow. Your lance should have good speed to enhance any element of surprise that might be with you but most important is armor and firepower. Slow moving assault mechs may have crushing firepower but could never keep up with any medium or heavy mechs in a formation and so would result in the unintentional and undesirable splitting up of the lance. Being forced to travel at a low lance speed also allows the enemy to use their own speed to avoid combat with you by moving away as it suits them. It is preferable if all mechs in the lance are able to travel at a reasonable common speed, around 70-75kph is adequate for heavy lances with correspondingly higher speeds for lighter lances. Generally avoid using more than two engine upgrades as then you are getting into the realm of significant payload weight being spent on an attribute of doubtful additional value.

You should arm your mechs with heavy hitting, short-range weapons backed by other moderate damage lighter weapons with any spare tonnage or weapon slots available. A few direct fire weapons with greater range are also advisable to at least have some small ability to deliver suppressive fire should it be needed while you close. Lasers are the best weapons for the job due to their light weight, good range, fast recycle and close range effectiveness. Large X-pulse lasers are probably the pick of the bunch for suppressive fire as they have an exceptional recharge rate.

In terms of lance structure you should aim to have all mechs of a similar weight or if possible and practical, all the same mechs. A lance made up of for example one assault, one heavy, one medium and one light makes the enemies job of selecting a primary target so easy. The assault mech will be destroyed quickly and easily, instantly reducing your lances combat power by about 40% and then the heavy mech will be next reducing the lance's combat power by another 30% leaving you in a bad way and with little hope of winning.

However, a lance consisting of five identical medium mechs in the 50-55T weight range offers a different problem to engage for the same total tonnage as the lance above. They all have roughly identical speed and capabilities giving them excellent lance cohesion, you will not be forced to hold back your faster mechs for the lumbering giants. They are also extremely difficult to track in a tight turning close range fight. When all mechs look the same, finding one of them as a primary target amongst all the others becomes more trouble than it is worth. Additionally, the loss of any one mech costs you only 20% of your lances combat power, spreading the risk of loss evenly throughout the force.

Once the enemy is detected you must identify the most secure route of travel to their position which allows your force to remain covered from fire as well as leaving you the greatest variety of choices in maneuver. If you choose a route of approach that is obvious and offers you no alternative paths then you can expect the enemy to be ready and waiting at exactly the point you must attack them from. While your tactic will become obvious to them in advance of you opening fire you must still look to keep as many options open as to the direction of your final attack in order to place doubt in the enemy minds. If they are not sure of the exact direction you will attack from they will not be able to prepare fully or concentrate their firing front in any one direction.

Finding them requires intelligent use of sensors. Having one mech in your lance with ECM and one with BAP gives you various choices of how detect the enemy. If you can take a mech with both ECM and BAP then you will always be equal or on top of the enemy as far as electronic warfare goes. Often this is not possible however so make the most of what you can use. I would avoid a Raven for this role, despite its sensors it is short on combat power and will put you at a disadvantage once the fight starts. Only if you have a tonnage advantage over the enemy would a Raven then become useful to better direct your lance in exchange for a small loss in firepower.

These are small points in the scheme of battle yet every possible advantage you can generate for yourself no matter how small will contribute to your ability to win the game.

## Crossfire attacks

Crossfire attacks combine both attrition and flanking attacks into one. The objective is to generate two or more directions of fire on the enemy position and hence make their position vulnerable from at least one of those directions while using your other forces to prevent them moving to better cover. This can be difficult to perform against fast and highly mobile forces as they can exit a bad position quickly and reform elsewhere. However, against heavier mechs that lack the speed necessary for rapid retreats it can be very effective.

There are again two teams involved in this maneuver, the fire team and the flanking team. The fire team should contain the heavier mechs of the lance, those with long-range weapons that can deliver significant fire against any target. The flanking team should consist of the smaller, faster mechs that are able to quickly cover large distances on the flanks of the enemy position.

Upon making initial contact with the enemy the commander must find a suitable area from which to set up a base of fire to pin the enemy in place and engage their attention. The fire team's mission is not to seek the destruction of the enemy but to prevent their freedom of movement and response by threatening damage against them should they try to change positions. Any damage the fire team can (reasonably) safely inflict on the enemy lance is a bonus. The fire team should not take unnecessary risks as they will have less available firepower than their opponent due to the splitting up of the lance. Good range control is required to make the most of any range advantage you possess and will prevent serious damage to the fire team while they carry out their task.

Simultaneously the flanking team will be deployed to an enemy flank, which ever has less cover for the enemy to shelter behind. Other considerations such as line of sight, enemy weapon ranges, map edges and terrain must also be taken into account as to which flank is the more vulnerable but clearly any flank that offers protection to the enemy is unsuitable to attack. The flanking team should be armed with weapons that have at least a 900m range, preferably 1000m range. As the flanking team should be in lighter mechs they do not have the firepower or armor to directly engage the enemy heavy forces. Their defense lies in speed and battle range, they must keep out of the effective engagement envelope of the enemy while bringing their own weapons to bare.

Once positioned on the enemy flank they should proceed to fire on any target they can see. The precision or weight of the damage inflicted is not important, the important factor is that damage is done while the enemy is unable to effectively respond nor able to move from their current location without the fire team inflicting far more serious damage upon them. Over time even light damage starts to pile up and no one anywhere likes to be taking fire with no way to prevent it or respond.

The enemy will respond however and there are just too many ways that they might to cover here. What you must keep in mind is to deny them the chance for a decisive engagement. Maneuver your teams in such a way that they can continue to perform their roles with the minimum of risk to either and deny the enemy the head-on battle they want to fight. This tactic is a "damage over time" concept, not a concentration of firepower to achieve a fast result. The longer you can continue to inflict damage on the enemy without letting them respond in any meaningful way the better for your lance.

Some points to note when conducting this maneuver. The flanking team (even if it is only one mech) must be careful not to get too separated from the fire team. Should the enemy seek a direct engagement with the fire team by attacking them head on then the flanking team must be close enough at hand to immediately assist with its own firepower. If they get caught out of position or so far behind the enemy that they cannot catch up to the battle in time then they have failed in their mission. The flanking team must be lead by an experienced pilot but preferably not the lance commander as he won't be able to keep track of his main forces. Pilots who are killed in this role or get too separated to help in a main lance engagement should be replaced immediately, they do not have the judgement to operate on their own. Pilots in the flanking team should rarely if ever be killed in a game where their team won and nearly always be killed last or near last in a game that is lost. Being killed early in either case is an indicator of poor judgement and lack of tactical knowledge.

Also, this tactic is not designed to generate a victory of it self. It is designed to weaken the enemy while you hold your own forces out of any significant fight and so maintain your full (or near full) capability in armor and firepower. If the flanking team can take a few weapons off enemy mechs, turn a few panels orange or red and generally scatter some light to moderate damage on the rest then they have done their job. At some point the commander is going to have to choose a new tactic to force a result but by damaging the enemy first without taking much

if any in return makes your task easier. Sometimes the fire team may also be able to take part in a style of low intensity attrition combat to contribute to the inflicted damage but only if they obey the rules of attrition fights. A concentration of numbers and firepower is required to engage and they should never risk taking more damage than they can inflict in return.

## Attrition combat

Attrition is a method of battle where the aim is to swap your losses for enemy losses on a favorable ratio. The conclusion of the fight will result in the winner being depleted in numbers and power and the loser being totally destroyed. It is a risky style of combat as the winner of an attrition battle is usually the side with the greater numbers or firepower to throw into the battle but the advantage needs to be significant to have an impact on the fight. As it is rare to have an advantage in numbers in a mech game, attrition should be a last resort after it has been determined that no form of maneuver tactics will prove effective. Such circumstances are most likely to exist where the attack corridor that you can move and fire in is very narrow, providing no possibility for any maneuver other than a frontal assault into the defenders positions.

Some examples of narrow attack corridors are a city street, a ravine between two cliffs or the length of a mountain ridgeline. None of these tactical scenarios offer any ability for surprise or maneuver and so attrition is really your only option. The most important factor in attrition is to find the range at which you have the firepower advantage. If one team has many Clan long-range weapons with ranges of 800m and the enemy has many IS long-range weapons with ranges of 600m then the Clan unit should strive to keep the fight out of reach of the IS team. By moving into the 600m range bracket they give up the only advantage they have and allow the enemy team into the game on an even footing. By maintaining a range beyond the effective reach of the enemy you generate a firepower advantage without needing greater numbers.

This principle applies to all attrition combats. By identifying the ranges of all the enemy weapons and comparing them to your own you should be able to find a combat range at which you can hit significantly harder than your enemy. This is the range that you must maintain to have a reasonable chance of winning an attrition battle, the larger the advantage in firepower you can generate the greater the chance for success.

To gain the maximum advantage for your lance you must both coordinate their actions and concentrate their efforts. It is common for attrition battles to devolve into uncoordinated skirmishes with each pilot trying to hit the enemy while avoiding as much fire as he can. This can only work if your whole team is more skilled than the whole enemy team and even then it relies a good deal on luck. Even one enemy "ace" can gut a lance of mechs virtually on his own so reliance on the ability of your pilots to be better than all other pilots is not sound and any success with it should be considered the exception and not the rule.

It is preferable to have your entire team maintain strict fire discipline and cover and then at a chosen time the whole team moves out of cover at once and prepares to fire. This is coordination. The first enemy mech to pop up for a shot will now be hit by an entire lance worth of firepower and more than likely killed instantly if your pilots can shoot straight. This is concentration of effort. As soon as your lance has fired they take cover to allow their guns to recharge in safety. You repeat as required or until the enemy devises a counter-tactic that forces you to abandon this pattern.

Obviously you cannot avoid taking fire by standing in the open and waiting but that is not the aim, the aim is to deliver significantly more fire to the enemy than he can deliver to you and hence destroy him before he can destroy you. Damage is a natural consequence of attrition combat but it is how it is managed and controlled in the fight that counts towards the end result. Never give the enemy an opportunity to concentrate their own firepower against you, if they are massing their mechs in the open or using other tactics of fire concentration in readiness for you coming into their line of sight then attempting to face them off will result in heavy damage to your forces for doubtful gains. Never engage the enemy in attrition fires that do not offer you an advantage in firepower on target of at least 2:1. You should only engage when conditions are decisively in your favor. If they are not, then they are in the enemy's favor and any attempt to engage is pointless.

With the basic maneuvers and tactics laid out it must be said that a battle is never fought to a set of rules and procedures. Applying the same tactic to the same situation every time will make you predictable and stale. Combat is fluid, it requires rapid decisions to meet changing circumstances, not a rulebook of action/reaction. Maneuver tactics are both an art and science. The science is the weapons, movement, damage and other known events that make up a framework to operate within. The art is knowing when to move, when to hide, when to order the advance and how to do so in order to give yourself the maximum advantage either through surprise, concentration of effort or any of the other factors that play a part in victory.

A maneuver that begins as a long-range flanking attack may suddenly become a reducing range flanking attack as the enemy changes their tactics to meet you or reveals an unexpected capability. It may then turn into a battle of attrition and then into a frontal attack as you gain the initiative again. Commander's judgement and the speed and accuracy of his reactions and decisions will turn a set of guidelines and procedures into a complex, coordinated and flowing action that may borrow tactics from every practiced maneuver and then add some more you thought of on the spot. By anticipating events and applying the best tactics to every given moment you stay ahead of your opponents thought process and so short-circuit his information-decision cycle. By the time he realizes what you are doing it is too late, it is already done and you are beginning another phase of the battle.

There is always more than one way to deal with a particular tactical problem, quickly identifying as many of them as you can and then making fast and appropriate decisions is the highest responsibility of the commander and often the difference between a stunning victory and a crushing defeat. Making command decisions must be practiced as often as gunnery and piloting to generate faster and better responses to tactical problems. Doing the unexpected when appropriate can have a shock effect out of all proportion to your actual combat power but without a large body of experiences from which to draw the commander cannot know what is appropriate and what is foolish.

Versatility, adaptability, initiative and boldness are the vital qualities in a competent field commander and will give the sharp edge to the theoretical knowledge he may possess and the practical experiences he can draw from.

# Controlling the battle and the denial of choices to your opponent

Controlling the battle is the most important aspect to winning. If you have the initiative and are forcing the enemy to react to you then they lose the power to make effective use of their own weapons and tactics. You must be aggressive, push the enemy and make them hesitate and doubt themselves by dominating the situation at all times. Never let them get settled or comfortable with the fight, if they look like they are making good use of a position then move to their flanks, advance, do anything that removes them from their comfort zone and puts pressure on them to change what they are doing. If you allow the enemy time in which to think because he is not directly engaged or threatened then he will start coming up with plans of his own and then it may be you reacting to him rather than the other way round. Once they are mentally beaten the process of physically beating them becomes much easier.

The range of the battle at any time directly corresponds to the number of options a commander has to choose from. At very long range you can easily hold fire behind cover, withdraw unopposed to another location, engage the enemy at will or anything else that you think prudent. At moderate ranges you have fewer options. You can still probably engage the enemy but the cover around you and the capabilities of the enemy may limit your movement and combat choices. At short range you are out of options all together. You can't retreat, reform or reorganize in any way, you just have to keep fighting and hope to win.

If you know that you have better maneuver tactics than your enemy then keeping the battle at long range is often the best way to go. You will have more choices and you will make more of them due to your better decision making. Your enemy will make mistakes and all that is required of you is to take advantage of them when they do. If you move in to engage them up close then your superior tactics are worthless, as tactics simply don't exist at close range. All that matters at close range is firepower and fire concentration. The reverse is true also. If the enemy has better tactics then forcing a close range fight negates that advantage and lets your pilots take the fight directly to the enemy in circumstances that they can't avoid.

When you have the upper hand in a drop either by inflicting heavy damage or casualties on the enemy then advancing on their positions can be the best way to keep the initiative and win the game as the only options left to the enemy in responding are bad ones. In a long-range battle it can be hard to concentrate your fire and even a single powerful sniper can get quick kills against you if you are not very careful. However, by advancing with your full lance you force the enemy to either stand their ground against superior forces that are able to concentrate heavy fire on their positions (almost always resulting in a quick destruction) or retreat. If they retreat then they will become disorganized and vulnerable, as they cannot both run and return fire at the same time. Either way you will have turned an advantage into a decisive win simply by taking action that forced your enemy to do something he shouldn't because he has no good tactical options left to use.

When you don't want the enemy to have any choices remaining, a battle as close range will always achieve that effect. When confronted by superior firepower at close range there is only one result that can come out of the battle.

# Sensor warfare

When you have the sensor advantage (ECM against none or ECM+BAP against just ECM) you can move almost anywhere you like. You will always detect the enemy first and so can always adjust your position in readiness for battle while the enemy is still ignorant of your location. Moving in concealed terrain can be advantageous as it prevents the enemy from acquiring you visually before you have them on sensors but is not required and is definitely not good if you have mostly long to extreme range weapons. By the time you detect the enemy they will already be well inside your preferred range. Make the most of any sensor advantage you do have though. Don't simply fire on the enemy as soon as you detect him, use your advantage to maneuver your forces around the enemy lance and hit him from a location he doesn't expect. If you are undetected, only reveal your position by firing when it is an advantage to do so, not just because you can.

When you do not have the sensor advantage you have two choices to even the playing field. You can move passive and in the open on the high ground to hopefully get a visual contact and so negate the sensor advantage of your enemy or run active (preferably with BAP for increased detection range) and move only through protected locations that deny long lines of sight. In the first case you want to remain on terrain that lets you see all around your positions for as far as possible, at least 800m or more is ideal. Concealed approaches and blind spots can be fatal. If you are seen without knowing it the enemy can use them to close on your position while you are unaware. If however you have no choice but to occupy a position with blind approaches then deploying a scout to watch them can be useful but do not deploy him too far away lest he is attacked and rest of the team is out of immediate supporting range. The scout should avoid standing in the open, rather he should have excellent cover and rely on his radar to locate the enemy rather than his eyes. They will detect him first but if they can't attack him then they have no advantage.

If you choose to remain concealed and radar active then once the enemy enters your own radar range you can make a decision on how to proceed. Fighting from a small piece of cover while being surrounded is a bad tactical situation however so try to select some terrain that gives you as much freedom to move behind cover as possible. You will also be limited in your weapons choices due to your inability to fix the range or type of fight, as you will be pinned in place and possibly attacked from multiple directions. I prefer the open/high ground approach as it gives you more options for combat where as the hiding and waiting approach severely limits your tactical choices but there are occasions where taking a totally defensive posture is the only reasonable choice.

In either case your objective is not to get any advantage as you simply can't make sensors appear if you don't have them, what you are attempting to do is use tactics that remove the enemies advantage and so at least give yourself an even chance against them rather than be at a constant disadvantage.

When you are facing a team that is equipped with mechs that have ECM/ECM + BAP and yours don't, try to fit BAP on as many of your mechs as possible. The reason for this is that mechs with BAP will detect mechs with ECM at 800m and so if you can close the range to 800m or less you will be able to detect the enemy mechs and be on an even footing if not at any advantage. When you don't want to be detected you go passive. In this way you make the sensor battle a 50/50 game. You have no advantage but neither do the opposition. Fighting a battle where the ECM advantage will be significant is to be avoided. You must either stay passive and fight at long range (again, to keep the sensor battle at 50/50, no-one has an advantage) or go active with BAP and fight at 800m or less, using passive radar to make stealth moves when required. You rarely gain the sensor advantage if you didn't start with it but at least you can make sure the enemy doesn't have one over you.

If the enemy's sensor advantage is contained in a single mech then it can be useful to concentrate all the fire upon it that you can, given the opportunity. If you can kill it early then you level the playing field, maybe even reverse the situation. Don't take unnecessary damage or risks in doing so but when such a high value target offers itself then you should make every attempt to destroy it should a reversal of the sensor advantage at that point be tactically useful. Obviously if an in-fight has developed then sensor advantage is of no use and other targeting priorities should be followed. Another thing to remember, at less than 500m, no-one has a sensor advantage because any active

mech can detect any other mech at that range regardless of respective sensors and so shorter ranged fights become more desirable when you lack sensors.

On a final note, if your tactics require you to be passive you must remember certain weapons like LRMs and SMRMs will not work without radar and so your weapons choices must be balanced with the need to use your radar.

## Using terrain for your maximum weapons effectiveness

When you have selected the weapons you want to use as your primary focus for the fight you must consider where on the map you can safely go. This may sound strange to some as I am sure you are thinking "Can't I go anywhere?" Well, yes and no. You must consider each small piece of terrain you are moving on and will move through as though it were the point you make enemy contact. If you made contact at location X, would you be at a disadvantage? Are you in the open with no cover? Can your weapons reach the probable firing positions the enemy would occupy? If you feel that you would be at a disadvantage by making contact at a particular location then don't move through it. Nothing will ruin your chances for winning if the enemy detects your lance and you are unable to respond effectively because you are in a bad position. They will hammer your mechs while you are disorganized and retreating from which point you will not likely be able to recover.

Keep at the front of your mind at all times the kind of terrain you need to make your weapons most effective. Each major weapon class has certain characteristics and parameters that are required for it to be effective. The ER Large Laser for example has a range parameter, 800m. This effectively means that once you are committed to battle you must stay within 800m of your targets to keep the weapon effective and you must keep the enemy at least 300m away from you to prevent them getting inside UAC/LBX range at which point you will be out matched. It also means that you should never move through an area of totally open ground because if you are seen at 1000m you will be fired on and have no way to respond. Look for terrain to move through that is neutral or offers an advantage to you based on the weapons you have. This will make large areas of most maps "no-go" zones with small tracks of terrain that are suitable for movement. Learn where these safe movement tracks are depending on the different weapon classes you may be using, where they go to and where the possible ambush locations are.

Once you have made contact with the enemy your choice for movement expands considerably. As you know the threat direction and range you can move through any area that has cover from fire or that is out of range from enemy weapons. When firing however, you still need to occupy only terrain that is suitable to your weapons but you have the advantage of being able to move through bad, but protected positions to find new, good firing locations. You would not take a position that can be easily approached if you have sniper weapons for instance, you would make sure the enemy cannot approach you at all except under heavy fire. Nor would you allow an enemy force to push you into a valley if you were using LRMs as most of them would slam into the hillside against a higher target, you would try to maintain an elevation relative to them that was roughly equal or higher. If you are skilled in maneuver you may be able to force the enemy into positions that are poor for their weapons and so gain an advantage for yourself. In forcing the enemy to occupy poor terrain you can make an entire class of weapons that they carry unusable and so give yourself an enormous advantage in firepower without having to bring more tonnage.

## **Initial contact and recon by fire to assess enemy capabilities and the ideal engagement range**

Up until the point of initial contact with the enemy, you have no idea what kind of weapons, sensors, speed or equipment they have. You can guess based on experience and common sense but you don't actually know. The first order of business once you have made contact is to find out what you are up against. This is called a reconnaissance by fire. The idea is to start a minor engagement at maximum range (1000m) and give the enemy tempting, although difficult targets to shoot at. You want them to fire every weapon of that range that they have so you can judge their strength at that range and compare it to your own. Once you think you have seen all they have you can move into the next major range bracket, 800m. This is a dangerous range though, you will need to be very careful about combat at this range if you are not well equipped for it as most teams have the bulk of their firepower at this range.

This early phase of the game is all about finding out where you are strongest in combat capability in comparison to the enemy and then go about exploiting it. If you clearly out-gun the enemy at maximum range then don't even bother moving in closer, stay at that range and work on them with that advantage. If you are out-matched, move in to 800m and decide whether you have the firepower advantage at that range. If you are badly outclassed at long-range in general then you have no choice but to attempt to close in on the enemy and engage them at point blank where you (in theory) must have the advantage. This kind of structured approach allows you to assess the enemy's firepower a little at a time rather than fire your first shots at 700m and find out you don't stand a chance at that range. By closing in the range gradually you are able to choose the best combat range for your lance and not just chance the engagement range to luck.

# Using the assets of your mechs to their fullest

The characteristics of each class of mechs are different. In order to get the most benefit from each mech and from the lance as a whole you must employ each in a role for which is it most capable. Treating a variety of different weight mechs as one homogenous lance and expecting them to all fight in the same way will cost you games on a regular basis because they just aren't designed to fight the same way as each other. You must know what the special characteristics of each mech in your lance are and employ them in such a way that they are free to make the maximum of their abilities. There are essentially 3 classes of combat mechs with gray areas between them. They are:

## **Light/Medium (30T-50T)**

The light/medium class of mechs is the fastest in the game. They do not hold a lot of weaponry or have much in the way of armor and so they must be kept out of the main fight. Going head to head in battle with larger enemy mechs will not work, as they simply can't survive such an engagement. It is also a total waste of their biggest advantage over the other classes, their speed. That high speed is best used by rapid movement around the battlefield and attacking the flanks of the enemy position. They can dash into weapons range, fire and dash away again before the enemy is able to effectively respond and so give you the ability to attack a numerically stronger force without having to go directly up against it. This is a damage over time concept. You are not going to get quick kills or do critical damage in one or two hits but over the course of a game, if your flankers are constantly pecking away at the enemy it does add up in a big way. Even just a single Raven has the ability to inflict hundreds of points of damage on an enemy force given enough time and using the right tactics. When you eventually decide to engage the enemy lance head on you will find that attacking mechs that have damaged panels all over and that may be losing weapons will practically guarantee a victory.

## **Medium/Heavy (55T-65T)**

The medium/heavy class is the most versatile if not the most powerful group of mechs. They are the fast maneuver element of a lance, able to carry some powerful weapons and enough armor to survive a serious engagement. They cannot go directly up against the heaviest mechs on their own but they are able to offer significant supporting fire and flanking capabilities as part of a coordinated team effort. The speed and good payload of this class of mechs makes them ideal to be used in maneuvers that require rapid repositioning or in generating crossfire on the enemy positions with enough firepower to really hurt the targets. They are well suited to very open maps where the extra speed and smaller size are an advantage in a mobile battle with no fixed lines.

## **Heavy/Assault (70T-100T)**

The Heavy/Assault class is the top end for firepower and armor in MW4 and have great value in their ability to destroy enemy mechs in just one or two hits. These are the mechs that can and should take the fight right up to the enemy in an effort to destroy them outright. They don't need time to wear down opposition armor, they can batter through it with ease and get kills and crippling hits as a regular part of their combat performance. The concentrated firepower of these mechs is a commander's most potent weapon in destroying the enemy and the effective use of this class of mechs will most often determine success or failure. On the downside they are often slow and can handicap the lighter mechs of the lance by slowing them down in transit. No point bringing an assault mech if it's not fast enough to follow the battle and so the lance as a whole tends to be tied to the speed of the slowest mech.

## Constantly assess the relative damage levels

Your greatest asset to winning in terms of mechs is the armor they carry. You can think of armor as a type of currency. When you want to win, you have to risk spending some by taking damage in battle. You don't want to be spending armor on doing things that are not worth the return or will not contribute to victory. You want to pick your time and place of decisive engagement and use all your armor at that point rather than let the enemy chip away at it before hand in small and irrelevant actions. Random shots do not win games, planned attacks win games.

Once combat has begun, it is important to know if the tactics you are using are working. You can't inspect the enemy for damage but there is another way for you to get a "feel" of the progress of the battle. If the game type is "Team Attrition" (it usually is) then a check of the score will reveal what is happening in general. Minor scores (under 100) do not really tell much but once the game is moving along and the scores move up a bit you can see the overall pattern emerging. For instance, if your team score is 200 and the enemy score is 300 then it's simple to say that whatever tactic you are using is costing you three points of damage to your own mechs for every two you give out. Obviously a change is needed or you are going to lose, it's just a matter of time. The point between not enough information (score) to make a judgement on effectiveness and waiting too long to make a judgement (you have already taken serious damage) is a decision of the lance commander. You need to give your pilots enough time to employ the tactics you ask of them and see if they are effective but once you can see that its not working, pull them out immediately, its very, very rare to turn around a losing situation by continuing to do the same thing that got you into it.

The other check the commander should perform when he has a few free seconds and is not needed to direct the battle is the damage status on all his mechs. Select each of your mechs on the HUD and see where they are hit and how bad. In the example above, if your forces have taken 300 points of damage but all your mechs have critical Center Torsos then you are in far more serious trouble than just the score would indicate. If the damage received is minor and spread around then you can ignore it as normal combat damage so long as you are winning the fight but critical damage indicates that either your tactics or pilots are failing the task because the enemy is able to direct heavy, well aimed fire against you. The idea behind checking the status of your forces is to push the most seriously damaged mechs to the back of the formation or to simply have them remain in cover to prevent them being destroyed. You always push your strongest mechs forward and use up the armor of every mech to the fullest before you have to start taking actual losses. Having all incoming damage applied to just two mechs and losing them is far worse than all mechs moderately damaged as you still keep your full firepower and options open.

During your periodic score checks, if you are consistently outscoring the enemy by a large margin then that is a clear indicator that your tactics are performing well and you are inflicting serious damage on your opponent. As long as you continue to demonstrate a clear superiority on the scoreboard and avoid taking critical damage to your own mechs you can continue as you are and a game win will just fall into your lap.

# Fire concentration

Fire concentration is the technique of putting as much firepower on one target as you can generate in the shortest space of time. Your aim is to deliver so much fire at once that the target is destroyed virtually instantly. This overwhelming destructive power focused on one mech is obviously preferable to a series of 1v1's developing in the battle area where you stand an even chance of winning each small contest. If you can destroy an opponent in the first few seconds of the battle then you have an immediate advantage in numbers and firepower. When you switch your fire to the next target you will kill it in a few seconds as well and so on until nothing is left. If the lance scatters their fire over any mech that happens to walk through their gun sights they may deliver the same total damage to the enemy but the targets will each suffer only moderate damage in the same space of time that you could have 2 kills by piling all that damage on one target at a time.

Fire concentration becomes more valuable the closer you are to the enemy. In a sniper fight there is little scope for calling a primary target to concentrate on. He will probably only be visible for a few seconds and by the time that you call him as the primary he will be gone again. In this kind of ranged fight it is better to let each pilot hit who they can and let them concentrate on doing damage to the enemy rather than trying to find a nominated target that may be already behind cover again. It can prove effective at range if the enemy is exposed and unable to take immediate cover from your team's guns but if they are only visible for brief periods of time it is more of a distraction than a help to call primary targets.

However, once the range of the fight shortens the firepower of the group must be more effectively used than an everyone for himself situation. At medium to close range it is likely that all mechs of your lance can see all or at least some of the mechs in the enemy lance. In this circumstance the massed fire of 4 or 5 mechs onto one target will generate an immediate kill. In an evenly matched short-ranged fight the team that is better able to concentrate their fire will usually win. If they can kill a mech in the first 5 seconds and another in the next 5 seconds it is almost impossible to recover from such early losses.

It is important to remember to only call primary targets that are visible to your whole team. If the commander nominates a target that only he can see then it won't do the team much good. A common sense approach to this is required in selecting the most easily identifiable target to make the search time as small as possible before your pilots can open fire on him. Nominating enemy mechs that are closest to your team or that can be easily found by a simple description like "Thor, by the hanger" is best. Everyone can immediately turn to face the hanger and will see the Thor there as promised. Do not give instructions like "Cougar to the north" or "Madcat on the left". In both cases it takes the pilot time to work out where they are facing and then center their torso and find the new direction. In the second case your "left" may not be anyone else's. On some maps it can also be notoriously difficult to read the HUD bearings against the sky so it is better to avoid compass bearings as target directions unless you have no choice.

# Targeting Priorities

The decision on which enemy mechs should be destroyed first is not always as easy as it seems. Common wisdom is to attack the closest mech to your force as he is easiest to hit. Often this is the correct choice as the massed fire of your lance will probably generate a kill but it is not always the best choice. At longer range it can be more valuable to destroy the enemy mechs that have superior sensor fits (Black Knights, Lokis) to deny the enemy valuable information on your positions and your maneuvers. Attacking the enemy commander will also have a bigger effect on the game than just the loss of one mech. Most commanders usually put themselves in the best mech in the lance, thinking that they can make the best use of it. This may or may not be true but it makes it doubly crippling if you can destroy his mount. Not only has the enemy lost their leader but they have also lost the best mech they started with.

Conversely, this can be something to avoid when you know your opponent will target your commanders first. Commanders should place themselves in smaller mechs of less value so that their loss does not also rob you of a great deal of the lance's firepower if you are being targeted. It is a gamble to do so as smaller mechs are more easily killed so use your judgement. Simply put, at longer range you should aim to destroy the enemies high value mechs first. Their commander and elite pilots, sensor mechs and mechs that give them a capability that that you do not have but that is dangerous to you. At closer range you should usually shoot for the mechs that carry the most firepower to remove them from the field as quickly as possible.

The final factor to take into account is targets of opportunity. On occasion an opponent can get himself into a position where he is extremely vulnerable for a brief period of time. This could be that he is stuck on a steep piece of terrain or against a building or he has collided with a member of his team and is stuck on him and especially if he has been knocked down. If you find a situation like this where an enemy mech is virtually helpless then call every bit of fire on it you can. Stationary mechs are dead mechs. Even if the enemy pilot is only a fresh recruit, killing him in a few seconds while he is vulnerable will still give you an advantage over trying to track a fast moving primary target that is actively avoiding fire.

## In Closing...

*"Basically most teams I've played on, there's usually this factor, players play like they play MW multiplayer. Working as a team but individualistic so you'll see some team members going off and not staying on target. This team stays together and fires together, It's like fighting 1 mech that has 4 joined autonomous parts." -- [AK] Kincaid*

This is how a combined arms lance should feel to the enemy, a single entity that bends its will upon their destruction. No weak links, no way to isolate any part of it, just a moving mass of concentrated firepower directed at them. Most no-respawn players play in leagues and it is with that knowledge that I wrote this document. It has always been my personal philosophy to destroy a new opponent with such force and violence at the time of my choosing that they are left in a state of shock from the experience.

It's the "What the hell just happened to us?" factor.

Everyone knows and understands the normal firing line type combat and are not disturbed to lose a game by doing it but by using maneuver tactics and concentrating all your force on the enemy at one moment to destroy them you cause a psychological impression to be left in their collective minds. They fear what is coming next time. It creates doubt about their own ability, their tactics and their leaders. In short, they expect you to beat them from that point onward because they have no idea how to counter a unit that demolishes them using tactics they have never seen before and have no understanding of. With those thoughts left in the minds of your opposition, you have won the war by winning a single battle.

[AK] Stalker