

BATTLETECH[®]

MAXIMUM TECH[™]

REVISED EDITION



FASA
CORPORATION

A N A D V A N C E D R U L E B O O K

INTRODUCTION



Ever since the recovery of the Star League memory core at Helm, the general public has assumed that the Inner Sphere would soon re-experience its Golden Age of Technology. In more recent years, the invasion by the Clans and the resulting acquisition of salvaged Clan weaponry seemed to reinvigorate the expectation that the Great House militaries would soon achieve technological parity with our new enemies.

Of course, we in the scientific community harbored no such delusions, for any scientist knows that simply possessing the pieces of a puzzle does not guarantee one can put it together. And when it comes to the puzzle of recovered technology, we don't even have all the pieces. In a few cases, such as the now widely used extralight engines and endo-steel construction technology, we were able to assemble the puzzle quite quickly. Our armies managed to salvage nearly complete examples of these technologies, which enabled us to create working field models of extralight engines and endo-steel frames in very short order. Our attempts to replicate other Clan weapons and equipment, however, have progressed much more slowly.

The slow progress of these efforts is primarily due to a dearth of salvaged Clan technology and other data necessary for our design attempts. We at the New Avalon Institute of Science (NAIS) have enjoyed almost immediate access to the battlefield salvage obtained in Commonwealth battles against the Clans. But even we have received only small quantities of salvaged weaponry, and generally this weaponry has been in extremely poor condition. (Undoubtedly, the strength of the Clan war machine and the limited effectiveness of our own troops against the invaders results in limited opportunities to scavenge advanced Clan weapons.) Other researchers in the Inner Sphere have had to work with even less.

Despite these conditions, Inner Sphere weapon and BattleMech designers have made notable progress in the effort to replicate Clan battlefield technology. Here at the NAIS, for

example, design teams have recently finalized work on prototypes of advanced autocannons modeled on salvaged Clan cannons. On Luthien, manufacturers have managed to perfect Streak missile technology and are now producing larger launchers for the 'Mechs of the DCMS. And in the Free Worlds League, newly developed extended-range lasers are being widely distributed to FWLM units even as we speak.

Unfortunately, limited supplies of construction materials, the high costs of producing advanced components and the simple lack of adequate data have hobbled our more ambitious projects. At the NAIS, for example, we have produced prototypes of new weapons and armor systems, as well as an enhanced BattleMech chassis. Though our computer models tell us that these designs should work, they still fail crucial tests. In other cases, we manage to replicate Clan weapons but simply lack the knowledge and resources to mass-produce them—a consideration often lost on the rank-and-file soldiers and holovid reporters. Sure, the boys in laser weapons can make a perfect copy of a Clan-tech extended-range large laser, but each laser must be made by hand from materials rare even on New Avalon. Consequently, each such laser would cost as much as an entire lance of BattleMechs.

Rest assured, we at the NAIS will continue to push the envelope of technology, as will our colleagues in design labs across the Inner Sphere. This report illustrates the progress we have already achieved in this endeavor and the likely directions of future work. Some day, the advanced components described here may reach our boys in the field. Until then, they will have to get by with what they've got—and the promise of a brighter tomorrow.

—Excerpted from an address delivered by Dr. Gerhardt Marks, NAIS Research Coordinator, to the Interstellar Symposium on Military Technology, New Avalon, 4 March 3059

INTRODUCTION

Most people who play games eventually add unique twists of their own to the rules provided in the games they play. Players have been adding such "home rules" to *BattleTech* for years, mostly to handle situations that the rules in the *BattleTech Master Rules (BMR)* don't cover. After so many years of clarifying and expanding existing *BattleTech* rules, we at FASA decided to try our hand at creating a few home rules of our own.

Maximum Tech is the result of that effort. *Maximum Tech* is an advanced rulebook that provides a wealth of optional new rules for players who want more out of *BattleTech*: more realism, more weapons, more detail, and—most important—more fun!

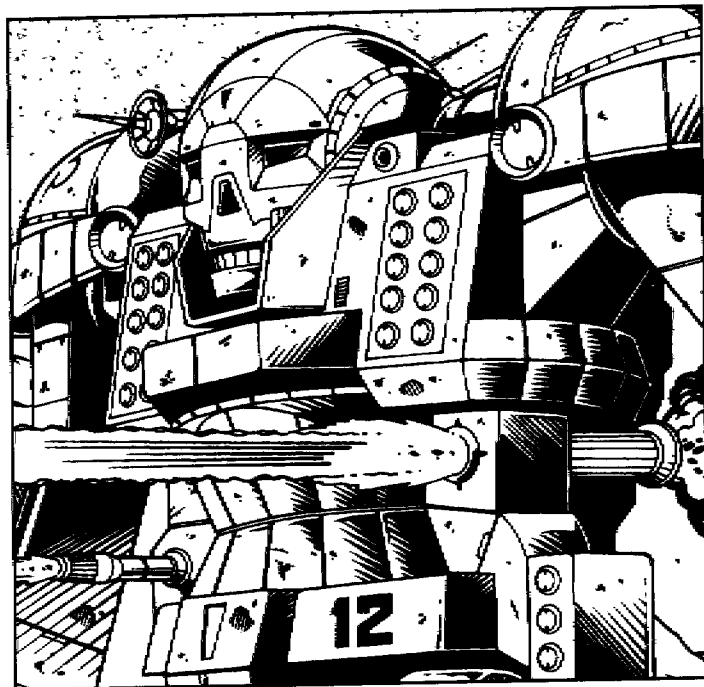
Much of the material in *Maximum Tech* was inspired by correspondence we received from our players. You asked for expanded terrain rules, so here they are. You asked for more vehicle and infantry rules, and here they are. We couldn't use every suggestion, but we're confident that *Maximum Tech* provides what the majority of correspondents said they wanted in an advanced rules supplement.

You asked for it, and you've got it. Enjoy!

HOW TO USE THIS BOOK

All the rules in *Maximum Tech* are optional. This means that you can use as many or as few of the rules in this book as you want. (In fact, this book contains so many new rules that we recommend you try them out a few at a time, rather than trying to use them all at the same time.) Furthermore, most of the new rules and equipment here can be added individually to a standard game. You can add rules and pieces of equipment to your game one at a time—most of the rules do not rely on other rules in this book to work in existing *BattleTech* games. This allows you to tailor your *BattleTech* game to your taste by including only those rules that you find make the game more interesting or fun. Use whatever new rules and equipment you want and disregard the rest. It won't hurt to repeat ourselves: all the rules in *Maximum Tech* are optional.

The rules and equipment in *Maximum Tech* are divided into the same general categories and presented in the same order as the rules and equipment in the *BattleTech Master Rules*. The *Terrain and Movement* section provides additional terrain types and expanded movement rules. *Combat* presents a variety of new rules for making physical and weapons attacks. The *Vehicles* and *Infantry* sections expand the standard vehicle and infantry rules to make those types of *BattleTech* units more effective and realistic. *Miscellaneous Rules* presents expanded rules for buildings, structures and artillery and a variety of other new rules. *Construction* and *Equipment* contain extensive lists of new weapons and components for BattleMechs and vehicles, followed by a C-bill Costs list. The last section, *Level 3 Battle Values*, provides rules for using the new weapons and equipment in *Maximum Tech* with the Battle Value system. The tables at the end of *Maximum Tech* list the battle values of all previously published 'Mechs and vehicles, reference tables and new record sheets for the new weapons and rules.



It is important to note that, in addition to a wide variety of new rules and equipment, *Maximum Tech* includes much of the material first presented in the out-of-print *Tactical Handbook*, though this material has been revised to improve playability and game balance. Certain material from the *Handbook*, notably rules for Land-Air 'Mechs (LAMs) and the Operational Game, is not included in *Maximum Tech* for various reasons. We may revise this material and include it in future *BattleTech* products as appropriate. Players who prefer the rules and equipment as presented in the *Tactical Handbook* should feel free to continue to use those rules as written.

LEVELS OF BATTLETECH

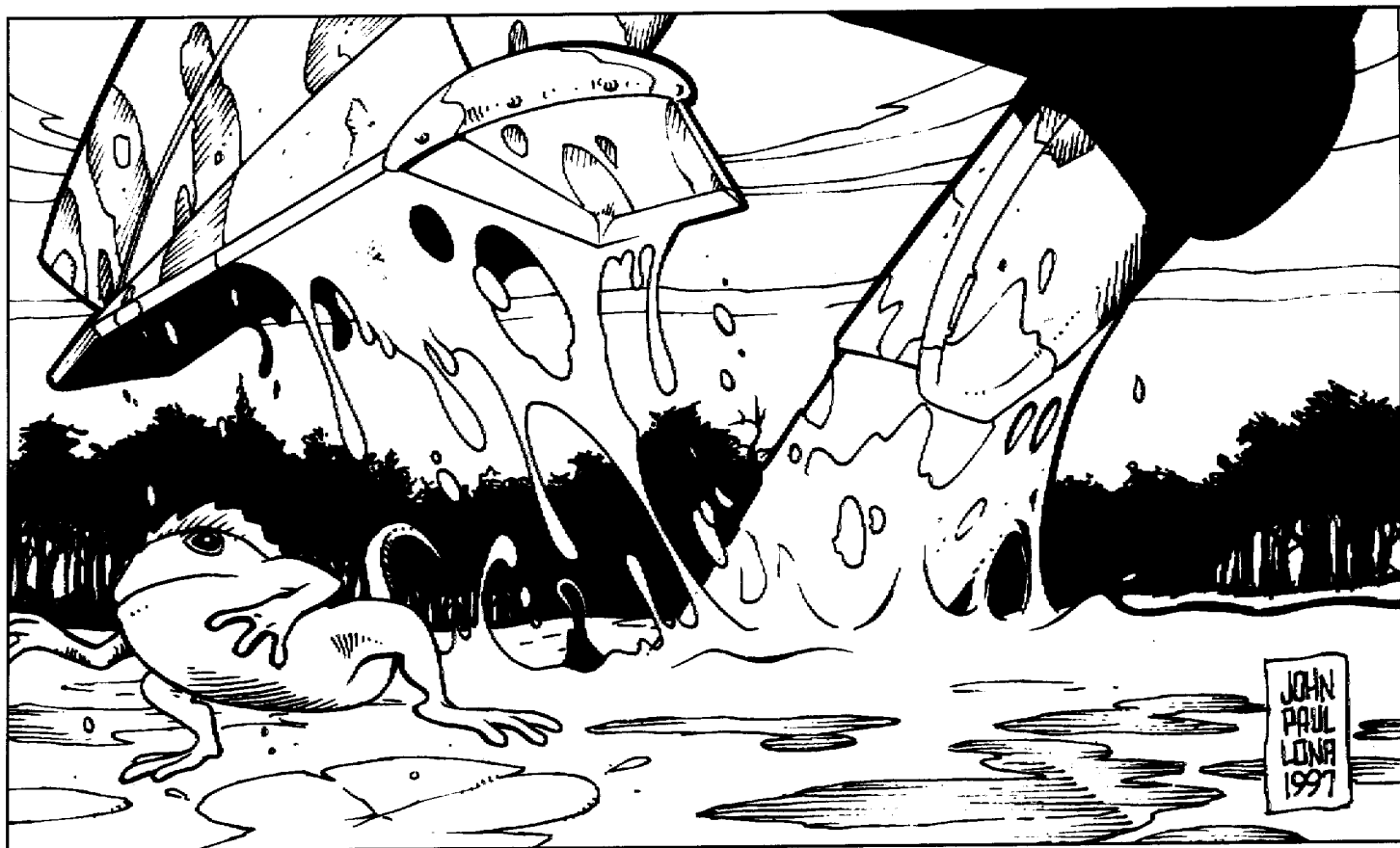
All *BattleTech* rules now carry a Level One, Level Two, or Level Three designation. Level One *BattleTech* rules represent the basic level of play described in *BattleTech, Fourth Edition*, and use the technology available in 3025, including all 'Mechs and weapons described in *Technical Readout 3025*.

Level Two *BattleTech* expands on the Level One rules by adding the advanced technology of the Clans and additional rules for infantry, vehicles and so on. These rules are those used in most *BattleTech* tournaments and MechForce-level competition. Level Two *BattleTech* is defined by the rules contained in the *BMR* and any rules designated as Level Two in any future *BattleTech* publications.

Level Three *BattleTech* play may include any of the optional rules presented in various *BattleTech* products, as well as in the various MechForce publications worldwide. These rules are always identified as Level Three. Players may use Level Three rules as they see fit. Generally, Level Three rules are not used in tournament play.

All the rules, weapons and equipment in *Maximum Tech* are Level Three unless otherwise noted.

TERRAIN AND MOVEMENT



Maneuvering BattleMechs and vehicles on the battlefield is perhaps the single most important tactical consideration in *BattleTech*. In many *BattleTech* games, as throughout the history of warfare itself, skillful maneuvering has often been the key to victory. In *BattleTech*, all maneuvering is governed by movement rules that simulate the effects of terrain and weather conditions, the capabilities and condition of individual 'Mechs and vehicles, and other factors that affect the ability of a unit to move in battle.

This section provides optional terrain and movement rules to provide greater complexity to *BattleTech* games. The section is divided into four main parts: *Expanded Terrain and Weather Rules* features rules for conducting battles in a variety of new terrain and weather conditions; *Movement Modes* provides two new movement modes for *BattleTech* play; *Skidding* expands the basic skidding rules; and *Piloting Skill Rolls* offers new uses for Piloting Skill Rolls.

EXPANDED TERRAIN AND WEATHER RULES

The basic *BattleTech* terrain rules cover a small variety of terrain types that can be used to simulate most battlefield conditions. The following rules, which expand the terrain rules in

BMR, are designed to accurately simulate more exotic terrain and weather conditions not specifically covered in the basic rules.

The Expanded Movement Cost and Terrain Table summarizes the Movement costs, Piloting Skill Roll modifiers and to-hit modifiers for each new terrain type and weather condition, as well as terrain types and weather conditions covered in the basic rules.

The table's Prohibited Units column lists the types of units prohibited from entering each terrain or prohibited from functioning under a particular weather condition. When referring to these units, the term "ground" denotes wheeled, tracked and hover vehicles. It does not include infantry or BattleMechs.

The Piloting modifiers listed in the table apply to any Piloting Skill Roll a character makes while operating within the specific terrain or weather condition. The terrain-rule descriptions that follow the table explain any required Piloting Skill Rolls for each new terrain and weather condition. Do not assume that a Piloting Skill Roll is required to enter a particular terrain simply because a Piloting modifier is listed for the terrain.

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EXPANDED MOVEMENT COST AND TERRAIN TABLE

Base Terrain	MP Cost per Hex	To-Hit Modifier	Piloting Modifier	Prohibited Units
Building, Light	2*A	0	0	Naval
Building, Medium	3*A	0	0	Naval
Building, Heavy	4*A	0	0	Naval
Building, Hardened	5*A	0	0	Naval
Clear	1	0	0	Naval
Jungle, Light	3	+1	+1	Ground, Naval
Jungle, Heavy	4	+2	+2	Ground, Naval
Jungle, Ultra-heavy	5	+3**	+3	BattleMech, Ground, Naval
Magma Crust	1**	0	+1**	Wheeled, Infantry, Naval
Magma, Liquid	2**B	0	+4**	All except VTOLs and BattleMechs
Paved	1C	0	0	Naval
Tundra	1B	0	+1	Naval
Rough	2	0	0	Wheeled, Naval
Sand	1/2**	0	+1	Naval
Water, Depth 0	1*	0	0	Naval
Water, Depth 1	2*D	0*	0*	Infantry, Ground ^E
Water, Depth 2	4*D	0	0*	Infantry, Ground ^E
Water, Depth 3+	4*D	0	0*	Infantry, Ground ^E
Woods, Light	2	+1	0	Wheeled, Hover, Naval
Woods, Heavy	3	+2	0	Ground, Naval
Woods, Ultra-heavy	4	+3**	0	BattleMech, Ground, Naval
Terrain Condition	MP Cost per Hex	To-Hit Modifier	Piloting Modifier	Prohibited Units (includes restrictions for underlying terrain)
Deep Snow	+1B ^F	0	+1	Wheeled
Geyser	+1**	+2**	+1**	Wheeled, Infantry**
Ice	+1*CFG	0	+4*	—*
Mud	+1B ^F	0	+1	—
Rapids ^F	+1	0	+2	—
Road/Bridge*	1H ^C	0	0	—
Rubble	+1C	0	0	Wheeled
Swamp	+1*BF	0	0	—
Weather Conditions	MP Cost per Hex	To-Hit Modifier	Piloting Modifier	
Blizzard	0	+2 ballistic weapons ^I , +1 all other weapons	+1**J	
Blowing Sand	0	+1 ballistic weapons ^I , +2 all other weapons	0	
Dusk	0	+1	0	
Earthquake	0	**	**	
Fire ^K	0 ^K	0	0	
Fog	+2G	+1 energy weapons ^L	—J	
Gravity	*	*	*	
Night	0	+2	0	
Rainfall, Light	0	+1	0	
Rainfall, Heavy	0	+1	+1	
Smoke ^K	0	+2	0	
Snowfall	0	+1	+1	
Winds, Moderate	0	+1 ballistic weapons**I	0**	
Winds, High	0	+2 ballistic weapons**J	+2**	

TERRAIN AND MOVEMENT

EXPANDED MOVEMENT COSTS AND TERRAIN TABLE KEY

Notes

* See special rules in BMR.

** See special rules below.

A Piloting Skill Roll required to prevent damage. Infantry units pay only 1 MP to enter or leave any building.

B Units entering this terrain may get stuck. See *Bog Down*, p. 12.

C Skidding rules apply (see p. 21, BMR).

D Piloting Skill Roll required to prevent falling.

E Hovercraft may enter all Water hexes.

F These terrain modifiers do not apply to hovercraft.

G Does not apply to infantry units. A non-infantry unit entering this terrain may choose to ignore the additional MP cost. However, the unit may fall or crash as a result (see *Careful Movement*, p. 12).

H If traveling along road; otherwise, cost of underlying terrain.

I Including all artillery weapons, autocannon, flammers, Gauss rifles, machine guns, missile launchers and Narc pods.

J Poor visibility. Units jumping into Woods hexes must make Piloting Skill Rolls. Apply a +1 modifier if the target hex is Heavy Woods. Failure results in a fall in the target hex from a height of 1 level.

K See also Fire (pp. 74–75, BMR).

L Including all lasers and PPCs.

BASE TERRAIN

Base terrain is the underlying terrain of a battlefield. Every hex on every map consists of one of the following base terrain types: Buildings, Clear, Paved, Rough, Water and Woods (Light and Heavy). Rules for these terrain types appear on pages 10–12 and 25–27 of *BMR*.

NEW TERRAIN TYPES

The new terrain types introduced in the Expanded Movement Cost and Terrain Table are Jungle (Light, Heavy, Ultra-heavy), Magma (Crust and Liquid), Ultra-heavy Woods, Tundra and Sand.

Jungle

Jungle terrain contains thick trees and shrubs, hanging vines and dense undergrowth that makes movement extremely slow and difficult.

Apply the modifiers shown on the Expanded Movement Cost and Terrain Table for movement through Jungle hexes. Jungle hexes affect line of sight and weapons fire in the same manner as Woods hexes (see pp. 11, 26, *BMR*).

Additionally, players may clear Jungle hexes. Use the Clearing Woods rule (p. 72, *BMR*) with the following modification: one successful clearing attack converts Ultra-heavy Jungle to Heavy Jungle, and a second successful attack reduces it to Light Jungle. Clearing Light Jungle converts the hex to Rough terrain.

Magma

Volcanic activity can create swiftly moving rivers and lakes of molten rock, or magma, on a planetary surface. As magma cools, it forms a solid-surface crust that can usually support the weight of BattleMechs. However, the intense heat of magma crust prevents infantry and wheeled vehicles from entering such terrain.

The strength of magma crust is hard to predict, so any time a unit enters a Magma Crust hex, the controlling player must roll 1D6. On a result of 6, the crust breaks and the unit falls through. All units that fall into Liquid Magma—except for BattleMechs—are automatically destroyed. (VTOLs and hovercraft are exempt from this risk.) Additionally, any player whose BattleMech unit jumps or crashes into a Magma Crust hex must make a Piloting Skill Roll to determine if his unit becomes bogged down in the hex (see *Bog Down*, p. 12).

BattleMechs that start their movement in or pass through liquid magma during a Movement Phase take 2D6 points of damage to each exposed location upon entering the magma. If the 'Mech is moving normally, its legs constitute its exposed locations; if the 'Mech falls, all of its locations are exposed. Make separate Damage Rolls for each exposed location. A unit that starts and ends a Movement Phase in a Liquid Magma hex takes an additional 2D6 points of damage to its exposed locations.

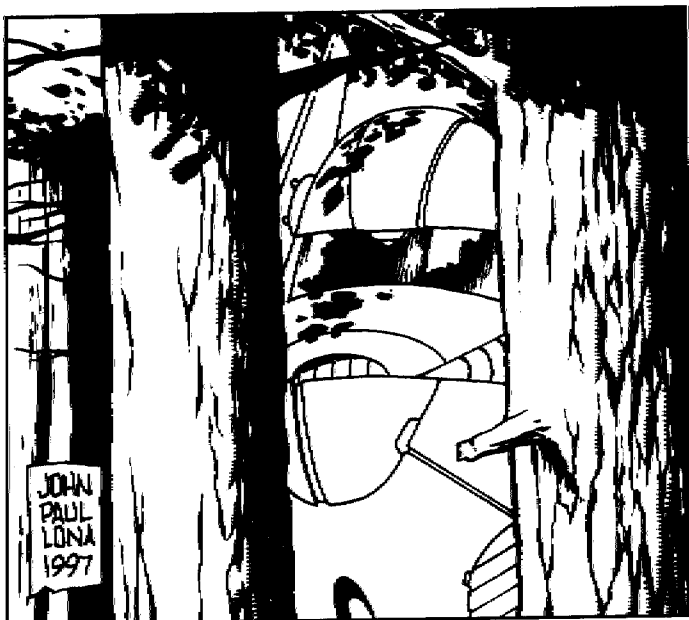
Magma hexes also increase the heat levels of BattleMechs moving into or crossing them. A 'Mech occupying a Magma Crust hex generates an additional 5 Heat Points per turn; a 'Mech occupying a Liquid Magma hex generates an additional 10 Heat Points per turn. Moving out of a Magma Crust hex generates 2 Heat Points; moving out of a Liquid Magma hex generates 5 Heat Points (see *Heat Scale Modifiers*, p. 12). All magma-related heat increases are applied during the Heat Phase of a turn.

For Movement costs of magma hexes, see the Expanded Movement Cost and Terrain Table.

Ultra-Heavy Woods

Ultra-heavy woods contain huge trees that grow very close together, like the massive old-growth forests found on Terra in the pre-industrial age. In game terms, Ultra-heavy Woods is a new type of terrain even heavier than Heavy Woods.

TERRAIN AND MOVEMENT



Ultra-heavy Woods are impassable to most ground units, including BattleMechs. The Expanded Movement Cost and Terrain Table lists the MP costs and other modifiers for Ultra-heavy Woods. For purposes of determining line of sight, Ultra-heavy Woods rise 3 levels above the underlying terrain. A single Ultra-heavy Woods hex lying between an attacking unit and its prospective target will block line of sight. Attacks against a target that occupies an Ultra-heavy Woods hex suffer a +3 to-hit modifier.

When using the Clearing Woods special-case rule (p. 72, *BMR*), a single successful clearing attack converts Ultra-heavy Woods to Heavy Woods, effectively reducing the height of the hex's trees to 2 levels above the underlying terrain.

Apply a +4 modifier to the Piloting Skill Roll required for ejecting in Woods hexes (pp. 73–74, *BMR*).

Tundra

Tundra consists of a layer of black, mucky soil over permafrost. The hardy grasses and lichens that grow profusely on tundra give it the appearance of a grassy glade but can make Tundra hexes slippery and treacherous as well. Therefore, units entering Tundra hexes run the risk of bogging down (see *Bog Down* rules, p. 12).

The Tundra modifiers listed in the expanded table may also be used for movement in moorlands, bogs and quicksand.

Sand

Sand terrain simulates the deep, shifting sands common to deserts and beaches throughout known space. Maintaining steady footing on sand is difficult, so any Piloting Skill Roll made in such terrain receives a +1 modifier.

The Expanded Movement Cost and Terrain Table lists two MP costs for sand. The 1-MP cost applies to all units except wheeled vehicles and infantry; the 2-MP cost applies to wheeled

vehicles and infantry units. Jump infantry can avoid the increased MP cost by using their Jump MP, however, and wheeled vehicles can be modified to move in sand at their normal rates (see *Dune Buggies*, p. 68).

TERRAIN CONDITIONS

Terrain conditions represent changes to a given hex's terrain caused by weather, specific geologic conditions or human intervention.

Modifiers and unit prohibitions imposed by terrain conditions are added to modifiers and unit prohibitions imposed by the underlying terrain. For example, a Heavy Woods hex that is also muddy would impose an MP cost of 4 per hex (3 for Heavy Woods + 1 for Mud). Shots directed into or through such a hex would take a To-Hit Modifier of 2 (the standard to-hit modifier for Heavy Woods), and any Piloting Skill Roll made in the hex would take a +1 modifier (the standard Piloting modifier for Mud conditions). Additionally, units moving in the hex would be subject to bogging down, and ground and naval units could not enter the hex.

If no underlying terrain is specified for a particular hex, assume the underlying terrain is Clear.

Road/Bridge, Rubble and Swamp represent terrain conditions. Rules for these conditions appear in *BMR* (for Road/Bridge and Rubble, see pp. 11–12; for Swamp, see p. 79). The following entries describe rules for new terrain conditions.

Deep Snow

Deep Snow rules apply to areas covered with loose snow that is more than a meter deep. Lesser accumulations of snow have no measurable effect on battlefield units. Deep Snow imposes a +1 MP cost per hex and a +1 modifier to all Piloting Skill Rolls; additionally, units entering deep snow may bog down (see *Bog Down*, p. 12).

Unless the underlying terrain is specified in the scenario rules, the gamemaster may treat hard-packed snow as Ice or Clear terrain.

Geyser

On some planets, geologic activity creates geysers and mud spouts that can erupt without warning. Often, the only clues to a geyser's presence are small holes or cracks in the ground—clues that are easily overlooked by troops in combat. When a geyser erupts, it spews steam and water into the air, obscuring line of sight and making movement through the terrain more difficult.

Before beginning the game, geysers can be placed on the map in set locations; if a gamemaster is overseeing play, he can secretly select the geyser sites and conceal their locations from the players. In any case, a geyser has no effect on the underlying terrain until it erupts.

To reflect the unpredictable nature of geysers, the gamemaster or players determine geyser activity by rolling 1D6 for each geyser on the map during the End Phase of each turn. On a result of 1, the geyser erupts, creating the effect listed on

TERRAIN AND MOVEMENT

the Expanded Movement Cost and Terrain Table. Treat the erupting geyser as Heavy Woods for the purpose of determining line of sight into or through the hex.

To determine how many turns a geyser eruption lasts, roll 1D6. By keeping the duration secret from the players, a gamemaster can prevent the players from predicting when the effects will end.

Geyser rules can also be used to simulate the effects of small magma eruptions on volcanic planets. In such cases, any unit that enters or stands in a hex where a magma eruption occurs suffers the same effects as if it had fallen into liquid magma (see *Magma*, p. 9). After the eruption, treat the hex as Liquid Magma for the remainder of the game.

Ice

Standard rules for Ice appear on page 78, *BMR*. To increase the challenge of fighting on ice, use the following optional rule modification. Under this option, add a +4 modifier to any Piloting Skill Rolls made on ice, and units must spend extra MP when moving across Ice hexes or risk falling (see *Careful Movement*, p. 12).

Mud

Slick, sticky mud can make any terrain dangerous. The optional Mud rules in this section apply only to mud less than a meter deep; for deeper mud, use standard *BattleTech* rules for Swamp terrain.

Under the optional Mud rules, any unit moving into or through a Mud hex incurs a +1 MP cost per hex. Additionally, any Piloting Skill Roll made in a Mud hex receives a +1 modifier. At the gamemaster's discretion, particularly deep Mud hexes may cause units to bog down (see *Bog Down*, p. 12).

Rapids

Swiftly moving currents make traversing water even more difficult and dangerous than usual. To reflect this, Rapids impose a +1 MP cost per hex and a +2 modifier to all Piloting Skill Rolls.

WEATHER CONDITIONS

Weather conditions include weather and other environmental conditions such as light and smoke. Weather conditions may prevail across the entire playing area or only in certain hexes.

Fire, high and low gravity, and night are examples of weather conditions covered in the standard *BattleTech* rules. (Rules for these conditions appear in *BMR*. For gravity rules, see pp. 78–79; for fire rules, pp. 12, 74–75; and for night rules, p. 81.) The Expanded Movement Cost and Terrain Table, p. 8, lists changes to the standard rules for some of these conditions; otherwise, standard rules apply. The following entries provide optional rules for new weather conditions.

Blizzard

Heavy snowfall combined with high winds creates blizzard conditions, which make accurate targeting extremely difficult. To

reflect this, blizzard conditions impose a +2 to-hit modifier to ballistic weapons attacks and a +1 to-hit modifier to all other weapons attacks. Additionally, all Piloting Skill Rolls receive a +1 modifier.

Blizzard conditions also affect rolls on the Missile Hit Table in the same way as high winds (see *Winds*, p. 12). Hovercraft are subject to skidding in all types of terrain during a blizzard.

Blowing Sand

Under windy conditions, airborne sand or dust can obscure vision and make accurate weapons fire difficult. Additionally, sand and dust particles diffuse energy-weapon fire and render these weapons ineffective. To reflect these effects, apply a +1 to-hit modifier to any to-hit test for ballistic weapons and a +2 to-hit modifier to all other Weapons Tests.

Dusk/Dawn

In the half-light of dusk and dawn, units receive a +1 to-hit modifier. Note that searchlights do not offset this penalty.

Earthquake

Many planets in the *BattleTech* universe are subject to frequent earthquakes that can hinder the mobility of *BattleMechs* and cause targeting difficulties for all units.

When using the optional earthquake rules, assign a strength value to the tremor, ranging from +1 (mild) to +5 (severe). Apply this value as a to-hit modifier to any Weapons Tests made during the same turn as the tremor. Additionally, players must make a Piloting Skill Roll for each standing *BattleMech* they control at the start of each Movement Phase during the tremor. Apply a Piloting modifier equal to the strength of the tremor. If the Piloting Skill Roll fails, the 'Mech falls and takes damage per standard rules. If the Piloting Skill Roll result equals 2, a fissure may open up beneath that 'Mech. Make a second roll and check the Basements Table (p. 52, *BMR*) to determine if a fissure opens and the depth of the fissure. The 'Mech will fall into the fissure the same way it would fall into a basement. Treat the fissure as a permanent map feature for the remainder of the scenario.

For four-legged 'Mechs, the Piloting modifier equals half the strength value of the tremor (their extra legs provide improved stability). The standard –2 modifier for four-legged 'Mechs applies as well (pp. 75–77, *BMR*).

Fog

Thick fog greatly reduces visibility on the battlefield and forces units to move carefully to avoid crashing. Therefore, fog imposes a +2 MP cost per hex and a +1 to-hit modifier to energy-weapons fire. For additional fog rules, see *Careful Movement*, p. 12.

Heavy Snowfall

Normally, falling snow has little effect on *BattleTech* combat. Heavy snowfall, however, imposes a +1 to-hit modifier to all weapons fire and a +1 modifier to all Piloting Skill Rolls. Heavy snowfall also reduces heat build-up, as noted on the Expanded

TERRAIN AND MOVEMENT

Heat Point Table, p. 13. When combined with high winds, heavy snowfall creates blizzard conditions (see *Blizzard*, p. 11, for applicable rules).

Rainfall

Rain obscures vision, so apply a +1 to-hit modifier to all weapons fire made in rainfall. Additionally, heavy rainfall makes the ground wet and slippery and imposes a +1 modifier to all Piloting Skill Rolls. Rainfall can also reduce the heat generated by a BattleMech, as noted in the Expanded Heat Point Table, p. 13.

Winds

Windy conditions reduce the effectiveness of ballistic weapons and the accuracy of missile attacks. Moderate winds impose a +1 to-hit modifier on ballistic-weapons fire. High winds impose a +2 to-hit modifier, as well as a +2 modifier to all Piloting Skill Rolls. When rolling on the Missile Hits Table, subtract 2 from the die roll for attacks in moderate winds and subtract 4 for attacks in heavy winds. On a modified result of less than 2, the missile attack misses the target.

Hovercraft operating in high winds are subject to skidding in all terrain (see *Skidding*, pp. 21–22, *BMR*).

BOG DOWN

Some types of terrain slow units down and may even cause them to get stuck. To simulate these effects, use the standard rules for Swamp terrain (p. 79, *BMR*), with the following modifications.

Liquid Magma hexes follow standard Swamp rules for getting stuck.

For Tundra, Magma Crust, Deep Snow and Mud hexes, apply a –1 modifier to the Piloting Skill Roll to determine whether a unit entering such terrain becomes stuck. Apply the same modifier to Piloting Skill Rolls made to free a stuck unit. For example, an undamaged BattleMech piloted by a Regular MechWarrior would need a Piloting Skill Roll of 4 or better to avoid getting stuck.

Similarly, apply a –1 modifier to Piloting Skill Rolls in these types of terrain.

Jump-capable units that use Walking or Running movement to enter Tundra, Magma Crust, Deep Snow or Mud may become stuck, but such units can free themselves in subsequent Movement Phases by simply jumping out of the terrain.

CAREFUL MOVEMENT

The increased MP cost of entering hexes enveloped by thick fog or covered with ice represents the extra caution needed to avoid tripping, falling or crashing in such conditions. By paying the increased Movement cost, units can cross such dangerous terrain without mishap.

Alternatively, players who do not wish to pay this cost can announce their intention to pass through the terrain at full speed before moving their units. After the unit moves 1 hex, the player must make a Piloting Skill Roll.

If the unit is a BattleMech and the roll fails, the 'Mech immediately falls and must stand up per standard rules before continuing its movement. If the roll succeeds, the 'Mech remains upright and the unit may move per standard rules. However, the player must make an additional Piloting Skill Roll for each non-Clear hex and elevation change through which the unit passes.

If the unit is a vehicle and the roll fails, the effects depend on the specific terrain and conditions. On icy terrain, the vehicle skids (see *Skidding*, p. 14). Unless it is in Clear terrain, if the roll fails in thick fog, the vehicle crashes. In Clear terrain, the vehicle hits a hole or other minor obstruction that costs the unit 1 additional MP. In all other terrain, the crash ends the vehicle's movement, and the vehicle sustains damage to its Front side as if it had charged.

If both thick fog and ice are present, the total MP increase per hex is +2, because the fog's effect on visibility is assumed to present the greater obstacle to safe movement. All other standard rules for ice apply, regardless of unit type (see p. 78, *BMR*).

HIGH/LOW GRAVITY

Generally, most *BattleTech* scenarios are assumed to take place under gravitational conditions identical to those on Earth. However, the optional High/Low Gravity rules (pp. 78–79, *BMR*) enable players to simulate the special challenges of maneuvering and fighting under non-standard gravitational conditions. Those rules focus on special movement considerations in such conditions. The optional Weapon Calibration rules simulate the special gunnery considerations of combat in high- and low-gravity environments.

Weapon Calibration

Besides affecting the movement of 'Mechs and vehicles, gravity affects the trajectory of all ballistic weapons. In high-gravity conditions, shells and missiles fly shorter distances. In low-gravity conditions, the same projectiles will fly farther than they usually do. Typically, technicians calibrate 'Mech targeting systems before battle to compensate for such gravitational variances, so a MechWarrior need not concern himself with these conditions.

Occasionally, weapons are not calibrated when they should be or are miscalibrated. Any MechWarrior with above-average Gunnery Skill can compensate for such problems, but any to-hit roll for a miscalibrated weapon suffers a +2 to-hit modifier.

If weapon calibrations are not specified in the rules of a scenario being played, the gamemaster may determine them. Keep in mind that all weapons, regardless of their calibration, fire accurately in zero-gravity conditions. Furthermore, energy weapons are not influenced by gravity, so they do not require calibration.

HEAT SCALE MODIFIERS

Different terrain and weather conditions may also affect how quickly a BattleMech generates internal heat. The Expanded Heat Point Table lists the number of Heat Points generated by different terrain and weather conditions, as well as the Heat Points generated by various activities and damage. (For a full description of *BattleTech* heat rules, see pp. 46–48, *BMR*.)

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EXPANDED HEAT POINT TABLE

Activity/Condition	Modifier
Walking	+1 per turn
Running/Evading	+2 per turn
Sprinting	+3 per turn
Jumping	+1 per hex (minimum of 3 per turn)
Standing Up	+1 per attempt
Weapons Fire	See Weapons and Equipment Tables (pp. 115-117, <i>BMR</i>)
Heat Sinks	-1 per operational heat sink -1 additional per heat sink under water (6 HP maximum)
Double Heat Sinks	-2 per operational double heat sink -2 additional per double heat sink under water (6 HP maximum)
First Engine Hit	+5 per turn
Second Engine Hit	+10 (total) per turn
Low Temperature	-1 per turn per 10°C below -30°C
High Temperature	+1 per turn per 10°C above 50°C
Snowfall/Light Rainfall	-1 per turn
Blizzard/Heavy Rainfall	-2 per turn
Deep Snow	-1 per turn if 'Mech has at least 1 operational leg-mounted heat sink
Fire/Magma Crust	+5 if occupied during Heat Phase +2 per each hex exited during Movement Phase
Magma, Liquid	+10 if occupied during Heat Phase +5 per each hex exited during Movement Phase

MOVEMENT MODES

This section includes rules for two new movement modes, Sprinting and Evading, as well as optional rules for moving backward, climbing and jumping.

SPRINTING

A 'Mech's Sprinting MP is twice its current Walking/Cruising MP. Sprinting generates 3 Heat Points per turn.

Because keeping a 'Mech safely moving at such high speeds requires a MechWarrior's total concentration, a 'Mech that Sprints during the Movement Phase of a turn may not make any attacks during the remainder of the turn. Additionally, the 'Mech may not spot for indirect LRM fire or take any other action that would normally require it to sacrifice an attack. A Sprinting unit may not move backward or enter Water hexes of Depth 1 or deeper. Finally, any Piloting Skill Roll made for a Sprinting unit suffers a +2 modifier.

A MechWarrior in a Sprinting unit has little spare attention to devote to avoiding enemy attacks, so any attack against a Sprinting unit receives a -1 to-hit modifier. However, the standard target-movement modifier applies (see pp. 29-30, *BMR*).

A 'Mech equipped with MASC or a supercharger (see p. 84) may engage either system and Sprint during the same turn. Doing so gives a 'Mech MP equal to its current Walking/Cruising MP multiplied by 2.5. However, any unit that tries to Sprint and use MASC must make a successful Piloting Skill Roll (with the +2 modifier for Sprinting) to avoid falling. If the roll fails, the 'Mech falls down without moving.

A 'Mech equipped with both MASC and a supercharger may also engage both systems in the same turn and Sprint. Doing so

gives a 'Mech MP equal to its current Walking MP multiplied by 3, but this maneuver is quite risky. The unit must make a Piloting Skill Roll as described above, and the chances of both systems breaking down increase (see p. 84).

EVADING

Evading movement enables a unit to avoid enemy attacks.

A unit's Evading MP equals its Running/Flank MP, and any attack against an Evading unit suffers a +1 to-hit modifier, in addition to any other applicable modifiers. An Evading unit generates 2 Heat Points per turn and may not make any attack during the turn it used Evading movement.

To use Evading movement,

a BattleMech must have two working hip actuators. Also, a prone 'Mech receives no benefit from Evading movement, even if it started the Movement Phase using Evading movement. For example, if an Evading 'Mech fails a Piloting Skill Roll during the Movement Phase of a turn, it does not receive the +1 to-hit modifier during the Weapon Attack and Physical Attack Phases of that turn.

Skilled Evading

Under the Skilled Evading option, the to-hit modifier gained from Evading movement is based on the MechWarrior's Piloting Skill, as shown in the Skilled Evading Table.

SKILLED EVADING TABLE

Piloting Skill	To-Hit Modifier for Evading
6 or greater	+1
4-5	+2
2-3	+3
0-1	+4

BACKWARD MOVEMENT

The Backward movement rule allows units to change elevation levels while moving backward.

Under this option, a backward-moving unit can change 1 elevation level per hex. The controlling player must make a successful Piloting Skill Roll each time the unit crosses an elevation line.

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'Mechs may not change elevations by more than 1 level while moving backward.

If the roll fails for a BattleMech, that 'Mech falls into the hex it was moving into or out of, whichever is lower.

If a vehicle's Piloting Skill Roll fails, the vehicle fails to cross the elevation line. It stays in its current hex and must spend 1 additional MP. The controlling player can continue to make Piloting (Driving) Skill Rolls to attempt the elevation change, but he must pay 1 extra MP each time the roll fails.

CLIMBING AND LEAPING

Under standard movement rules, 'Mechs must use jump jets to jump or drop more than 2 elevation levels. The optional Climbing and Leaping rules allow BattleMechs without jump jets to climb, leap or drop multiple elevation levels.

Climbing

The Climbing rules enable a BattleMech to enter a hex that is 3 or more levels higher or lower than the hex it occupies.

To attempt a climb, a BattleMech must have at least one undamaged hand actuator, and that hand must be "free" (not holding a hatchet, hand-held weapon or other object).

Only Walking MP can be used when climbing—running units cannot climb. Each elevation level changed in a climb costs 2 MP if the 'Mech has two undamaged hands, or 3 MP if the 'Mech has only one hand.

For each level climbed, the 'Mech's controlling player must make a Piloting Skill Roll. Apply a +2 modifier if the 'Mech has only one undamaged hand. If the roll fails, the 'Mech falls from a height equal to the last level it successfully reached.

In certain cases, a unit may attempt to climb a cliff so high that the climb requires several turns. In such cases, move the 'Mech into the lower of the two hexes at the end of each turn, turn it so that it faces the higher hex and note the 'Mech's elevation. The unit may continue its climb in the following turn or remain clinging to the cliff face.

While in the middle of a climb, a 'Mech may fire only rear-torso and rear-head mounted weapons; the unit cannot perform physical attacks. Apply a +1 modifier to any Piloting Skill Rolls the unit must make while climbing. If the unit has only one undamaged hand actuator, apply a +2 modifier. (These modifiers are added to any other applicable modifiers.)

When determining line of sight for a climbing unit, treat the 'Mech as if it were standing in the hex it occupies at its current climbing level, rather than the level of the hex. Climbing 'Mechs make relatively easy targets, so any attack against such units receives a -2 to-hit modifier.

Leaping

The Leaping rules enable BattleMechs to leap down more than 2 elevation levels, though doing so entails considerable risk of leg damage and falling.

Any leap down that covers more than 2 levels costs 4 MP, regardless of the number of levels leaped and of the terrain of the ending hex. Any leaping 'Mech must also make two Piloting

Skill Rolls: one to avoid leg damage and one to avoid falling. If both Piloting Skill Rolls succeed, the 'Mech may continue to move normally.

The first roll receives a modifier equal to the number of levels in the leap multiplied by 2. If the roll fails, each of the BattleMech's legs takes damage equal to the number of levels the unit leaped. The controlling player must roll once on the Determining Critical Hits Table (p. 35, *BMR*) for each leg. The player must roll twice if a leg's internal structure is damaged in the leap.

Add a modifier to the second Piloting Skill Roll equal to the number of levels the 'Mech leaped. If this roll fails, the 'Mech falls the number of levels it attempted to leap and lands in the lower hex. Determine falling damage per standard rules.

Note that a 'Mech may suffer leg damage and falling damage if it fails both rolls.

Dangle-and-Drop

The "dangle-and-drop" maneuver is a safer but slower way of dropping down multiple levels.

To use the dangle-and-drop procedure, a 'Mech must have two undamaged hand actuators. The 'Mech spends an entire Movement Phase crawling down, dangling from the cliff by its hands. (This places its legs 2 levels closer to the ground than they would be if it leaped down.) Move the 'Mech into the lower hex and turn it so that it faces the higher hex; calculate its elevation as if it were standing in a hex with an elevation 2 levels lower than the higher hex. For the remainder of the turn, treat it as a 'Mech that is in the middle of a climb (see *Climbing*).

In the following Movement Phase, the 'Mech may either continue to dangle, or drop to the ground at a cost of 4 MP. As with leaping, the controlling player must make two Piloting Skill Rolls to avoid leg damage and falling. When determining the Piloting Skill modifiers and damage, reduce by 2 the number of levels traveled.

SKIDDING

The following rules modify the Skidding rules found on pages 21–22 of *BMR*. These optional modifications make for more realistic play, but they are a bit more complicated. Follow the standard rules for skidding unless specifically noted below.

Generally, a 'Mech running on road or pavement may make a single facing change at the end of its movement without risk of skidding. However, a unit may skid if it continues to move after making a facing change or makes two or more facing changes in a row.

To determine if a unit skids, first trace the path of the unit's entire intended movement and place a die or other marker in each hex where a potential skid may occur. Then count how many hexes the unit covers during its entire movement. Use this number to determine the modifier for the Piloting Skill Rolls made to avoid skidding (see the Skid Modifier Table, p. 21, *BMR*). Use this modifier for all the required rolls. (Note that this differs from the standard skidding rules, under which each roll receives a modifier based on the hexes moved prior to the facing change.)

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Next, the controlling player makes a Piloting Skill Roll with the appropriate skid modifier for each hex where a skid may occur, starting with the earliest possible hex in its movement. If all the Piloting Skill Rolls succeed, place the 'Mech in the ending hex of its intended movement.

If a Piloting Skill Roll fails, the 'Mech falls and skids. Place the 'Mech in the hex where the failed roll occurred. Place it with the appropriate facing, but do not move it or turn it according to the intended movement. Next, determine the length of the skid, which equals the remaining hexes in the intended move, divided by 2 and rounded down. If the result is 0 hexes, the unit simply falls in the hex it occupies and takes standard falling damage.

If the result is 1 or more hexes, the unit falls and then skids in the direction it was traveling before making the facing change that caused the skid. For each hex the 'Mech skids, it takes damage equal to its standard falling damage, divided by 2 and rounded up.

Regardless of the final result of the fall or skid, the unit's move ends and it may not spend any more MP in that Movement Phase.

VEHICLE SKIDDING

When a vehicle skids, it retains its facing (unless otherwise noted on the Failed Maneuver Table, p. 30). The distance and direction of the skid are determined per standard skidding rules. For each hex of the skid, roll once on the Motive System Damage Table (p. 32); add a +1 modifier if the unit is skidding over Rough terrain or Rubble. If the length of the skid is 0 hexes, roll once on the Motive System Damage Table.

If the vehicle skids into a building, resolve damage as if the vehicle charged the building (see p. 41, *BMR*). If the building is destroyed, the skid may continue per standard rules.

VTOLs take no damage from skids unless they collide with objects.

See Vehicle Maneuvering, p. 29, for more rules on vehicle skids.

Flipping Over

If the result on the Failed Maneuver Table (p. 30) calls for a vehicle to flip over, determine the direction and distance of the skid as described in the preceding paragraphs. Subtract 1 from the resulting distance to determine the length of the "flipping" skid.

For each hex of a flipping skid, the vehicle takes damage equal to its tonnage divided by 10 (rounded up). The vehicle takes damage on a different location for each hex it flips through.

The first hex of the flip damages the armor on the vehicle side facing the skid's direction. The second hex of the flip damages the turret armor if the vehicle has a turret (if the vehicle has two turrets, both turrets take full damage); if the vehicle has no turret, apply the third-hex damage instead. The third hex of the flip damages the vehicle side opposite the skid's direction. The controlling player must roll on the Motive System Damage Table and add 1 to the result to determine the damage from the fourth hex. If the flip continues past four hexes, repeat the sequence, starting with the vehicle side facing the skid's direction.

In addition to armor damage, roll once on the Vehicle Critical Hits Table (see Advanced Ground Vehicle Critical Hits Table, p. 32) for each side damaged. Make two rolls for a side if its armor is penetrated.

Finally, any vehicle that flips over takes a Crew Stunned critical hit that affects the vehicle for the remainder of the turn and all of the next turn.

SKIDS AND TERRAIN FEATURES

A skidding unit stops if it crashes into a hill with an elevation higher than the terrain level of the skid.

Woods hexes shorten the length of a skid but also inflict extra damage on a skidding unit. When determining the length of a skid, each Light Woods hex counts as 2 hexes of skid; each hex of Heavy Woods counts as 3 hexes of skid. For each Woods hex a skidding unit passes through, the unit takes damage equal to its full falling damage.

After moving 8 hexes, Joe's Grand Dragon loses its footing and slides into a skid. Normally, the 'Mech would skid for 4 hexes. However, the skid direction takes the Grand Dragon straight into an area of Light Woods hexes. Each Light Woods hex counts as 2 hexes of skid, so the 'Mech comes to rest after passing through 2 hexes. The unit takes damage equal to its falling damage multiplied by 2.

If a 'Mech skids into a building, resolve damage as if the unit charged the building (see pp. 41–42, *BMR*). When determining the damage, the "distance moved" equals the skid distance and does not include any movement prior to the skid. If the skidding 'Mech inflicts enough damage to destroy the building, the skid continues. Subtract 10 percent of the building's CF (rounded up) from the skid distance. If the result is greater than 0, the skid continues into the building's hex and beyond. If desired, check for a basement (see pp. 52–53, *BMR*).

If a unit skids into Depth 1 or deeper water, the skid immediately stops. Skid damage from the Water hex is reduced by half.

PILOTING SKILL ROLLS

Advanced players can use the following changes to standard Piloting Skill Roll modifiers to increase the realism of their game play. Note that these options apply to BattleMech units only.

TAKING DAMAGE

Any time a 'Mech takes 20 or more Damage Points in a single phase, its controlling player must make a Piloting Skill Roll to keep the BattleMech from falling. The roll receives a modifier based on the number of Damage Points taken during the phase and the BattleMech's weight class, as noted in the Piloting Skill Weight Class Modifiers Table. For every 20 Damage Points a unit takes, it receives a +1 modifier. For example, a unit that takes 40 to 59 Damage Points receives a +2 modifier, a unit that takes 60 to 79 Damage Points receives a +3 modifier, and so on. Weight class modifiers are listed in the Piloting Skill Weight Class Modifiers Table (see p. 16).

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PILOTING SKILL WEIGHT CLASS MODIFIERS TABLE

Weight Class	Modifier
Light (35 tons or less)	+1
Medium (40–55 tons)	+0
Heavy (60–75 tons)	–1
Assault (80–100 tons)	–2

KICKING AND PUSHING ATTACKS

Piloting Skill Rolls can also be required when resolving physical attacks. In this case, the controlling player of the targeted unit makes the test to keep his unit on its feet.

Apply modifiers based on the relative weight classes of the combatants, as shown in the Kicking and Pushing Modifiers Table. For example, if a light 'Mech kicked a heavy 'Mech, the heavy 'Mech would make a Piloting Skill Roll with a –2 modifier. If the heavy unit kicked back successfully, the light 'Mech would make its roll with a +2 modifier.

ATTEMPTING TO STAND

When a BattleMech attempts to stand, it uses its arms and legs to lift itself up. Therefore, missing or damaged arm actuators make standing up more difficult.

Players can simulate this condition by applying additional modifiers to the Piloting Skill Roll needed to stand a 'Mech up. Apply a +1 modifier for each arm that has actuator damage or is missing actuators. Apply a +2 modifier per arm if the arm is destroyed or the entire arm is missing. All other appropriate Piloting Skill modifiers apply as well.

Note that multiple damaged or missing actuators in the same arm do not produce cumulative modifiers. Thus, the maximum modifier for a damaged or destroyed arm is +2.

Careful Stand

If a 'Mech takes its time, it can improve its chances of standing up successfully. Rather than simply spending 2 MP, a 'Mech can spend its entire Movement Phase standing up. In this case, the unit is considered to have walked. If the 'Mech

had more than 2 Walking MP available, the Piloting Skill Roll target is modified by –2. There is no modifier if the unit had only 1 or 2 Walking MP available.

LEG DAMAGE

Under standard rules, a hip actuator critical hit causes a 'Mech's leg to freeze, adds a +2 Piloting Skill modifier and reduces the 'Mech's MP by half, regardless of previous critical damage to the leg. This rule is designed to limit damage-related modifiers so that excessive leg damage does not completely cripple a 'Mech.

As an option, players can use the "crunchy-broken-leg" rule for leg damage. Under the crunchy-broken-leg rule, each hip actuator critical hit adds a +2 Piloting Skill modifier for rolls and reduces the 'Mech's MP by 2. However, these effects are cumulative—they are added to modifiers produced by any other leg damage the unit has already taken or receives in subsequent turns.

MOVEMENT DICE

"Movement dice" can help speed up and simplify game play, especially if a large number of units are on the board. Many BattleTech players already use movement dice in their games, but keep in mind that movement dice are not a formal game mechanic or rule. They are simply an option to make game play smoother.

Movement dice are simply six-sided dice that are used to keep track of each unit's movement. After a unit moves, simply place its movement die directly in front of it. Turn the die so that its upper side shows the unit's target movement modifier. If the unit has a target movement modifier of 0, turn the die so that it shows a "6"—no amount of movement will produce a modifier greater than 5 (unless you are using the expanded Target-Movement Modifier rule on p. 20, in which case you will need to use eight-sided or ten-sided dice as movement dice).

If desired, players can also use different colored dice to represent Walking, Running or Jumping movement to further aid players in keeping track of attacker movement.

The movement dice enable all players to quickly and easily see which units have moved during a turn, along with each unit's target movement modifier. (No more need to ask your opponent, "How far did that Spider move this turn?")

Movement dice can also be used to show torso twists and turret rotations. After a unit twists or rotates its turret during the Reaction Phase, simply move the unit's movement die from the front hexside to the hexside the unit's torso or turret now faces.

During the End Phase, remove all movement dice from the board.

KICKING AND PUSHING MODIFIERS TABLE

Condition	Skill Roll Modifier
Attacker outweighs target by 1 weight class	+1
Attacker outweighs target by 2 weight classes	+2
Attacker outweighs target by 3 weight classes	+3
Target outweighs attacker by 1 weight class	–1
Target outweighs attacker by 2 weight classes	–2
Target outweighs attacker by 3 weight classes	–3
Attacker and target are of equal weight classes	No modifier

COMBAT

Combat is at the heart of *BattleTech*. When 'Mechs pound each other with barrages of laser and autocannon fire, the fun really begins. This section expands the options available to players for *BattleTech* combat, focusing mainly on rules for BattleMechs. For expanded vehicle and infantry combat rules, see the Vehicles and Infantry sections.

As with all optional rules, all players must agree to use a particular rule in a given game. We recommend that players review all the rules in this section before choosing the optional rules they want to include in their game.

GENERAL RULES

The following rules apply to both weapons attacks and physical combat, as appropriate.

EXPANDED CRITICAL DAMAGE

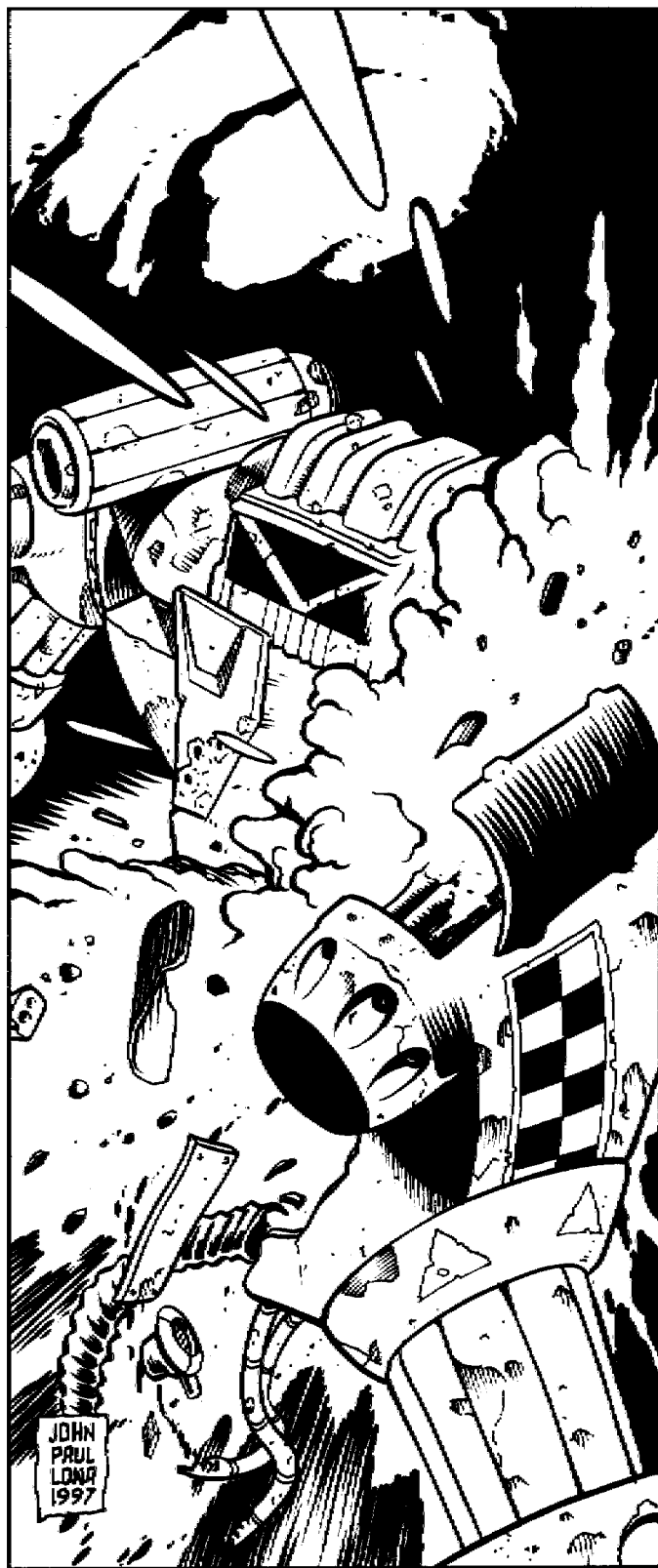
In Level 2 *BattleTech*, a 'Mech's engine, gyros and sensors can withstand several critical hits before being destroyed. Weapons and other equipment cease to function after a single critical hit to any slot they occupy. With the following optional rule, internal components that occupy multiple slots are not always destroyed by a single critical hit to one slot. This rule applies only to BattleMechs, though it does not apply to the engine, gyros, sensors or double heat sinks.

The expanded Critical Damage rule works as follows: every time a piece of equipment suffers critical damage, it may be only damaged or it may be destroyed. If more than half of an item's slots have been damaged, the equipment is considered destroyed. Otherwise, it may continue functioning.

At the end of a phase in which an item is damaged, roll 2D6 on the appropriate Critical Damage table to check the status of that item. Add the total number of damaged slots for the item to the die roll result. Roll only once per phase for each item damaged during that phase, regardless of the number of times the item was hit. Damage takes effect at the end of the phase.

The effects of multiple critical hits are cumulative. For example, two Focus Misaligned results against an energy weapon result in the weapon inflicting 2 less points of damage and an additional +2 modifier to the to-hit number for subsequent attacks at medium and long range. Critical effects that call for a roll with a certain result (such as a To-Hit Roll result of 2, or a result of 7+ for the item to work) increase their target numbers by +1 for each additional hit. For example, an autocannon that has suffered three Ammo Feed Damage results will sustain an ammunition explosion on a To-Hit Roll result of 4 or less (rather than the result of 2 that indicates an explosion after a single Ammo Feed Damaged result).

A jammed ballistic or artillery weapon may not fire. The jam can be cleared if the 'Mech in question has a functioning hand actuator and spends one turn clearing the jam rather than moving or attacking.



COMBAT

ENERGY WEAPONS CRITICAL DAMAGE

2D6* Roll	Effect
2-3	Minor damage; no effect
4-5	Moderate damage; attacks with weapon add +1 modifier
6-7	Focus misaligned; weapon inflicts -1 damage, additional +1 to-hit modifier applies to shots at medium and long range
8-9	Crystal damage; weapon generates +1 Heat Point. To-Hit Roll result of 2 for an attack with the weapon causes overload with effects identical to an ammo explosion, inflicting damage equal to the damage inflicted by the weapon.
10-11	Weapon severely damaged; cannot fire
12+	Weapon destroyed

* Add number of critical slots damaged to this result

BALLISTIC AND ARTILLERY WEAPONS CRITICAL DAMAGE

2D6* Roll	Effect
2-3	Minor damage; no effect
4-5	Moderate damage; attacks with weapon add +1 modifier
6-7	Barrel damage; To-Hit Roll result of 2 for attack with weapon causes it to jam
8-9	Ammo feed damage; weapons that can fire various types of ammo may no longer switch between them, must fire last ammo type used. To-Hit Roll result of 2 for attack with weapon causes an ammo explosion in the ammo bin that fed that shot.
10-11	Weapon severely damaged; cannot fire
12+	Weapon destroyed

* Add number of critical slots damaged to this result

MISSILE WEAPONS CRITICAL DAMAGE

2D6* Roll	Effect
2-3	Minor damage; no effect
4-5	Moderate damage; attacks with weapon add +1 modifier
6-7	Damage to ranging system; shots at medium and long range suffer an additional +1 to-hit modifier
8-9	Ammo feed damage; weapons that can fire various types of ammo may no longer switch between them, must fire last ammo type used. To-Hit Roll result of 2 for attacks with weapon causes an ammo explosion in the ammo bin that fed that shot.
10-11	Weapon severely damaged; cannot fire
12+	Weapon destroyed

* Add number of critical slots damaged to this result

EQUIPMENT CRITICAL DAMAGE

2D6* Roll	Effect
2-7	Minor damage; no effect
8-9	Moderate damage; player must roll 7+ before each use for damaged item to work
10-11	Severe damage; player must roll 10+ before each use for damaged item to work
12+	Item destroyed

* Add number of critical slots damaged to this result

Keeping Damage Secret

In a refereed tournament or one with a gamemaster, such as a MechWarrior roleplaying session, it is more fun to keep the effects described above secret from the players. For example, if a player's AC/10 has an ammo feed problem, the gamemaster should tell the player that the weapon makes a "funny sound" when fired. When the player gets a result of 2 on his to-hit roll, the explosion of his weapon comes as a complete surprise.

FLOATING CRITICAL RULE

Under standard rules, when the possibility of a critical hit arises by rolling a 2 on the BattleMech Hit Location Table, any critical hits are applied to the location initially rolled (center, right, or left torso, depending on the attack direction). This chance for a critical hit represents the possibility of a lucky shot penetrating a chink in the 'Mech's armor and striking a vital internal component. As it is logical to assume that such lucky shots can strike areas of the 'Mech other than the torso, the following rule allows a possible critical hit to affect any area of the BattleMech. This rule applies only to BattleMech hit locations.

When a player rolls a 2 on the Hit Location Table, ignore the Torso hit location. Instead, roll the dice a second time to determine where the shot actually hits. If another 2 is rolled, that result indicates that the shot struck the appropriate torso location. It does not indicate another possible critical hit. If the result is other than 2, the shot strikes the appropriate hit location. Mark off armor for that location and roll once on the Determining Critical Hits Table to see if any critical hits were inflicted on that area.

This optional rule raises the lethality of the game by increasing the chance of suffering critical hits to the head, which can considerably shorten the life of a BattleMech. Players should acknowledge the potential deadliness of this rule before consenting to use it.

HIT LOCATION

Players can use the Quad/Prone BattleMech Hit Location Table to more accurately reflect hit locations against four-legged (quad) and prone BattleMechs. Under Level 3 rules, quads determine attack direction the same way as vehicles (see p. 56, *BMR*).

The Left Side and Right Side columns in the Quad/Prone BattleMech Hit Location Table are identical to those in the standard Hit Location Table, but are provided here for players' convenience.

QUAD/PRONE BATTLEMECH HIT LOCATION TABLE

2D6 Roll	Left Side	Front	Rear	Right Side
2*	Left Torso (critical)	Center Torso (critical)	Center Torso (R) (critical)	Right Torso (critical)
3	Left Leg	Right Leg	Right Arm	Right Leg
4	Left Arm	Right Arm	Right Leg	Right Arm
5	Left Arm	Right Arm	Right Leg	Right Arm
6	Left Leg	Right Torso	Right Torso (R)	Right Leg
7	Left Torso	Center Torso	Center Torso (R)	Right Torso
8	Center Torso	Left Torso	Left Torso (R)	Center Torso
9	Right Torso	Left Arm	Left Leg	Left Torso
10	Right Arm	Left Arm	Left Leg	Left Arm
11	Right Leg	Left Leg	Left Arm	Left Leg
12	Head	Head	Head	Head

*A result of 2 may inflict a critical hit. Apply damage to the armor in that section normally. The attacking player also rolls once on the Determining Critical Hits Table.

ENGINE EXPLOSIONS

Though the scientific reality of fusion engines prevents them from exploding, the dramatic effect of such an expensive piece of machinery blowing up in a huge ball of fire is so appealing to the majority of BattleTech players that this rule was created to satisfy the common desire for a good explosion.

The fusion engines that power BattleMechs and certain vehicles are well protected from damage. Designed to operate under heavy fire, they can withstand direct hits from enemy weapons. Fail-safe devices present in all fusion engines prevent them from exploding when damaged; instead, the devices trigger an immediate shutdown when catastrophic damage occurs. However, even fail-safes are not foolproof. A hit at just the right spot on the engine's shielding can cause the containment mechanism to fail before the engine shuts down, resulting in a massive explosion.

A BattleMech engine may explode any time two or more of its slots are destroyed in the same phase of a turn, usually when a hit location containing engine critical slots is destroyed (also destroying the equipment contained therein).

When a BattleMech engine takes two or more critical hits in the same phase, roll 2D6. On a result of 12 the engine explodes. In the case of fusion-powered conventional vehicles, the engine explodes on a 2D6 result of 12 after a fuel-tank critical hit.

The explosion destroys the unit and all other units in the same hex, and also starts a fire in the hex. Any units in adjacent hexes take damage equal to the engine's rating divided by 10 (rounded to the nearest whole number; round down from .5). Units 2 hexes away take damage equal to the engine's rating divided by 20. Units 3 hexes away take damage equal to the engine's rating divided by 40. Divide this damage into 5-point clusters and apply it in the same manner as LRM and artillery damage.

Self-Destruct Sequence

A desperate pilot may choose to destroy his own BattleMech rather than let it fall into enemy hands. Other pilots use this tactic as a last-ditch effort to take enemy 'Mechs down with them. Whatever the rationale, the wide radius of a BattleMech explosion means that it will almost certainly kill the pilot, even if he ejects.

In order to initiate a self-destruct sequence, the player must announce to his opponent that one of his units will be self-destructing, but not which one. The player secretly writes down which of his units is self-destructing during the End Phase of a turn. If the pilot wishes to eject, he will do so during the following turn's Movement Phase instead of moving the unit.

In the following Weapon Attack Phase, the self-destructing unit is revealed to all the players. The unit does not automatically explode, however. In order to correctly override the 'Mech's safety features and initiate destruction, the controlling player must make an unmodified Piloting Skill Roll. If the roll is successful, the unit explodes. If it fails, the unit does not explode, and it can no longer move, fire or make physical attacks. The controlling player may continue to make Piloting Skill Rolls in subsequent Weapon Attack Phases until successful, as long as the pilot remains in the unit. If the pilot has ejected and the player fails the initial Piloting Skill Roll to destroy the 'Mech, the unit will not explode and the enemy has just gained a nice piece of salvage.

HULL-DOWN

A four-legged (quad) BattleMech can choose to go "hull-down" by squatting behind an obstacle so that only its weapons are visible to the enemy. Though the 'Mech can do this in any hex, the maneuver will only help the 'Mech if it has partial cover from its opponent.

Going hull-down or leaving a hull-down position costs 2 MP. Attacks against a hull-down quad are resolved normally unless the quad has partial cover. If partial cover exists between the attacker and the quad, the attack receives a +2 modifier in addition to the standard partial-cover modifier.

Hull-Down Vehicles

Vehicles are too low to the ground to take advantage of partial cover. However, there may be shorter terrain, not marked on the standard mapsheets, that can allow vehicles to go hull-down. Such terrain can be assigned as part of the scenario setup or it can be created by engineer infantry as described on p. 42. Engineer units can create "fortified" hexes which can supply cover to infantry as well as allowing vehicles to go hull-down.

If the vehicle is in an appropriate hex, it can go hull-down by spending 2 MP. Attacks that would strike the vehicle's Front side add a +2 modifier. In addition, if the attacks hit, they will strike the turret if the vehicle has one, or the front armor if it does not. Attacks from other directions are resolved normally.

While the vehicle is hull-down, none of its front-mounted weapons may fire, though the turret may fire to the front as usual.

GLANCING BLOWS

Some attacks glance off the target rather than striking it directly, causing less damage. The following rule varies the damage that different attacks may inflict by turning some hits into glancing blows.

Any time a dice roll result for a weapon or physical attack is exactly the number needed for the attack to strike its target, the hit is considered a glancing blow. For example, if you need to roll a 9 or better to hit the target, a result of 9 would be a glancing blow. A result of 10 or greater would be a normal hit.

A glancing blow inflicts half the normal damage against the target (rounded down). In the case of missile weapons, apply a -4 modifier to the dice roll result on the Missile Hits Table. If the modifier reduces the result to less than 2, only one missile hits the target. Each missile that hits inflicts its full damage.

A glancing blow is also less likely to cause critical damage. To reflect this, apply a -2 modifier to the die roll result on the Determining Critical Hits Table if a glancing blow yields the possibility of a critical hit.

The Glancing Blow rule does not apply to damage that does not require a to-hit roll, such as falling damage. It also does not apply to non-damaging attacks such as TAG. All-or-nothing attacks such as streak missile launchers cannot have glancing blows. If using the Linking Weapons rule (p. 23), the entire linked group is considered a glancing blow.

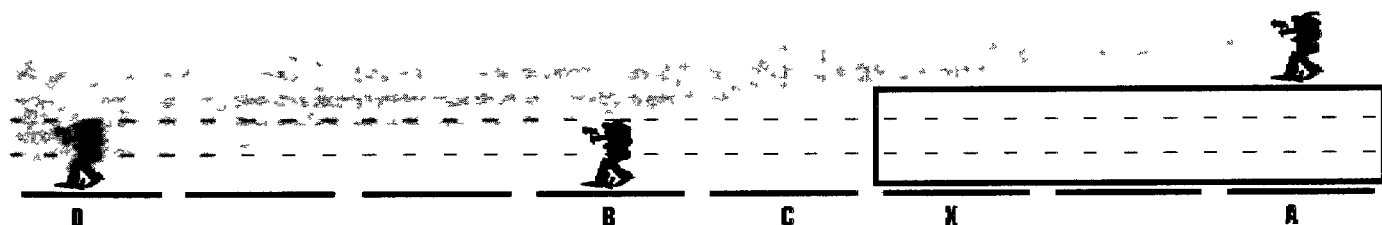
TARGET MOVEMENT MODIFIERS

With the advent of XL engines and other technological enhancements, battlefield units are becoming increasingly faster. Extremely fast units can benefit from the following optional rule, which introduces higher target movement modifiers for targets that move faster than 10 hexes per turn.

This rule uses the target movement modifiers in the Expanded Target Movement Modifiers Table. Note that the modifiers are based on actual hexes traveled, not on MP expended. This rule will make very fast units even more difficult to hit, significantly increasing their power in game play.

EXPANDED TARGET MOVEMENT MODIFIERS

Movement (in hexes)	Modifier
0-2	0
3-4	+1
5-6	+2
7-9	+3
10-13	+4
14-18	+5
19-24	+6
25+	+7
Jumped	+1 additional



CALLLED SHOTS

A called shot is similar to an aimed shot, though less narrowly targeted. An aimed shot is an attack against a specific hit location and can only be made against an immobile target. An attack "aimed" more generally, representing the pilot's skill at directing his attack against a desired general area, is a called shot. Called shots can be made against active, mobile targets.

Any attack can be a called shot. The player must announce the type of called shot—high, low, right or left—when the attack is declared. All called shots must be made with an additional +4 to hit modifier. If the attack hits, the hit may be resolved on a different table than the one that would normally be used. For a successful called shot aimed high, consult the Shot from Above section of the Special Hit Location Table (p. 52, *BMR*). For one aimed low, consult the Shot from Below section. Units cannot aim low against a target in partial cover, or against a vehicle.

For called shots aimed right and left, a successful attack strikes the target as though the attack had come from one hexside to the right or left of the hexside through which the attack would normally come, based on the line of sight. Aiming left hits the next hexside clockwise, while aiming right hits the next hexside counterclockwise. For example, if an attack would normally come in from the right side, aiming right would hit the front (one additional hexside to the right), while aiming left would hit the back (one additional hexside to the left). This means aiming left or right makes no difference if the attack is coming in straight at the Front side of a BattleMech, because all three front hexsides are considered "front."

Physical Attacks

Called shots can be made for punches and attacks with hand-held weapons such as hatchets, swords and clubs. However, if the attacker and defender are at different levels, a physical attack cannot be declared as a called shot.

For a successful punch called low, consult the normal Hit Location Table instead of the Punch Table. Punches cannot be called high.

WEAPONS ATTACKS

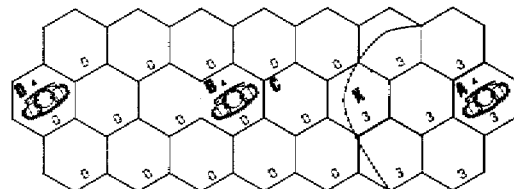
The following optional rules apply only to weapons attacks.

LINE OF SIGHT AND DEAD ZONES

The standard line-of-sight rules work well under all circumstances except one: when two opposing units are not separated by terrain higher than both of them or adjacent terrain higher than one of them, and yet logically there should be no line of sight (LOS) between them. The example below illustrates such a situation.

A BattleMech in Hex A is at Level 3 elevation. It wants to fire at the 'Mech in Hex B, which is at Level 0 elevation. As the cut away diagram shows, no line of sight should exist between these two units, because of the Level 3 hill in Hex X. However, the standard LOS rules require the 'Mech in Hex B to be adjacent to Hex X in order to be in the hill's "dead zone." As it stands, the 'Mech in Hex A has LOS to the one in Hex B and so can fire on it.

The Level 3 Dead Zone rule adds more complexity to calculating LOS between



units but treats dead zones more realistically. This rule is especially important in mountainous terrain, sinkholes and canyons where there is often a large difference between different units' elevation levels.

The Dead Zone rule replaces the following standard LOS rule (p. 26, *BMR*), which reads: "Terrain along the LOS between two units is intervening if the terrain or terrain feature is adjacent to the attacker and higher than the attacker, or the terrain or terrain feature is adjacent to the target and higher than the target." All other standard LOS rules still apply. Because the standard line-of-sight rules work well in most situations, advanced line of sight should only be used when a player thinks there is a legitimate line-of-sight question. Players should not invoke this rule unless absolutely necessary, as it will slow down game play.

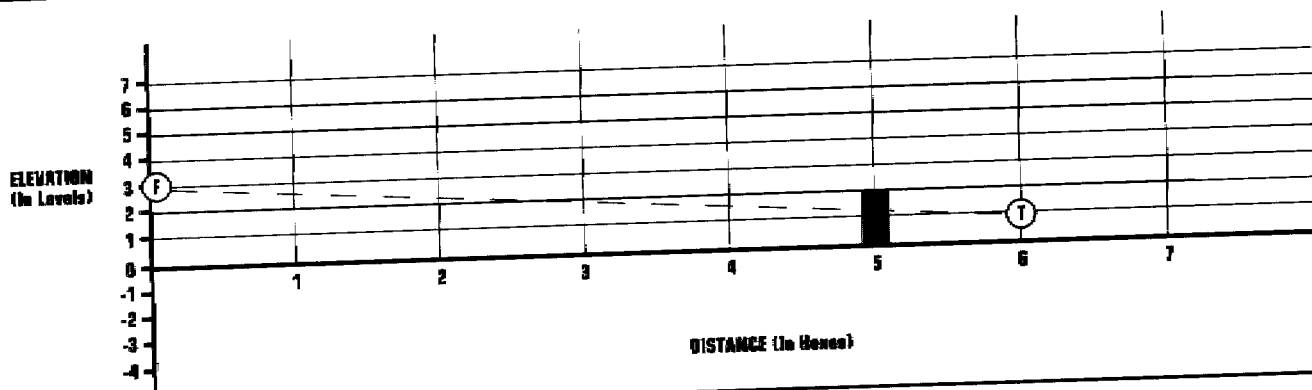
Dead Zone Rule

Players must check for dead zones if there is no intervening terrain higher than both the attacker and the target, but there is still some question as to whether LOS exists. Note which of the two units is at the higher elevation and which is lower. Then find the highest-level hex between the two units. If there is more than one of equally high elevation, use the hex closest to the lower of the two units, designating it "Hex X." The elevation of Hex X may or may not create a dead zone. To find out, follow the steps shown below.

1. Subtract the elevation level of the lower unit from that of Hex X. This number is "A."

2. Subtract the level of Hex X from that of the higher unit. This number is "B."

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3. Subtract B from A and multiply the result by 2. This number is "C."

4. Count the range to Hex X from both units. Subtract the range to the lower unit from the range to the higher. This number will be negative if the higher unit is closer to Hex X than the lower unit. Add this number to C.

If the final result is greater than 0, the lower unit is in the dead zone and LOS is blocked. If the result is 0 or less, then LOS exists between the two units.

Using the example above, the dead-zone rule works as follows. BattleMechs are always considered to be 1 elevation level above the terrain on which they are standing, so the 'Mech in Hex B is at Level 1. Hex X is at Level 3. $3 - 1 = 2$, so "A" is 2. The 'Mech in Hex A is at Level 4; $4 - 3 = 1$, so "B" is 1. $2 - 1 = 1$ and $1 \times 2 = 2$, so "C" is 2. The range from Hex X to both units is 2 hexes, and $2 - 2 = 0$. The final result is $2 (2 + 0 = 2)$. Because 2 is greater than 0, there is no LOS between the two units.

Consider the 'Mech in Hex D in the diagram on p. 21. To find out whether it has LOS to the 'Mech in Hex A, subtract its level (Level 1) from 3 ($3 - 1 = 2$; A = 2). Next, subtract the level of Hex X (Level 3) from that of the higher unit ($4 - 3 = 1$; B = 1). Subtract B from A ($2 - 1 = 1$), then multiply by 2 ($1 \times 2 = 2$; C = 2). The range to Hex X from the lower unit is 5; the range to the higher is 2 ($2 - 5 = -3$). Add this to C ($2 + -3 = -1$). The result is -1, which is less than 1, so LOS exists between the two 'Mechs.

The Dead Zone rule does not change the way partial cover is determined. For more on partial cover, see p. 24.

Diagramming LOS

Some players might find it easier to diagram LOS between two units rather than using the formula provided for the Dead Zone rule.

To use the LOS chart, first determine the elevation of the firing unit. The elevation of a firing 'Mech is the level of the hex it occupies plus 1, to account for the 'Mech's height. Then plot the firing unit along the Elevation axis on the left side of the chart. (The firing unit is marked F on the sample chart below.) Next, determine the target unit's distance from the attacker as

well as its elevation, and plot it on the chart. (In the sample chart, T marks the location of a target 'Mech standing in a Level 0 hex, 6 hexes away from the firing unit.)

Then plot intervening terrain features between the two units. (The sample chart shows a Level 2 building 5 hexes away from the firing unit.)

Finally, use a straightedge and draw a line from the firing 'Mech to the target on the chart to determine whether a clear LOS exists. (In the sample chart, the building interrupts the line, and so no LOS exists.)

DAMAGE

The following rules expand on the possibilities for damage inflicted by weapons, offering greater variety at the expense of simplicity.

Altered Energy Weapon Damage

Energy weapons can lose effectiveness over their range, their power diffusing as they pass through the air. Planetary atmospheres dissipate and absorb some of the weapon's energy, and so a distant target does not take as much damage as a nearby one.

The Altered Energy Weapon Damage rule decreases or increases laser, flamer and PPC damage depending on the distance between the attacker and the target. Damage inflicted at long range decreases by 1 point; damage inflicted at extreme range decreases by half (round up). For attacks against very close targets (which are a bit more effective), increase the damage done by 1 point for targets in the same hex as or in a hex immediately adjacent to the attacker.

Woods Cover

Woods can provide protection from an attack in much the same way as a building, in that shots will sometimes strike trees and overgrowth instead of the intended target.

When using the Woods Cover rule, woods in the target unit's hex do not provide the usual to-hit modifier for terrain. Instead, the Woods hex absorbs damage from the attack. A Light Woods hex absorbs 2 points of damage, while a Heavy Woods hex absorbs 4 points. The woods absorb the same amount of damage from each attack in the same way as a building.

Each time a Woods hex absorbs damage in this way, the attacker must make a single Attack Roll to see if the Woods hex is cleared (see p. 72, *BMR*). Treat intervening Woods hexes in the standard way; these hexes modify the to-hit number rather than absorbing damage.

Missile Hit Penalties

This optional rule reflects the fact that missile accuracy drops off at a certain range, reducing the number of missiles that will strike the target at longer ranges. This rule does not apply to streak missile launchers.

Against targets at medium range, apply a -1 modifier to the result of the die roll on the Missile Hits Table. Increase the modifier to -2 against targets at long range. Add a +1 modifier to the die roll against targets in the same hex as or hexes adjacent to the attacker. If the modifier reduces the die roll result below 2, only one missile hits the target. If the modified result is greater than 12, all the missiles hit the target.

ADVANCED FIRING

The following rules explain special firing stances and modes.

Firing When Down

Under Level 2 rules, a prone 'Mech may only fire if neither of its arms has been destroyed. Level 3 rules allow a prone 'Mech with one arm destroyed to prop itself up on its intact arm and fire. Apply an additional +1 modifier to all shots made while prone to reflect the damaged 'Mech's reduced stability.

Extreme Range

Ranged weapons can fire at targets beyond long range, but such shots are difficult.

Under the Extreme Range rule, every ranged weapon has an extreme range that starts at 1 hex beyond long range and extends to a range equal to the weapon's maximum medium range times 2. For example, extreme range for a medium laser extends from 10 to 12 hexes; the medium laser's long range is 9 ($9 + 1 = 10$), and its maximum medium range is 6 ($6 \times 2 = 12$). Apply a +8 modifier to shots against targets at extreme range.

In the case of special rules that use range as a determining factor, treat extreme-range attacks in the same way as long-range attacks. For example, the null-signature system (Equipment, p. 83) increases the modifier for long-range attacks to +6. As this number is 2 higher than the usual long-range modifier, increase the extreme-range modifier by 2 as well, to +10. When using the Missile Hit Penalties rule (p. 23), consider extreme range the same as long range. Finally, as it is impossible to consider every case in the space available, the players' judgment must prevail on occasion.

Careful Aim

Instead of firing its weapons, a unit can spend the Weapon Attack Phase of a turn taking careful aim on a single target within its line of sight. While taking careful aim, the unit may neither make weapons or physical attacks nor move.

For every consecutive Weapon Attack Phase the unit spends taking careful aim, apply a -1 modifier to shots against the chosen target (to a maximum of -3). Once the unit attacks, it uses up this bonus. If the aiming unit moves, switches targets or fails a Piloting Skill Roll, or if the target moves out of LOS before the shot is fired, careful aim is interrupted and any accumulated bonus is lost.

Bracing

A BattleMech may gain additional accuracy when firing weapons by bracing itself against a hill or building, much like a twelve-meter-tall sniper. A 'Mech may also combine bracing with careful aim (see above) for deadly accurate shots.

The 'Mech may only brace a single arm against the hex directly in front of it, which must be 1 level higher than the elevation of the hex occupied by the 'Mech. The bracing action is executed during the Movement Phase of a turn and costs 1 MP.

While bracing, the 'Mech is considered an immobile target; it cannot move or make physical attacks. A bracing 'Mech may not fire leg- or front-torso-mounted weapons or weapons in the unbraced arm. The 'Mech may not torso twist, and weapons in the braced arm may only fire at targets in the front firing arc. Apply a -2 to-hit modifier to all attacks made with the weapons in the braced arm.

A bracing 'Mech is considered to be taking cover behind the hex against which it is bracing (see *Taking Cover*, p. 25). A four-legged 'Mech cannot brace because it has no arms. A bracing 'Mech may stop bracing during any subsequent Movement Phase simply by moving. Ending a bracing action costs no MP.

Linking Weapons

Before the game begins, and also during the End Phase of any turn, a player may designate certain weapons to be linked on his BattleMechs or vehicles. Any or all weapons on a single unit can be linked, but they must be able to fire into the same firing arcs. A unit may also have more than one linked group of weapons. For example, a *Black Hawk* Prime could link the six medium lasers in its left arm as one group and the six medium lasers in its right arm as a second group. Linked weapons must be clearly indicated on a unit's record sheet.

Linked weapons must always be fired at the same target, though all linked weapons in a given group need not fire every time. The controlling player makes only one to-hit roll for the entire group of linked weapons. The to-hit number for the group is determined according to the worst range and other modifiers in the group. If the roll fails, all the linked weapons miss. If it succeeds, all the linked weapons hit. Hit location is determined normally for each individual weapon in the linked group.

Opportunity Fire

Instead of attacking during the Weapon Attack Phase of a turn, a unit may elect to watch for enemy units to come closer or into line of sight and then launch an attack immediately. Such attacks are called opportunity fire. Players should note that opportunity fire can make the game much more complicated because it allows attacks to be made outside the normal

COMBAT

sequence of play. Players should carefully consider the impact of this optional rule before incorporating it into their game.

A player must declare that his unit is watching during the Weapon Attack Phase, in lieu of making an attack. From that point on, the unit's player watches for a chance to strike, and the unit may not move or make any attacks until the controlling player announces that he is taking opportunity fire.

At any time during the Movement Phase, opportunity fire can be announced by a player controlling any unit previously said to be "watching." A player can even announce opportunity fire in the middle of a target's movement, allowing him to attack a unit dashing from one area of cover to another. Opportunity fire may only be used against targets in the front firing arc, and the attacking unit cannot torso twist or rotate its turret.

Opportunity fire is resolved immediately in the same Movement Phase. If two or more units wish to use opportunity fire at the same time, resolve the attacks in the order in which they were announced. If the players cannot agree on which attack was announced first, roll a die to determine who starts. On a result of 1-3, Player A goes first; on a result of 4-6, Player B goes first.

Opportunity fire works like other types of attack, except that all such attacks include an additional +2 to-hit modifier to reflect the speed at which the shot must be made. The target movement modifier is based on the movement of the target up to the point at which it is attacked. Once a unit announces opportunity fire, it may attack with any and all of its weapons, but must make all attacks simultaneously. The unit may not move or make any weapons or physical attacks for the remainder of the turn.

A unit may also make physical attacks as opportunity fire. The controlling player must choose one type of attack or the other, and in either case the unit ceases watching after the attack is made.

Damage from opportunity fire takes effect immediately. If the attack forces the target's player to make a Piloting Skill Roll, he must do so immediately following the attack. Once the attack is over, the target finishes its movement (if possible) and the Movement Phase continues normally.

Instead of announcing opportunity fire, a watching unit may move during the Movement Phase instead (unless its controlling player declares that it is still watching). A 'Mech that moves is no longer watching for opportunity fire.

PARTIAL COVER

The following rules expand on partial cover. Like many other Level 3 rules, they increase realism at the expense of simplicity.

Expanded Partial Cover

Expanded partial cover allows a unit to have 1/4 cover, 3/4 cover and vertical cover in addition to the horizontal partial cover permitted under standard rules.

If the line of sight for an attack passes directly through the line between two hexes, the target normally chooses the attack direction. Under the expanded partial cover rules, the attack enters the target hex through the corner, and elevation levels in either hex may provide partial cover to the target.

If both hexes adjacent to the line of sight and the target are at the target's level, the terrain provides standard partial cover. The partial-cover modifier is reduced to +1, but hit location is rolled per standard rules. If the result indicates a leg hit, the shot misses the 'Mech and strikes the intervening cover instead. This form of resolution also applies to targets in standard partial cover.

If one hex is lower than the target and one hex is at the target's level, the target has 1/4 cover. An attack against such a target has no partial-cover modifier. If the hit-location roll result indicates a leg hit on the covered side, the shot hits the cover rather than the 'Mech.

If one hex is higher than the target and one hex is lower, the target is in vertical cover. The partial-cover modifier is +1, and any hit locations rolled against the covered side strike the cover.

If one hex is higher than the target and one is at the target's level, the target is in 3/4 cover. The partial-cover modifier is +1 and any hits on the legs or the covered side strike the cover.

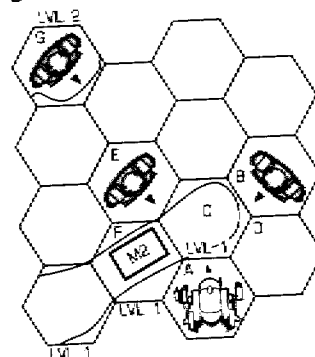
If the attacker is at a higher elevation than the target, 1/4 and horizontal cover do not apply unless the target is actually taking cover (see *Taking Cover*, p. 25). A target can use vertical cover as long as the attacker is not higher than the terrain that provides it. Three-quarter cover is considered vertical cover if the attacker is higher than the target; if the attacker is higher than the hex providing 3/4 cover, such cover does not apply.

The 'Mech in Hex A is under attack by three other 'Mechs. The 'Mech in Hex B is attacking against 1/4 cover, as Hex C is Level 1 and Hex D is Level 0. Any shots by the Hex B 'Mech that result in a left-leg hit location miss the target 'Mech and strike the covering hill instead.

The 'Mech in Hex E is attacking against 3/4 cover, because Hex F is higher than the 'Mech in Hex A and Hex C is at the same elevation as the target 'Mech. Attacks from the 'Mech in Hex E that result in a leg hit location will strike the hill; attacks that hit the left arm or left torso will strike the building in Hex F instead of the target.

The 'Mech in Hex G is on a Level 2 hill, making its elevation Level 3. Because it is not higher than the building in Hex F, it must attack against vertical cover on the target's left side. Such cover does not protect the target on the right

side, as the Hex G 'Mech is high enough to shoot over the Level 1 Hill in Hex C. Were Hex G Level 3 or higher, that 'Mech could ignore the cover altogether.



Taking Cover

A BattleMech can move to the edge of the hex it is occupying to actively "take cover," gaining partial cover through a single chosen hexside regardless of the attacker's elevation level. Naturally, the hex behind which the target takes cover must be equal in elevation to the 'Mech—that is, one level higher than the hex in which the 'Mech is standing. The hexside must be chosen at the beginning of the Weapons Attack Phase, and a unit taking cover may not torso twist.

PHYSICAL COMBAT

The following optional rules relate to physical combat.

PILOTING SKILL

To more accurately reflect a pilot's skill, replace the standard base to-hit number for physical attacks with the pilot's Piloting Skill level. All standard modifiers apply to this roll. Each type of physical attack also has a base modifier, shown on the table below.

Players should keep in mind that this rule may increase the number of successful physical attacks if the forces involved include veteran and elite pilots.

PHYSICAL ATTACK MODIFIERS

Attack	Modifier
Punching	-1
Clubbing	-1
Pushing	-1
Kicking	-2
Charging	0
Death from Above	0
Grabbing	+1
Grappling	0
Jump Jet Attack	+2
Tripping	-1

CLAN PILOTS

Though Clan pilots are very skilled, their training does not include the use of physical attacks, which are considered dishonorable. As such, apply an additional +1 modifier to the target numbers of all physical attacks made by Clan pilots.

NEW ATTACK TYPES

The following rules describe some new types of physical attacks. Unless otherwise noted, standard rules for physical attacks apply (see p. 39, *BMR*).

Grabbing

Only BattleMechs with at least one undamaged hand actuator may attempt a grabbing attack. Rather than inflicting damage, this type of attack is intended to take away an object that the target is holding, such as a hand-held weapon (see p. 79),

unprotected cargo or certain items that must be carried in "capture-the-flag" scenarios. This type of attack cannot be used to grab items that only have the appearance of being hand-held, such as hatchets and certain arm-mounted weapons, which are actually part of the 'Mech. If an item occupies critical slots, it cannot be grabbed.

The attacker must announce what he is attempting to grab during attack declaration, and may make no weapons attacks with the grabbing arm during the turn. The grab attempt has a Base To-Hit Number of 6, which may be modified for missing or damaged actuators in the same way as for a punch (p. 39, *BMR*). If the attack is successful, the attacking 'Mech grabs the desired object, provided that the 'Mech is strong enough to carry it (see *BattleMech Lifting Capabilities*, p. 72, *BMR*). If the attacking 'Mech is not strong enough to carry the object, the attack knocks it out of the target's grasp and it falls to the ground in the hex the attacker occupies.

Grappling

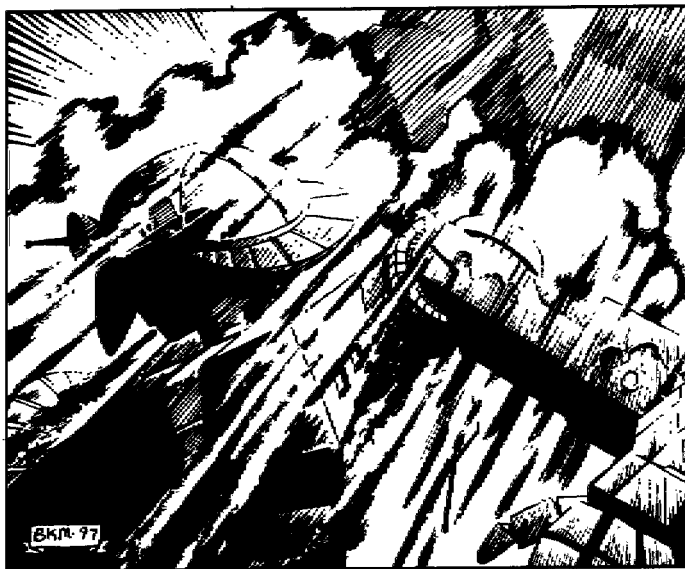
This dangerous type of attack is an attempt to restrain an enemy unit through brute force. Only BattleMechs may attempt it, and only against other BattleMechs.

The grappling unit may not make any weapons attacks in the turn in which it attempts to grapple. The Base To-Hit Number of a grapple attack is 5, with an additional modifier based on the relative weight classes of attacker and target. For every weight class by which the attacker is heavier than the target, apply a -1 modifier. For every weight class by which the attacker is lighter than the target, apply a +1 modifier. For example, an attempt by an assault 'Mech to grapple a medium 'Mech has a modifier of -2 because the attacker is two weight classes heavier than the target. In addition, the to hit number may be modified for missing or damaged actuators in the same way as for a punch (see p. 39, *BMR*). Damaged and missing actuators in both arms count toward this modifier because the grapple attack requires both arms. All modifiers are cumulative.

If the attack is successful, the target is grappled. Move the attacking 'Mech into the target's hex. In subsequent Physical Attack Phases, the target can attempt to break the grapple by making an Attack Roll, applying the modifiers described above. For example, a medium 'Mech's attempt to break free of an assault 'Mech's grapple would have a +2 modifier because the medium 'Mech (now the attacker) is two weight classes lighter than its target (the assault 'Mech).

While grappling, neither unit may move or make physical attacks. The grappling 'Mechs may only fire head- and front torso-mounted weapons, and only at the grappling opponent. Such weapon attacks receive a -4 immobile-target modifier; however, neither grappling unit may make an aimed shot.

If other units attempt to attack the grappling units, they run the risk of hitting the friendly unit. Make the Attack Roll against the enemy 'Mech first, with a +1 modifier. If the attack misses, make a second Attack Roll against the friendly 'Mech, this time with no +1 modifier. If this attack succeeds, you have hit the friendly 'Mech by mistake.



If a 'Mech breaks a grapple, move the unit that made the initial attack to any adjacent hex chosen by the target 'Mech. Place the attacking unit so that it faces the target unit. This move can result in the attacker being thrown off a high elevation or into water. If either unit is destroyed, the grapple is broken and the surviving unit stays in the hex.

The attacking unit may choose to break the grapple in a subsequent Physical Attack Phase. Such an attempt counts as its physical attack for that phase. If the attacker breaks the grapple, the target immediately may make an Attack Roll in order to continue it; all grappling rules apply. If the roll is successful, the grapple continues with the target becoming the attacker. If this counterattack fails or if the original target does not wish to counterattack, the original attacker may move to any hex adjacent to the target, facing the target 'Mech.

Jump Jet Attack

As a desperate measure, a 'Mech can use the exhaust from its jump jets as an extremely short-range weapon. This type of attack, known colloquially as the "I Am Jade Falcon maneuver," can only be used against targets adjacent to the attacker and so follows all standard rules for physical attacks.

Only BattleMechs with undamaged jump jets in their legs can make a jump jet attack, and only if they are prone or at 1 elevation level higher than the target. Also, the attacking 'Mech cannot have already jumped in the same turn.

If the attacking 'Mech is standing, it may only attack a target directly in front of and 1 level below it. It may only attack with the jump jets mounted in one leg, and may make no attacks with weapons mounted in that leg during that turn. Prone 'Mechs may only make jump jet attacks against a target in the hex directly behind them. The attacker may use jump jets mounted in either or both legs, provided that the legs used have not fired weapons in the same turn. The Base To-Hit Number for this type of attack is 5; all other appropriate modifiers apply, including the firing while prone modifier if the attacker is prone.

If the attack hits, it inflicts damage equal to the number of jump jets mounted in each attacking leg times 3. If both legs are used, determine hit location for each leg's jets separately. The damage from each leg's jets strikes a single location, determined on the appropriate column of the BattleMech or Vehicle Hit Location Table.

The attack generates heat as normal for the number of jump jets fired. Mechanical jump boosters do not permit a jump jet attack.

Mule Kicking

A quad 'Mech can make a special kick attack, called a mule kick, against a unit in any of the three hexes behind it. This kick is resolved in exactly the same way as a standard kick, except with an additional +1 to-hit modifier. A quad 'Mech may not make a mule kick attack if it has fired any leg-mounted weapons in the same turn.

Tripping

This attack represents a leg hook or "clothesline" attack intended to knock the target off its feet. Only BattleMechs may make a tripping attack, and only against other BattleMechs.

The Base To-Hit Number for this attack is 4. If the attack is successful, the target unit must make a successful Piloting Skill Roll at the end of the Physical Attack Phase or fall. Unlike a kick, a failed attack does not require the attacker to make a Piloting Skill Roll.

CHARGING

In a standard charging attack, the attacker suffers relatively little damage compared to the target. The standard rules are structured this way to make possible such bold attacks as a *Hermes* charging an *Atlas*, which would otherwise be suicidal. The following optional rule makes the amount of damage done to the attacker a bit more realistic, but will discourage smaller units from charging larger ones.

Follow standard rules for charging (pp. 41-42, *BMR*), but change the damage to the attacker as follows. The attacker takes 1 point of damage for every 20 tons the target weighs, multiplied by the number of hexes the attacker moved in the Movement Phase. Round any fractions up after multiplication. Apply the damage in 5-point clusters using the Front column of the BattleMech Hit Location Table.

DEATH FROM ABOVE

The best way to stop a death from above attack is to destroy the 'Mech as it jumps at the target. This optional rule allows the wreckage of the destroyed attacker to continue to hurtle toward the target and even cause damage.

If the attacking 'Mech is destroyed, its player should make a Piloting Skill Roll with an additional +1 modifier. If the roll is successful, resolve the attack as though the 'Mech had not been destroyed. The only change to the procedure is that the attack suffers an additional +1 modifier, and the damage is resolved differently.

If the attacker was destroyed by the loss of all its center torso internal structure, it hits the target in pieces. Divide the damage in half (round up), then into 5-point clusters and apply it using the appropriate column of the Hit Location Table (not the Punch Hit Location Table). If the attacker was destroyed by any other means, it hits the target in one chunk. Divide the damage the attack would have inflicted in half (round up), but apply it all to a single hit location determined using the standard Hit Location Table. The target must make a Piloting Skill Roll or fall according to the standard rules.

The attacking 'Mech takes damage as though the attack had failed, which is only important for determining what is left of it for salvage after the battle.

ACCIDENTAL FALLS FROM ABOVE

The standard rules prohibit a unit from intentionally flinging itself off a hill to make an "accidental" fall from above attack against a target in a lower adjacent hex. In Level 3 play, such an action is possible (if foolish).

EXPANDED HEAT SCALE

Heat Points	Effects
50	Shutdown
49	-9 Movement Points
48	+7 modifier to fire
47	*Pilot damage, avoid on a result of 12
46	Shutdown, avoid on a result of 20+
45	Ammo explosion
44	**System failure, avoid on a result of 10+
43	-8 Movement Points
42	Shutdown, avoid on a result of 18+
41	+6 modifier to fire
40	Ammo explosion, avoid on a result of 12
39	*Pilot damage, avoid on a result of 10+
38	Shutdown, avoid on a result of 16+
37	-7 Movement Points
36	**System failure, avoid on a result of 8+
35	Ammo explosion, avoid on a result of 10+
34	Shutdown, avoid on a result of 14+
33	+5 modifier to fire
32	*Pilot damage, avoid on a result of 8+
31	-6 Movement Points
30	Shutdown, avoid on a result of 12+

* If the Avoid Roll fails, the pilot takes 1 point of damage. If the 'Mech has suffered a Life Support critical hit, this damage cannot be avoided, and is added to damage normally suffered (see p. 37, *BMR*).

** Extreme heat levels can cause critical damage to the 'Mech. If the Avoid roll fails, roll a hit location on the Front column of the BattleMech Critical Hit Table and apply a single critical hit to that location. Determine the slot hit normally.

Under Level 3 rules, a unit may deliberately walk or run off any elevation during the Movement Phase by spending 1 MP—if its pilot can muster up the guts to do so. To determine this when playing BattleTech, the controlling player makes a 2D6 roll. If the result is greater than 9, the pilot is determined enough to make the leap. Otherwise, the unit's movement ends immediately. If playing with MechWarrior characters, such an action should happen in a dramatically appropriate moment, as characters rarely commit suicidal acts willingly. The gamemaster may require the player to make a Saving Roll against the character's Social Attribute.

If the unit manages to jump off the hill, move it into its new hex and resolve the fall immediately. The unit's movement ends at this point. If another unit is in the hex where the jumping unit falls, follow the rules for Accidental Falls from Above (p. 45, *BMR*). To reflect the intentional nature of the attack, apply an additional +1 modifier to the base to-hit number.

HEAT

Under the standard rules, though a BattleMech's heat level can rise above 30, it has no additional effect on the 'Mech beyond the power plant shutdown at 30 points of heat, but the excess heat makes it take longer to restart the 'Mech. The following rules add additional effects to the heat scale above 30 points. This is important because many modern and especially Level 3 'Mech designs can build up far more than 30 heat points. With this optional rule, such extreme heat levels can have dire consequences.

Add the Expanded Heat Scale to the normal heat scale provided on the record sheet (see the sample record sheet at the end of the book showing the expanded heat scale).

AVOIDING SHUTDOWN

The Expanded Heat Scale shows some Shutdown avoid numbers higher than 12. The following optional rule is recommended for use in conjunction with the new heat scale, but can be used in any game.

If you are playing with *MechWarrior* roleplaying rules, then characters can use the Computer Skill to avoid these high Shutdown numbers (see p. 44, *MechWarrior Companion*). The modifier for the Computer Skill Roll is equal to the avoid number on the table - 8. Therefore, a heat level of 30 points with an avoid number of 12+ would have a Skill Roll target modifier of +4 (12 - 8 = 4).

If you are not using *MechWarrior* rules, a player can make a Piloting Skill Roll to avoid Shutdown, because a skilled pilot would probably know how to override shutdown. Use the pilot's unmodified Piloting Skill as the base avoid number, then modify it as described above for the MechWarrior Computer Skill. For example, at a heat level of 34, the shutdown modifier would be +6 (14 - 8 = 6). A veteran pilot with a Piloting Skill of 4 would avoid shutdown on a result of 10+ (4 + 6 = 10).

VEHICLES

BattleTech is primarily a game about BattleMechs, the so-called kings of the battlefield in the thirty-first century. However, other forces are still a factor. In fact, 'Mechs represent a minority of the military when compared to the vast numbers of inexpensive conventional vehicles deployed in most armies of the Inner Sphere and the Periphery.

Level 2 *BattleTech* rules intentionally degrade the abilities of tanks and other vehicles to put the focus where it belongs: on the BattleMechs. Players who want a more realistic treatment of vehicles in their games can use the rules in this section to improve vehicles' effectiveness and life expectancy.

We recommend that players who choose to incorporate the rules in this section into their game use all of the rules in this section, rather than using only some of them. These rules introduce new advantages and new drawbacks for vehicles that are designed to balance each other out in game play. If you use only the advantages, vehicles may end up overshadowing BattleMechs in your game. If that's the way you like it, that's fine; if not, using the new rules as a package will keep 'Mechs and vehicles on a more level playing field.

VEHICLE CREWS

Unlike BattleMechs, which are piloted by a single MechWarrior, all but the smallest of vehicles are controlled by a crew of two or more. Many factors determine the number of crewmen a vehicle requires, the most important factor being the number of weapon systems the vehicle mounts. For purposes of game play, however, the number of crewmen relates directly to the size of the vehicle.

To determine the number of crewmen, divide the tonnage of the vehicle by 15, rounding fractions up. The size of a vehicle's crew is rarely important in a single game, but frequently becomes important in campaign play when each crew member must be paid and supplied throughout several scenarios.

CREW NUMBERS AND ABILITIES

Depending on the number of crew it carries, a vehicle may operate under certain restrictions or advantages, as described below.

Single Crewman

Small vehicles (15 tons and lighter) have only one crewman, who must act as the driver, gunner and commander. Such a vehicle operates under the following restrictions. It may not attack more than a single target each turn, unless it has an advanced targeting and tracking system that allows it to do so (see p. 58). Also, if any of the vehicle's weapons or turrets jam, the vehicle may not move or fire while clearing the jam (see *Critical Damage*, p. 31).

Two Crewmen

Vehicles with two crewmen (16–30 tons) usually have one driver and one commander/gunner. Such vehicles operate normally.

Multiple Crewmen

Large vehicles (31 tons and heavier) have three or more crewmen, some of whom act as loaders or additional gunners to allow the vehicle to attack multiple targets more easily. For every additional crewman above two, a vehicle may attack an additional target without suffering the secondary-target modifier. These additional targets may fall outside the front firing arc.

For example, a 50-ton Maxim hovercraft has a crew of four ($50 \div 15 = 3.33$, rounded up to 4). Its two extra crewmen allow it to fire at up to three targets in the same Weapon Attack Phase without penalty. The standard +1 secondary-target modifier would apply to all additional targets.

MOVEMENT

Vehicles must move across the battlefield without the benefit of neurohelmets or the sophisticated gyros used by BattleMechs. With most vehicles, the driver can only use the controls to accelerate, brake and steer. Consequently, skillful maneuvering in rough terrain can prove very difficult.

The complexity of Level 3 game play restricts the movement of vehicles more than the standard Level 2 rules, but offers vehicle drivers a few special maneuvers and other advantages to make up for reduced mobility.

LANCE MOVEMENT

BattleMechs tend to operate as independent units on the battlefield. Conventional vehicles operate in lances of several units that work closely together to achieve an objective.

Under Level 3 rules, all vehicles must be organized into lances of four vehicles each. If necessary, remaining vehicles may be organized into a single short lance of one, two or three units. During the Movement Phase of the turn, players alternate moving their units according to the standard rules, with each vehicle lance moving as a single unit. All vehicles in a lance move during a turn at the same time, regardless of casualties. For example, if a lance starts the game with four Bulldog tanks and three of those tanks are lost in combat, moving the last surviving tank constitutes moving the lance.

Unusual Unit Types

Some armies organize their units into formations other than lances of four. For example, the Clans use units of five, called Stars. The Com Guards organize in Level II units that contain six vehicles. A player must organize his vehicles into units appropriate to the force he is playing, whether Clan, ComStar or Inner Sphere. In FASA-published scenarios, vehicles will already be organized into appropriate-sized units.

SPEED

A BattleMech's humanoid structure gives it excellent acceleration and deceleration capability. Vehicles operate under certain speed restrictions due to their construction.

VEHICLES

Acceleration and Deceleration

Unlike 'Mechs, vehicles cannot achieve maximum velocity in 10 seconds. Instead, vehicles can only increase one category of speed per turn. For example, if a vehicle stands still in one turn, it can move no faster than Cruising speed in the next turn. In the turn after that, it can move at Flank speed. Make a note of the movement type used in each turn (Standing, Cruising or Flank) on each unit's record sheet.

Units can decelerate to any speed in a single turn.

Declaring Speed

Before moving each unit, the player controlling a vehicle must announce how many MP the vehicle will expend. The vehicle must then spend these Movement Points during the Movement Phase, even if this forces the vehicle to hit an obstacle or make a dangerously tight turn.

In a friendly game, the player can count hexes carefully to plan out each vehicle's movement. For more realistic play, the player should announce the MP without examining the board too closely. After all, the vehicle's driver must simply step on the gas or brake and handle obstacles as they come!

Reverse Gear

Except for VTOLs, vehicles may not combine forward and backward movement in the same turn.

TURN MODES

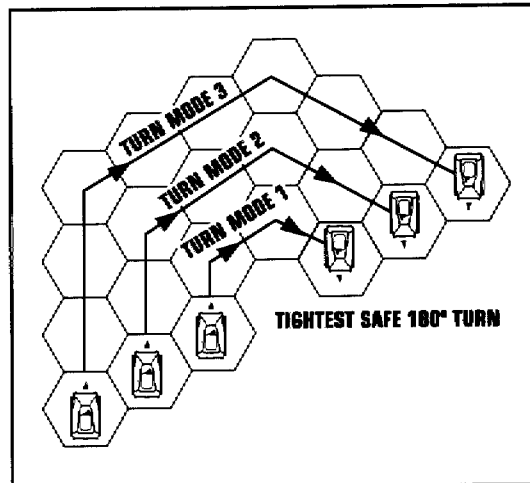
Vehicles are not nearly as agile as BattleMechs. Anyone who has driven a car knows that the tightness of a turn is limited by the speed of the vehicle; the faster you are going, the more gradual the turn must be in order to keep from skidding, fishtailing or even rolling over.

This reality is represented in *BattleTech* play by the turn mode: the number of hexes forward (or backward, if the vehicle is moving in reverse) the unit must move in a straight line before it can safely make a single hexside facing change. Slippery terrain will increase the turn mode, as shown on the Turn Mode Table.

A vehicle can attempt to make a facing change without moving the required distance forward. The controlling player must make a Driving Skill Roll, with a modifier equal to the required turn mode minus the number of hexes actually moved. For example, a hovercraft expending 15 MP that attempts to turn after moving only 1 hex forward would make the Driving Skill Roll

with a +2 modifier, because the craft's turn mode is 3 ($3 - 1 = 2$). If this roll fails, the vehicle suffers the appropriate effect indicated on the Failed Maneuver Table. To find the exact effect, roll 2D6 and add the margin of failure from the Driving Skill Roll to the result. Then add a vehicle-type modifier, as shown on the table. The total result indicates what happens to the vehicle.

Hexes moved before a failed Driving Skill Roll for tight turns or other maneuvering no longer apply to the turn mode. For example, a unit expending 10 MP has a Turn Mode of 2. After moving 1 hex forward, it attempts a turn but fails the Driving Skill Roll. It must now move 2 hexes forward rather than 1 to make a safe turn; the 1 hex it moved before the failed roll no longer counts toward the 2-hex turn mode.



ADVANCED MANEUVERS

Vehicles have a few advantages over BattleMechs when it comes to maneuverability. The ability to perform sideslip and bootlegger reverse maneuvers can help a vehicle quickly escape or bring its weapons to bear.

Sideslip

VTOLs and hovercraft can make a special maneuver called a sideslip, which resembles a voluntary skid. The sideslip is executed just like a four-legged 'Mech's lateral shift (see pp. 75-77, *BMR*). However, any time a vehicle makes a sideslip, the controlling player must make a Driving (or Piloting) Skill Roll with a -1 modifier. If the roll fails, the vehicle slips too far, moving an extra hex in the direction of the sideslip. If the vehicle has MP left, the extra hex costs MP as normal. However, the vehicle moves the extra hex even if it has no more MP, in which case this move ends the vehicle's movement.

A sideslip is not a turn, and can be executed regardless of the turn mode. Further, a sideslip counts as a hex of forward movement for meeting the requirements of the turn mode.

Bootlegger

All vehicles except tracked vehicles and naval vessels may attempt to make a quick 180-degree turn known as a bootlegger. If successful, this move turns the vehicle three hexsides and brings it to a complete stop. Because the vehicle stays in the same hex, it need not meet turn-mode requirements.

TURN MODE TABLE

MP Expended	Turn Mode
1-4	0
5-9	1
10-14	2
15-19	3
Every 5 above 19	+1
Ice, Mud or Heavy Rainfall	+1*

*Does not apply to Hover or VTOL.

FAILED MANEUVER TABLE

2D6 Roll	Effect
2-7	Minor fishtail. The attempted turn fails, and the MP are expended for the attempt. The vehicle can continue moving normally.
8-9	Moderate fishtail. The vehicle immediately makes an additional 1 hexside facing change (at no MP cost) in the same direction as the controlling player originally intended. Ground vehicles roll once on the Motive System Damage Table, with a -1 modifier.
10-11	Serious fishtail. The vehicle immediately makes an additional 1 hexside facing change (at no MP cost) in the same direction as the controlling player originally intended. Ground vehicles roll once on the Motive System Damage Table. The vehicle's movement ends immediately.
12-13	Skid. The turn fails completely, ending the vehicle's movement. Apply Skidding rules (see <i>Skidding</i> , p. 15 in <i>Terrain and Movement</i>).
14+	Major Skid. The driver loses control of the vehicle. Wheeled vehicles begin to flip over, taking damage to their side armor and turret(s). See <i>Skidding</i> . Tracked vehicles, VTOLs, and hovercraft do not flip over; for them, treat this result as a normal skid. Naval vessels and hydrofoils capsize and sink, and are effectively destroyed.

Vehicle Type Modifiers

Tracked, Naval	+0
Wheeled, VTOL	+2
Hovercraft, Hydrofoil	+4

In order to gain the momentum needed to attempt a bootlegger, a vehicle must have moved at least three hexes in a straight line since its last facing change. The controlling player then announces his intention to bootlegger and spends 2 MP. He makes a Driving Skill Roll with a modifier equal to the vehicle's current turn mode +2. If the roll succeeds, the vehicle turns to face the opposite direction and ends its movement. If the roll fails, the player rolls once on the Failed Maneuver Table as though his vehicle had just attempted a 1-hexside turn. Add a +2 modifier to the failed maneuver roll result.

Vehicles also can make bootleggers while moving backward.

VEHICLE SKIDDING

Hovercraft moving at Flank speed may skid on any terrain, not just pavement. Hydrofoils also skid as though on pavement. See *Skidding*, page 15, for revised skidding rules.

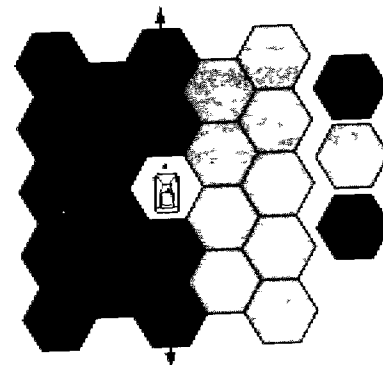
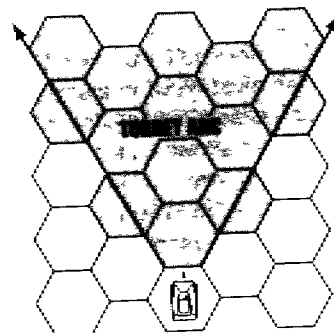
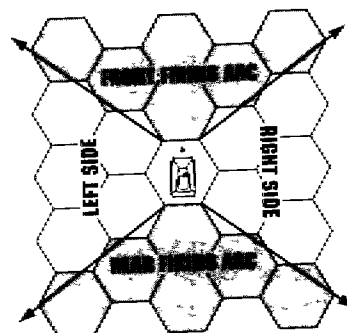
COMBAT

Level 3 play greatly expands the combat abilities of vehicles. The following rules provide new abilities and restrictions for conventional vehicles. These rules apply to all types of vehicles except where noted. See also *VTOL Combat* (p. 33) for additional rules regarding those vehicles.

FIRING ARCS

The firing arcs shown in the diagram are unique to vehicles and should be used for vehicles instead of the standard BattleMech firing arcs shown on p. 28, *BMR*. Use these firing arcs for all types of vehicles, including naval vessels and VTOLs. Rules for the use of sponson turrets appear on page 66 of this book.

NEW VEHICLE FIRING ARCS



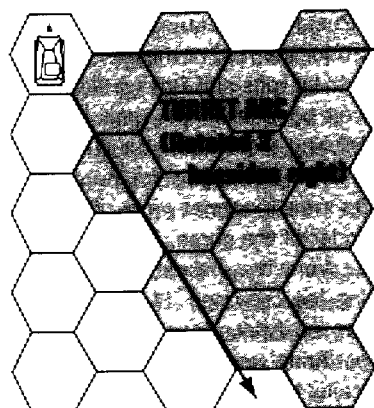
LEFT SPONSON

RIGHT SPONSON

BOTH SPONSONS
FIRE INTO THESE

VEHICLES

Turret Rotation



As in the standard Level 2 rules, a vehicle's turret can be turned to face any hex-side during the Weapon Attack Phase, when a player declares his attacks. The diagram illustrates one possible orientation of the turret firing arc, rotated two hexsides to the right.

Rules for mounting two turrets on a vehicle appear on page 66. If a vehicle has two turrets, the rear turret can be turned to face any direction; the front turret can fire in any direction except directly to the rear, because it would shoot through the rear turret. The front turret must be mounted lower than the rear turret in order to allow the rear turret a full 360-degree firing arc.

MOVEMENT MODIFIERS

Crew and internal stabilizers can compensate for attacker movement when firing, reducing modifiers below the standard levels. Apart from the driver, each crew member on a vehicle can fire a single weapon that will suffer no attacker movement modifier. For example, a vehicle with five crewmen can fire four

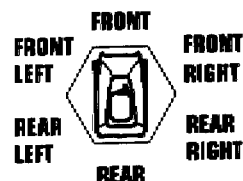
weapons with no attacker movement modifier. Weapons attacks that exceed this number are made normally. Also, if the vehicle suffers a stabilizer critical hit (see p. 32), weapons mounted in the affected hit location cannot be used for such unmodified attacks. They must be fired according to the standard rules, using the penalties incurred for that critical hit.

HIT LOCATION

Expanded Level 3 hit-location rules offer a wider variety of damage results for vehicles, as well as improve a vehicle's chance of surviving an attack.

Attack Direction

Super-heavy tanks and naval vessels larger than 300 tons take damage to more armor locations than standard vehicles. Use the adjacent diagram to determine attack direction for these vehicles.



Determining Hit Location

In Level 3 play, use the Advanced Ground Vehicle Hit Location Table rather than the standard table from BMR.

CRITICAL DAMAGE

To determine critical damage, roll on the Advanced Ground Vehicles Critical Hits Table as indicated by the Hit Location Table result, as well as each time the internal structure is damaged.

ADVANCED GROUND VEHICLE HIT LOCATION TABLE

2D6 Roll	Attack Direction			Large Vehicles	
	Front	Rear	Side††	Front Side	Rear Side
2*	Front (critical)	Rear (critical)	Side (critical)	Side (critical)	Side (critical)
3	Front†	Rear†	Side†	Side†	Side†
4	Front	Rear	Side	Side	Side
5	Right Side	Left Side	Front	Front	Rear
6	Front	Rear	Side	Side	Side
7	Front	Rear	Side	Side	Side
8	Front	Rear	Side	Side	Side
9	Left Side	Right Side	Rear	Rear Side	Front Side
10	Turret	Turret**	Turret**	Turret	Turret**
11	Turret	Turret**	Turret	Turret**	Turret
12*	Turret** (critical)	Turret (critical)	Turret (critical)	Turret (critical)	Turret** (critical)

* A result of 2 or 12 may inflict a critical hit on the vehicle. Apply damage normally to the armor in that section. The attacking player also rolls once on the Advanced Ground Vehicle Critical Hits Table, p. 32. A result of 12 may inflict a critical hit against the turret; if the vehicle has no turret, a 12 indicates the chance of a critical hit on the side attacked.

** If the vehicle has two turrets, this hit strikes the rear turret. All other turret hits strike the front turret.

† The vehicle may suffer motive system damage even if its armor remains intact. Apply damage normally to the armor in that section, but the attacking player also rolls once on the Motive System Damage Table, p. 32.

†† Side hits strike the side as indicated by the attack direction. For example, if an attack hits the right side, all Side results strike the right side armor. If the attack hits the front right side of a super-heavy tank, all Side results strike the front right side armor, while Rear Side results strike the rear right side armor. If the vehicle has no turret, a turret hit strikes the armor on the side attacked.

MOTIVE SYSTEM DAMAGE TABLE

2D6 Roll	Effect
2-7	No effect
8-9	Minor damage; +1 modifier to all Driving Skill Rolls
10-11	Moderate damage; -1 Cruising MP, +2 modifier to all Driving Skill Rolls
12+	Major damage; no movement for the rest of the game. Vehicle is an immobile target.

Vehicle-type Modifiers:

Tracked, Naval	+0
Wheeled	+2
Hovercraft, Hydrofoil	+4

Vehicle Critical Hit Effects

Critical hits will only affect items in the location struck. If the item listed on the Advanced Ground Vehicle Critical Hits Table is not mounted in the location struck, the critical hit will strike an item in another location chosen at random. For example, if an attack on the right side causes a Weapon Destroyed critical hit, the hit destroys one of the vehicle's right side-mounted weapons. If the vehicle has no right side-mounted weapons, another weapon chosen at random is destroyed. Where applicable, successive hits against the same item have cumulative effects.

Ammunition: The ammunition that the vehicle is carrying explodes. Count the total damage for all ammunition carried, exactly as for a BattMech (see p. 36, *BMR*). Apply the damage directly to the vehicle's internal structure in the location struck. If the vehicle has CASE, apply the damage instead to the vehicle's rear armor and the vehicle suffers Driver Hit, Commander Hit and Crew Stunned results.

Cargo/Infantry Hit: The vehicle's cargo and/or infantry troops are hit. Infantry suffers damage as though the weapon that caused the critical hit had struck the infantry unit. For example, if an SRM caused the critical hit, the infantry unit would suffer 2 points of damage. Cargo is simply damaged; the exact effects are up to the players in the scenario or campaign. If the vehicle carries more than one type of cargo or more than one infantry unit, randomly determine which one is hit.

Commander Hit: The vehicle's commander is injured, causing confusion among the vehicle crew equivalent to a Crew Stunned critical hit. In addition, for the rest of the game the vehicle suffers a +1 modifier to all to-hit rolls and Driving Skill Rolls.

Crew Killed: The critical hit penetrates the crew cabin and ricochets, killing or severely injuring the entire crew. The vehicle remains intact, but is considered destroyed for purposes of determining victory. Without its crew it cannot move, fire or take any other action for the remainder of the game.

Crew Stunned: The blast from the critical hit shakes the crew compartment, disorienting the crewmen. During the following turn, the vehicle may move no faster than Cruising speed, and may take no other actions (firing weapons and so on). After that, the vehicle may act normally. Multiple Crew Stunned results will extend the number of turns for which the effect lasts.

Driver Hit: The vehicle's driver is injured. For the remainder of the game, apply a +2 modifier to all Driving Skill Rolls.

Engine Hit: The vehicle's engine is severely damaged. The vehicle may not move or change facing for the remainder of the game and is considered an immobile target.

Fuel Tank: The fuel tank is breached, causing the entire vehicle to explode in a spectacular fashion. This critical hit only affects ICE engines; if the vehicle has a fusion engine, treat this result as an engine hit.

Sensors: Each critical hit to the vehicle's sensors adds a +1 modifier to all to-hit rolls.

Stabilizer: A vehicle's weapon stabilizers help it fire straight while moving. When this system takes a critical hit, double the normal attacker movement modifier for all attacks from weapons mounted in the location struck. Weapons mounted elsewhere in the vehicle are not affected. If the vehicle has no weapons mounted in the location hit, this critical hit has no effect. Second and subsequent hits to the stabilizer in the same location have no further effect.

Turret Blown Off: The vehicle's entire turret is blown off. All weapons and equipment mounted in the turret are lost, though they remain intact for salvage purposes. If the vehicle has two turrets, only the turret struck is blown off.

ADVANCED GROUND VEHICLE CRITICAL HITS TABLE

2D6 Roll	Location Hit				Turret
	Front	Side	Rear		
2-5	No Critical Hit	No Critical Hit	No Critical Hit	No Critical Hit	No Critical Hit
6	Driver Hit	Cargo/Infantry Hit	Weapon Jam	Stabilizer	Stabilizer
7	Weapon Jam	Weapon Jam	Cargo/Infantry Hit	Turret Jam	Turret Jam
8	Stabilizer	Crew Stunned	Stabilizer	Weapon Destroyed	Weapon Jam
9	Sensors	Stabilizer	Weapon Destroyed	Turret Locks	Turret Locks
10	Commander Hit	Weapon Destroyed	Engine Hit	Weapon Destroyed	Weapon Destroyed
11	Weapon Destroyed	Engine Hit	Ammunition**	Turret Blown Off	Turret Blown Off
12	Crew Killed	Fuel Tank*	Fuel Tank*	Ammunition**	Ammunition**

*If vehicle has ICE engine only. If vehicle has a fusion engine, treat this result as Engine Hit.

**If vehicle carries no ammunition, treat this result as Weapon Destroyed.

Turret Jam: The turret rotation mechanism temporarily freezes, leaving the turret stuck in its current facing until the crew spends a Weapon Attack Phase fixing the jam. The vehicle may not fire weapons while the jam is being fixed. Treat a second or subsequent Turret Jam critical hit like a Turret Locks critical hit.

Turret Locks: The turret rotation mechanism is severely damaged, locking the turret in its current facing for the remainder of the game. Additional critical hits of this type have no further effect.

Weapon Destroyed: A weapon mounted in the location hit is destroyed. If a vehicle carries multiple weapons in that location, determine at random which weapon took the hit. That weapon may not be fired for the remainder of the game. For salvage purposes, the weapon is considered to have taken critical hits to half of its critical slots (round down).

Weapon Jam: The critical hit jams a weapon mounted in the location struck. If a vehicle has multiple weapons in the location hit, determine at random which one jams. That weapon may not be fired until the jam is cleared. The vehicle's crew must spend one Weapon Attack Phase clearing the jam, during which the vehicle may make no weapons attacks. If the vehicle carries no weapons in the location hit, this critical hit has no effect.

DAMAGE FROM FIRE

Under Level 3 rules, fire does not destroy vehicles outright. Instead, a vehicle may or may not take damage when it moves through a burning hex. Roll on the Fire Damage to Vehicles Table every time a vehicle enters a burning hex. Roll on the table again if the vehicle occupies a burning hex in the Heat Phase of a turn. A successful hit by inferno missiles will set a vehicle on fire, just as if it had passed through a burning hex and rolled a 12 on the Fire Damage to Vehicles Table.

FIRE DAMAGE TO VEHICLES TABLE

2D6 Roll	Effect
2-7	No effect.
8-9	VTOL: craft hits a sudden updraft. Make a Piloting Skill roll or increase elevation by 1 level. Other vehicles: Roll once on Motive System Damage Table; apply a -1 modifier to the result.
10-11	Vehicle takes 1D6 damage to each armor location.
12+	Vehicle takes 1D6 damage to each armor location and catches fire.

Vehicle Type Modifiers:

Tracked, Naval, Hydrofoil	+0
Wheeled, VTOL	+2
Hovercraft	+4

Fire will only affect a VTOL if the vehicle is landed or flying one level above the flames. Fire does no damage to a VTOL's rotors.

Vehicles on Fire

When a vehicle catches fire, it will burn until the fire goes out or the vehicle is destroyed. A burning vehicle will take damage in every Heat Phase. Every armor location on the vehicle suffers 1D6 damage. On a result of 1, the location takes a single point of damage and the fire goes out in that location. The other armor locations continue to burn.

Special types of infantry and vehicles can attempt to extinguish a burning vehicle. See *Engineers* (p. 41) and *Coolant Systems* (p. 69) for more information.

MINEFIELDS

When a ground vehicle suffers damage from a minefield, it must also roll once on the Motive System Damage Table, p. 32.

Because of their unique propulsion systems, hovercraft rarely detonate mines they pass over. When a hover vehicle enters a hex mined with a conventional minefield, it will only detonate the mines on a roll of 12 (rather than on 7+ as do other types of ground vehicles).

VEHICLE DESTRUCTION

A vehicle is destroyed if any location except a turret or rotor loses all of its internal structure. If a turret or rotor is destroyed, damage from additional hits to the turret or rotor location transfer to the side hit.

VTOL COMBAT

Level 3 rules make VTOLs a far more lethal force on the battlefield, justifying their high price tag and fearsome reputation in the real world. Though still fragile compared to armored ground vehicles, they are not the essentially disposable units that standard rules often make them.

VTOL HIT LOCATION

Use the Advanced VTOL Hit Location Table to determine hit location against a VTOL.

Rotor Hits

A VTOL's rotors present a large and fragile target, but their rapid movement means that even the most powerful weapons inflict only glancing blows. To represent this in game play, each hit against a VTOL's rotors causes only 1 point of damage, regardless of how much damage the weapon actually inflicts.

The exception to this rule is physical attacks, which cause full normal damage. In Level 3 play, this rule supersedes the Level 2 rule that a successful physical attack automatically destroys a VTOL's rotor.

VTOL CRITICAL HITS

Use the Advanced VTOL Critical Hits Table to determine critical hits against VTOLs.

ADVANCED VTOL HIT LOCATION TABLE

2D6 Roll	Front	Rear	Side
2*	Front (critical)	Rear (critical)	Side (critical)
3	Front	Turret**	Turret**
4	Turret**	Rear	Side
5	R. Side	L. Side	Front
6	Front	Rear	Side
7	Front	Rear	Side
8	Front	Rear	Side
9	L. Side	R. Side	Rear
10	Rotors	Rotors	Rotors
11	Rotors	Rotors	Rotors
12*	Rotors (critical)	Rotors (critical)	Rotors (critical)

*A result of 2 or 12 may inflict a critical hit on the VTOL. Apply damage normally to the armor in that section; the attacking player also rolls once on the Advanced VTOL Critical Hits Table.

**If the VTOL has no turret, a turret hit strikes the armor on the side attacked.

VTOL Critical Hit Effects

Unless stated otherwise in this section, critical hits against a VTOL are the same as those for ground vehicles (see page 32).

Co-Pilot Hit: The VTOL's co-pilot or gunner is injured. For the rest of the game, apply a +1 modifier to all to-hit rolls.

Engine Hit: This critical hit inflicts the damage described under *Engine Damage*, p. 57, *BMR*.

Fuel Tank: A fuel tank hit causes the VTOL to explode; see *VTOL Explosions*, p. 58, *BMR*.

Pilot Hit: The VTOL's pilot is injured. For the remainder of the game, apply a +2 modifier to all Piloting Skill Rolls. In addition, the VTOL must immediately make a successful Piloting Skill Roll or drop one level in altitude. The drop may cause the vehicle to crash.

Rotor Damage: Damage to the rotors abruptly slows down the VTOL. Each critical hit reduces the VTOL's Cruising MP by 1 (meaning that the controlling player must also recalculate Flank MP).

Rotors Destroyed: Catastrophic damage to the rotor head and shaft tears the rotors from the VTOL. See *Rotor Destruction*, p. 57, *BMR*.

Tail Rotor Hit: The VTOL suffers damage to its stabilizing rotor, making it difficult to turn steadily or fly straight. The VTOL may move no faster than Cruising speed for the remainder of the game. The vehicle also can no longer attempt to make facing changes without first meeting turn mode requirements (see *Vehicle Maneuvering*, p. 29). Additional critical hits of this type have no further effect.

VTOL SPECIAL ATTACKS

In Level 3 play, VTOLs may make strafing and bombing attacks in much the same way as aerospace fighters. The standard rules presented on pages 84-87 of *BattleSpace* apply, with the following exceptions.

Strafing

VTOLs can make strafing attacks in much the same way as aerospace fighters. The controlling player declares the attack during the Movement Phase of a turn, but its effects are not resolved until the Weapon Attack Phase. This means that a unit in the path of the attack that has not yet moved may choose to leave the area and thereby avoid being strafed.

A VTOL that makes a strafing attack may make no other weapons attacks during the same turn. The VTOL may strafe as it moves over hexes, but must fly over each hex to be strafed. As it strafes, the VTOL must maintain a constant altitude and may not make facing changes. Before and after strafing, the VTOL may move normally.

VTOLs may strafe with turret- or front-mounted energy weapons. The controlling player must make a to-hit roll for all strafing weapons against all units in the hexes strafed. The Base To-Hit Number for a VTOL strafing attack is 6, modified by the attacker's and target's movement and the terrain the target occupies.

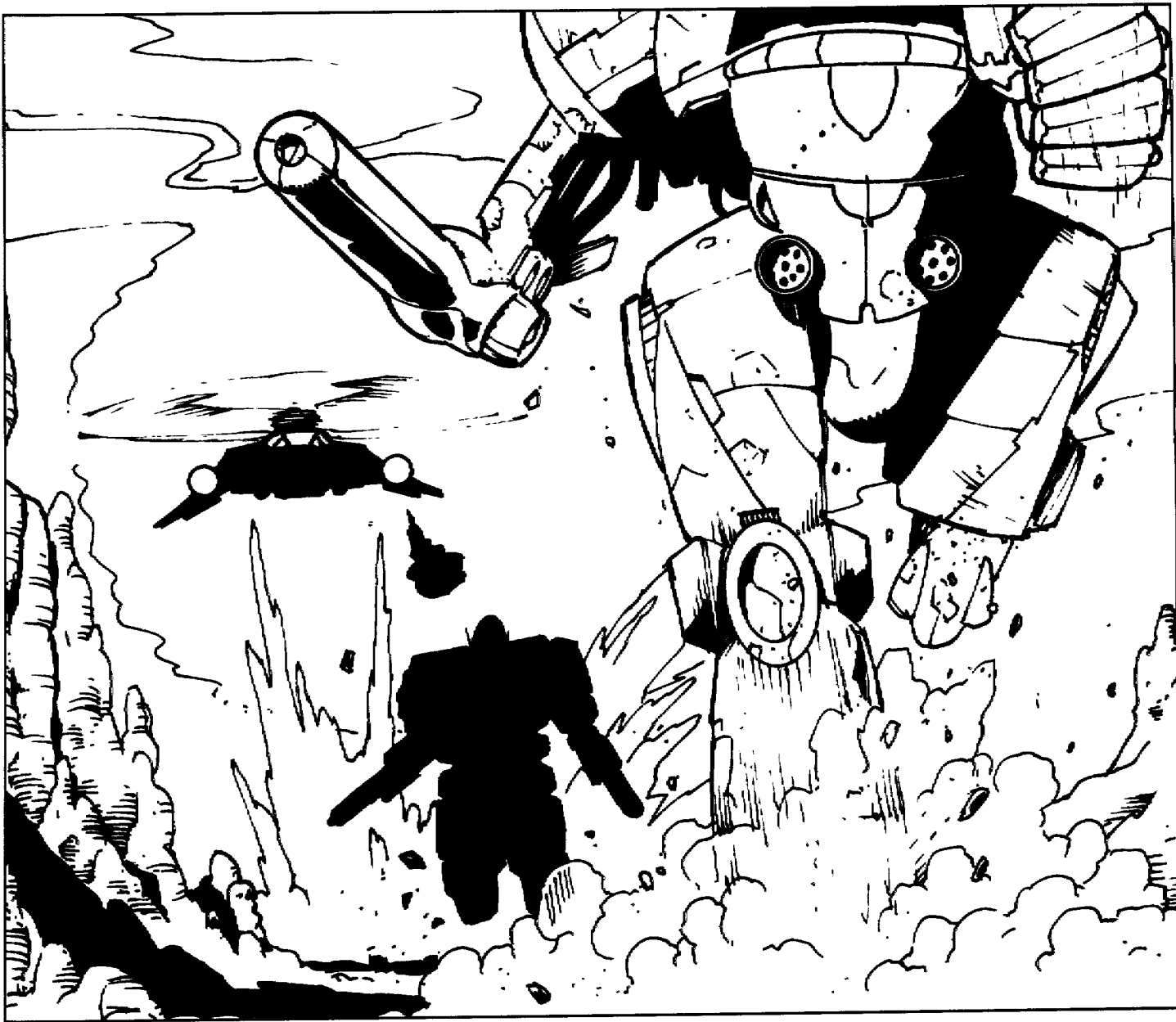
ADVANCED VTOL CRITICAL HITS TABLE

2D6 Roll	Location Hit			
	Front	Side	Rear	Rotors
2-5	No Critical Hit	No Critical Hit	No Critical Hit	No Critical Hit
6	Co-Pilot Hit	Weapon Jam	Cargo/Infantry Hit	Rotor Damage
7	Weapon Jam	Cargo/Infantry Hit	Weapon Jam	Rotor Damage
8	Stabilizer	Stabilizer	Stabilizer	Rotor Damage
9	Sensors	Weapon Destroyed	Weapon Destroyed	Tail Rotor Hit
10	Pilot Hit	Engine Hit	Sensors	Tail Rotor Hit
11	Weapon Destroyed	Ammunition**	Engine Hit	Rotors Destroyed
12	Crew Killed	Fuel Tank*	Fuel Tank*	Rotors Destroyed

*Only if VTOL has ICE engine. If VTOL has a fusion engine, treat this result as Engine Hit.

**If VTOL carries no ammunition, treat this result as Weapon Destroyed.

VEHICLES



Bombing

Like aerospace fighters, VTOLs may carry bombs on external racks. Bombs may be carried in place of cargo or infantry; each bomb counts as 1 ton of cargo. Unlike fighters, VTOLs may not carry Arrow IV missiles as bomb loads. A VTOL may carry more bombs than its normal cargo or infantry capacity allows, but the additional ordnance will reduce the VTOL's speed. Each bomb in excess of the available cargo space reduces the VTOL's Cruising MP by 1 (the player must also re-calculate Flank MP). Regardless of its speed and available cargo space, a VTOL's size restricts the total bomb load it can deliver in combat. Like fighters, a VTOL may carry no more than 1 bomb for each 5 tons of its mass (or fraction thereof).

Large bomb loads also reduce a VTOL's maneuverability. For every five bombs (or part thereof) carried, apply a +1 modifier to all Piloting Skill Rolls. Once the bombs are dropped, this modifier no longer applies.

A VTOL may make only one bombing attack per turn, and may not make weapons or strafing attacks in the same turn. As with strafing, the controlling player declares the bombing attack during the Movement Phase. The player indicates the target hex, which must be one that the VTOL flew over during that turn. Though the VTOL may only strike one target hex, it may drop as many bombs as the player desires in that hex in a single turn. The attack is resolved during the Weapon Attack Phase, in the same manner as an aerospace fighter's dive-bombing attack.

INFANTRY

Despite the massive power and presence of BattleMechs as weapons of war, the humble infantry trooper remains the backbone of every military force in the thirty-first century. The main reason for this is economic: even though an effective infantry force requires extensive training and good equipment, the cost of its mustering and upkeep is a fraction of the expense for maintaining an equivalent BattleMech unit. In fact, many poorer planets rely on garrisons comprised entirely of infantry for their defense.

Level 2 *BattleTech* makes infantry units abstract in order to keep the emphasis on BattleMechs. The following rules give infantry troops improved flexibility and survivability, while keeping them relatively simple to use. Follow the standard rules regarding infantry (pp. 59–66, *BMR*) unless specifically noted otherwise.

RULES

Unless otherwise stated, the following rules only apply to standard unarmored infantry, not to battle armor units.

SQUAD DEPLOYMENT

In the field, infantry units rarely operate in platoons. More often, each squad breaks off and operates individually. The following rule allows players to deploy infantry in squads rather than platoons.

Each squad consists of seven troopers. Jump infantry platoons consist of three squads while all other types of platoons contain four squads. Normally, an infantry force participates in a scenario as a platoon, but is deployed in independent squads. In some cases, however, individual squads might take part in a battle.

An infantry squad is treated like a small platoon of seven troopers. However, BattleMechs and vehicles must apply a +1 modifier to the to-hit numbers for attacks against infantry squads in order to account for their spread-out formation and small size. This modifier does not apply to infantry platoons reduced by damage to seven or fewer troopers—only to infantry initially deployed in squads.

A squad follows standard stacking limits unless it joins other squads from the same platoon. For purposes of stacking limits, squads from the same platoon count as a single unit while occupying the same hex. In addition, squads from the same platoon that occupy the same hex may join together to form a larger unit during the End Phase of a turn. From that point on, the unit is considered a standard infantry platoon consisting of the total surviving troopers from each squad.

DAMAGE

In standard *BattleTech* play, infantry takes damage from weapons in a straightforward manner. Every point of damage dealt by the weapon kills one infantry trooper. However, logic dictates that some weapons would do more or less damage to infantry than other weapons. A good example is the Gauss rifle, which launches a single high-velocity projectile. The projectile is designed to penetrate armor, but is less effective against scat-

ATTACK TABLE

Multiple Target

Artillery
Autocannon
Flamers
LRMs
Machine Guns
Pulse Lasers
SRMs
Streak Missiles
Death from Above
Thrashing Attack

Single Target

ER Lasers
Gauss Rifles
Lasers
PPCs
Club/Hatchet
Kick
Punch

tered foot soldiers. The following rule enhances this type of battlefield realism by inflicting different levels of damage on infantry from different weapons.

Against standard (non-battle armor) infantry, all attacks are either single-target or multiple-target. The Attack Table lists the various BattleMech and vehicle weapon attacks by category. Multiple-target attacks are resolved normally according to the standard rules.

Use the following rule to resolve single-target attacks. A single-target attack inflicts most of its damage on a single trooper, though the weapon's impact may cause enough collateral damage to injure more than one trooper. If such an attack inflicts less than 10 points of damage, it will kill one trooper even if that trooper is wearing heavy armor. If the attack inflicts 10 or more points of damage, it will kill two troopers. In a departure from standard rules, this damage is not doubled against target units in Clear terrain.

Digging In

An infantry unit may safeguard itself from attack by digging in: hiding behind foliage and other ground cover, lying prone or other defensive measures. Digging in is an option in any type of terrain except roads and pavement. The process takes a full turn, during which the infantry unit may not move or attack. If it is attacked during this turn, it is not considered dug in yet and so receives no beneficial modifiers.

All attacks against a dug-in unit, including those using homing missiles, add a +2 modifier to the to-hit number, except for flamers and artillery. In addition, damage is not doubled against a dug-in unit in Clear terrain.

A dug-in infantry unit must designate a facing, and the troopers may only fire their weapons in that direction. Use the standard front firing arc to determine which targets the unit can attack. The unit remains dug in until it moves; after moving, it must spend another turn to dig in again.

INFANTRY

Battle Armor Infantry

Battle-armored infantry troopers are supposed to be tough, but some players may feel they are a bit too tough. The following optional rule makes battle-armor units vulnerable to lucky critical hits.

Make the standard die roll to see which trooper is struck by an attack. On a result of 6, the hit may be a critical hit. Roll the die again. If the second result indicates one of the surviving troopers in the unit, that trooper is destroyed regardless of the damage the attack would normally inflict. If the second result is another 6, or indicates a trooper that has already been destroyed, the damage has no effect on the unit.

Mechanized Battle Armor

In the standard rules, the way battle armor takes damage while being carried on an OmniMech can result in the battle armor acting like a type of 'Mech armor. This optional rule changes that procedure, but requires a bit more record keeping.

While "riding" on an OmniMech, a unit of battle armor is placed on specific locations, which do not change as the 'Mech takes damage. On the Battle Armor Record Form, each trooper is numbered from 1 to 5. While being transported, this number also indicates where on the OmniMech each trooper rides. The troopers do not move from these locations and will always ride in the same locations, even if they dismount and get back on later in the same scenario. These locations are shown on the Battle Armor Transport Position Table, though you can also write these locations on the record sheet to speed up hit location determination.

In the case of Inner Sphere battle armor squads that consist of four troopers, disregard the trooper #5 position. In this case, no trooper occupies the center torso rear position.

When the OmniMech carrying the battle armor unit takes a hit in one of the locations where a surviving trooper is riding, that trooper takes damage before the 'Mech does. Any damage left after the trooper is destroyed is applied to the location hit. When a location is destroyed, all troopers riding on that location are also destroyed.

BATTLE ARMOR TRANSPORT POSITION TABLE

Trooper Number	Location
1	Right Torso
2	Left Torso
3	Right Torso (rear)
4	Left Torso (rear)
5	Center Torso (rear)

MORALE

Common wisdom has it that breaking soldiers' morale is easier than breaking their bodies. In standard *BattleTech* play, morale is not an issue. The standard rules assume that every



soldier will fight to the death if the player demands it. The following optional rules add the dimension of morale to *BattleTech*, introducing the possibility that a player's troops may flee the field even if ordered to hold their ground.

Morale rules only apply to infantry units; the physical security afforded by armored vehicles and BattleMechs makes their crews immune to such effects for game purposes. These rules apply to both standard infantry and battle armor units.

Morale Checks

An infantry unit must make a morale check at the end of any phase in which it lost half or more of the troopers it had at the start of the phase. For example, a foot platoon that starts a phase at full strength must make a morale check if it loses 14 or more troopers in that phase.

To make a morale check, roll 2D6 for the unit and consult the Morale Table. The result must be equal to or greater than the target number shown to avoid the unit breaking. Apply the modifiers on the table for artillery, fire and attacks from BattleMechs in line of sight—all these types of attack are particularly damaging to morale. Apply only the highest relevant modifier to the target number, and apply it only once. For example, if the unit takes damage from attacks by three BattleMechs, the modifier remains +1. An attack by a BattleMech using a flamer would have a +3 modifier, representing the flamer attack.

Negative modifiers apply if the unit is equipped with battle armor or if it is inside a building. Negative modifiers are cumulative.

INFANTRY

MORALE TABLE

Experience Level	Morale Target
Green	9
Regular	6
Veteran	4
Elite	2

Attack Source	Modifier
BattleMech in LOS	+1
Artillery	+2
Flamer or Fire	+3

Other Modifiers	Modifier
Broken Morale	+1
Cumulative Modifiers	
Battle Armor Unit	-1
Unit in Building	-2

Broken Morale

If the morale check fails, the unit's morale is broken. (If using infantry counters, flip the counter over to indicate a broken unit.) In the Movement Phases of subsequent turns, the unit will move away from the enemy at its best possible speed. It must move toward cover, assuming cover is available, in order to eliminate LOS between itself and any enemy units. If no concealing hills or woods are close enough for the unit to reach in a single turn, the infantry unit must move toward its home map edge (the edge through which its side entered or may retreat). If no such home edge is formally designated in the scenario, the infantry unit simply moves away from any visible enemy units.

A broken unit may still attack, but may only use standard armaments. It may not spot for artillery or LRM indirect fire, and may not use special weapons such as TAG, Narc beacon launchers or field guns.

If, in any phase, a broken unit loses half or more of the troopers it had at the start of the phase, it must make a morale check, with an additional +1 modifier to the target number. If a broken unit fails a morale check, it is routed. A routed unit is demoralized by panic, and must move as fast as it can away from enemy units in as straight a line as possible. If the scenario designates an edge to retreat through or a home edge, a routed unit will move directly toward that edge. A routed unit may make no attacks, nor take any action except to run away from the enemy.

Recovering Nerve

A broken unit may attempt to recover its nerve during the End Phase of each turn after the turn in which it broke. Therefore, such a unit will always spend at least one turn broken before it has a chance to recover its nerve. In order to recover its nerve, a broken unit must make a morale check

against its base morale target number; no modifiers apply to this roll. If the roll is successful, the unit recovers its nerve and may function normally. If it fails, the unit is routed.

A routed unit is too far gone to recover its nerve. It will continue to flee from the enemy until it leaves the map or is destroyed.

EQUIPMENT

The following special equipment includes new types of weapons and defensive measures designed to improve infantry's chances of success on the battlefield. Unless otherwise stated, this equipment is only available to standard, non-battle-armored infantry.

ECM AND CAMO SUITS

Certain elite infantry units are equipped with advanced camouflage equipment that allows them to hide even more effectively than standard infantry. This equipment is expensive and difficult to maintain, but sometimes the value of stealth outweighs those costs.

All standard infantry units are equipped with simple camouflage fatigues. However, advanced camo sneak suits provide more effective concealment by constantly changing color to match the surrounding environment. An infantry unit equipped with this kind of suit can hide in any terrain, including Paved and Clear hexes (see *Hidden Units*, p. 72, *BMR*).

ECM suits provide extra concealment from detection; a hidden unit equipped with these suits cannot be detected by any means, not even a Bloodhound active probe.

Both types of suit double the C-bill cost of the infantry unit, after any other cost modifiers have been added (such as those for heavy armor). Players can combine both suits at quadruple the usual cost.

FIELD GUNS

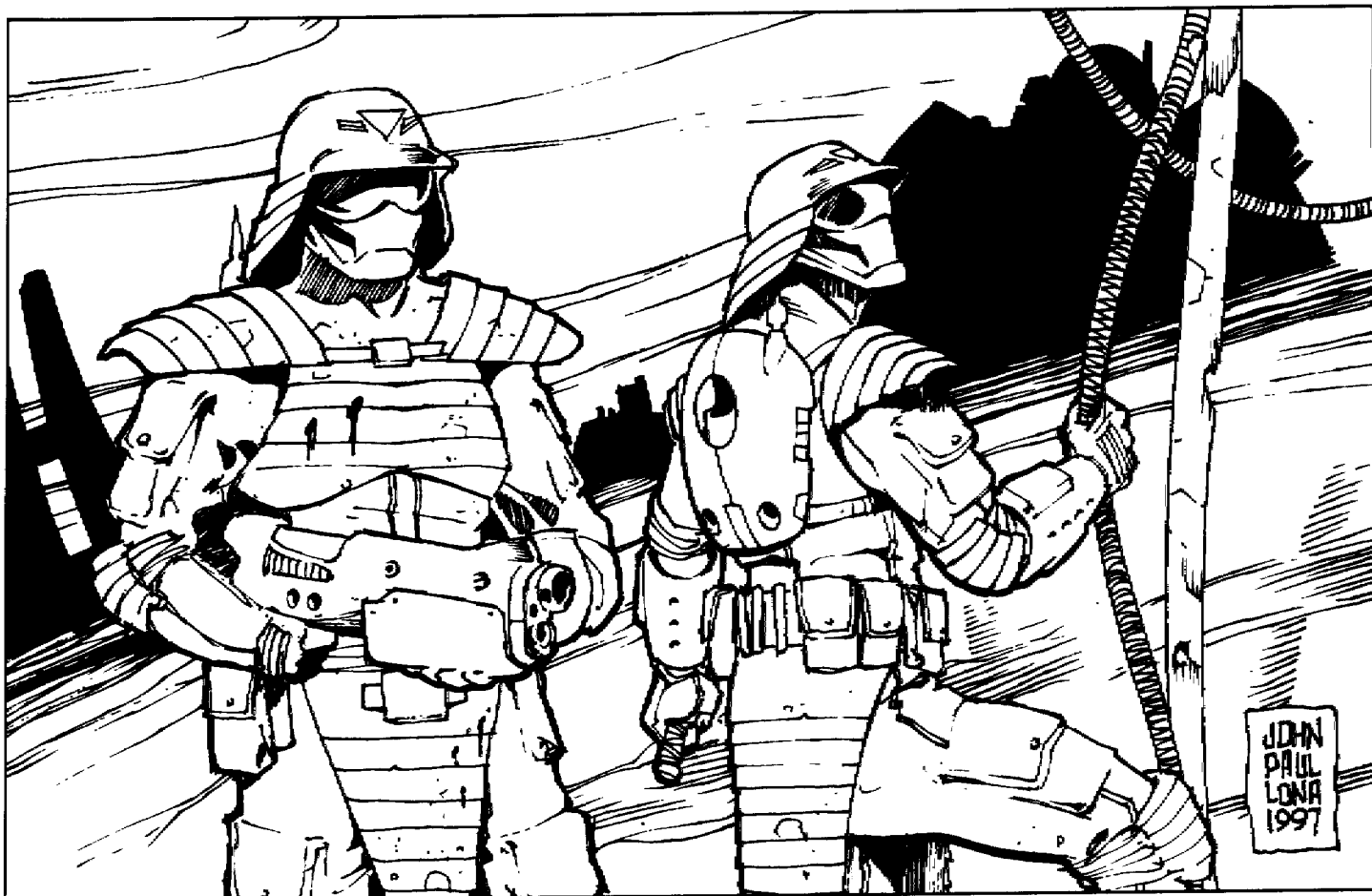
Motorized infantry units can be deployed with field guns, towed autocannons that can significantly increase the unit's firepower.

Any autocannon or Gauss rifle may be towed as a field gun. An infantry unit may have multiple field guns, but all the weapons towed by a single unit must be the same type. The crew required to set up, fire and reload the weapon is equal to the weapon's tonnage, restricting the number of weapons that the unit can use. If the platoon takes damage that reduces its troops below the number needed to operate all of its weapons, the excess weapons are considered destroyed.

For example, a full-strength platoon of 28 troopers can operate four AC/2s, three AC/5s or two AC/10s. A platoon with three AC/5s that takes 10 points of damage is reduced to 18 troopers. Because 24 troopers are required to operate all three autocannons, one of the autocannons is destroyed. The unit now has only two AC/5s.

Each weapon is considered to have one ton of ammunition. Keep track of ammunition separately for each weapon; if one or more weapons is destroyed, its ammunition is destroyed with it.

INFANTRY



A field gun must be unhitched and set up before it is fired, and so infantry troops may not fire it in a turn in which the towing unit moved. All field guns carried by a platoon must be fired together as a battery, restricting their firing arcs. During the Weapon Attack Phase, the controlling player must designate a facing for the guns. All guns towed by the unit must fire from that facing, using the turret firing arc (see *Vehicles*, p. 30). The guns may fire at the same or different targets, but all fire into the same arc. An infantry unit that chooses to fire its field guns may not fire its normal infantry weapons in the same turn.

Adding field guns to a unit increases the unit's cost by the cost of the weapons carried (see p. 138, *BMR*), plus the cost of one ton of ammunition per weapon.

HEAVY ARMOR

Infantry troops are normally equipped with lightweight ablative/flak armor for the optimal combination of mobility and protection. Foot infantry units (though not motorized or jump infantry) can be equipped with heavier armor, which reduces their agility but makes them significantly harder to kill. Troopers in such units wear full suits of ballistic plate combat armor, which are quite expensive and require constant maintenance. The armor increases the cost of the platoon by 100,000 C-bills (or 25,000 C-bills per squad).

A foot infantry unit equipped with heavy armor functions as a normal infantry unit, with the following exception. Each trooper can sustain 2 points of damage before being destroyed (see the sample record sheet at the back of this book). When marking off damage on a heavy-armor unit, cross off both boxes for one trooper before moving on to the next. (In other words, don't mark off all the armor and then mark off all the infantry.) A trooper with only one of the two boxes marked off fights normally. Once the second box is marked off, that trooper is out of action.

When a heavy-armor unit makes attacks, the bulk of the armor adds a +1 modifier to the to-hit number. Also, heavy-armor units cannot make anti-BattleMech swarming or leg attacks.

LRM INFANTRY

The development of the Korean "Far-Shot" and other man-portable LRM launchers has led to the deployment of LRM infantry units. Though the weapons are not as potent as equivalent SRM launchers, they boast a significantly longer range. Like their larger cousins, infantry LRM launchers are ineffective at close ranges.

The to-hit modifiers and hex ranges for attacks, maximum damage and MP for various LRM-equipped units appear in the tables on p. 40.

INFANTRY

LRM INFANTRY TABLE

Type	MP	Number of Troopers	Maximum Damage
Foot LRM	1	28	7
Motorized LRM	3	28	7
Jump LRM	3	21	6

INFANTRY RANGE MODIFIER TABLE

Range in Hexes	0	1	2	3	4	5	6	7	8	9	10	11	12
To-Hit Number	+8	+6	+4	+2	0	0	0	+2	+2	+2	+4	+4	+5

Roll 2D6 for each squad of infantry to determine whether the drop was successful. A result of 4 or better indicates a successful drop. On a result less than 4, the squad takes 1 point of damage and will scatter as described in the rules for dropping battle armor troops.

Adding paratroops ability to an infantry unit doubles its base cost, before adding any other equipment.

NARC

Infantry units may be equipped with disposable launchers that fire a single Narc missile beacon pod. This special version of the Narc pod is smaller and lighter than its standard-sized counterpart and therefore has a shorter range.

Each squad may carry one Narc launcher, and each launcher may fire only once. A platoon of foot or motorized infantry may carry up to four launchers, while a platoon of jump infantry may carry up to three.

The unit may fire any or all of its available Narc pods during the Weapon Attack Phase, but may not fire its normal weapons (or other special equipment such as TAG or field guns) in the same phase. Use the SRM to-hit modifiers on the Infantry Range Modifier Table (p. 60, *BMR*) to determine if each infantry-launched Narc pod hits. Roll a separate attack for each pod fired. The pods fired in the same phase may be aimed at the same or different targets.

Each Narc launcher adds 10,000 C-bills to the unit's cost.

TAG

Infantry units equipped with lasers may carry special equipment that allows them to designate targets in the same way as vehicle-mounted TAG systems. If the unit uses its lasers to designate a target, it may neither fire its weapons in the normal manner nor use other special equipment such as Narc launchers or field guns in that turn.

Resolve the TAG attempt as normal (pp. 134, 71-72 *BMR*), but use the laser to-hit modifiers as shown on the Infantry Range Modifier Table (p. 60, *BMR*).

Equipping an infantry unit with TAG equipment adds 50,000 C-bills to its cost.

SPECIAL OPERATIONS

Infantry may perform various special tasks, from parachute drops to demolition to underwater operations, as described below.

PARATROOPS

Unarmored infantry may not perform standard combat drops, but they may enter a scenario via parachute drop. Such paratroop units are deployed in the same manner as dropped 'Mechs and battle armor (see pp. 72-73, *BMR*), with the following exceptions.

ANTI-BATTLEMECH INFANTRY

The most fearsome attack available to infantry is the anti-BattleMech swarm attack. Though only expensive, specially-trained troops can make such attacks, they can destroy a BattleMech in a matter of seconds. In Level 3 play, anti-BattleMech trained infantry can also make swarm attacks against vehicles.

Vehicles

The rules for swarming BattleMechs apply to vehicle attacks (see pp. 67-68, *BMR*), but with the following changes.

Vehicles are easier to board than 'Mechs, and so apply a -1 to-hit modifier. Also, because vehicles have no hands and usually cannot jump, it is difficult for them to fight off swarming infantry. However, a skilled driver can use erratic maneuvers to shake the infantry loose. During the Movement Phase, a swarmed vehicle can perform erratic maneuvers. It is considered to be moving at Flank speed, but receives only the MP for its Cruising speed. All Driving Skill Rolls receive a +1 modifier to the target number while the vehicle is performing erratic maneuvers. To perform such maneuvers, a vehicle must be capable of moving at Flank speed.

At the end of the vehicle's movement, its controlling player makes a Driving Skill Roll with a +4 modifier to the target number. If the roll is successful, the swarming infantry is shaken loose as if it had been knocked off by jumping (as in the case of a swarmed 'Mech).

If the swarming troops stay on the vehicle, the infantry unit may make a standard swarm attack, but use the Front hit location column on the Vehicle Hit Location Table. As with anti-'Mech swarm attacks, the swarming unit may also roll once on the Determining Critical Hits Table, even if the attack did not penetrate the armor.

Swarm to Control Vehicle

Rather than inflicting damage, swarming infantry can attempt to take control of a vehicle. Though much more difficult to pull off, a successful attack will result in the vehicle switching to the opposing side in a battle.

INFANTRY

Follow the swarming rules as described above. In the Weapon Attack Phase after the successful swarm, make another Attack Roll instead of inflicting damage. Use all the same modifiers as a normal swarm attack, plus an additional modifier to the to-hit number equal to double the number of crew aboard the vehicle. For example, a vehicle with three crewmen would apply a +6 modifier. If this roll fails, the infantry stays on the outside of the vehicle, and in the following turn can either do damage or again attempt to take control of the vehicle.

If the roll succeeds, the unit has taken control of the vehicle. During the following turn, the vehicle operates as though it suffered a Crew Stunned critical hit (see *Vehicles*, p. 32). Remove the number of crew needed to operate the vehicle from the swarming infantry unit, treating them as casualties. The remaining infantry (if any) will drop off the vehicle in the End Phase and may operate normally in following turns. The vehicle will resume normal operations after one turn.

ENGINEERS

Combat engineers are specially trained infantry troops that can engage in several support operations on the battlefield. Though these operations would be carried out by specific types of units in the real world, for game purposes a generic engineer unit can perform all of them. Apart from their special abilities, combat engineers are considered standard motorized rifle infantry.

Combat engineer platoons cost 3 million C-bills and cannot carry special equipment such as TAG, ECM, camo, Narc launchers or field guns. Combat engineers also may possess anti-Mech training, though the cost is so high that such troops are extremely rare.

Engineers are always deployed in platoons; unlike other infantry, they cannot be deployed in squads.

Bridge Building

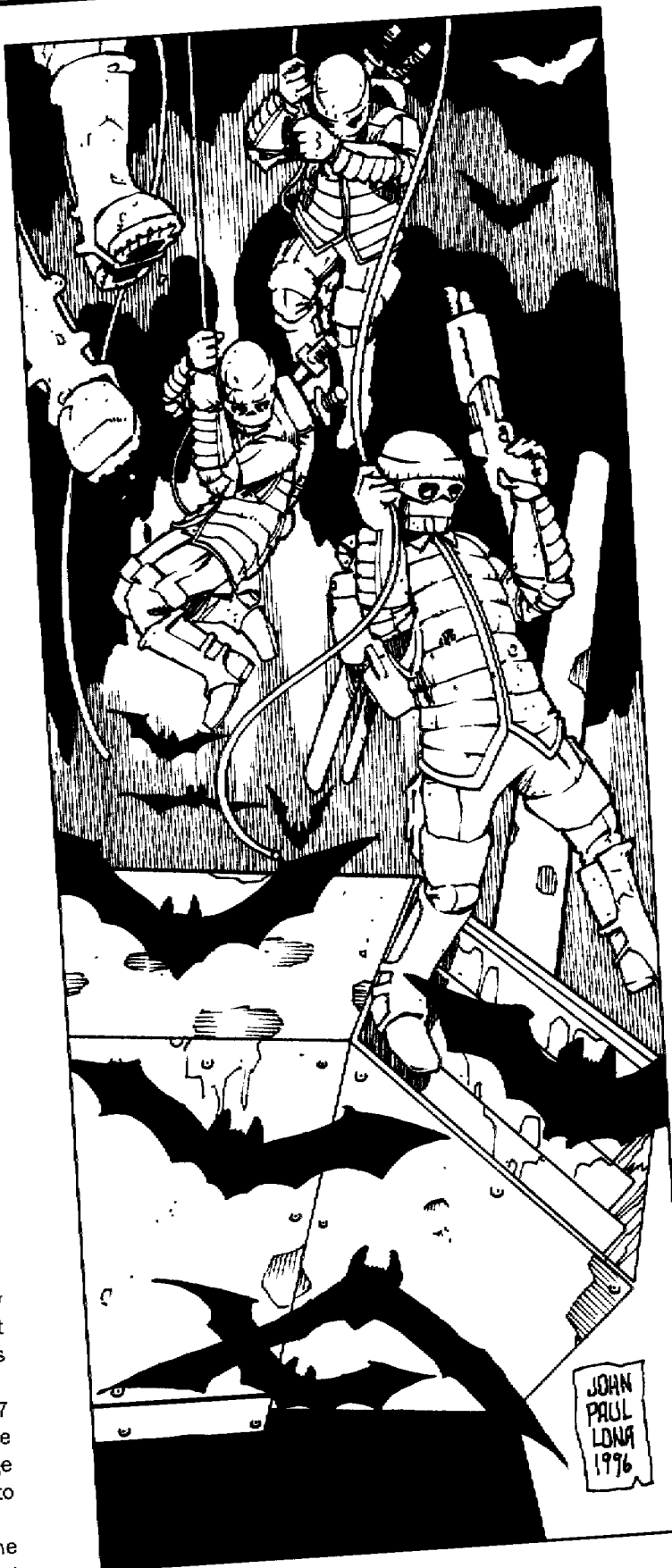
An engineer platoon can build a bridge in the same way as a bridgelaying vehicle (see *Construction*, p. 67). The process for laying the bridge is the same, except that it takes two turns to deploy a bridge rather than one. The platoon can create a single Medium bridge or up to two Light bridges during a scenario.

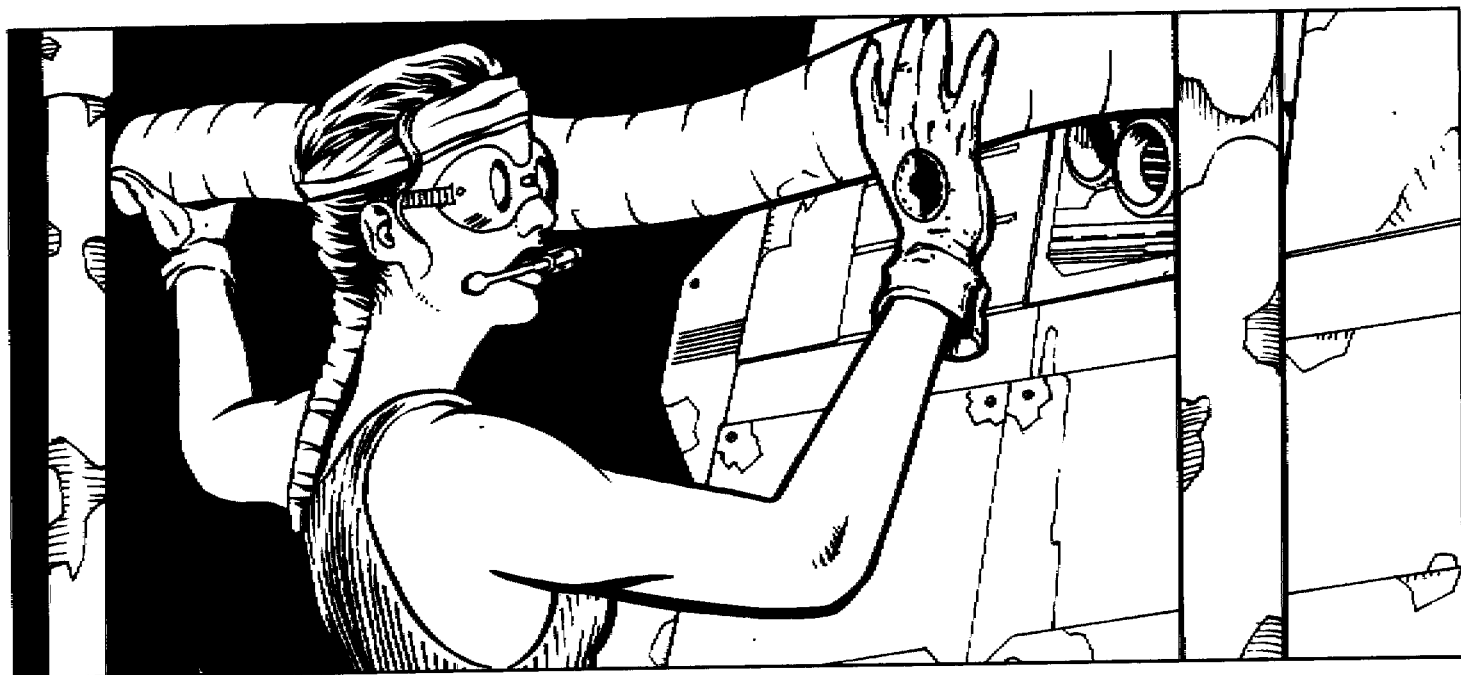
Demolition

Engineers are proficient at destroying bridges and buildings (and other structures, if using the optional *Structures* rules, p. 48). To plant charges, the unit must remain in the target hex for a number of turns, during which it may not move or fire. If the unit spends one complete turn in the hex, the charges will only inflict damage equal to the maximum damage the unit can inflict in combat. For every turn after the first that the unit spends planting charges, the damage is doubled.

For example, a full-strength engineer platoon can inflict 7 points of damage. After one turn planting explosives, the charges inflict 7 damage points; after two turns, the damage increases to 14 points. After three turns, the damage rises to 28, and so on.

If the platoon is damaged while planting charges, the charges inflict damage based on the strength of the platoon at





the point where it stopped planting them. For example, if a platoon has spent 4 turns planting charges and been reduced to 10 troopers (3 points of damage) by the time it finishes, the charges do 24 points of damage.

This damage does not take effect immediately. Once the platoon's controlling player announces that the unit has finished planting charges, the charges can be set off during any End Phase. The charges damage the structure only, though the collapsing building or bridge may also cause damage to units inside or on it.

Firefighting

An engineer platoon can attempt to extinguish fires. Instead of making a weapon attack, the unit can aim water and fire-dousing chemicals at a single burning hex, BattleMech or vehicle that is adjacent to the firefighting unit. The controlling player rolls 2D6, subtracting 2 from the result if the fire was caused by an inferno missile or inferno flamer fuel. If the final result is 8 or higher, the fire is extinguished.

Minesweeping

An engineer unit is specially trained to clear minefields, and so it has a better chance than standard infantry of safely clearing the mines without detonating them. Use the *Clearing Minefields* rule on page 81, *BMR*, with the following changes: the engineer unit clears the field on a dice roll result of 9 or higher, and the field only detonates on a result of 3 or less.

Trenches and Fieldworks

Engineer units may dig trenches and build fieldworks to provide handy cover for infantry. However, these ad-hoc fortifications can also be used by the enemy. A hex containing trenches and fieldworks is a fortified hex. Any hex may be fortified except for Water, Paved and Building hexes.

The player controlling an engineer unit must declare in the End Phase of a turn his intention to fortify the hex the unit occupies. In order to fortify the hex, the engineer unit must spend two complete turns in it, and may not make attacks or move during those turns. At the end of the second turn, the hex is considered fortified.

Treat a fortified hex as a standard hex of its type, except that any infantry unit occupying it is considered dug in. Such a unit need not spend a turn digging in, as described on p. 36 of this section. Also, ground vehicles may become hull-down in a fortified hex as described on page 20.

UNDERWATER OPERATIONS

Foot infantry and battle armor units can be specially equipped to operate underwater. Such units are referred to as submersible infantry. Though battle armor can survive submersion, it is not normally equipped for propulsion through water; for this reason, Level 2 rules prohibit battle armor from entering Water hexes.

Submersible units may enter and move through water, but are limited to 1 MP per turn. Submersible battle armor units may jump into a Water hex, but must walk out (jump jets do not work under water). Submersible infantry also may change depth and move underwater as described in *Underwater Operations*, pp. 88–89, *BMR*.

Submersible infantry may make laser attacks using the normal ranges and to-hit numbers for those weapons; battle armor units use the ranges shown on page 89, *BMR*. Submersible infantry with SRMs or LRMs may carry normal missiles, which do not function underwater, or torpedoes, which *only* work underwater. The controlling player must make the choice before beginning the scenario, and must mark it clearly on the record sheet.

Submersible units cost twice as much as standard infantry units of the same type.

MISCELLANEOUS RULES

This section is divided into eight parts: *Artillery*, *Abilities*, *Dueling Rules*, *Structures*, *Smoke*, *Concealing Information*, *Double-Blind Rules* and *Scavenging and Repair*. Each subsection presents optional rules that provide extra depth and complexity to a particular aspect of the *BattleTech* game.

Depending on your style of play and the experience level of your group, some of these rules may seem to create more work than fun. Therefore, we encourage you to read through the entire section and try those rules that most appeal to your group.

ARTILLERY

Traditionally, *BattleTech* artillery has never been much more than an unreliable supplement to other forces—*BattleTech* artillery weapons are relatively inaccurate, and successfully aiming them at the enemy can be nearly impossible because of the long flight times of artillery shells.

The following rules are designed to bring the accuracy and performance of *BattleTech* artillery closer to the accuracy and performance of modern artillery. The resulting increase in artillery effectiveness can have a profound effect on deployment strategies and tactics, so players are encouraged to try these rules on a limited basis and develop a feel for them before introducing them into a campaign.

These new rules supplement the standard artillery rules (pp. 68–72, *BMR*). Unless specifically stated, assume that all standard artillery rules remain in effect.

RANGES AND FLIGHT TIMES

The following tables provide optional ranges and shell flight-times for artillery weapons.

ARTILLERY RANGES

Type	Maximum Range (In mapsheets)
Arrow IV (Inner Sphere)	8
Arrow IV (Clan)	9
Long Tom	30
Sniper	18
Thumper	21

OFF-BOARD SHELL FLIGHT TIMES

Distance from Battlefield (In mapsheets)	Flight Time (In turns)
Less than 1*	0
1–6	1
7–14	2
15–20	3
21–25	4
26–30	5

*See *Onboard Artillery*, p. 45.

DAMAGE

The amount of damage a unit takes from an artillery attack depends on two factors: the base damage value of the shell/missile, and the distance between the unit and the detonation hex when the shell/missile explodes.

The base damage value of a shell/missile is the damage the shell/missile inflicts on any unit within a hex struck by the shell/missile. Reduce the damage by 5 points for each hex between the target hex and the affected unit. For example, reduce the damage value by 5 for a unit in an adjacent hex, by 10 for units two hexes away, and so on.

As described in the *BMR*, standard artillery damage is divided into 5-point clusters like LRM damage, and each 5-point cluster strikes a different hit location of a target. However, special artillery ordnance—such as high-explosive, cluster and illumination rounds—produce different damage effects or effects other than damage, as explained in *Artillery Ordnance*.

ARTILLERY ORDNANCE

Generally, artillery attacks are made with high-explosive rounds (all “standard” attacks are assumed to use high-explosive rounds). However, artillery weapons can also fire a variety of special shells and missiles that produce different effects. The *Artillery Ordnance* Table, p. 44, shows the different ordnance available for each type of artillery weapon, as well as the base damage values or effect radiuses for each ordnance/weapon combination.

Any player using an artillery weapon must select the ordnance type during the Targeting Phase and write down his selection, along with the intended target hex, without revealing it to his opponent.

Unless otherwise noted, artillery ordnance is available to Inner Sphere forces only.

High-Explosive

The high-explosive round strikes the ground in the target hex, explodes and scatters shrapnel and debris. High-explosive rounds produce highly concentrated blasts, and so reduce the damage inflicted by 10 points for each hex between the target hex and the affected unit. For example, reduce damage by 10 points for units in adjacent hexes, by 20 points for units two hexes away, by 30 points for units three hexes away, and so on.

Cluster

A cluster round explodes above its target hex and saturates the area with small bombs, which explode and cause damage over a wider area than a high-explosive round. To resolve damage to BattleMechs in the target hex, use the Shot from Above section on the Special Hit Location Table (p. 52, *BMR*). Use the standard hit location tables for damage to units in other hexes of the blast area. The direction of the attack is determined as though the attack came from the target hex.

MISCELLANEOUS RULES

ARTILLERY ORDNANCE TABLE

Ordnance Type	Weapon Type			
	Long Tom	Sniper	Thumper	Arrow IV
High-Explosive	25	20	15	25
Cluster	20	15	—	20
Flechette	30	20	—	—
Copperhead	15*	10*	—	—
Homing Missile ¹	—	—	—	20
Thunder ²	—	—	—	20
(Inner Sphere)	—	—	—	30
FASCAM ² (Clan)	—	—	—	—
Non-Explosive Rounds ³				
Illumination	(Radius 3)	(Radius 2)	—	(Radius 4)
Smoke	(Radius 0)	(Radius 0)	(Radius 0)	—

¹Homing missiles inflict the listed damage on the primary target and 5 points of damage on any other unit in the target hex.

²Thunder and FASCAM rounds fill the target hex with a minefield of the listed strength.

³The effect radius describes the area affected by a non-explosive shell. For example, an illumination round fired by a Long Tom has an effect radius of 3, so it affects the target hex, as well as any unit within 3 hexes of the target hex. Ordnance with an effect radius of 0 affects only the target hex.

Cluster rounds are especially effective against units hiding in light trenches and fieldworks. Infantry in fortified hexes (see p. 42) take cluster damage as if they are in the open. However, units in Woods hexes suffer only half the listed cluster damage (round up).

Flechette

A flechette round explodes above its target hex and releases thousands of dart-like metal flechettes. Flechettes are quite effective against unarmored infantry units, as well as the wheels and air-skirts of wheeled and hover vehicles. To determine damage to wheeled and hover vehicles within the effect radius of an exploding flechette round, roll once on the Motive System Damage Table, p. 32. Note that flechettes will not damage vehicle armor. Units in Woods hexes take only half the listed damage (round up).

BattleMechs, vehicles and battle armor infantry take no damage from flechette rounds.

Copperhead

The Copperhead is effectively a tube-launched version of the Arrow IV homing missile and requires the same laser-targeting system (TAG) as the Arrow IV homing round. Use the Arrow IV rules (pp. 71–72, *BMR*) to resolve Copperhead attacks, but targets struck by Copperheads take the listed damage in a single hit location; any other units in the same hex take 5 points of damage.

Illumination

Illumination rounds negate the to-hit modifier for night combat (p. 81, *BMR*). Quite simply, illumination rounds detonate above their target hexes and produce bright light but cause no

damage. Attacks directed against units within the effect radius can be made without the +2 night modifier. An illumination round also negates the +1 modifier for dusk if the optional Terrain rules are in effect (p. 11). Illumination rounds have no other effects.

In the turns following the attack, the shell and its entire effect radius drifts in the same way as smoke (see *Smoke*) until the round burns out or drifts off the board. All illumination rounds burn for 12 turns.

FIELD ARTILLERY

Field artillery is any artillery that is not carried by a 'Mech or vehicle. Field artillery is very vulnerable to attack and can be seized easily by the enemy; therefore, field artillery is generally deployed far from the front lines.

If field artillery ends up on the mapsheet for any reason, the following rules govern its movement and firing.

Smoke

The standard smoke round (p. 71, *BMR*) fills the target hex with heavy

smoke that rises 2 levels above the underlying terrain. See page 50 for more information on smoke in Level 3 play.

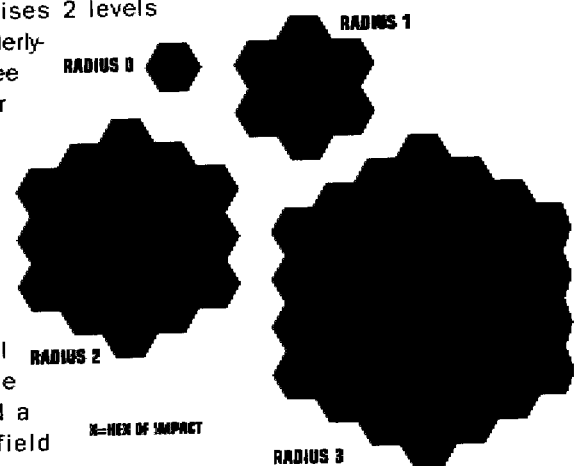
Movement

Each individual artillery piece is considered a separate field artillery unit, complete with crew and appropriate towing vehicles. For movement purposes, artillery units are considered motorized infantry but have only 1 MP. Additionally, artillery must have a facing and must pay MP to change facing.

Firing and Damage

An artillery piece has a very narrow firing arc based on its facing. Use the turret firing arc (*Vehicles*, p. 30) for field artillery. A field artillery weapon may fire directly to the front within the arc only, and it may not fire during a turn in which it moves, because the weapon must be set up and loaded before it can fire.

Any successful attack against a field artillery unit destroys the unit, regardless of the amount of damage inflicted by the attack.



MISCELLANEOUS RULES

ONBOARD ARTILLERY

Most players who use artillery set up their artillery-equipped units off the mapsheet, or "off-board." However, artillery units may also attack from positions on the mapsheet, known as "onboard" positions.

Any onboard artillery piece or artillery-equipped unit may attempt a standard direct-fire artillery attack. To make a standard direct-fire artillery attack, the unit must be within 17 hexes of its intended target and must have LOS to the target. Any target that is more than 17 hexes away is considered off-board.

Standard direct-fire artillery attacks use a Base To-Hit Number of 8. This number is modified for the attacker's movement and Gunnery Skill, and by any woods or other terrain features in the path of the LOS. Do not modify the to-hit number for range, target movement or immobility, or for the terrain of the target hex. If the attack hits, the round inflicts standard artillery damage to the target hex and the surrounding hexes.

Additional attack options for onboard artillery attacks are described in the following passages. Unless otherwise noted, all these attacks use a Base To-Hit Number of 8 and all standard to-hit modifiers apply.

Core Sighting

Core sighting enables an onboard artillery weapon to make a Careful Aim attack (Combat, p. 23). All the rules for Careful Aim apply, and the unit can begin core sighting when the target is farther than 17 hexes away. However, the weapon may not fire until the target is within 17 hexes. If the artillery fires before the target is within 17 hexes, the attack is considered an off-board attack, and all accumulated Careful Aim modifiers are lost.

To make core-sighting attacks with one or more artillery-equipped units, the controlling player must secretly write down which units are core sighting and specify the target for each unit. When the attacker uses his artillery weapons, he turns over the piece of paper and shows the defending player which units are attacking, how long they have been core sighting and which defending units are being attacked.

Pointblank Attack

Only hidden onboard artillery units that have not previously fired or moved in a scenario can make pointblank artillery attacks. The artillery unit makes its pointblank shot from hiding as described on pages 77-78 of the BMR, with the following additional rules.

Only high-explosive rounds can be used in a pointblank attack, and the attack must be aimed at the hex the target unit occupies; it cannot be aimed behind the target unit or at any other hex in LOS. The Base To-Hit Number is 5, and no to-hit modifiers apply.

If the to-hit roll fails, the round scatters. Reroll the scatter direction if the result calls for the attack to scatter toward the attacking unit or the two hexes adjacent to the attacking unit.

COUNTER-BATTERY FIRE

It is possible to launch attacks against an opponent's off-board artillery. Such attacks are called counter-battery fire and can only be launched by a player's own artillery, be it onboard or off-board.

Counter-battery fire can be initiated only after an enemy artillery attack strikes the map on a hex that is in the line of sight of at least one of the defender's units. From that point on, counter-battery attacks may be launched by the defender against that particular enemy artillery unit.

Counter-battery fire is resolved in the same way as normal off-board artillery attacks launched against targets that are on the map. However, because the target of an attack is not on a mapsheet, players must use slight variations on those rules to determine a successful attack. The range to the target (in map-sheets) is determined by adding together the distance from the play area to both the attacking and defending artillery units, including the map-sheets that make up the play area.

Counter-battery fire is always aimed directly at the "hex" the enemy artillery occupies. If the attack roll succeeds, the attack hits the target hex. If the attack roll fails, the shot will scatter according to the standard rules. Use the damage rules on page 43 to determine damage from counter-battery fire.

A Long Tom high-explosive round is fired against an enemy artillery position. The attacking artillery piece is 4 map-sheets away from the battle, while the target artillery piece is 6 map-sheets distant. The battle itself is taking place on a single mapsheet, so the total distance is 11 map-sheets, which means the shell will arrive at the target hex after 2 turns in flight.

If the attack roll fails, the shot will scatter. If it scatters 1 hex, the target will take 15 points of damage (base damage 25 - 10 for 1 hex from point of impact). If it scatters 2 hexes, the target will take 5 points of damage. A scatter of 3 or more hexes will cause no damage to the target.

ABILITIES

This section provides optional rules that enable players to give their MechWarriors and vehicle crews unique sets of abilities.

ADVANCED ABILITIES

Some MechWarriors rise above the pack to become legendary war heroes. These individuals possess special abilities that cannot be adequately represented with simple increases in Piloting and Gunnery Skill levels. The optional advanced abilities represent this special expertise.

Players can assign advanced abilities to their units at the beginning of a scenario, or the units can acquire them during game play. To assign them before play, each side simply starts with equal allocations of advanced-ability "points," such as 1 point per lance. The point total represents the total number of advanced abilities each player may distribute among his units. Alternatively, players may simply assign advanced abilities to

MISCELLANEOUS RULES

any of their units. Under this system, each unit may receive one advanced ability, but any unit that receives an advanced ability also suffers a 1-level reduction in its experience level.

If using the Skill Improvement rule (p. 15, *BMR*), players can substitute one advanced ability in place of any Piloting or Gunnery Skill increase.

These advanced abilities are designed for use with *BattleTech*. Some of the abilities closely resemble certain abilities used in the *MechWarrior* roleplaying game and may be redundant or incompatible if used in a game that incorporates *MechWarrior* rules. In such cases, use the *MechWarrior* rules instead of the rules described here.

Most of the following advanced abilities can be used by both MechWarriors and vehicle crews. However, some abilities are appropriate only for MechWarriors. In these cases, the name of the ability is followed by a "M" for "MechWarrior."

Bull's-Eye Marksman

The Bull's-Eye Marksman ability enables a MechWarrior or vehicle crew to hit any desired location on a target.

To use the ability, the unit must remain stationary and make no physical attacks during the turn. Resolve the attack as if the weapon is equipped with a targeting computer (p. 134, *BMR*). A unit can use this ability with only a single weapon, and the unit may not fire any other weapon during the same phase.

The Bull's-Eye Marksman ability cannot be used with a targeting computer or enhanced-imaging technology.

Dodge Maneuver (M)

The Dodge Maneuver ability allows a pilot to execute a dodge maneuver instead of making physical attacks. The maneuver makes a unit harder to hit and is favored by light 'Mech pilots who would rather avoid damage than inflict it in physical combat.

The dodge maneuver is declared in place of a physical attack and adds a +2 to-hit modifier to all physical attacks against the dodging unit.

Edge

The Edge ability represents an extra bit of luck that can help in tough situations.

A pilot or crew with Edge can choose to reroll a single die roll per scenario. Any 1D6 roll—such as to-hit rolls, Piloting Skill rolls, and hit location rolls—can be rerolled. However, the player must accept the result of the second roll.

Instead of rerolling one of his own 1D6 rolls, the unit with the Edge ability may force his opponent to reroll one of his 1D6 rolls, such as a hit-location roll that indicates damage to the head of a 'Mech. However, an enemy can be forced to reroll only rolls that directly affect the unit with the Edge ability.

A single unit can acquire Edge more than once. For example, a unit that has purchased the Edge ability three times would have Edge 3, and it could make 3 rerolls during the course of a scenario. A unit with more than 1 point of Edge may even choose to reroll a reroll, an allowable exception to the standard rule.

Maneuvering Ace

MechWarriors and crews with the Maneuvering Ace ability are especially good at executing quick turns and maneuvering in tight confines. Any unit with this ability can perform the lateral shift maneuver, which normally is available only to quad 'Mechs (pp. 75–77, *BMR*). Such units also receive a –1 target-number modifier on Piloting Skill Rolls made to avoid skidding. Vehicle crews receive this bonus on tests required when a vehicle fails to fulfill the requirements for a turn mode (see *Vehicles*, p.29).

Melee Specialist (M)

A MechWarrior with the Melee Specialist ability has spent many hours perfecting the difficult art of BattleMech melee combat and is proficient at physical attacks of all kinds.

Increase by 1 point the damage from all physical attacks made by such units. Additionally, reduce by 1 the unit's attack-movement modifier when the unit is making physical attacks (the movement modifier cannot drop below 0).

The Melee Specialist ability is not available to Clan MechWarriors.

Pain Resistance (M)

A pilot with the Pain Resistance ability is especially resistant to pain and can survive the rigors of BattleMech combat better than most. Add 1 to the result of any Consciousness Roll made by such units and reduce to 1 point any damage a MechWarrior receives from ammunition explosions.

Sixth Sense

A pilot or crew with the Sixth Sense ability has the uncanny ability to accurately predict an opponent's actions.

The Sixth Sense ability can be used only once per scenario. To use the ability, the player must first announce that he is doing so at the beginning of the turn. For the remainder of the turn, the Sixth Sense unit may take its actions after all other units, regardless of Initiative rolls. During the Movement Phase, the unit moves after all other units have moved. During the Reaction Phase, the unit twists its torso or rotates its turret after all other units have done so. During the Weapon Attack and Physical Attack Phases, the unit declares its attacks after all other units have declared attacks, though it takes damage simultaneously with all other units.

When using the Dueling Rules (p. 47), a unit with Sixth Sense can take its Action Phase at any point during a turn, regardless of its Initiative. The unit may do this only once per scenario, and the controlling player must declare that the unit is using Sixth Sense at the beginning of the turn.

Units may obtain the Sixth Sense ability more than once. For example, a unit with Sixth Sense 3 would be able to use the ability 3 times during a scenario.

Speed Demon

A pilot with the Speed Demon ability can really pour it on! As long as the unit makes no weapons or physical attacks during a turn, it can add 1 to its Running/Flank MP. If the Sprinting

MISCELLANEOUS RULES

MP rule (p. 13) is in effect, the unit can add 1 to its Sprinting MP. The Speed Demon ability provides no bonus to a unit's Evading MP.

Tactical Genius

A unit with the Tactical Genius ability may re-roll an Initiative Roll once per turn. The second result stands, even if it is worse than the first roll result.

Any pilot or crew can acquire the Tactical Genius ability, but the ability affects game play only if the unit is in command of its side. This feature prevents players from benefiting from more than one Tactical Genius unit at a time.

Weapon Specialist

A pilot or crew with the Weapon Specialist ability is exceptionally proficient with a single type of weapon. The controlling player must choose one specific weapon, such as a medium laser, LRM 10 or Ultra AC/5. Apply a -2 to-hit modifier to all attacks the unit makes with the chosen weapon.

DUELING RULES

The following rules provide additional complexity to the game and expand each player's options, but they also slow the game considerably. Consequently, this system works best when very few units are on the board. In fact, the rules are ideal for one-on-one contests, such as those that occur in a Bloodname tournament—hence the name “dueling rules.”

The dueling rules assume that the players are already using the standard Level 2 *BattleTech* rules along with certain Level 3 rules presented in this book.

ACTION PHASE

Under the optional dueling rules, the standard *BattleTech* Movement, Weapon Attack and Physical Attack Phases are combined into a single Action Phase for each unit. During its Action Phase, a unit may perform 1 Complex Action or 2 Simple Actions per turn, unless otherwise noted. Units may perform an unlimited number of Incidental Actions per turn.

Incidental Actions

Incidental Actions require little or no attention or physical movement on the part of the MechWarrior. Examples include Walking/Cruising movement, selecting ammunition types or fire modes for weapons, and communicating with other units on the field.

Simple Actions

A MechWarrior can perform Simple Actions by reflex. Simple Actions include Running or Jumping movement, punching and kicking attacks, and firing weapons.

Complex Actions

Complex Actions require a character's full attention. Complex Actions include Sprinting or Evading movement, charging and death-from-above attacks, and other types of special actions.

SPECIAL DUELING RULES

The following subsection describes special dueling rules that apply in each of the phases of the standard *BattleTech* turn.

Initiative Phase

In dueling games, each unit rolls Initiative individually. Each roll result receives a modifier equal to 8 minus the unit's Piloting Skill. For example, a unit with a Piloting Skill of 4 would receive a roll result modifier of 4. Infantry units lack Piloting or Drive Skills, so they receive no modifier.

Initiative modifiers that affect an entire fighting force, such as modifiers provided by Satellite Uplink and Command Console, are applied to every individual unit on the affected side.

Actions are executed in reverse Initiative order. The unit with highest Initiative result takes its actions first, and the unit with the lowest Initiative result acts last. (Note that this differs from the standard *BattleTech* practice, in which the Initiative winner moves last.) Units that have the same Initiative total should roll again to break the tie. Units that have high Initiative may not delay their actions until later in the turn, though they can set up for opportunity fire if that rule is in effect (see *Combat*, p. 23).

Completely resolve all damage and other effects from each unit's Action Phase before moving on to the next unit. (Damage is not resolved simultaneously in dueling play.) Furthermore, a unit that is destroyed before its Action Phase cannot then act later in the turn.

Movement Phase

In a dueling battle, each unit moves during its Action Phase. Units may move before or after taking other actions. Only one movement action may be taken in a given Action Phase.

Walking is considered an Incidental Action. Running or Jumping is a Simple Action, and Sprinting and Evading are Complex Actions. Infantry units may not use multiple movement modes; they use their normal allotment of MP as a Simple Action. (See *Movement*, p. 13 for rules on Sprinting and Evading.)

Torso/Turret Twist

In dueling play, a standard torso/turret twist is an Incidental Action.

As an optional rule, BattleMechs may make a two-hexside (120-degree) torso twist as a Simple Action. However, this unbalances the 'Mech somewhat, and so all of the MechWarrior's Piloting Skill Rolls receive a +1 modifier until the unit's next Action Phase.

DUELING TURN SEQUENCE

Action Phase

Movement

Reaction

Weapons Attacks

Physical Attacks

Heat Phase

End Phase

MISCELLANEOUS RULES

Weapon Attack Phase

In dueling play, a unit may fire one or more weapons as a single Simple Action. Each weapon may be fired only once as in a *BattleTech* Weapon Attack Phase, and all other standard rules apply to weapons attacks unless superseded by one of the following optional rules. (For standard attack rules, see pp. 25–38, *BMR*.)

First, players may use a Complex Action to fire all of their unit's weapons at multiple targets without suffering the normal +1 modifier for firing at multiple targets.

A second option enables players to use Complex Actions for LRM indirect-fire attacks. These attacks do not receive the standard +1 modifier for indirect fire, but all other appropriate modifiers apply.

A third option allows players to use a Simple Action to take Careful Aim once per turn, provided that the aiming unit does not move and has LOS to its target. (See *Combat*, p. 23 for Careful Aim rules.)

A fourth option allows a unit to fire some or all of its weapons twice as one Complex Action. In this case, all attacks suffer an additional +1 modifier. Also, note that weapons generate heat each time they fire, but heat sinks operate only once per turn.

Note that target movement modifiers for attacks are based on the target unit's last movement action. If the unit has acted in the current turn, then that movement provides the modifier. If the unit has not yet acted in the current turn, then its movement from the previous turn applies.

Physical Attack Phase

In dueling games, physical attacks require actions. Simple Actions include punching, kicking, pushing, clubbing and hatchet attacks. Complex Actions include charges and death-from-above attacks (the movement required for such attacks is included in the Complex Action). Target numbers for physical attacks may also be modified according to the Piloting Skill of the attacker (see *Combat*, p. 25).

A single Simple Action allows the unit to make one or two punching attacks, per standard *BattleTech* rules.

With a Complex Action, a unit can make two kicking, clubbing or hatchet attacks; or up to four punches; or any combination thereof (such as one kick and two punches, or one punch and one hatchet attack). These attacks all receive a +1 modifier, in addition to any applicable standard modifiers.

Target movement modifiers for physical attacks are based on the target unit's last movement action. If the unit has acted in the current turn, then that movement determines the modifier. If the unit has not yet acted in the current turn, then its movement from the previous turn applies.

Heat Phase

In dueling games, the Heat Phase is handled per standard *BattleTech* rules. After all units have performed their actions, all 'Mechs adjust their heat scales. Heat effects occur simultaneously.

End Phase

Resolve the End Phase in dueling games per standard *BattleTech* rules.

STRUCTURES

The following rules supplement the standard *Buildings* rules on pages 49–53 of the *BMR*. When using these new rules, continue to apply any standard rule not specifically superseded by a new rule. All rules apply to buildings and other battlefield structures such as walls.

STRUCTURE TYPES

Under the optional rules, structures are classified by type—Buildings, Fortresses, Hangars and Walls. Also, an entire multi-hex structure does not have a single Construction Factor (CF) value. Instead, CF values are assigned to each hex of a multi-hex structure, and each hex takes damage individually. The destruction of one hex of a multi-hex structure has no effect on other hexes within the same structure.

The following entries define each structure type and list any unique rules for each type.

Building

Buildings represent homes, office complexes and other civilian structures that contain interior spaces for rooms and hallways. All buildings fall into three categories: Light, Medium or Heavy. Buildings cannot be hardened, and they cannot accommodate most types of mounted weapons and other exterior equipment (see *Installing Weapons and Equipment*, p. 49).

Fortress

Fortresses represent any type of heavy military building, including bunkers, guard towers and installations. They are designed to withstand combat conditions and can accommodate a variety of weapons and other special structure equipment.

Fortresses can be classified as Medium, Heavy or Hardened.

Hangar

Hangars feature wide-open interiors for housing 'Mechs, aircraft and other large vehicles or equipment. Most types of warehouses and some large commercial structures also fit into the hangar category.

Hangars contain little internal support structure, so they are more fragile than other buildings. The CF of a hangar equals half the CF of an equivalent building (round up). For example, a typical Heavy hangar would have CF 45 per hex.

A unit moving between hexes inside a hangar expends only 1 MP, suffers no damage and inflicts no damage on the hangar's CF—as long as the hangar ceiling is high enough to accommodate the unit. A Level 1 hangar can accommodate vehicles, while Level 2 or higher hangars can accommodate BattleMechs.

Hangars have no floors above ground level, so any unit in a hangar hex must either be on the structure's ground floor or its roof.

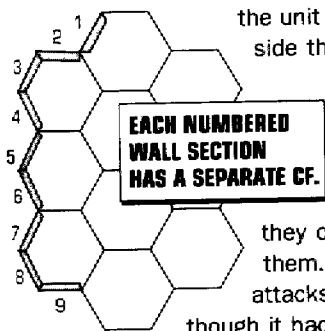
MISCELLANEOUS RULES

Wall

Walls are simple structures with no enclosed spaces.

Walls are always placed along hexsides. In the case of a wall that stretches along multiple hexsides, each hexside is considered a separate structure and takes damage separately from the other hexsides of the wall.

Units can occupy hexes containing walls; in such cases, the unit's controlling player must declare whether the unit is standing on ground level alongside the wall or on the wall itself. Place a counter or die with the unit to indicate when it is standing on the wall.



Though units may not "enter" or move through walls,

they can inflict damage by running into them. Resolve such events as charging attacks; the attacker takes damage as

though it had charged itself, up to a maximum amount of damage equal to the wall's CF before the charge. The wall also takes damage.

Walls have the same CF as comparable buildings.

Bridge

Under the standard *BattleTech* rules, bridges are considered both structures and roads. In Level 3 play, bridges are treated as special walls with roads running along them. All wall rules apply, with the following additions.

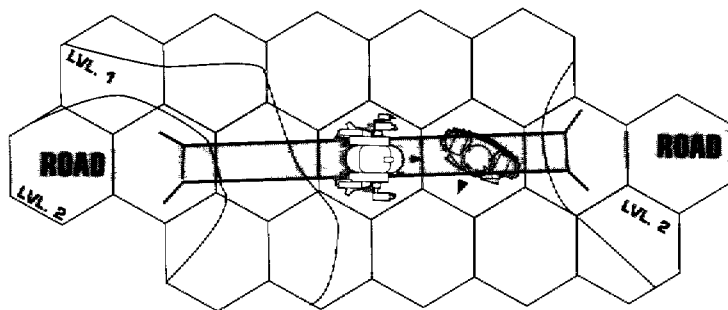
Unlike walls, bridges pass through the middles of hexes; there is only one bridge structure per hex, with a single CF.

Every bridge starts and ends on terrain of equal elevation, and all hexes of a bridge are considered to be the same elevation. However, in most cases the terrain below a bridge is a lower elevation and may be occupied by battlefield units. (Bridges represent a rare instance in which a single non-building hex can have two distinct elevation levels.)

Therefore, a unit in a bridge hex may be on the bridge or under it (see diagram); the controlling player decides and should clearly indicate the unit's position with a die or counter. Note that BattleMechs are considered 2 levels high, so they cannot pass under a Bridge that is only one level higher than the underlying terrain. (In such case, the 'Mech must walk over the Bridge as if it were a Level 1 hill.)

In some instances—most notably the bridges that appear on the *BattleTech* mapsheets—bridges have the same elevation as the terrain they pass over. For example, most bridges on *BattleTech* mapsheets start and end on Level 0 terrain, and the surface of the water they pass over is also Level 0 (regardless of the water's depth). In these cases, boats and hovercraft (units that are only one level high) may pass beneath the bridge. If the water is Depth 1 or deeper, a BattleMech may stand in the water under the bridge, because the 'Mech would be sufficiently submerged to pass beneath the bridge.

A bridge can support a number of tons equal to its current CF. If the bridge is mounted by a 'Mech whose tonnage exceeds the bridge's CF, the bridge collapses.



If two or more hexes of a large bridge are destroyed, the segments of bridge between them also collapse, because there is nothing to support them.

INSTALLING WEAPONS AND EQUIPMENT

Items from the Weapons and Equipment tables in *BMR*—such as lasers, missile launchers, turrets, armor and large doors—can be installed in fortresses to provide offensive and defensive capabilities or increase their usefulness. (Armor can also be installed in walls; see *Armor*, p. 50.)

Weapons and equipment must be placed in a specific hex of a structure. To install a piece of equipment in more than one hex of a multihex structure, the controlling player must purchase the equipment separately for each hex.

Use common sense when placing equipment in a fortress—certain items, such as MASC, are clearly useless when installed in a structure. Also note that items from the Weapons and Equipment tables cannot be installed in buildings, hangars, walls or bridges.

Weapons

To determine how many tons of weapons and equipment a Fortress hex can accommodate, divide the hex's starting CF by 10. Ammunition and heat sinks need not be included in the total tonnage of weapons and equipment.

To determine how many tons of ammunition a Fortress hex can accommodate, simply divide the hex's starting CF by 2. Energy weapons installed in a fortress must be accompanied by adequate heat sinks or they cannot be fired; however, the weight of heat sinks does not count toward the weight limit. Double heat sinks cannot be installed in fortresses. Ballistic, missile and artillery weapons do not require heat sinks.

The controlling player must assign each weapon a specific hexside facing from the fortress; this facing determines the weapon's firing arc. The shape of the firing arc resembles a turret firing arc, but the arc cannot be rotated (see *Vehicles*, p. 30).

The player must also assign each weapon or item a specific elevation level, but multiple items can be placed on the same level of a fortress. Assume that any weapon has a sufficient crew to load and fire it. The weapons and equipment in a fortress can be used by the player who occupies the fortress as determined by the scenario. If an enemy infantry unit occupies

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an elevation level of the fortress and no defending infantry is at the same level, the enemy unit may seize control of any items on that level. Though the enemy unit cannot operate the items, they cease functioning until the enemy infantry leaves the level or is destroyed. Otherwise, all weapons and equipment in a fortress continue to function until the fortress itself is destroyed.

Turrets

Each Fortress hex can accommodate a single turret on its roof. The turret can accommodate any or all of the fortress's weapon types, enabling the controlling player to rotate the weapons as if they were weapons mounted on a vehicle turret.

The tonnage of a fortress turret is determined in the same manner as the tonnage of a vehicle turret: add the tonnages of all weapons mounted on the turret, then divide this total by 10. The turret tonnage also counts against the maximum tonnage of weapons and equipment a Fortress hex can accommodate. For example, a CF 120 Hardened Fortress hex can accommodate up to 12 tons of weapons and equipment ($120 \div 10 = 12$). Therefore, the hex could accommodate 10 tons of weapons in a 1-ton turret and still have 1 ton of capacity available.

Structures do not have hit locations, so Fortress turrets need no armor. A turret is destroyed when the Fortress hex it occupies is destroyed.

Armor

Any fortress or wall can be reinforced with armor. The starting CF of a Fortress hex (or wall hexside) equals the number of points of armor that hex (or hexside) can support. Armor mounted on a structure has no facing; the armor works against attacks from all directions. Structures may mount only standard armor (no ferro-fibrous or other special types).

When an armored structure hex takes damage, deduct the damage from the armor first. The hex's CF is not reduced until all the hex's armor is destroyed. Non-infantry units may not enter or move through an armored fortress. They can forcibly enter an armored fortress by making a charging attack against the hex, but the attack must produce damage to the actual CF of the fortress. If the attack damages only the fortress's armor, the charging unit expends the appropriate MP and takes damage per standard rules, but it remains in its current hex.

Large Doors

Large doors can be installed in buildings, fortresses, hangars and walls to provide passage for vehicles and 'Mechs.

The controlling player assigns the door's height when constructing the structure. Door height may range from 1 elevation level to the height of the structure itself. Structures may have only one large door per hexside.

To open or close a structure door, a player must have an infantry unit inside the structure (or on top of a wall) or the scenario must specify that the structure is the player's property. Doors can be opened or closed only during the End Phase of a turn, and the same door cannot be opened and closed during the same turn.



Vehicles can pass through any open large door without taking damage; 'Mechs can pass through only open doors that are 2 or more levels high. An open door in a wall allows units to pass through that hexside of the wall as though the wall was not there. An open door in other structures allows units to enter the structure without sustaining damage or inflicting damage on the structure. However, moving from hex to hex within a fortress or building may still cause damage to the structure and unit.

Any unit that attempts to walk through a closed door inflicts and takes damage as if the door space were occupied by a wall.

SMOKE

The following rules expand the standard fire and smoke rules (pp. 74-75, BMR). Note that these rules add complexity to the game, and so may not be suitable for large or complicated scenarios.

LIGHT AND HEAVY SMOKE

Under the optional rules, smoke is divided into two categories: light smoke and heavy smoke.

Smoke in a Woods hex adds to the overall difficulty of seeing through the hex. For example, any shot into a Heavy Woods hex filled with light smoke receives a +3 modifier (+2 for the woods and +1 for the light smoke). Note that 3 or more "points" of woods and/or smoke combined will completely block line of sight.

Light Smoke

Light smoke is generated by normal fires, as well as certain types of smoke-delivering weapons. In cases where the type of smoke is not specifically stated, assume it is light smoke.

Light smoke acts as Light Woods for purposes of line of sight and attack modifiers. Light smoke rises above the underlying terrain in the same way as woods.

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Heavy Smoke

Heavy smoke is usually created by smoke-delivering weapons, but it is also generated by burning Heavy or Hardened buildings, as well as fires set by inferno rounds.

Heavy smoke acts as Heavy Woods for purposes of line of sight and attack modifiers. Heavy smoke rises above the underlying terrain in the same way as woods.

SMOKE DRIFT/DISSIPATION

If desired, players and gamemasters can use wind strength and direction to determine how smoke drifts and dissipates.

Use the standard rule for determining wind direction (p. 75, *BMR*). To determine the strength of the wind, roll 1D6 and consult the Wind Strength Table, p. 51. (If no specific wind strength is selected or generated, assume that Light winds prevail.)

During the End Phase of each turn, check to see if the direction or strength of the wind has changed. First roll 1D6 for wind strength. On a result of 1, the wind becomes one category weaker. On a roll of 6, it becomes one category stronger. Then, roll 1D6 for direction. On a result of 1, the wind direction changes by one hexside (60 degrees) clockwise. On a roll of 6, the direction changes one hexside counterclockwise. A result of 2-5 on either roll indicates no change.

Drift

Smoke appears in the hex of a fire (not downwind as per standard rules). In Light and Moderate winds, all smoke on the map drifts 1 hex per turn. In High winds, smoke drifts 2 hexes per turn. Smoke drifts during the End Phase of a turn in the direction of the prevailing wind. Any smoke that drifts off the edge of the map is removed from play. Smoke does not drift in Calm conditions.

After all smoke drift has been resolved, determine smoke dissipation.

WIND STRENGTH TABLE

1D6 Roll	Wind Strength
1	Calm*
2-3	Light
4-5	Moderate**
6	High**

*Fire does not spread in Calm wind conditions.

**See *Terrain and Movement*, p. 12, for additional game effects of Moderate and High winds.

Dissipation

To determine dissipation, roll 2D6 for each "cloud" of smoke on the board during the End Phase of each turn. A cloud is any amount of smoke that has been generated in a single turn and covers a single hex or a group of contiguous hexes. For example, a group of seven Smoke hexes created by smoke LRMs is covered by a single cloud. (Use smoke markers of various shapes and sizes to keep track of clouds.)

For Moderate winds, add 1 to the roll result; in High winds, add 3. If the final modified result is 11 or greater, the smoke cloud dissipates. A Light Smoke cloud that dissipates is removed from the map. A Heavy Smoke cloud that dissipates becomes Light Smoke.

After resolving smoke drift and dissipation, determine if any continuing fire on the mapboard generates more smoke or spreads.

CONCEALING INFORMATION

In large-scale battles, accurately assessing the condition and strength of an opponent's forces can be quite difficult. These optional rules for concealing certain information from the opposing player simulate the challenges of gathering accurate battlefield intelligence. The system works quite simply—each player conceals most of the information on his record sheets from his opponent until one of the opponent's units manages to obtain the information by visually or electronically determining the configuration and condition of the player's units.

We strongly recommend that these rules be used only in games presided over by an impartial referee. The rules for concealing information allow ample opportunity for cheating and may lead to long, potentially bitter arguments.

Note that these rules differ from the detection rules associated with double-blind play (see p. 52).

RECORD SHEETS AND SET-UP

Each player should conceal his unit's record sheets from his opponent before and during game play. Keeping record sheets on a clipboard with a folding cover is a simple and convenient way to accomplish this.

Before play begins, each player should make sure that each unit's record sheet includes appropriate notations for unit features such as auto-eject status, special ammunition loads and Pilot Skill levels.

AVAILABLE INFORMATION

Any unit that is not deployed under the Hidden Units rules is visible to an opponent as soon as game play starts. Consequently, each player can see the location and general type of every opposing unit. For example, an enemy will recognize a CPLT-C1 *Catapult* as a *Catapult*, but he will not know that it is the CPLT-C1 model. Similarly, an opponent will recognize the general type of an infantry unit—foot, motorized, jump or battle armor—but not the type of armament the unit carries.

To obtain further information about an opposing unit, a player must have one of his own units examine the opposing unit by successfully scanning it with an active probe or standard sensors, or by visually inspecting the unit during play.

SCANNING

Active-probe scanning provides the most detailed and accurate information about enemy units. However, when such sensors are unavailable, standard 'Mech or vehicle sensors or a simple visual inspection can reveal a certain amount of information.

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Active Probes

Any time one of a player's units enters the range of an active probe (Beagle active probe, Bloodhound active probe, or Clan active probe) operated by an opponent, the player must reveal that unit's record sheet to the opponent. The player must leave the sheet face up and available for the opponent to examine as long as the unit remains within the probe's effect radius.

Any unit with ECM can block active probes (see *ECM Suites*, p. 72), so ECM-equipped units and other units within the ECM area of effect need not reveal their information. However, such units still can be scanned with standard sensors according to the following rules.

Standard Sensors

Any BattleMech, vehicle or battle armor unit can use its standard sensors to examine one target within its line of sight. Units may make only one scan per turn, during the End Phase. If a unit's sensors are critically hit, the sensors cannot perform this function.

To scan a target with standard sensors, the scanning unit's controlling player must nominate the target and announce that he is scanning it. The scanning player may ask one question about the target unit, such as how much armor it has in a specific location, its specific model number, the amount of ammunition remaining for a particular weapon, or its movement abilities. This question must be answered truthfully by the target unit's controlling player.

Scanning questions must be easily answerable. Any question that requires the target player to perform lengthy calculations—such as “How much armor is left on your entire ‘Mech?’”—are prohibited. Scanning players should also be careful about asking questions that require the target player's opinion, such as, “What's your armor status?” Target players may interpret such questions as they see fit.

If the target unit is within range of friendly ECM, the target player can force the scanning player to make a 2D6 roll to defeat the ECM before he asks his question. In this case, the scanning player must achieve an 8 or higher on the roll. If the roll fails, no information is revealed. Forcing the scanning player to make this roll, however, reveals the presence of ECM in the area. Rather than revealing that information, the target player may simply choose to let his opponent ask a question based on his unit's sensors.

Visual Inspection

Visually inspecting a unit is the last-ditch way to obtain information about the enemy. Any type of unit, including infantry and units with damaged sensors, can use visual inspection.

Visual inspection works just like standard sensor-scanning, with a few exceptions. First, units can visually inspect only targets within 3 hexes of their position. Second, visual inspection cannot provide information that could not be determined by looking at the outside of a target. For example, a visual inspection might reveal the target's armor status—the observer could likely see the target's armor—but it could not reveal the contents of its ammo bins. Finally, ECM has no effect on visual sighting.

DOUBLE-BLIND RULES

In a double-blind game, neither player can “see” the other's forces until they enter the sensor or visual range of the opponent's units. In this way, double-blind rules inject the uncertainty of real battle into *BattleTech* and force players to anticipate their opponent's movements, much like real battlefield commanders.

The double-blind format requires a minimum of three players, one of whom acts as gamemaster. The gamemaster monitors the status and movement of the two opposing players' forces, informs the players of their spotting sweep results, and ensures the smooth play of the game.

Three identical mapsheets and 'Mech sets are needed for a double-blind game—one each for each player and one for the gamemaster. Each player uses his maps to record the movement of his own units and any enemy forces his units have detected. The gamemaster uses his mapsheets to record the movement of both sides. Additionally, each player records the movement of his forces on a copy of the double-blind movement chart found at the back of this book.

Level 1, Level 2 and Level 3 rules may be used in double-blind games unless otherwise noted.

SEQUENCE OF PLAY

Double-blind games use the following modified *BattleTech* sequence of play.

1. Initiative Phase
2. Movement Phase
 - Torso and Turret Twist
3. Spotting Phase
4. Weapon Attack Phase
 - Opportunity Fire
 - Standard Weapons Fire
5. Physical Attack Phase
6. Heat Phase
7. End Phase

The Initiative, Heat and End Phases of each turn in the double-blind game follow the standard *BattleTech* rules (p. 13, *BMR*) except where noted. Special double-blind rules for the Movement Phase, Spotting Phase, Weapon Attack Phase and Physical Attack Phase are described in detail below.

MOVEMENT PHASE

Each player moves his units and records their positions with unit markers on his mapsheets. Both players' units are considered to move simultaneously. In cases where two or more enemy units would violate the hex stacking limits, the side that won the Initiative occupies the contested hex (see *Stacking*, p. 53).

Players should plot their units' movements on a copy of the double-blind movement chart, using the following guidelines:

List the unit's movement mode, if applicable (i.e., Walking/Cruising, Running/Flank, Jumping). Then record the unit's movement for the turn, using the following designations:

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F x = Move forward x number of hexes
R = Turn right (one hex facing)
L = Turn left (one hex facing)
J = Jump
SU = Stand Up
SL = Sidestep left (four-legged or jumping 'Mechs only)
SR = Sidestep right (four-legged or jumping 'Mechs only)
B x = Move backward x number of hexes
TL = Turn Left (free movement for a jumping 'Mech)
TR = Turn Right (free movement for a jumping 'Mech)
U x = Up x number of levels (VTOLs and submarines only)
D x = Down x number of levels (VTOLs and submarines only)
O = Opportunity Fire

Note the starting and ending hex numbers for each unit, the number of hexes moved and the direction that the unit's torso or turret is facing using the Artillery Scatter Diagram (see p. 70, *BMR*).

Ralph's Locust occupies Hex 1406, facing direction 4. During the Movement Phase, Ralph has the 'Mech run. He turns the 'Mech right 1 hex facing, moves it forward 4 hexes, turns it left 1 hex facing, and moves it forward 3 hexes. He then elects to twist the torso so that it is facing direction 5. The 'Mech has moved a total of 7 hexes. The notation for the movement would look like this:

Double Blind Turn Record Sheet									
TURN # _____					SIDE _____				
UNIT ID	STARTING HEX	STARTING FACING	MOVEMENT MODE	MOVEMENT	ENDING HEX	ENDING FACING	TORSO FACING	# HEXES MOVED	
	1406	4	Run	R F4 L F3	1011	4	5	7	

Once the players have moved all of their units, each gives his movement chart to the gamemaster. The gamemaster then moves the units on his mapsheets, first moving all the units of the side that won the Initiative.

The gamemaster resolves all Piloting Skill Rolls for skids and sideslips. The players resolve all other movement-related or non-movement-related Piloting Skill Rolls.

After recording the movement of each player's unit, the gamemaster performs spotting. For details, see *Spotting Phase*, below.

Stacking

Because the opposing forces in a double-blind game cannot see one another, several units may occupy a single hex at the end of a Movement Phase. Whenever the number of such units exceeds the stacking limit for the hex (see p. 20, *BMR*), the hex is automatically occupied by the units of the player who holds the Initiative for the turn. The enemy unit(s) end their movement

in the hex they would have occupied prior to entering the contested hex. Any of the units involved may charge their opponents during the Physical Attack Phase of the turn. (See pp. 41-42, *BMR*, for charging rules.)

SPOTTING PHASE

During the Spotting Phase, the gamemaster checks to see if any enemy unit is seen by an opposing unit.

To perform spotting, the gamemaster checks his mapsheets after plotting the movement of the players' units. He first determines if the units can detect any enemy unit visually. Then he checks to see if they can detect any enemy unit by using sensors. The gamemaster then informs each player of the location, facing and type of any enemy unit detected.

Units that start a double-blind game using the Hidden Units rules (p. 77, *BMR*) cannot be spotted except by the methods outlined in the standard game rules. If a hidden unit fires, it is spotted only if an enemy unit could have seen it under the visual spotting rules.

VISUAL RANGE TABLE

Condition	Maximum Visual Range (in hexes)	
	BattleMech/Vehicle	Infantry
Darkness	5	2
Daylight	60	30
Twilight	15	8
Fog, rain, smoke	10	5

Visual Spotting

A unit visually detects an enemy unit whenever three conditions are met. First, the enemy unit must lie within the forward firing arc of the spotting unit. Second, the spotter must have a clear line of sight to the enemy unit. Third, the enemy unit must be within the visual range of the spotting unit. Use the Visual Range Table to determine maximum visual range under various atmospheric conditions.

Vehicles with more than one crew member can spot in multiple firing arcs (see *Vehicle Crews*, p. 28). Each additional crew member beyond the first can spot in one additional firing arc, so that a vehicle with 4 or more crew members can spot in a 360-degree arc.

Though infantry troops cannot see as far as BattleMechs or vehicles, they can serve as an excellent early warning system when properly deployed, because they offer the advantage of 360-degree spotting arcs.

Sensor Spotting

Electronic sensors cover a wider field than most visual checks, but they can be fooled by the proper counter-measures. Electronic sensors operate in a 360-degree arc, regardless of the spotting unit's firing arc. All sensors, with the exception of seismic sensors, must have a line of sight to an enemy unit to

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detect it. The ranges of various *BattleTech* electronic sensor systems appear in the Sensor Range Table, p. 54.

To use a sensor, the player rolls 2D6. A result of 7 or 8 means the sensor detects any unit within its short range. A result of 5 or 6 means the sensor detects units out to its medium range. A result of 2 to 4 means the sensor detects units out to its long range. A roll of 9 to 12 means the sensor failed to detect any units. A spotting unit may use only one type of sensor per turn, and the controlling player must indicate this choice on the movement chart for that turn. (Note that the probe and sensor rules provided here apply in double-blind games only.)

SENSOR RANGE TABLE

Sensor System	Range (in hexes)		
	Short (2D6 = 7-8)	Medium (2D6 = 5-6)	Long (2D6 = 2-4)
Beagle Active Probe	1-12	13-24	25-36
Bloodhound Active Probe	1-16	17-32	33-48
Clan Active Probe	1-15	16-30	31-45
'Mech Sensor/'Mech	1-8	9-16	17-24
Vehicle Sensor/Other	1-6	7-12	13-18
'Mech Seismic Sensor	1-2	3-4	5-6
Vehicle Seismic Sensor	1	2	3

Three enemy 'Mechs surround Natalie's Raven. Daylight fills the battlefield, and the Raven sees the first enemy 'Mech easily—the machine is within the Raven's forward firing arc, the Raven has a valid LOS and the enemy unit is only 14 hexes away, well within the Raven's 60-hex visual range. The second 'Mech lies 12 hexes away, within the Raven's LOS but in its left-side firing arc. The third lies in the Raven's rear firing arc, 19 hexes away, again within its LOS. The Raven mounts a Beagle active probe, which Natalie has activated for this turn, and so the gamemaster rolls 2D6 to determine if her Raven spots the remaining two 'Mechs. The roll yields a result of 8, indicating that only units within short range are detected. This means that the Raven detects the second 'Mech, but not the third.

Vehicles have access to sensor systems similar to those used on 'Mechs, but in most cases these systems have shorter ranges, reflected in the Sensor Range Table. Infantry units do not have access to electronic sensors.

If seismic sensors are being used, any unit within range is spotted regardless of LOS. VTOLs cannot use seismic sensors, and they cannot be spotted by seismic sensors.

ECM Systems

Just as special sensors can make spotting enemy units easier, special ECM systems can make units harder to detect. As a general rule, ECM systems mask a unit's nature and pre-

cise location from enemy sensors, but the systems' powerful jamming devices make it clear to the enemy that something is out there.

In the double-blind game, the Angel ECM suite, Guardian ECM suite and standard Clan ECM suites all modify the die roll results of spotting units attempting to detect an enemy unit equipped with such an ECM system. Because different ECM systems have different effects against different probes and sensors, the modifiers vary depending on the spotting unit's probe/sensor and the enemy unit's ECM system. These modifiers appear in the ECM Modifier Table.

To be affected, the spotting unit must be in the normal operating radius of the ECM system. This radius is not affected by LOS. If a spotting unit is within the range of multiple ECM systems, combine the effects of all the ECM systems.

Though ECM systems can prevent a sensor probe from identifying a unit, they also produce powerful, distinctive electromagnetic "signatures." If a spotting unit is in range of an active ECM device and fails to detect the ECM-equipped unit, inform the player that his unit has been jammed by an ECM suite.

The rules given here for each of the probes and ECM systems only apply in double-blind games. For general *BattleTech* rules governing the Guardian and Clan ECM suites and the Beagle active probe, see pages 122, 126-127 of the *BattleTech Master Rules*. For general rules and descriptions of the Bloodhound active probe, see *Equipment*, page 72.

WEAPON ATTACK PHASE

After both players have moved their units and the gamemaster has conducted all necessary spotting, the Weapon Attack Phase takes place. Only targets that have been spotted by any friendly unit in that turn may be attacked. All standard weapons-fire rules apply.

The gamemaster first resolves all opportunity fire, then all other weapons fire. Resolve each type of fire by going first to one player with the unit record sheets and double-blind movement charts of all potential targets. The player then resolves his opportunity fire attacks and the gamemaster records the results on the proper record sheets. The gamemaster then resolves the other player's opportunity fire. After opportunity fire is resolved, resolve standard weapons fire in the same manner. Once all weapons fire has been resolved, the gamemaster returns the record sheets to the appropriate players and has them resolve any Piloting Skill Rolls. All opportunity fire is considered simultaneous.

Note that damage taken from opportunity fire and standard weapons fire is not cumulative when determining if the level of damage requires a Piloting Skill Roll. If a unit takes 20+ points of damage in either the opportunity fire or the standard weapons fire stage, however, a Piloting Skill Roll must be made at the end of the appropriate stage.

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ECM MODIFIER TABLE

Spotting Unit's Probe/Sensor	Target Unit's ECM System	
	Angel or Null-Signature System	Standard Clan or Guardian
Beagle	5	4
Bloodhound	4	3
Clan Active Probe	3	2
'Mech Sensor	6	5
Vehicle Sensor	7	6
Seismic	NA	NA

Opportunity Fire

This phase allows a unit to concentrate solely on potential targets for its weapons. In effect, the gunner in a unit that has declared opportunity fire is hunched over his gun sights waiting for a target to appear. Once the enemy unit shows up, the gunner presses the trigger. Any unit that declares opportunity fire must do so during the Movement Phase and may not move or take any other action. All standard movement terrain modifiers apply to opportunity fire, along with an additional +2 modifier that reflects the hurried nature of such shots.

All damage from opportunity fire is applied to the targeted unit before standard weapons fire is resolved. If a targeted unit is destroyed or knocked down, it cannot engage in further action in the current turn. A knocked-down unit may still be targeted by enemy units as long as LOS still exists, but it cannot return fire. When firing on a knocked-down unit, standard weapons-fire modifiers apply.

Units that declare opportunity fire may not initiate standard weapons attacks or execute physical attacks in that turn. However, a player may choose to forgo opportunity fire and have his unit fire as normal during the standard Weapon Attack Phase.

PHYSICAL ATTACK PHASE

All standard physical attack rules apply, except for charges and death-from-above attacks.

Charges may be declared only if both the units involved attempted to occupy the same hex during the Movement Phase. In this case, either one or both units may declare a charge attack against the other, as long as the charging unit is facing its target. If both units declare a charge attack, only the player who won the Initiative will actually be able to charge.

Death-from-above attacks may only be declared if the jumping unit is attempting to enter a hex that contains an enemy unit.

SCAVENGING AND REPAIR

The following Level 3 rules apply to BattleMechs and vehicles only and are to be used in conjunction with the Scavenging and Repair rules found on pp. 82-88 of the *BattleTech Master Rules*. (Infantry forces—including battle armor troops—must be "repaired" using MASH units, p. 68.)

Composite/Reinforced Internal Structure

When using Composite or Reinforced Internal Structures, in conjunction with the *Obtaining Replacement Parts* rule found on pp. 83-84 of the *BMR*, consult the Skeleton/Musculature Base Costs Table.

SKELETON/MUSCULATURE BASE COSTS TABLE

Equipment	Cost (in C-bills)
Composite	Tonnage x 3,600
Reinforced	Tonnage x 8,400
Composite and Triple-Strength Myomer	Tonnage x 17,600
Reinforced and Triple-Strength Myomer	Tonnage x 22,400

JURY-RIGGING

Though replacement parts are not always readily available, any repair shop contains items such as scrap myomer, duct tape, solder and other odds and ends. With these supplies, a technician can jury-rig a temporary bypass for the damaged or destroyed component until a more skilled technician or the needed replacement part becomes available.

Jury-rigged bypasses may be fashioned for leg and arm actuators, energy weapons, engines and sensors. To make a jury-rigged bypass, a technician must simply make a successful Technician Skill Roll. These quick-fix repairs are not very safe or durable, but they do enable a damaged BattleMech to return to the battlefield very quickly and cost virtually nothing.

Leg Actuator Bypass

A successful leg actuator bypass enables a 'Mech to move normally with the following restrictions.

First, reduce the 'Mech's Running MP by 1. Second, a successful charging or kicking attack by the 'Mech automatically destroys the actuator bypass. A critical hit to the bypass automatically causes the 'Mech to fall and otherwise has the same effect as a critical hit to that location. Furthermore, the controlling player must roll 2D6 whenever the 'Mech jumps. On a result of 7 or greater, the impact of landing destroys the bypass. All bypass movement penalties are cumulative, but they cannot reduce a unit's Running MP below its Walking MP.

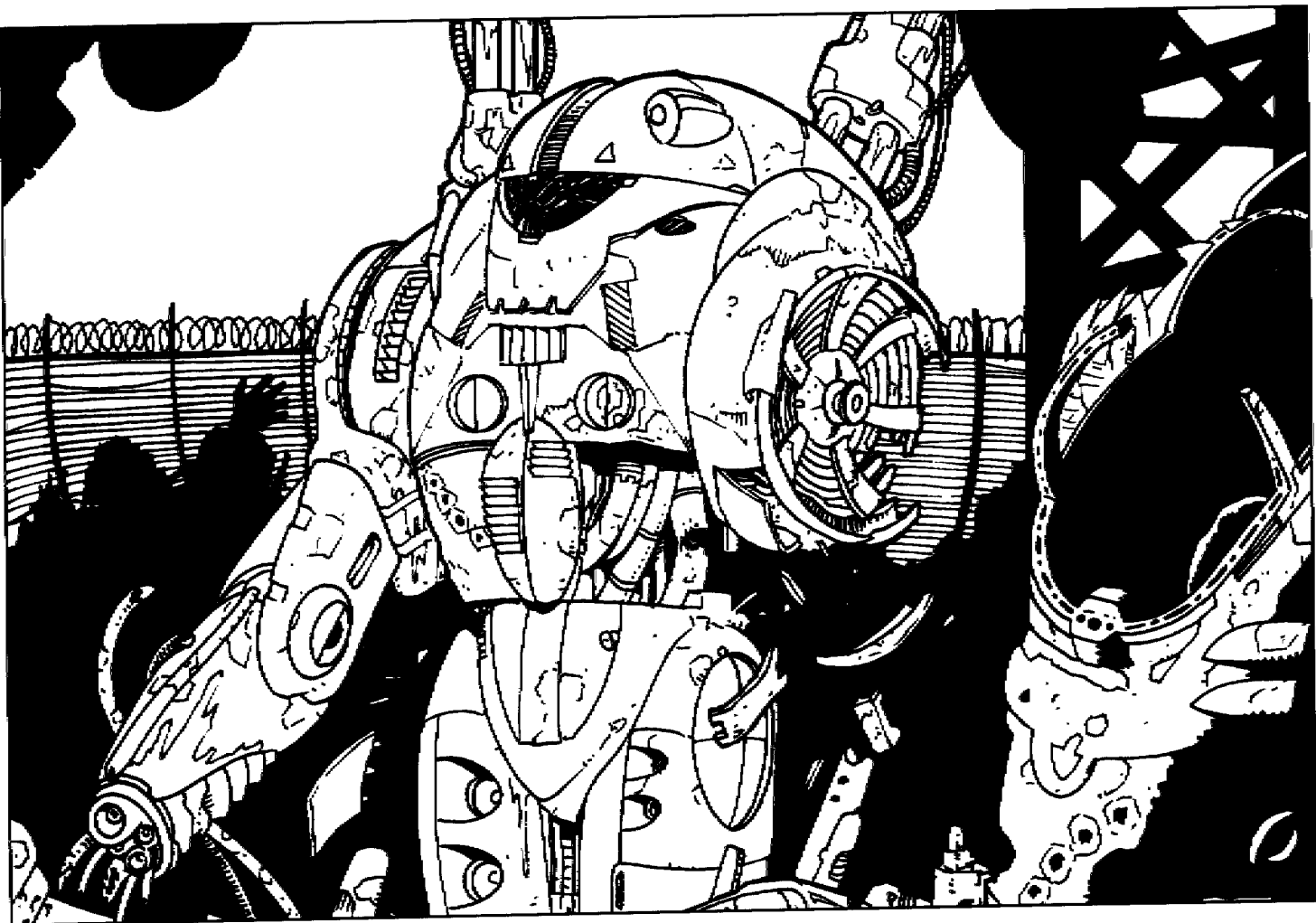
No more than two leg actuators on the same leg may be bypassed. Hip actuators may not be bypassed.

Arm Actuator Bypass

A successful arm actuator bypass allows the 'Mech to use the arm normally with the following restrictions.

First, a successful punching or charging attack by the repaired 'Mech destroys the bypass, as does any attempt to lift an object heavier than a MechWarrior. A critical hit to a shoulder actuator bypass causes the affected arm to dangle uselessly, and any weapons mounted on the arm may not be fired.

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No more than two arm actuators on the same arm may be jury-rigged.

Energy Weapon Bypass

Jury-rigged lasers and PPCs operate with the following restrictions.

First, increase the heat output of the weapon by 2 points. Any critical hit to the weapon results in a heat spike, which adds 6 Heat Points during the Heat Phase of the turn. A critical hit also causes an electrical surge in the cockpit, and the controlling player must immediately make a Consciousness Roll for the pilot. If the pilot is currently undamaged, he falls unconscious on a result of 2 but recovers automatically in the End Phase of the next turn.

If the 'Mech falls, the player must roll 2D6 for each bypass-repaired weapon. On a result of 7 or greater, the weapon is destroyed and causes a heat spike, which creates 6 Heat Points during the Heat Phase of the turn.

Engine Bypass

An engine bypass enables a 'Mech with a damaged fusion engine to operate, with the following restrictions.

The 'Mech loses half its armor (rounding up) on each rear torso location. For attackers rolling on the Determining Critical Hits Table for successful attacks against the 'Mech's rear, a result of 6, 7, 8 or 9 inflicts 1 critical hit. Apply all other results normally. A critical hit to the engine results in a heat spike of 10 Heat Points for that turn only, in addition to the normal effects of the loss of shielding.

Sensor Bypass

If both of a BattleMech's sensors have taken critical hits, a technician may fit the sensors with a jury-rigged bypass, which enables the 'Mech's normal sensors to operate with the following restrictions.

The sensor bypass occupies only 1 critical hit slot; consider the second slot a Roll Again result. The sensors can target only one opponent at a time. The sensors can aim only one weapon without penalty; apply +2 modifiers to to-hit rolls for all additional weapons (this restriction does not affect Streak launchers). The sensor bypass operates only in the visible light spectrum, so the unit suffers an additional night-combat modifier of +1, in addition to the usual modifiers for night and dusk conditions.

CONSTRUCTION

This section offers various options that players can use to create new BattleMechs and vehicles. Read the entire section carefully before choosing which elements to use in your games, because some of the material described in this section can have tremendous impact on game play.

GENERAL RULES

The following construction rules apply to both BattleMechs and vehicles unless otherwise noted.

TECHNOLOGY BASE

According to the standard rules, a single unit cannot mix Inner Sphere and Clan technology. In fact, these two technology bases are not completely incompatible. The most common way to combine them is through custom retrofitting (see *Customizing and Retrofits*, pp. 87–88, *BMR*). In some circumstances, however, a 'Mech or vehicle may incorporate both Inner Sphere and Clan equipment right off the assembly line.

A unit that combines Inner Sphere and Clan technology is said to have a mixed technology base. Such a unit can include equipment and structural options that are normally restricted to either the Clans or the Inner Sphere. Because the original rules were written with the assumption that Clan and Inner Sphere technologies were not compatible, however, players must use their judgment to resolve discrepancies in the rules regarding such units.

FRACTIONAL ACCOUNTING

In the standard rules for BattleMech and vehicle creation, fractions are usually rounded off to simplify record keeping. However, advanced players can choose to not round off fractions when creating Level 3 'Mechs and vehicles, instead using those fractions of weight to squeeze every possible ounce of efficiency out of each design.

Fractional accounting simply means that players do not round off fractions during the construction process. When a rule normally calls for rounding, such as in the weight of an XL engine, keep the fraction. For example, a 350-XL engine weighs 15 tons according to the standard rules. By fractional accounting, it weighs 14.75 tons.

Only those items for which you are directed to round the fractions either up or down are modified by this rule. Any item using the phrase "or fraction thereof," such as the gyroscope, must be calculated according to the standard rules.

Players using fractional accounting should round off all numbers to two decimal places, in order to prevent recordkeeping from becoming impossibly unwieldy.

Armor

When using fractional accounting, armor may be applied in any desired quantity rather than in full- or half-ton amounts. Simply divide the total Armor Points you want the unit to carry by 16; the result is the armor tonnage. (If the unit has special armor

that modifies the armor factor, divide the desired Armor Points by 16 and then by the armor multiple.)

For example, if you want a 'Mech to have 97 points of standard armor, the armor will weigh 6.06 tons ($97 \div 16 = 6.0625$). For a Clan 'Mech with 131 points of ferro-fibrous armor, the armor would weigh 6.82 tons ($131 \div 16 \div 1.2 = 6.8229166667$).

Ammunition

Fractional accounting also allows 'Mechs and vehicles to carry ammunition in quantities other than full-ton lots. Units can carry any amount of ammo, though players will find it easiest to stick with standard half- and quarter-ton lots. Drop any rounds of ammo from a fractional bin that represent less than a single round. For example, a half-ton bin of SRM-4 ammo would hold 12 rounds (1 ton = 25 rounds, $25 \div 2 = 12.5$, or 12 full rounds).

Each ammo bin takes up 1 critical slot, regardless of the bin's weight. Various types of ammunition cannot be mixed in the same critical slot.

ENGINES

Experimentation in advanced fusion-engine design has produced many disastrous failures and no real breakthroughs. In the wake of the Clan invasion, development has moved toward lighter and smaller engines, though no significant advances have been made. The following sections describe the new types of engines under development at various labs across known space.

The Combined Engines Table summarizes the various Level 3 engines described in this book. For completeness, the engines available in the *BattleTech Master Rules* also appear on the table.

Compact Engines

Some designers have been dabbling in compact engines to make more space in the center torso for other components. Heavier than other engine types, compact engines are somewhat less vulnerable to damage, as their size makes them easier to protect with component armor (see p. 62).

Compact engines take up half as many critical slots in the center torso. When using them in a 'Mech design, consider the three slots in the "4–6" section on the record sheet as empty. However, compact engines weigh 1.5 times the tonnage of their standard-sized counterparts (rounded up to nearest half-ton). Compact engines cost twice as much as standard engines and cannot be created as XL, XXL or large engines.

Internal Combustion Engines

It is possible, though inefficient, to mount internal combustion engines in BattleMechs. See *Low-Tech and Utility 'Mechs*, p. 64.

Large Engines

Large engines (those rated higher than 400) are allowed in Level 3 *BattleTech*, though they are bulky, heavy and expensive. With the spread of XL technology, more and more manufacturers

COMBINED ENGINES TABLE

Engine Type	Engine Tons	Extra Critical Slots ('Mech)	Item Slots (Vehicle)	Base Cost*
Standard	Standard	None	0	5,000
Large	Standard	2 in CT	1	10,000
Clan XL	1/2 Standard	2 in LT, 2 in RT	1	20,000
Clan XXL	1/3 Standard	4 in LT, 4 in RT	2	100,000
Clan Large XL	1/2 Standard	2 in CT, 2 in LT, 2 in RT	2	40,000
Clan Large XXL	1/3 Standard	2 in CT, 4 in LT, 4 in RT	3	200,000
Compact	1.5 x Standard	-3 in CT	NA	10,000
Inner Sphere XL	1/2 Standard	3 in LT, 3 in RT	2	20,000
Inner Sphere XXL	1/3 Standard	6 in LT, 6 in RT	4	100,000
Inner Sphere Large XL	1/2 Standard	2 in CT, 3 in LT, 3 in RT	3	40,000
Inner Sphere Large XXL	1/3 Standard	2 in CT, 6 in LT, 6 in RT	5	200,000
Internal Combustion (ICE)	2 x Standard	None	0	1,250
Large Internal Combustion	2 x Standard	2 in CT	1	2,500

* The following formula determines the cost of an engine in C-bills: (Base Cost x Engine Rating x Unit Tonnage) ÷ 75.

are exploring the potential of these massive power plants. The increase in size required to significantly improve the output, however, makes such massive engines completely inefficient for use in most combat vehicles.

The Large Fusion Engine Table gives the tonnage for various large engines. In addition to their significant weight, large engines take up extra critical slots much like XL engines. A large engine uses both of the open critical slots in the center torso, or one item slot in a vehicle.

Each large engine is custom-made to the specifications of the vehicle or 'Mech in which it will be housed, which raises the price considerably. Large engines cost twice as much as smaller engines. For large versions of XL and XXL engines, the cost and size increase is cumulative, as shown on the Combined Engines Table.

Note that a gyro for a large engine weighs 5 tons.

XXL Engines

Extralight (XL) engines revolutionized BattleMech design, and Inner Sphere researchers continue to push the envelope in this area. In their efforts to narrow the technological gap with the Clans, they have recently begun work on extra-extralight engines (known as XXL or Double XL). This technology, while workable, is far from problem-free. The Clans also have been attempting to perfect such power plants for more than a hundred years, so far to no avail.

An XXL engine weighs one-third as much as its standard counterpart, but takes up

twice as many critical slots in the side torsos as an XL (4 each for Clan technology, 6 each for Inner Sphere technology). Extra-extralight engines are also extremely expensive, costing 5 times as much as a standard XL engine (see the Combined Engines Table).

Extra-extralight engines also run hot. Standing still generates 2 Heat Points, Walking generates 4, and Running generates 6. Heat generated by Jumping doubles, with any jump generating at least 6 Heat Points.

LARGE FUSION ENGINE TABLE

Engine Rating	Tonnage
405	56.5
410	61
415	66.5
420	72.5
425	79.5
430	87.5
435	97
440	107.5
445	119.5
450	133.5
455	150
460	168.5
465	190
470	214.5
475	243
480	275.5
485	313
490	356
495	405.5
500	462.5

NEW TARGETING AND TRACKING SYSTEMS

A 'Mech can mount only one of the new targeting and tracking systems described below. None of these systems affect physical attacks. Unless otherwise noted, they do not take up weight or space for the purposes of construction. An advanced targeting computer is also considered to include the targeting and tracking system, so those systems cannot be combined in a single unit.

Many units already have some variation of these systems. For example, the *JagerMech* is well known for its ability to accurately track aircraft. Players may therefore consider that 'Mech as having an anti-aircraft targeting system, as that particular system has no weight or space requirements. Such a retrofit can be applied to any 'Mech that possesses an appropriate description in a *BattleTech Technical Readout*, as long as both players agree to the retrofit.

Long-Range Targeting

A long-range targeting system makes long-range attacks more accurate at the expense of short-range accuracy. A unit with such a system uses the following range modifiers: Short +1, Medium +2, Long +3.

Short-Range Targeting

Short-range targeting systems enhance accuracy against close targets, but make long-range shots more difficult. A unit with such a system uses the following range modifiers: Short -1, Medium +2, Long +5.

Variable-Range Targeting

The variable-range targeting system combines the benefits of both long- and short-range targeting systems. The pilot can alter the system's setting in the End Phase of a turn to long-range, short-range or normal targeting.

A variable-range targeting system weighs half a ton and takes up 1 critical slot in the head. A critical hit to the system eliminates the capacity for variable ranges: the targeting system is stuck on its most recent setting.

Anti-Aircraft Targeting

This system improves targeting against aircraft, but makes attacks against ground targets more difficult. All weapons attacks against aircraft (VTOLs in flight, aerospace and conventional fighters) receive a -2 modifier. This modifier does not apply to units using jump jets. Against ground targets, all weapons attacks receive a +1 modifier.

Multi-Trac Targeting

This basic system is designed to track multiple targets, but at the cost of general accuracy. A unit equipped with Multi-Trac may attack any number of targets in the same turn without adding a secondary-target modifier. In addition, the targets can be in any firing arc appropriate to the weapon being used. All weapons attacks against targets not in the front firing arc suffer a +1 modifier.

Multi-Trac II

A more advanced version of the standard Multi-Trac system described above, the Multi-Trac II confers the same benefits, but the attacker no longer suffers the +1 modifier to targets outside the unit's front firing arc. The Multi-Trac II system weighs half a ton and takes up 1 critical slot in the head. A critical hit to this system eliminates the advantages of the Multi-Trac II but has no other effect on weapons attacks.

Targeting Computer

This is the advanced targeting computer that the Clans have perfected (p. 134, *BMR*) as well as the Inner Sphere Level 3 item described in this book (*Equipment*, p. 84). It is included here for completeness, because such a computer counts as a unit's targeting and tracking system as well, and it cannot be combined with the systems described above.

C³ Computer

This is the advanced command/control/communication computer system that the Inner Sphere has perfected (pp. 124-125, *BMR*). It is included here for completeness, because such a computer counts as a unit's targeting and tracking system as well, and it cannot be combined with the Level 3 systems described above.

ENHANCED SATELLITE UPLINKS

Many 'Mechs and vehicles have unique or advanced communications systems, but these normally have no impact on *BattleTech* play. The enhanced satellite uplink system carried by such 'Mechs as the *Cyclops* and *Atlas* is an exception; under Level 3 rules, this advanced communications system imparts a game benefit to the unit carrying it.

A unit with this system gains an excellent view of the battlefield for all the units on its side, but cannot coordinate closely with its fellow units while its monitors are dedicated to satellite comms. All units on the same side as an uplink-equipped unit gain a +2 modifier to Initiative rolls, though multiple satellite systems are not cumulative. The satellite-equipped unit may not spot for indirect LRM fire or artillery, launch such attacks using another unit as a spotter, or function as part of a C³ network. In addition, all of the unit's attacks and Piloting Skill Rolls receive a +1 modifier to the target number.

The satellite system may be switched on or off during the End Phase of a turn. When the system is off, its benefits and drawbacks do not apply.

BATTLEMECH CONSTRUCTION

The following information applies only to BattleMech construction.

Note: When mounting equipment that frees up critical slots in a location, such as a compact engine or small cockpit, a player may group all the open critical slots together.

COCKPIT SYSTEMS

The cockpit is a BattleMech's nerve center, and so modifications to it can have a significant impact on a 'Mech's abilities. A 'Mech may only incorporate one of the cockpit systems described below.

Command Console

Star League-vintage command consoles have become increasingly rare. The command console is actually a second cockpit that provides room for a second MechWarrior, usually a high-level commander. The command console's redundant set of controls allows the second pilot to operate the 'Mech should the primary MechWarrior become incapacitated. Not surprisingly, BattleMechs with command consoles quickly became a favored target of enemy BattleMechs. Most of those still in existence are used to train new MechWarriors and are kept far from the battlefield. The Clans do not use command consoles, because the concept of a single 'Mech controlled by two pilots goes against their codes of honor.

When used as a training device, the command console allows the instructor to evaluate the performance of an individual recruit while actually in the recruit's BattleMech—and to override the student's control of the machine instantaneously if necessary. Such an invaluable tool for instruction can shave months off the time required to fully train a MechWarrior.

On the battlefield, however, the system is even more valuable. The command console allows a unit commander to focus on his forces' overall tactical situation from a position at or near the front lines while the 'Mech's primary MechWarrior takes care of the fighting. When a unit commander and primary pilot have become accustomed to working together, the presence of the commander directing strategy without having to fight himself can greatly improve the effectiveness of an entire force.

A command console can be mounted in any heavy or assault 'Mech but is too large to fit in the head of smaller 'Mechs. Command consoles weigh 3 tons and take up 1 critical slot in the head.

Though the command console's systems do not normally operate the BattleMech, they may do so if necessary. The secondary MechWarrior in the console does not take damage from ammo explosions unless he is acting as the BattleMech's primary pilot, though he does take damage from shots to the head, falling, or as a result of heat build-up. If the primary cockpit is destroyed, the secondary pilot can maneuver the BattleMech from the command console as normal. This is an exception to the standard rule stating that the destruction of a cockpit destroys the 'Mech. In 'Mechs with command consoles, both cockpits and consoles must be destroyed in order to destroy the 'Mech.

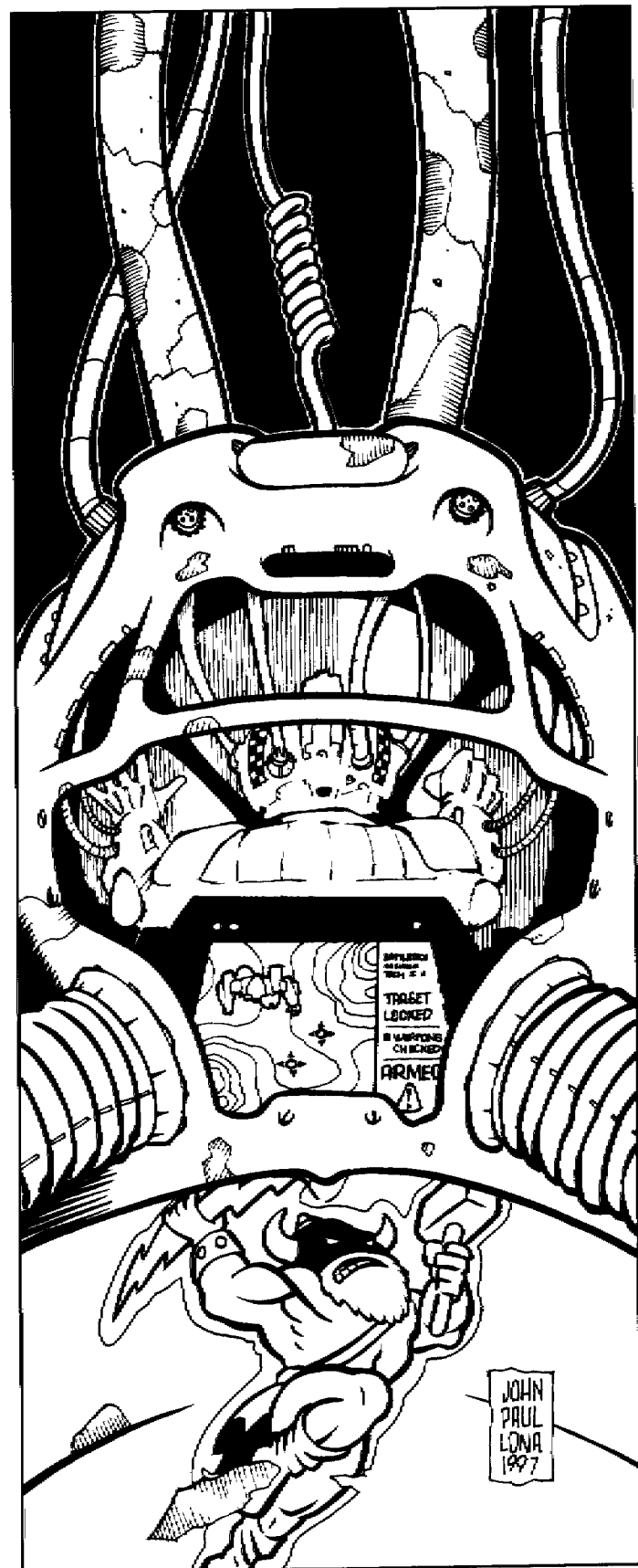
As long as the unit commander is not acting as the primary 'Mech pilot, his presence in the command console provides a +2 Initiative bonus to all units under his command. This bonus is cumulative with the enhanced satellite uplink communication system (if present). In addition, none of the penalties given for that system apply, because the console commander does not have to control the BattleMech and can therefore concentrate on his monitors.

Neither the Initiative bonuses for multiple command consoles nor the bonuses for command consoles and Mobile HQ units (see p. 70) are cumulative.

Enhanced Imaging

The Clan enhanced-imaging system (EI) is an acquisition and targeting system vastly superior to anything currently fielded by the Inner Sphere. The most advanced EI systems consist of two components: a neural network implanted in the MechWarrior, and a computer. Using sensor data from all friendly platforms, along with preloaded terrain data, the computer constructs a virtual battlefield that can be viewed from any perspective. The MechWarrior can access this data through the neural network. He is no longer restricted to an out-of-the-cockpit point of view; instead, he has a moveable camera that he can maneuver anywhere on the battlefield to obtain any perspective he desires.

EI simplifies the MechWarrior's view of the battlefield, giving him enough information to fight effectively without overload.



ing him with extraneous details or requiring him to look down at cockpit controls. The system projects all pertinent combat information onto the MechWarrior's battlefield view. Technical data on enemy forces can be called up by a simple thought command, and the display identifies all 'Mechs as hostile or friendly. EI neural implants also serve as a wireless neurohelmet.

The implants enable the MechWarrior to assimilate the EI data instantaneously but at a potentially steep price. It may cause sensory overload, resulting in permanent nerve damage, insanity or even death.

The neural implant works in conjunction with the standard EI display system, enabling the MechWarrior to access and use his EI display by thought. An implanted MechWarrior can operate any unit equipped with an EI display much more effectively than a MechWarrior without one. Battle armor units may use EI implants, but every member of such an infantry Point must be implant-equipped in order for the Point to receive any benefit.

The neural implant only benefits BattleMech pilots and battle-armored troops. Conventional vehicle drivers and aerospace pilots derive no benefit from the implant because their machines do not have a humanoid shape.

Only the most fanatical Clan warriors use the implant because of its dangerous and painful side effects. Roughly 5 percent of all Clan MechWarriors have EI implants. Because they tend to operate in the same fighting units, however, the proportion seems higher to most Inner Sphere observers. The number of MechWarriors using EI implants is noticeably higher in Crusader Clans such as the Jade Falcons and the Star Adders.

A player can switch the EI system on or off during the End Phase of any turn. When the system is off, the unit acts as though it did not have EI; the pilot gains no benefits but also does not suffer extra feedback damage. The status of each unit's EI system must be clearly marked on its record sheet at all times.

When the EI system is on, the unit gains the following benefits:

- All Piloting Skill Rolls receive a -1 modifier. (This does not apply to battle armor units.)
- To-hit modifiers for firing through woods and smoke are reduced, but normal line-of-sight rules for these types of terrain still apply. Firing through or into any number of Light Woods hexes adds a single +1 modifier. The penalty for firing through or into Heavy Woods or smoke-filled hexes is reduced from +2 per hex to +1 per hex.
- The night combat modifier does not apply.
- The unit may aim its direct-fire weapons at a specific location as though it had a targeting computer. The modifier for such an attack is +6 rather than the usual +3. A unit that has both EI and a targeting computer gains all the benefits of both pieces of equipment, and the called-shot modifier for aiming at a specific location is reduced to +2.

EI systems have a serious drawback as well. Because EI connects the MechWarrior's brain directly with systems in his vehicle, any damage-induced feedback in the vehicle's internal systems delivers strong, potentially lethal electric shocks to the MechWarrior. The specific effects of the feedback vary, depending on the type of unit.

In BattleMechs, the pilot suffers 1 point of damage each time an attack damages the 'Mech's internal structure, unless the controlling player makes a 2D6 roll of 7 or better. A Sensors Critical Hit disables the entire EI system in addition to all other standard effects of the hit.

Elementals equipped with neural implants suffer 1 extra point of damage from every attack that hits them. For purposes of determining this damage, an attack refers to each hit that strikes a particular trooper, including clusters of LRMs and artillery damage.

Small Cockpit

A small cockpit is lighter and more compact than an ordinary cockpit, leaving more room in the BattleMech's head for other components. However, the cramped confines of a small cockpit also make piloting more difficult. To reflect this, modify all Piloting Skill Rolls by +1 when using a small cockpit.

Small cockpits weigh only 2 tons and do not take up the second life-support critical slot in the head. This slot, number 6 on the record sheet, may be filled with a different component.

Torso-Mounted Cockpit

The most vulnerable part of a BattleMech is its head. Though generally small and without much area on which to mount armor, the head contains the cockpit and vital sensors: destroying the head puts the whole 'Mech out of action. In an attempt to reduce the vulnerability of the cockpit, 'Mech designers have been experimenting with torso-mounted cockpits. Placing the cockpit in the well-armored torso of a 'Mech has met with mixed results. The best-known Inner Sphere experiments in this area were performed by the infamous Professor Burke Kale and his NAIS research team, and the Clans have also explored the uses of this type of cockpit. However, the technology is still far from perfect.

A torso-mounted cockpit moves the cockpit critical slot from the head to the center torso. The two life-support critical slots also move, from the head to the right and left torso locations (one in each). This leaves only the 2 sensor critical slots in the head, with 4 head slots available for other equipment. The torso-mounted cockpit also takes up an additional sensor critical slot in the center torso; this additional equipment raises the weight of the cockpit to 4 tons.

Though torso placement gives the cockpit excellent armor protection, it also creates a number of problems. Such a cockpit's small size, for example, means that a +1 modifier must be applied to all Piloting Skill Rolls. Head hits do not cause damage to the pilot (nor do Center Torso hits), but falling may do 1 point of damage as usual. Ammo explosions also cause normal damage to the pilot. Also, it is impossible to eject from a torso-mounted cockpit.

The additional sensors critical slot in the center torso allows the 'Mech to survive head destruction. A single sensor critical hit has the usual effect of a +2 modifier to weapons attacks. Two sensor critical hits add a +4 modifier to weapons fire. If both sensors hit are in the head, this modifier also applies to all physical attacks and Piloting Skill Rolls, because the 'Mech is effectively blinded. Critical hits to all three sensors

make attacks of any kind impossible and apply a +4 modifier to all Piloting Skill Rolls.

The cockpit's close proximity to the engine also makes critical damage to the life-support systems more serious. A hit to either life support critical slot knocks out the entire system. Instead of the normal effects of such a critical hit, the pilot takes a point of damage every turn that the 'Mech's heat is above 0, or 2 points of damage if the heat is 15 or higher.

GYROSCOPES

The gyroscope is a delicate and complicated device that designers have attempted to improve in various ways, chiefly by making them more durable. Three special types of gyro are described below. A 'Mech may only incorporate one type; the characteristics of the different gyros cannot be combined.

Compact Gyro

A compact gyro weighs 1.5 times as much as a standard gyro, but takes up only 2 critical slots in the center torso. Consider the bottom 2 gyro slots on the record sheet as empty.

Heavy-Duty Gyro

A heavy-duty (HD) gyro weighs twice as much as a standard gyro and can take 3 critical hits before being destroyed. On the first critical hit, a +2 modifier applies to all Piloting Skill Rolls, but no such rolls are required when the 'Mech runs or jumps. The second critical hit to an HD gyro is treated like the first critical hit on a standard gyro. The third critical hit destroys an HD gyro, and the 'Mech suffers the normal effects of gyro destruction.

XL Gyro

An extralight (XL) gyro weighs half as much as a standard gyro, but takes up 2 more critical slots in the center torso. Critical hits have the normal effects on an XL gyro; it is damaged after 1 critical hit, destroyed after the second.

STRUCTURAL OPTIONS

Once a 'Mech's armor is penetrated, its critical systems are quite vulnerable to damage. The following structural modifications improve the durability of these internal systems, though at a significant cost in weight.

Armored Components

Individual BattleMech components can be armored to protect them from a single critical hit to each of their critical slots. Any component on the Critical Hit Table can be armored, including leg and arm actuators, cockpit, life support, sensors, engine, gyro, jump jets and all weapons and equipment. The structural needs of an ammo bin's feed mechanisms makes it impossible to armor the bin; use CASE instead.

Gauss rifles, which explode like ammo when critically hit, can be armored but cannot be protected by both armor and CASE. If CASE is in the same location as an armored Gauss rifle, the armor will work but CASE will not protect the unit if the Gauss rifle suffers a critical hit that breaches its armor.

Component armor weighs half a ton per slot that the armored item fills. For example, component armor covering a standard engine would weigh 3 tons. The only exception is the cockpit, which takes 1 ton of armor.

To indicate on the unit's record sheet that a component is armored, circle the number before each of the critical slots the component takes up. When an armored slot suffers its first critical hit, draw an X through the circle. On a second critical hit to the same armored slot, the critical hit takes effect, damaging the component normally.

Armored shoulder and hip actuators can protect a 'Mech from a Limb Blown Off result on the Determining Critical Hits Table. Mark off the component armor as if the actuator had been hit. If the actuator has already suffered 1 hit, the limb is blown off. Component armor does not protect the 'Mech's head from being blown off.

Components may not be armored in ferro-fibrous or other special armor types.

Reinforced Structure

The internal structure of a BattleMech or vehicle can be reinforced to make it more resistant to damage. A reinforced internal structure weighs twice as much as a standard internal structure, but can take twice as much damage before being destroyed (in the same manner as hardened armor; see *Equipment*, p. 72). Reinforced structure does not increase the maximum amount of armor a unit can carry and cannot be combined with endo steel technology.

Composite Structure

Endo steel lightens the internal structure but maintains the structure's durability. It achieves this combination by increasing the size of the structural skeleton, resulting in extra bulk that reduces the amount of equipment the 'Mech can carry. An alternate type of skeleton is under development that reduces the weight of the structure without the added bulk.

Composite structure weighs half as much as standard internal structure, in the same way as endo steel. However, composite structure takes up no critical slots. Instead, the composite structure's light construction makes it more vulnerable to damage. Any damage against composite structure is doubled. Note that this has no effect on armor, so if an attack destroys an internal structure location and damage transfers to armor in another location, the armor in that location will take damage normally.

Armless 'Mechs

Players may build BattleMechs without arms. In Level 2 play, these 'Mechs are treated the same as 'Mechs with arms; the arms have armor, internal structure and an upper arm and shoulder actuator, but contain no other components.

In Level 3 play, armless 'Mechs can be treated somewhat differently. During construction, assign no armor or equipment to your unit's arms. Because they are technically not present, the arms cannot be hit. A hit-location roll that indicates an arm hit does no damage to the armless 'Mech; the damage does not transfer to the side torso, as it would with a hit against a destroyed arm.

CONSTRUCTION

Certain drawbacks balance this significant advantage. An armless 'Mech cannot make most types of physical attacks and will have a hard time getting up after it falls. Any attempt to stand imposes a +4 modifier to the Piloting Skill Roll; see *Attempting to Stand*, p. 16 in *Terrain and Movement*.

TURRETS

The physical structure of most BattleMechs makes mounting a turret on one a tricky proposition. Also, the fact that a MechWarrior pilots a 'Mech in much the same way as he operates his own body makes the use of turrets difficult in combat (people don't come equipped with turrets). For these reasons, 'Mechs may not have turrets in Level 2 play.

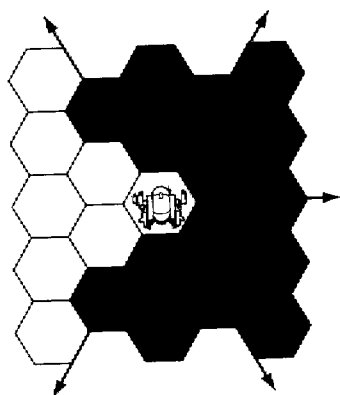
Under Level 3 rules, however, players may mount turrets on BattleMechs. The best location for these turrets is on one or both shoulders, to offer the widest possible arc of fire.

Shoulder Turrets

Two-legged 'Mechs (as opposed to quads) can mount shoulder turrets: one turret on a 'Mech with the head positioned off-center (such as the *Thor*), or two turrets with one on each shoulder. These shoulder turrets are actually mounted in the 'Mech's torso. A right-shoulder turret is mounted in the right torso, and may contain any or all right torso-mounted weapons. Likewise, a left-shoulder turret is mounted in the left torso. Weapons must be entirely contained in the appropriate side torso location to be placed in a turret; weapons split between adjacent locations cannot be turret-mounted.

The turret has the same firing arc as a vehicle turret (see *Vehicles*, p. 30). It can turn to face any direction except the two hexsides toward the 'Mech's head. For example, if the turret is mounted in the left torso, it can face forward, both hexsides to the left, and rearward. A right-torso turret can face forward, the two hexsides to the right, and rearward. As with other BattleMech firing arcs, turret firing arcs are rotated by torso twisting.

The diagram below shows the possible facings for a right-shoulder turret. The turret can turn to face hex A, B, C or D. The shaded hexes show the total potential area into which the turret can fire. The actual firing arc in any given turn would be much smaller, as indicated by the vehicle turret diagram.



Unless a 'Mech has a special targeting and tracking system (see p. 58), a 'Mech with a turret is limited by standard rules for targeting multiple units: all targets must be in the front firing arc and a +1 to-hit modifier applies to all targets after the first.

Each shoulder turret weighs 10 percent of the weight of all weapons mounted in it, rounded up to the nearest half-ton. Only weapons in the torso location that contains the turret may be mounted in it, and must be marked as turret-mounted on the record sheet.

The turret rotation mechanism takes up 1 critical slot. A critical hit to this system locks the turret in its most recent facing.

Quad 'Mech Turret

A quad may mount a single turret using the rules for shoulder turrets. Simply choose the left or right torso as the turret's location for game purposes (even though the turret is probably centrally located). Though quads cannot perform normal torso twists, they may rotate their turrets a full 360 degrees (unlike the restricted rotation of shoulder turrets).

Head Turret

In lieu of shoulder turrets, a 'Mech can replace its head with a turret, provided it has a torso-mounted cockpit (see p. 61). The head turret gives all head-mounted weapons a full 360-degree firing arc, though standard limitations on choosing a target apply.

A head turret weighs 10 percent of the weight of all weapons mounted in the head, rounded up to the nearest half-ton. The turret rotation mechanism takes up 1 critical slot in the center torso. A critical hit to this system locks the turret in its most recent facing.

CRITICAL SLOT LIMITS

Light 'Mechs enjoy a paradoxical advantage over heavier 'Mechs: relative to their small size, they have plenty of space to mount bulky equipment. This advantage becomes even more apparent with the advent of ferro-fibrous armor and other special items that require several critical slots to mount. Smaller 'Mechs can mount more of these special items than larger 'Mechs because smaller 'Mechs have more free critical space.

Using the Critical Slot Limits rule, each class of BattleMech except for assault 'Mechs loses a certain number of critical slots depending on its size. The Critical Space Limits Table shows how many critical slots must be marked off the record

CRITICAL SPACE LIMITS TABLE

Class	Tons	Eliminated Critical Slots
Very Light*	10-15	3 RA, 3 LA, 3 RT, 3 LT, 1 RL, 1 LL
Light	20-35	2 RA, 2 LA, 2 RT, 2 LT
Medium	40-55	1 RA, 1 LA, 1 RT, 1 LT
Heavy	60-75	1 RA, 1 LA
Assault	80-100	None

* See *Very Light 'Mechs*, page 64 for more information.

CONSTRUCTION

VERY LIGHT 'MECHS INTERNAL STRUCTURE TABLE

Total 'Mech Tonnage	Tons of Internal Structure Standard Structure	Endo Steel	Center Torso Boxes	L/R Torso Boxes	Each Arm Boxes	Each Leg Boxes	Maximum Armor Factor
10	1	.5	4	3	1	2	41
15	1.5	1	5	4	2	3	55

sheet for a 'Mech of each weight class. Mark off these slots at the bottom of each location's set of critical slots. This rule only applies to newly constructed Level 3 BattleMech designs, and has no impact on existing designs.

VERY LIGHT 'MECHS

In standard Level 2 *BattleTech*, 'Mechs can only be constructed weighing from 20 to 100 tons. Using the Very Light 'Mechs Internal Structure Table, along with the standard *Construction* rules on pp. 109–114 of the *BattleTech Master Rules*, players can construct 10- and 15-ton 'Mechs.

LOW-TECH AND UTILITY 'MECHS

BattleMechs are the best-known 'Mechs of the thirty-first century, but other types of 'Mechs still exist. During the Star League era, myomer-driven 'Mechs played a role in various aspects of life, from farming to loading DropShip cargo bays. After the fall of the Star League, these utility 'Mechs fell into disuse, their parts often scavenged to repair BattleMechs. As the Succession Wars raged on, the technology needed to build and repair 'Mechs declined, and the Successor States concentrated their dwindling technological resources on the BattleMechs they needed to continue fighting. Utility 'Mechs became a luxury, and soon a rare sight in the Inner Sphere.

The following rules allow players to create such rare utility 'Mechs as AgroMechs, LoggerMechs and CargoMechs. These rules also allow for the installation of internal combustion engines (ICE) in BattleMechs—an inefficient but common practice in the poorer regions of the Periphery, where fusion engines and techs who can repair them are virtually unknown.

Utility 'Mechs are built using standard BattleMech construction rules (pp. 109–117, *BMR*), with the few minor changes described below. Note that utility 'Mechs are different from internal combustion-powered BattleMechs (or "low-tech 'Mechs"). The rules below distinguish between these two types of units.

Determine Technology Base

Though utility 'Mechs may be built with the Clan technology base, the Clans rarely use such machines. Clan technology and philosophy prevents any tech from installing an internal combustion engine in a BattleMech.

Allocate Tonnage for Internal Structure

Utility 'Mechs must allocate 20 percent of their tonnage to internal structure, but receive structure points per the table on

page 110, *BMR*. BattleMechs with internal combustion engines follow the standard rules regarding internal structure.

Determine Engine Rating

Determine the engine rating as for standard BattleMechs. Utility 'Mechs and low-tech BattleMechs may use internal combustion engines, which weigh twice as much as fusion engines of the same rating. Internal combustion engines are cheaper and more readily available, though not available in XL versions. See the Combined Engines Table, p. 58.

If a BattleMech equipped with an internal combustion engine will be carrying energy weapons, it must also carry power amplifiers, as if it was an ICE-powered conventional vehicle. These amplifiers take up 1 ton of space per 10 tons of energy weapons (round up to the nearest ton).

Engine critical hits against ICE-equipped machines do not generate additional heat. Instead, the pilot must check to see if the engine explodes. At the end of the phase in which the unit's engine was hit, the unit's player rolls 2D6. On a result of 10+, the engine and the 'Mech are destroyed. For a second engine hit, add +3 to the dice roll result. On the third engine hit, add +6 to the result. Note that a third engine hit "destroys" the 'Mech for purposes of game play (per the standard rules); the player must still determine if the engine explodes and completely destroys the 'Mech. An internal combustion engine explosion destroys the 'Mech but has no effect on other units.

Determine Jump Capability

'Mechs fitted with internal combustion engines may not use jump jets, but may use mechanical jump boosters (see *Equipment*, p. 81).

Add Heat Sinks

Add extra heat sinks per standard rules. Unlike fusion engines, internal combustion engines do not come equipped with heat sinks. Even if they mount internal combustion engines, BattleMechs do not handle heat in the same way as conventional vehicles. All types of weapons generate heat normally when installed on a BattleMech.

Add Weapons, Ammunition and Other Equipment

Add weapons, ammunition and equipment as for BattleMechs. The equipment shown in the Utility 'Mech Equipment Table is also available.

UTILITY MECH EQUIPMENT

System	Tonnage	Criticals	Notes
Cargo bays*	Special	1 per ton	Enclosed cargo per p. 72, <i>BMR</i>
Combine (AgroMech)	5	4 in each arm	May inflict 1D6 damage against infantry
Lift hoists (CargoMech)	3	3	May lift cargo equal to half the 'Mech's tonnage
Chainsaw (LoggerMech)	5	5	Logging tool, too bulky for use as a weapon

* Cargo bays may only be mounted in utility 'Mechs. BattleMechs with ICE engines may not have cargo bays.

larger ships in *BattleTech*, though these vessels still do not approach the size of the most massive ships. *BattleTech* is not a naval combat game, and so the rules for naval vessels do not take

Critical Hit Table

When rolling on the Determining Critical Hits Table against utility 'Mechs, add +2 to the dice roll result. Treat a modified result of 13 as a result of 12. On a result of 14, the 'Mech's head or a limb is blown off; roll 4 critical hit locations, as indicated on the table.

VEHICLE CONSTRUCTION

This section introduces options for creating new, more powerful and flexible vehicles for use with *BattleTech*.

SUPER-HEAVY TANKS

Players may build super-heavy tracked vehicles that weigh up to 200 tons. Any tracked vehicle weighing more than 100 tons is considered a super-heavy tank and must be built using the following rules. Except as noted below, all the normal rules for tracked vehicle construction apply.

Internal Structure

Super-heavy tanks require reinforced structures to support their massive armor plating and weaponry. Such a tank's internal structure therefore takes up 20 percent of the tank's total weight (rounded up to the nearest half ton) rather than the usual 10 percent. A super-heavy tank has 6 damage locations (front, front left, front right, rear left, rear right and rear) plus turrets (if any). Each of the vehicle's damage locations receives 1 internal structure box for every 10 tons the vehicle weighs (rounded up).

Armor

Unlike smaller vehicles, super-heavy tanks must apply armor to six locations plus turrets. Even though super-heavies have additional side armor facings, weapons are still mounted on the right or left side only and use the standard vehicle firing arcs (see *Vehicles*, p. 30).

LARGE NAVAL VESSELS

Naval vessels can certainly be much bigger than 300 tons (the maximum allowed under Level 2 rules). The following rules permit the use of

into account fabulously large battleships and thousand-ton aircraft carriers.

The main restriction on the size of naval vessels is the limited size of engines available in *BattleTech*. As long as a vessel has a high enough engine rating to give it a Cruising MP of 1, the design is valid. As no engines rated higher than 500 exist in *BattleTech*, the maximum tonnage for a naval vessel is 555.

Level 3 naval vessels massing more than 100 tons are considered "large" and follow the rules below.

Internal Structure

A large naval vessel has six damage locations (front, front left, front right, rear left, rear right and rear) plus turrets (if any). Each of the vessel's damage locations receives 1 internal structure box for every 10 tons the vessel weighs (rounded up).

Armor

Unlike smaller vessels, large naval vessels must apply armor to six locations, plus any mounted turrets. Even though they have additional side armor facings, weapons are still mounted on the right or left side only, and use the standard vehicle firing arcs (see *Vehicles*, p. 30).

TURRETS

Players may use the following options for mounting turrets on vehicles. Under Level 3 rules, the destruction of one or both

ADDITIONAL VEHICLES TABLE

Ground Vehicles

Super-Heavy Tracked

Tonnage	101-200
Suspension Factor	0
Terrain Restrictions	No Heavy Woods or Water

Naval Vessels

Displacement Hulls and Submarines

Maximum Tonnage	Unlimited
Terrain Restrictions	Water hexes of Depth 1+
Suspension Factor:	

Vehicle Tons

01-300

301+

Submarine Diving Equipment

Suspension Factor

30

10% of vessel tonnage (round to nearest 5)

10% of submarine tonnage

turrets will not destroy a vehicle. However, destroying a non-turret location will still destroy a vehicle.

Second Turret

Any vehicle normally allowed to mount a turret can mount a second turret, though the extra tonnage required usually restricts this option to larger vehicles.

The second turret is mounted in front of the first and slightly lower. This arrangement grants the rear turret a full 360-degree firing arc, but prevents the forward turret from turning to face the vehicle's rear hexside (because the rear turret obstructs its LOS).

Both turrets have the standard weight of 10 percent of the weight of the items in the turret, rounded up to the nearest half-ton. A second turret has the standard internal structure allotment and must be armored separately from the first turret.

Under Level 2 vehicle rules, even a vehicle with multiple turrets must abide by certain restrictions when targeting multiple opponents (see p. 30, *BMR*). A vehicle with sufficient crewmen can overcome this limitation in Level 3 play (see *Vehicle Crews*, p. 28 of *Vehicles*).

When using Level 2 hit-location rules, any turret hits coming from the rear will hit the rear turret; hits coming from the front will strike the front turret. When the vehicle takes a turret hit from the side, randomly determine which turret is struck. If using Level 3 rules, use the Advanced Ground Vehicle Hit Location Table on p. 31 of the *Vehicles* section to determine which turret is hit.

Sponson Turrets

Sponson turrets are special swivel mounts for side weapons that offer an increased firing arc over the standard side-mounted weapon. Only tracked and wheeled vehicles and VTOLs may mount sponson turrets; structural limitations prevent naval vessels and hovercraft from mounting them. A vehicle can have sponson turrets in addition to standard turrets.

A vehicle equipped with sponson turrets must have one on each side, and both sponsons must contain the same tonnage of weapons and other equipment so that the vehicle stays balanced. However, the actual weapons need not be the same. No vehicle may have more than two sponson turrets.

The weight of a pair of sponson turrets is 10 percent of the contents of both turrets, rounded up to the nearest half-ton. Unlike standard turrets, sponson-mounted weapons are not considered to be in a separate location for purposes of hit location, armor and damage. Instead, sponson weapons are treated like other side-mounted weapons in this regard.

Sponson-mounted weapons can fire in a special 180-degree firing arc (see *Vehicles*, p. 30). Under Level 2 vehicle rules, even a vehicle with sponson turrets must abide by certain restrictions when targeting multiple opponents (see p. 30, *BMR*). However, a vehicle with sufficient crewmen can overcome this limitation in Level 3 play (see *Vehicle Crews*, p. 31 of *Vehicles*).

VTOL Chin Turret

A VTOL can mount a single turret under the cockpit, called a "chin turret" because of its position. A chin turret follows all the standard rules for turrets on other types of vehicles, with one additional restriction. A VTOL cannot fire turret-mounted weapons at a target occupying a higher elevation level than the VTOL, because the chin turret is mounted on the VTOL's underside.

VTOL OPTIONS

VTOLs are unique vehicles and so have several special construction options under Level 3 rules.

Rotor Arrangement

All VTOLs in *BattleTech* have two rotors that rotate in opposite directions to counter each other's torque. In most cases, they consist of a single main rotor and a smaller, tail-mounted rotor called a stabilizing rotor. However, VTOLs can also be built with dual or co-axial rotors.

Players may use the following rules for such rotors during a vehicle's construction, or apply them to an existing vehicle based on its appearance, as neither new rotor type affects the VTOL's weight. Regardless of their actual arrangement, all rotors are treated the same way for purposes of armor and damage. The Rotors hit location represents both rotors on a VTOL.

A VTOL with dual rotors mounts two rotors of equal size, both on top of the craft, either side-by-side or one in front of the other. The Kamov UR transport is an example of this arrangement, which affords greater stability at the cost of maneuverability. VTOLs with dual rotors cannot perform sideslip or bootlegger maneuvers (see *Vehicles*, p. 29). Dual rotors increase all of a VTOL's turn modes by 1 (see p. 29), but also apply a -1 target number modifier to all Piloting Skill Rolls.

A VTOL with co-axial rotors mounts two rotors of equal size together on the same mast. The Warrior H7 attack helicopter is an example of such an arrangement, which grants greater maneuverability at the cost of reduced overall stability. The usual +2 modifier for VTOLs no longer applies to rolls on the Failed Maneuver Table (*Vehicles*, p. 30). However, each critical hit to the rotors (see p. 34) adds a +1 modifier to Piloting Skill Rolls in addition to other effects.

Jet Boosters

To gain additional speed, VTOLs can mount jet boosters. This equipment resembles *BattleMech* jump jets, and the boosters fire to the VTOL's rear to provide additional thrust.

Jet boosters weigh the same as engine superchargers and are used in the same way (see *Equipment*, p. 84). Because jet boosters are safe technology, no failure roll is required. However, the VTOL loses a great deal of maneuverability while using jet boosters. All turn modes are doubled, making tight turns virtually impossible (see *Vehicles*, p. 29, for turn-mode rules). In addition, the VTOL cannot execute sideslip or bootlegger maneuvers (p. 29) while using jet boosters.

Mast-Mounts

Some VTOLs, most often scout units, mount sensors or other equipment on the mast above the rotors. This arrangement allows the VTOL to hide behind a hill or dense woods while granting the sensors a clear LOS over the obstruction.

A mast-mount weighs half a ton and gives the VTOL the ability to trace LOS through the sensors contained in it as if the VTOL were 1 level higher than its actual position. A VTOL may not mount weapons in the mast, but can use the mast-mount to trace LOS for spotting artillery fire or indirect LRM fire. A VTOL with a mast-mount may also place an active probe or C³ slave unit in the mast at no additional cost in weight or C-bills (but the player must pay the standard cost for the equipment).

If any attack hits the rotors, the mast-mount and any equipment contained in it are destroyed.

SPECIAL VEHICLE ADDITIONS

Vehicles may add crew members or mount special equipment such as bridgelayers and minesweepers. Such additions transform these vehicles into specialty combat vehicles.

Many of the following special items must be placed in a specific location on the vehicle, which is noted at the end of each entry. A vehicle may only mount one item in any given location. For example, a vehicle cannot mount both a turret and a bridgelay because both items are top-mounted. VTOLs cannot use any top-mounted items or items that enhance the motive system, such as amphibious capability.

Additional Crew

A vehicle normally has a standard crew complement based on its tonnage (divided by 15 and rounded up; see *Vehicles*, p. 28). However, a vehicle may be constructed to accommodate additional crew. Each extra crewman weighs half a ton and counts as an item for the purposes of vehicle space limitations.

Bridgelay

A bridgelay carries a 30-meter-long (1 hex) folding bridge that can be deployed in the midst of battle. While being carried, the bridge is struck by any attacks that would otherwise hit a turret. Damage applies to the bridge's CF. Any critical hits to the bridge will disable the mechanism that deploys it. Additional critical hits have no effect.

The bridgelay's controlling player may declare that the vehicle is deploying its bridge during any End Phase. The vehicle must remain stationary during the following turn. At the end of that turn, the bridge is placed in the hex directly in front of the bridgelay, along the same facing as the vehicle (i.e., the bridge cannot extend away from the bridgelay at an angle). A

bridge may be placed in any Water hex, but must be adjacent to at least one land hex (or another bridge).

The bridge is made of a strong, lightweight material and is supported by flotation devices, so it can support greater weight than its CF would normally allow. A bridge can support units weighing up to twice its current CF before collapsing. This limit is the total weight of all units standing on the bridge in a particular hex. For example, two 80-ton Demolishers would collapse a Heavy bridge because their total weight is 160 tons—well over the bridge's 90-ton limit (CF of 45 x 2 = 90).

The Bridgelay Table lists tonnage for the three available types of bridges. The bridge and deploying mechanisms count as a single item for the purposes of construction limits, regardless of tonnage.

Location: Front and top. A vehicle carrying a bridge may not mount a standard turret but can have sponson turrets.

Bulldozer

Vehicles may mount bulldozer blades to aid them in clearing away rubble. Also, a vehicle with a bulldozer blade takes less damage when making charging attacks.

A bulldozer vehicle can clear a path through the rubble in a hex, allowing units to move through the hex as if through a Clear hex. This process takes a varying amount of time based on the type of structure the rubble represented before it was destroyed. Rubble from a Light structure takes 2 turns to clear. Each heavier class of structure doubles the required time, so a Medium structure takes 4 turns, a Heavy takes 8 turns, and the rubble from a Hardened structure takes 16 turns to clear. While it is clearing rubble, the vehicle must remain in the hex, though it can make facing changes as usual. It can make weapons attacks, though all shots are modified as though the vehicle was moving at Flank speed (+2 modifier).

Also, a bulldozer vehicle takes half damage when it charges, though the damage it takes from being charged is unmodified. Every time the vehicle takes damage to the front armor, roll 2D6. On a result of 2, the bulldozer blade is destroyed.

Only tracked and wheeled vehicles may be bulldozers. The bulldozer blade weighs 2 tons and counts as a single item for purposes of vehicle space limitations.

Location: Front

Minesweeper

A minesweeper is designed to detonate mines at a safe distance in front of the vehicle, clearing a safe path for other units. These devices usually consist of large rotating drums with chains and other protrusions designed to intentionally detonate mines. The entire assembly is mounted on a support structure that holds it away from the front of the vehicle.

The procedure for using a minesweeper differs from the rules for infantry Clearing Minefields (p. 72, *BMR*), primarily in that the minesweeper clears the mines as it moves, rather than spending time in a hex to clear them. In this way, the procedure is more like detonating a minefield than clearing it, with the aim being to have the minesweeping device rather than the body of the vehicle take the damage. Minesweeper devices will only det-

BRIDGELAYER TABLE

Bridge Type	CF	Weight (tons)
Light	7	1
Medium	20	2
Heavy	45	6

onate conventional minefields and vibrabombs set to the exact tonnage of the minesweeping vehicle. Vibrabombs of the appropriate type are detonated automatically, inflicting 10 points of damage to the minesweeper device.

For conventional minefields, make the standard 2D6 roll to see if the mines detonate. The mines explode on a result of 6+ rather than the standard 7+. If the mines explode, the entire hex is cleared and the minesweeper device takes 6 points of damage. If the mines do not explode, make a second 2D6 roll to check for detonation (which occurs on a result of 7+). If a mine explodes on this roll, the damage is applied to the front armor of the vehicle, and the hex remains mined per standard rules for an accidental detonation (see p. 72, *BMR*).

Normal attack damage to the vehicle does not affect the minesweeper device. If the vehicle makes a charging attack or another vehicle crashes into or charges its Front side, both the front armor and the minesweeper device sustain damage. The minesweeping device can take 30 points of damage before it is destroyed.

The minesweeper device weighs 3 tons and is considered 1 item.

Location: Front

MASH Unit

In the thirty-first century, a Mobile Surgical Army Hospital (MASH) unit is a sophisticated vehicle that contains a fully functional field hospital. It drives near the battle zone and within a matter of hours deploys an entire hospital, including recovery rooms, doctor's quarters and operating theaters.

A MASH unit can be mounted in any type of vehicle except a VTOL. The basic unit contains a central computer and diagnostic systems, along with one operating theater, and weighs 3.5 tons. Each additional operating theater adds another ton and is considered 1 item for purposes of vehicle space limits.

A MASH vehicle has no game use in standard *BattleTech* play. Because turns are only 10 seconds long, there isn't enough time to operate on soldiers and get them back into the fight in the space of a single game. However, in an extended campaign MASH units can be used to repair infantry casualties and injured MechWarrior pilots between scenarios.

After each scenario in a campaign, a MASH unit can make a number of healing actions equal to the number of operating theaters it has onboard (the standard MASH truck has five). Each healing action will remove 1 box of pilot damage from a MechWarrior or 2 damage boxes from an infantry platoon or battle armor unit. A MASH unit may not heal the same unit twice during the same break between scenarios, but may heal the same unit in subsequent breaks. MASH units may not heal destroyed infantry units.

Location: Rear

Amphibious Vehicles

Water is one of the most common obstacles to thirty-first-century fighting forces, as it restricts the movement of both conventional vehicles and BattieMechs. Many vehicles built in earlier eras, however, such as twentieth-century tanks, could handle

limited amphibious operations. They could cross rivers or land from transport craft to form a beachhead. The increasing sophistication of warfare and the resulting specializations led to the creation of non-amphibious tracked and wheeled vehicles; amphibious operations were left to vehicles such as hovercraft, which lent themselves to such uses. Only a few types of tracked and wheeled vehicles, mainly used for exploration by civilians, retained their amphibious capacity. The Explorer Corps uses several such vehicles. The following rules allow players to include them in Level 3 *BattleTech* games.

The necessary drive equipment takes up 10 percent of an amphibious vehicle's structure. This equipment allows a tracked or wheeled vehicle to move across open water (including Level 0 water) at a cost of 2 MP per hex. However, any damage to the vehicle's drive system—such as a damaged or destroyed track, axle or wheel—disables the drive. Amphibious equipment costs 10,000 C-bills per ton and has a Combat Value equal to the vehicle's total tonnage.

Because an amphibious unit is partially submerged, the hull breaching rules (p. 89, *BMR*) apply. Any unit suffering a breach to any location except its turret (which is assumed to be above water) sinks and is automatically destroyed. If all of a location's armor is destroyed, that location is flooded (again, except for the turret).

Location: Motive

Dune Buggies

Normally, moving over sand slows down wheeled vehicles considerably. However, any wheeled vehicle can be modified to make it more suitable for desert use.

Larger wheels and high-riding suspension allow a vehicle to move through sand at a cost of 1 MP per hex, but these modifications also affect the vehicle's overall performance and reduce its Cruising MP by 1. Because a vehicle's Flank MP is 1.5 times its Cruising MP (rounded up), reducing the Cruising MP also reduces the Flank MP.

An experienced technician with the right parts and tools can convert any wheeled vehicle into a dune buggy. The process requires a Deluxe Tool Kit, a Mechanic Repair Kit, and special wheels and suspension gear that costs a number of C-bills equal to the vehicle's tonnage squared, times 10. The conversion takes a single tech a number of days equal to the vehicle's tonnage divided by 10; if several techs are doing the work, divide this number further by the number of techs. It takes a minimum of one day's work (16 hours) to convert any vehicle, regardless of its size or the number of techs assigned to the job.

Location: Motive

Snowmobiles

Moving over deep snow slows down wheeled and tracked vehicles considerably. However, any wheeled or tracked vehicle can be modified to make it more suitable for arctic use.

The addition of skis and other changes to the suspension allow a snowmobile vehicle to move through deep snow without the added MP cost and with no chance of bogging down (see *Deep Snow*, p. 10), but these modifications also affect the vehicle's overall performance and reduce its Cruising MP by 1.

CONSTRUCTION

Because a vehicle's Flank MP is 1.5 times its Cruising MP (rounded up), reducing the Cruising MP also reduces the Flank MP.

A snowmobile vehicle is so radically modified that it becomes unsuitable for use in non-arctic terrain. When the vehicle is moving in any terrain other than deep snow or ice, it may not move at Flank speed. Its maximum speed is Cruising.

Snowmobile equipment is added to a vehicle in the same way as dune buggy equipment is added to a vehicle.

Location: Motive

Coolant Systems

Coolant trucks are useful for cooling off overheated BattleMechs, as well as being capable firefighting units. The following rules describe how to create and use coolant trucks and other coolant-equipped vehicles.

A coolant system weighs 9 tons and counts as two items for purposes of vehicle space limitations. The coolant system includes circulation equipment, five hookup points and all necessary hoses. A single vehicle may mount multiple coolant systems.

The controlling player of any BattleMech adjacent to a friendly coolant truck at the end of a Movement Phase may announce that the 'Mech is hooking up. Hooking up takes the remainder of the turn, and so the 'Mech may make no attacks. During the Heat Phase of that turn and every Heat Phase thereafter during which the 'Mech remains attached, a BattleMech hooked up to a coolant truck can dissipate an additional 10 points of heat. A player may announce his intention to detach a BattleMech from a coolant truck during the End Phase of any turn. Detaching takes up all of the following turn, after which the 'Mech can move and operate normally.

A 'Mech hooked up to a coolant truck is immobile, and so the standard -4 modifier for an immobile target applies to the to-hit number for attacks against it. It can also be the target of aimed shots. The 'Mech stays immobile for the entire cooling process, from hookup to detaching.

Each coolant system has five hookup points. Light and medium 'Mechs (up to 55 tons) use a single hookup point to cool down. Heavy and assault 'Mechs (60 tons and up) require two hookup points.

Currently accepted rules of warfare offer a hooked-up 'Mech a degree of immunity from battle; if it makes no attacks, no one will fire on it. If the 'Mech engages in hostile action, however, enemy units may fire at it with impunity. This convention is a point of etiquette rather than a hard-and-fast game rule.

Coolant trucks equipped with vehicle flamers or heavy flamers may fire coolant through them instead of burning fuel. A player must announce his intention to fire coolant before using the flamer, and firing coolant consumes a "shot" of flamer ammo. Also, firing coolant through a flamer reduces the number of hookup points available for other uses (the tank can only pump so much coolant). Each vehicle flamer fired reduces the number of available hookups by 1; each heavy flamer fired reduces the number of hookups by 2. A single coolant-equipped vehicle can fire coolant through a maximum of five standard vehicle flamers or two heavy flamers and one standard flamer; in this case no coolant flows to the hookup points.

A coolant truck may fire coolant at a 'Mech to reduce its heat level, though this does not work nearly as efficiently as hooking up the 'Mech. Resolve the shot as a normal flamer attack. If the attack hits, the coolant stream reduces the target's heat level by 2 rather than inflicting damage. A hit by a heavy flamer shooting coolant lowers the target's heat level by 4.

Coolant may also be fired at a burning hex, vehicle or a 'Mech to put out the fire. Roll against the to-hit number as with a normal attack, applying the Immobile target modifier if firing at a hex. If the shot hits the target, the coolant puts out the fire.

Location: Rear

Trailers

Some vehicles in *BattleTech*, most notably the J-27 ordnance transport and the Mobile Long Tom, are equipped to pull trailers. The following rules cover the construction and game use of trailers.

A trailer is constructed according to the standard vehicle construction rules, and is considered a wheeled or tracked vehicle with internal structure and armor. However, a trailer requires no control components or engine. Only wheeled or tracked vehicles may pull trailers, though the trailer type need not match the vehicle pulling it.

The vehicle pulling the trailer (or trailers) is called the tractor. Like standard vehicles, it must have an engine and control components. The trailer hitch adds no weight to the vehicle, but does count as one item for purposes of vehicle space limits. Use the lowest Suspension Factor of the two units in the tractor-trailer combination. For example, if either one is a tracked vehicle, the Suspension Factor is 0.

A vehicle may pull one or more trailers whose combined weight is less than or equal to its own weight. The weight of the trailers reduces the vehicle's speed just as if it was carrying unprotected cargo (p. 72, *BMF*). If a vehicle is pulling a trailer and carrying unprotected cargo simultaneously, add the weight of both items together to determine the movement penalty.

A tractor may mount an engine larger than that needed to provide sufficient power for the tractor alone in order to compensate for the additional weight of trailers. The engine's rating may be based on the total weight of tractor and trailer, as opposed to the weight of the tractor alone, so that the vehicle can pull the trailer with no movement penalty.

The Mobile Long Tom is a 65-ton vehicle pulling two 10-ton ammunition carriages and two 5-ton support carriages. The combined weight of all five component units is 95 tons. The main unit mounts a 190-rated engine, giving it a Cruising MP of 2 ($95 \times 2 = 190$) even while pulling the trailers.

For movement purposes, use the least favorable terrain restrictions of the units in the tractor-trailer; for example, if any are wheeled, the wheeled-vehicle terrain restrictions apply.

Trailers can mount weapons and equipment just like other vehicles. However, the trailers act as part of the tractor for purposes of movement, stacking and firing. The tractor may draw

onate conventional minefields and vibrabombs set to the exact tonnage of the minesweeping vehicle. Vibrabombs of the appropriate type are detonated automatically, inflicting 10 points of damage to the minesweeper device.

For conventional minefields, make the standard 2D6 roll to see if the mines detonate. The mines explode on a result of 6+ rather than the standard 7+. If the mines explode, the entire hex is cleared and the minesweeper device takes 6 points of damage. If the mines do not explode, make a second 2D6 roll to check for detonation (which occurs on a result of 7+). If a mine explodes on this roll, the damage is applied to the front armor of the vehicle, and the hex remains mined per standard rules for an accidental detonation (see p. 72, *BMR*).

Normal attack damage to the vehicle does not affect the minesweeper device. If the vehicle makes a charging attack or another vehicle crashes into or charges its Front side, both the front armor and the minesweeper device sustain damage. The minesweeping device can take 30 points of damage before it is destroyed.

The minesweeper device weighs 3 tons and is considered 1 item.

Location: Front

MASH Unit

In the thirty-first century, a Mobile Surgical Army Hospital (MASH) unit is a sophisticated vehicle that contains a fully functional field hospital. It drives near the battle zone and within a matter of hours deploys an entire hospital, including recovery rooms, doctor's quarters and operating theaters.

A MASH unit can be mounted in any type of vehicle except a VTOL. The basic unit contains a central computer and diagnostic systems, along with one operating theater, and weighs 3.5 tons. Each additional operating theater adds another ton and is considered 1 item for purposes of vehicle space limits.

A MASH vehicle has no game use in standard *BattleTech* play. Because turns are only 10 seconds long, there isn't enough time to operate on soldiers and get them back into the fight in the space of a single game. However, in an extended campaign MASH units can be used to repair infantry casualties and injured MechWarrior pilots between scenarios.

After each scenario in a campaign, a MASH unit can make a number of healing actions equal to the number of operating theaters it has onboard (the standard MASH truck has five). Each healing action will remove 1 box of pilot damage from a MechWarrior or 2 damage boxes from an infantry platoon or battle armor unit. A MASH unit may not heal the same unit twice during the same break between scenarios, but may heal the same unit in subsequent breaks. MASH units may not heal destroyed infantry units.

Location: Rear

Amphibious Vehicles

Water is one of the most common obstacles to thirty-first-century fighting forces, as it restricts the movement of both conventional vehicles and BattleMechs. Many vehicles built in earlier eras, however, such as twentieth-century tanks, could handle

limited amphibious operations. They could cross rivers or land from transport craft to form a beachhead. The increasing sophistication of warfare and the resulting specializations led to the creation of non-amphibious tracked and wheeled vehicles; amphibious operations were left to vehicles such as hovercraft, which lent themselves to such uses. Only a few types of tracked and wheeled vehicles, mainly used for exploration by civilians, retained their amphibious capacity. The Explorer Corps uses several such vehicles. The following rules allow players to include them in Level 3 *BattleTech* games.

The necessary drive equipment takes up 10 percent of an amphibious vehicle's structure. This equipment allows a tracked or wheeled vehicle to move across open water (including Level 0 water) at a cost of 2 MP per hex. However, any damage to the vehicle's drive system—such as a damaged or destroyed track, axle or wheel—disables the drive. Amphibious equipment costs 10,000 C-bills per ton and has a Combat Value equal to the vehicle's total tonnage.

Because an amphibious unit is partially submerged, the hull breaching rules (p. 89, *BMR*) apply. Any unit suffering a breach to any location except its turret (which is assumed to be above water) sinks and is automatically destroyed. If all of a location's armor is destroyed, that location is flooded (again, except for the turret).

Location: Motive

Dune Buggies

Normally, moving over sand slows down wheeled vehicles considerably. However, any wheeled vehicle can be modified to make it more suitable for desert use.

Larger wheels and high-riding suspension allow a vehicle to move through sand at a cost of 1 MP per hex, but these modifications also affect the vehicle's overall performance and reduce its Cruising MP by 1. Because a vehicle's Flank MP is 1.5 times its Cruising MP (rounded up), reducing the Cruising MP also reduces the Flank MP.

An experienced technician with the right parts and tools can convert any wheeled vehicle into a dune buggy. The process requires a Deluxe Tool Kit, a Mechanic Repair Kit, and special wheels and suspension gear that costs a number of C-bills equal to the vehicle's tonnage squared, times 10. The conversion takes a single tech a number of days equal to the vehicle's tonnage divided by 10; if several techs are doing the work, divide this number further by the number of techs. It takes a minimum of one day's work (16 hours) to convert any vehicle, regardless of its size or the number of techs assigned to the job.

Location: Motive

Snowmobiles

Moving over deep snow slows down wheeled and tracked vehicles considerably. However, any wheeled or tracked vehicle can be modified to make it more suitable for arctic use.

The addition of skis and other changes to the suspension allow a snowmobile vehicle to move through deep snow without the added MP cost and with no chance of bogging down (see *Deep Snow*, p. 10), but these modifications also affect the vehicle's overall performance and reduce its Cruising MP by 1.

Because a vehicle's Flank MP is 1.5 times its Cruising MP (rounded up), reducing the Cruising MP also reduces the Flank MP.

A snowmobile vehicle is so radically modified that it becomes unsuitable for use in non-arctic terrain. When the vehicle is moving in any terrain other than deep snow or ice, it may not move at Flank speed. Its maximum speed is Cruising.

Snowmobile equipment is added to a vehicle in the same way as dune buggy equipment is added to a vehicle.

Location: Motive

Coolant Systems

Coolant trucks are useful for cooling off overheated BattleMechs, as well as being capable firefighting units. The following rules describe how to create and use coolant trucks and other coolant-equipped vehicles.

A coolant system weighs 9 tons and counts as two items for purposes of vehicle space limitations. The coolant system includes circulation equipment, five hookup points and all necessary hoses. A single vehicle may mount multiple coolant systems.

The controlling player of any BattleMech adjacent to a friendly coolant truck at the end of a Movement Phase may announce that the 'Mech is hooking up. Hooking up takes the remainder of the turn, and so the 'Mech may make no attacks. During the Heat Phase of that turn and every Heat Phase thereafter during which the 'Mech remains attached, a BattleMech hooked up to a coolant truck can dissipate an additional 10 points of heat. A player may announce his intention to detach a BattleMech from a coolant truck during the End Phase of any turn. Detaching takes up all of the following turn, after which the 'Mech can move and operate normally.

A 'Mech hooked up to a coolant truck is immobile, and so the standard -4 modifier for an immobile target applies to the to-hit number for attacks against it. It can also be the target of aimed shots. The 'Mech stays immobile for the entire cooling process, from hookup to detaching.

Each coolant system has five hookup points. Light and medium 'Mechs (up to 55 tons) use a single hookup point to cool down. Heavy and assault 'Mechs (60 tons and up) require two hookup points.

Currently accepted rules of warfare offer a hooked-up 'Mech a degree of immunity from battle; if it makes no attacks, no one will fire on it. If the 'Mech engages in hostile action, however, enemy units may fire at it with impunity. This convention is a point of etiquette rather than a hard-and-fast game rule.

Coolant trucks equipped with vehicle flamers or heavy flamers may fire coolant through them instead of burning fuel. A player must announce his intention to fire coolant before using the flamer, and firing coolant consumes a "shot" of flamer ammo. Also, firing coolant through a flamer reduces the number of hookup points available for other uses (the tank can only pump so much coolant). Each vehicle flamer fired reduces the number of available hookups by 1; each heavy flamer fired reduces the number of hookups by 2. A single coolant-equipped vehicle can fire coolant through a maximum of five standard vehicle flamers or two heavy flamers and one standard flamer; in this case no coolant flows to the hookup points.

A coolant truck may fire coolant at a 'Mech to reduce its heat level, though this does not work nearly as efficiently as hooking up the 'Mech. Resolve the shot as a normal flamer attack. If the attack hits, the coolant stream reduces the target's heat level by 2 rather than inflicting damage. A hit by a heavy flamer shooting coolant lowers the target's heat level by 4.

Coolant may also be fired at a burning hex, vehicle or a 'Mech to put out the fire. Roll against the to-hit number as with a normal attack, applying the Immobile target modifier if firing at a hex. If the shot hits the target, the coolant puts out the fire.

Location: Rear

Trailers

Some vehicles in *BattleTech*, most notably the J-27 ordnance transport and the Mobile Long Tom, are equipped to pull trailers. The following rules cover the construction and game use of trailers.

A trailer is constructed according to the standard vehicle construction rules, and is considered a wheeled or tracked vehicle with internal structure and armor. However, a trailer requires no control components or engine. Only wheeled or tracked vehicles may pull trailers, though the trailer type need not match the vehicle pulling it.

The vehicle pulling the trailer (or trailers) is called the tractor. Like standard vehicles, it must have an engine and control components. The trailer hitch adds no weight to the vehicle, but does count as one item for purposes of vehicle space limits. Use the lowest Suspension Factor of the two units in the tractor-trailer combination. For example, if either one is a tracked vehicle, the Suspension Factor is 0.

A vehicle may pull one or more trailers whose combined weight is less than or equal to its own weight. The weight of the trailers reduces the vehicle's speed just as if it was carrying unprotected cargo (p. 72, *BMF*). If a vehicle is pulling a trailer and carrying unprotected cargo simultaneously, add the weight of both items together to determine the movement penalty.

A tractor may mount an engine larger than that needed to provide sufficient power for the tractor alone in order to compensate for the additional weight of trailers. The engine's rating may be based on the total weight of tractor and trailer, as opposed to the weight of the tractor alone, so that the vehicle can pull the trailer with no movement penalty.

The Mobile Long Tom is a 65-ton vehicle pulling two 10-ton ammunition carriages and two 5-ton support carriages. The combined weight of all five component units is 95 tons. The main unit mounts a 190-rated engine, giving it a Cruising MP of 2 ($95 \times 2 = 190$) even while pulling the trailers.

For movement purposes, use the least favorable terrain restrictions of the units in the tractor-trailer; for example, if any are wheeled, the wheeled-vehicle terrain restrictions apply.

Trailers can mount weapons and equipment just like other vehicles. However, the trailers act as part of the tractor for purposes of movement, stacking and firing. The tractor may draw

TRAILER MISSED SHOT TABLE

Roll (2D6)	Result
2-3	2 toward back
4	1 toward back
5-9	Shot misses entirely
10	1 toward front
11-12	2 toward front

ammunition from stores in the trailers, and may otherwise make use of equipment in the trailers just as if the equipment was in the tractor. The trailers draw power from the tractor, so the tractor's engine type applies to the entire tractor-trailer rig. For example, if the tractor has an internal combustion engine, energy weapons mounted in the trailers will require power amplifiers, which may be in the trailer itself or the tractor. If using the Vehicle Crew rules (*Vehicles*, p. 28), determine crew for the entire tractor-trailer combined vehicle. The entire crew works together to operate the equipment on the tractor and the trailers.

Any vehicle in front of or behind a tractor or trailer in a chain will prevent the tractor or trailer from firing weapons in that direction. For example, weapons mounted to the rear of the tractor may not fire unless the trailer is detached or destroyed. Likewise, no trailer can fire front-mounted weapons. Middle trailers in multiple-trailer rigs cannot fire to the front or the rear. A turret on the tractor may fire as usual, but turrets on the trailers must follow the same rules as other trailer weapons; for example, a trailer's turret can never fire forward.

When attacking a vehicle that is pulling one or more trailers, the attacker announces his intended target—a specific trailer or the tractor. The target must be visible to the attacking unit. For example, an attack from the sides may aim for any target; an attack from the front can only be aimed at the tractor, the front-most vehicle; and an attack from the rear will strike the rearmost trailer.

If the attack hits, the selected target is struck. If the to-hit roll fails, the shot may strike one of the other trailers in the chain. After a missed shot, roll 2D6 and consult the Trailer Missed Shot Table to determine which of the component vehicles the shot hit (if any). Count the result forward or backward from the intended target. If the result moves the hit off the front or back of the chain, the shot misses.

Destroying the tractor effectively destroys the entire tractor-trailer chain. However, the chain can easily survive the loss of one or more trailers. Destroying a trailer also destroys any trailers behind it.

A tractor may voluntarily cut its trailers loose in the End Phase of any turn. The controlling player simply announces his intention to do so at the beginning of the turn. In the End Phase, the trailers are cut loose and remain in the hex that the vehicle currently occupies. From that point onward, the trailers may not move or fire and are considered immobile targets.

Location: Front (for single or last trailer), Rear (for tractor), Front and Rear (for middle trailers)

Jump Jets

As the infamous Star League-era Kanga shows, vehicles can mount jump jets in much the same way as BattleMechs. However, vehicles do not have legs, and so landing becomes a much trickier proposition. A rough landing can cause serious damage to the vehicle's suspension.

Vehicle jump jets weigh the same as jump jets mounted on BattleMechs (see p. 112, *BMR*), and can be mounted on tracked, wheeled and hover vehicles. The entire jump jet system, regardless of MP, counts as a single item for purposes of space limits. Vehicle jump jets function in the same way as Mech jump jets, with the following exceptions.

Every time a vehicle jumps, the controlling player must roll once on the Motive System Damage Table (*Vehicles*, p. 32) after it lands. Reverse the vehicle type modifiers for this roll, so that a tracked vehicle suffers a +4 modifier while a hovercraft has none (the +2 modifier for wheeled vehicles remains unchanged). Apply an additional -1 modifier to the die roll, but add a +1 modifier if the vehicle is jumping into a Woods, Jungle or Rubble hex.

Jump jets do not allow a vehicle to move into terrain it would normally be unable to enter, but the vehicle can jump over such terrain. A vehicle with jump jets may not execute a death-from-above attack.

Location: Sides, Motive (vehicle cannot mount sponson turrets)

Mobile HQs

Command vehicles such as the wheeled mobile HQ unit carry tons of sophisticated communications gear that greatly improves battlefield coordination. This advantage is represented in *BattleTech* by a bonus to the Initiative roll for the HQ unit's side.

Any vehicle can mount such communications equipment at a cost of 10,000 C-bills per ton. The entire communications package counts as a single item, regardless of its size.

If the vehicle has 3 to 6 tons of communications equipment, it can function as a basic field HQ, granting its side a +1 Initiative bonus. If the vehicle carries 7 or more tons of communications equipment, it is an advanced mobile HQ, granting a +2 Initiative bonus. A side may benefit from only one mobile HQ at a time, including BattleMechs with the command console cockpit (see p. 59).

If an HQ unit suffers a stabilizer critical hit, in addition to the normal effects the Initiative bonus only applies if the vehicle was stationary in the previous turn. If the vehicle suffers a Commander Killed critical hit, the HQ no longer grants the bonus because the senior officers in the HQ are presumably seriously wounded or dead.

Location: Rear

DRONES

Remotely piloted vehicles, called drones, are expensive and uncommon in the Inner Sphere, and unheard of among the Clans. They are most often used for scouting and light combat duty in hazardous environments, where humans are best left in the safer surroundings of a DropShip or large drone-carrying vehicle.

CONSTRUCTION



Construction

Drones and their carriers can be any kind of vehicle type; the type of the carrier need not match the type of the drone(s).

The controlling vehicle, called a carrier, must mount a special sensor package weighing 2 tons, plus an additional half-ton for each drone it can control. This tonnage includes the extra crew required to operate the drones (1 per drone).

Remote equipment on each drone weighs 10 percent of the weight of the drone. The remote equipment is considered to be 1 item. In addition, each drone must mount at least half a ton of special sensor equipment in order to allow remote piloting.

Game Use

A drone works like a normal vehicle, with the following exceptions.

Drones are always considered to have 1 crewman, regardless of the drone's tonnage (see *Vehicle Crews*, p. 28). Apply a +1 modifier to all attack to-hit numbers and Piloting (Driving) Skill Roll target numbers for drone units.

If the carrier is in the effect radius of an enemy ECM system at the end of a Movement Phase, all of its drones immedi-

ately become inactive. They cannot move or fire weapons and are considered immobile targets. This effect lasts until the carrier escapes the ECM's effect radius. If a drone is in the effect radius of an enemy ECM at the end of a Movement Phase, it also becomes inactive.

Critical Damage

Because drones are unmanned, certain critical hit effects work differently for these vehicles. The following rules assume use of the Advanced Vehicle Critical Hit rules (see *Vehicles*, p. 32).

Critical hits that would normally stun or kill the driver or crew do not apply to drones, as drones have no crew. However, a Commander Killed critical hit destroys the drone's remote piloting apparatus, rendering the drone inactive and immobile for the remainder of the game. Also, a Crew Stunned result against the carrier unit affects all the drones it controls according to the *Vehicle Critical Hit Effects*, p. 32 in *Vehicles*.

Because a drone has no crew, it cannot clear jams. Therefore, Turret Jam and Weapon Jam critical hits apply for the remainder of the game.

EQUIPMENT

This section offers rules for experimental Level 3 equipment, as well as optional rules for existing weapons. Some of the experimental equipment has reached the prototype stage, but most of the items described in this section exist only in the terminals of researchers. Computer modeling has predicted the theoretical performance of these items, which are presented below to expand and enhance *BattleTech* game play. Few of these items will become part of mainstream *BattleTech*, and they are not appropriate for most tournament play.

Unless otherwise stated, all equipment in this section can be used by Clan and Inner Sphere forces and can be mounted on BattleMechs or conventional vehicles.

ACTIVE PROBES

Active probes are primarily used to locate hidden units on the battlefield—battle armor infantry as well as BattleMechs and vehicles. Active probes cannot detect hidden unarmored infantry.

In Level 2 play, the player determines if any enemy units lie within the detection radius of an active probe after the unit has finished moving (p. 122, *BMR*). As an optional rule, the effect radius can be active throughout the unit's entire movement. This allows a probe-equipped unit to detect hidden units along its movement path, whereas the standard rules can result in a probe passing a hidden unit without detecting it.

Another optional rule allows active probes to aid in targeting enemy units within the probe's range. If the target is within the probe's range and line of sight exists to the target, reduce the total to-hit modifier for firing through and into woods by 1 (i.e., reduce the total woods modifier by 1, regardless of the number of Woods hexes involved).

A unit with an active probe can also acquire information about an enemy unit's status if players are playing with concealed record sheets (see *Concealing Information*, p. 51 in *Miscellaneous Rules*).

BLOODHOUND ACTIVE PROBE

Inner Sphere manufacturers are working on this improved version of the Beagle probe, which has twice the Beagle's range at the cost of only a slight increase in weight. In addition to its longer range, the Bloodhound active probe can locate any hidden unit, even those with stealth or sneak ability, such as Kage and Infiltrator battle armor and 'Mechs equipped with a null-signature system (p. 83). Bloodhound probes can even spot hidden unarmored infantry, unless the infantry troops are equipped with ECM systems (see *Infantry*, p. 38).

ANTI-MISSILE SYSTEMS

The rules below expand on the use of anti-missile systems (AMS). For basic AMS rules, see pp. 122–123, *BMR*.

LASER ANTI-MISSILE SYSTEM

Proponents of the ballistic anti-missile system are quick to defend its defensive capabilities, but even they concede that the

system's short battlefield lifespan severely limits its usefulness. Both Clan and Inner Sphere designers have therefore turned to lasers to produce improved anti-missile systems.

The laser system consists of a modified small pulse laser with sensors that trigger a barrage of laser fire when they detect incoming missiles. Because even a glancing hit will damage an incoming missile, the system proved highly effective in field tests. Targeting capability, however, remains subpar, and the laser's heat build-up also remains a problem. The system's designers partly solved the problem by lowering the laser's energy output, but the high number of shots fired still produces significant heat.

Standard AMS rules apply to the laser version, with the following exceptions. First, a laser system requires no ammunition and so cannot expend its ammo supply. To determine the number of incoming missiles destroyed by the system, roll 2D6. This result also represents the heat generated by the laser AMS.

Vehicles can mount the laser anti-missile system, but because the system generates a variable amount of heat, the vehicle must have enough heat sinks to accommodate the maximum heat output of the weapon. When installing a laser AMS on a vehicle, assume it generates 12 points of heat.

USE AS A WEAPON

Though designed as a defensive measure, the standard anti-missile system is a kind of specialized machine gun and can be fired as an offensive weapon in a pinch. An AMS used as a weapon functions exactly like a machine gun, except that it has a range of 1; it cannot reach targets at medium or long range. A laser AMS used as a weapon acts like a small laser with a maximum range of 1.

ARMOR

Different types of armor may not be combined on the same BattleMech unless the patchwork armor rule is in effect (see p. 75). Only standard, ferro-fibrous or one of the following armor types may be chosen for a given unit.

HARDENED ARMOR

This advanced armor is twice as durable as standard armor plating, with overlapping plates protecting vital areas of the BattleMech. Hardened armor is available only for BattleMechs; it cannot be mounted on OmniMechs.

Hardened armor provides 8 Armor Points per ton. However, it can take twice as much damage as standard armor before it is destroyed, and the maximum Armor Points permitted per location is the same. Each single box of hardened armor crossed off on the record sheet counts as 2 points of damage from an attack rather than 1 point. Once the armor is destroyed, the remainder of the attack inflicts damage normally, unless the 'Mech also has a reinforced structure (see p. 62). A single leftover point of damage will eliminate a whole armor box; for exam-

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ple, a 5-point cluster of LRM damage destroys 3 boxes of hardened armor ($5 \div 2 = 2$, with 1 left over).

If damage transfers to a location protected by hardened armor, that armor also absorbs 2 points of damage per box marked off.

A Gauss rifle shot hits a location with 12 points of hardened armor, doing 15 points of damage. The defending player marks off 8 armor boxes in that location, leaving 4 intact ($15 \div 2 = 7.5$, so 7 boxes account for 14 damage points; the single point left over destroys the eighth armor box). Later, the same location is hit by a shot from an AC/10, which inflicts 10 points of damage. The defending player marks off the 4 remaining boxes of armor, each of which absorbs 2 points of damage for a total of 8. The remaining 2 Damage Points penetrate the armor and strike the target's internal structure. The defending player marks off 2 internal structure boxes in that location.

Hardened armor's overlapping plates and durability reduce the chance of a lucky shot penetrating a gap and causing critical damage. When checking for possible critical hits when the armor in a location has not been breached—for example, after rolling a 2 on the Hit Location Table or after a successful swarming attack—apply a -2 modifier to the result of the die roll on the Determining Critical Hits Table. If the armor in the location that took the hit is gone, roll normally.

Attacks using armor-piercing ammunition (see p. 76) affect hardened armor as though it is standard armor, except that the usual armor-piercing effects do not occur.

The overlapping plates required to fully protect vulnerable areas of a BattleMech greatly reduce the 'Mech's agility. Apply a +1 modifier to all Piloting Skill Rolls for units with hardened armor, and reduce the unit's Running MP allowance by 1 (after applying other modifiers for critical damage and special equipment). Hardened armor does not affect the unit's Walking MP.

ADVANCED FERRO-FIBROUS ARMOR

Inner Sphere designers have experimented with heavier and lighter versions of standard ferro-fibrous armor for years without positive results. Heavy ferro-fibrous armor offers more protection per ton but also takes up more space, while light ferro-fibrous armor takes up less space than standard armor but also offers less protection (as shown below). Both new armor types are only available for Inner Sphere units.

Type	Slots (Mech)	Items (Vehicle)	Armor Multiplier
Light Ferro-Fibrous	7	1	1.06
Heavy Ferro-Fibrous	21	3	1.24

LASER-REFLECTIVE ARMOR

Also called "glazed armor" or "reflec," laser-reflective armor is designed to reflect lasers and other energy weapons. Its brit-

tle texture, however, makes it particularly susceptible to breakage in certain circumstances.

Laser-reflective armor is less bulky than most other types of special armor, taking up only 10 critical slots. Clan 'Mechs, including OmniMechs, can also mount reflective armor; the Clan variant occupies only 5 critical slots. Laser-reflective armor mounted on vehicles counts as a single item for the purpose of space restrictions. For all units, each ton of laser-reflective armor provides the standard 16 Armor Points.

Laser-reflective armor reduces the damage a unit sustains from energy-weapon attacks: all types of lasers, PPCs and flamers, as well as attacks from infantry armed with energy weapons. Each point of reflective armor absorbs 2 points of damage from such attacks, in the same manner as hardened armor (see *Hardened Armor*, p. 72). Other types of attacks are resolved normally.

Because laser-reflective armor is so brittle, double the damage inflicted by physical attacks and falling. This double damage does not apply to a reflective-armored unit's internal structure, however. In game play, the simplest way to handle such impact damage is to mark off 2 armor boxes for every point of damage from such an attack. If only 1 armor box remains intact in a location, the armor does not prevent damage from reaching the internal structure, and so the box should be marked off.

A 20-ton 'Mech with 5 points of laser-reflective armor on its right arm is hit in that location by an Axman's 13-point hatchet attack. The defending player marks off 4 armor boxes, absorbing 2 points of the damage (2 boxes per point). The single armor box left over is also marked off even though it absorbs no damage from the attack.

The 11 remaining points of damage penetrate to the 'Mech's internal structure, where the 3 boxes each absorb 1 point of damage. The arm is destroyed. The remaining 8 Damage Points transfer to the 'Mech's right torso, which has 10 points of reflective armor. Crossing off all 10 armor boxes soaks up 5 damage points. The remaining 3 points hit the right torso's internal structure.

If the target 'Mech had been equipped with standard armor, it would still have lost the arm, but no damage would have penetrated the right torso. If only the Axman had fired its lasers instead!

REACTIVE ARMOR

Also known as "blazer armor," reactive armor uses shaped explosive charges to reduce the effectiveness of enemy missile attacks. Extremely bulky, it takes up 14 critical slots, reducing the space available for weapons and other equipment. Reactive armor provides the standard 16 points of armor protection per ton. Both the Clans and the Inner Sphere use reactive armor, though structural limitations preclude mounting it on OmniMechs. Clan reactive armor takes up only 7 critical slots.

Reactive armor reduces the damage inflicted by attacks that use shaped charges rather than heat or kinetic energy. These

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attacks include LRMs, SRMs, MRMs, ATMs, Narc missile beacon explosive pods, Arrow IV homing missiles and attacks by SRM- and LRM-equipped infantry. Each point of reactive armor absorbs 2 points of damage from such attacks, as with hardened armor (see p. 72). Other types of attacks are resolved normally.

A slight chance exists that the explosive charges built into reactive armor will detonate prematurely and damage the 'Mech. Any time a critical hit is rolled that strikes a reactive armor slot, reroll the result as usual. At the same time, roll 2D6. On a result of 2, the remaining reactive armor in the hit location is destroyed in a chain reaction (for a torso, the chain reaction affects both front and rear armor). In addition to destroying the armor, the chain reaction causes 1 point of damage to that location's internal structure, with the standard risk of critical damage.

PATCHWORK ARMOR

Normally, different types of armor cannot be combined on the same unit. The following optional rule allows players to construct units with different types of armor in different locations (even though mounting armor in this way is inefficient).

When using patchwork armor, rather than assigning an overall number of critical slots for armor to the entire 'Mech (per standard rules), the player allocates a specific number of critical slots for armor in each area containing special armor. The exact number of slots required varies by type of armor, and is shown in the Combined Armor Table, p. 75, in parentheses. If the critical slots required for special armor in a location exceed the maximum slots available—for example, placing heavy ferro-fibrous armor in the head or leg—simply fill all available slots in that location with the desired armor.

Any given damage location (such as Right Torso or Turret) can have only a single type of armor. The front and rear torso locations in the same area can have different armor, but players must assign the critical slots for the armor type that takes up the most space.

Note that the Piloting Skill Roll penalty for hardened armor always applies, even if the hardened armor is only mounted in a single location, such as the head. Other armor-specific penalties only apply to the location equipped with that particular armor type.

Mounting patchwork armor on vehicles is easier because of their open construction. To determine the number of critical slots taken up, use the armor type that requires the highest number of critical slots and apply that number to the entire vehicle. For example, an Inner Sphere tank with laser-reflective armor on the front and reactive armor on the turret and sides would lose 2 critical slots (the number of slots required to mount reactive armor).

ARTEMIS V FIRE-CONTROL SYSTEM

A new system under development by the Clans, the Artemis V is an improved targeting system for use with standard SRM

COMBINED ARMOR TABLE

Armor Type	'Mech Slots		Vehicle Slots	
	Inner Sphere	Clan	Inner Sphere	Clan
Standard	0	0	0	0
Ferro-Fibrous	14 (3)	7 (1)	2	1
Light Ferro-Fibrous	7 (1)	—	1	—
Heavy Ferro-Fibrous	21 (4)	—	3	—
Hardened	0	0	—	—
Laser Reflective	10 (2)	5 (1)	1	1
Reactive	14 (3)	7 (1)	2	1
Reactive	14 (3)	7 (1)	2	1

and LRM launchers. The Artemis V FCS follows the rules for Artemis IV (p. 123, *BMF*) with the following exceptions.

The Artemis V weighs 1.5 tons and takes up 2 critical slots. Artemis IV and V fire-control systems are not compatible with each other; all of a given type of missile launchers (SRM or LRM) must mount one or the other, or neither.

Attacks with Artemis V-equipped launchers have a -1 to-hit modifier. When rolling on the Missile Hits Table, add 3 to the die roll result (to a maximum result of 12).

As with the Artemis IV, standard Guardian ECM suites and the improved Angel ECM can block the Artemis V.

ARTILLERY CANNONS

Artillery cannons are snub-nosed, short-range versions of standard artillery weapons, including the Thumper, Sniper and Long Tom. They work best when used against numerous enemies simultaneously, where the spill-over damage they inflict can be used to its greatest effect. Artillery cannons are smaller and lighter than their full-size counterparts, but are also a bit more expensive.

Though they cannot be fired from off-board, artillery cannons still fire indirectly. They also have minimum ranges, as their barrels cannot easily be lowered to fire at nearby targets. All three artillery cannons can fire indirectly in the same manner as LRM Indirect Fire (p. 80, *BMF*). Because they are fired like standard weapons (as opposed to full-sized artillery), artillery cannons are classified as ballistic rather than artillery weapons. They do not follow the new Artillery rules found on page 43. For ranges, cost, weight and so on, see the Weapons and Equipment tables at the end of this section.

AUTOCANNONS

Compared to laser weapons, autocannons have little to recommend them except for heat efficiency. The following Level 3 rules suggest several options that make autocannons more potent weapons on the battlefield.

Note that these options only apply to autocannons, not other types of ballistic weapons such as Gauss rifles and artillery cannons.

OPTIONAL FIRING MODES

Autocannons fire bursts of large-caliber shells to damage a target, much like enormous machine guns. They can be used in rapid-fire mode or fired at multiple targets, as described below.

Rapid-Fire Mode

Any standard or light autocannon (but not the LB-X or Ultra models) can be fired at double the standard rate as though it were an Ultra AC. This approach carries considerable risks. Follow the standard rules for firing an Ultra autocannon (p. 124, *BMR*), with the following exceptions.

The weapon's arming circuitry fails on a To-Hit Roll of 4 or less (rather than 2 or less, as for Ultra ACs). On a To-Hit Roll of 2 the ammo feed jams, causing the rounds in the chamber to explode inside the barrel. This causes an effect similar to an ammunition explosion, but inflicts only the amount of damage the autocannon would normally inflict in one shot and does not cause any other ammo to explode. The autocannon is considered completely destroyed (meaning that players must mark off all of its critical slots). CASE keeps this damage from spreading to other locations, and the explosion is small enough that feedback does not reach the MechWarrior. This means that the pilot takes no damage from this type of explosion.

Multiple Targets

Rather than firing at a single target, any type of autocannon can be "walked" across two targets close to one another. An LB-X autocannon cannot fire a cluster shot at multiple targets, and Ultra autocannons are a special case.

No matter what type of autocannon is being used, both targets must be in adjacent hexes and within range of the weapon. Determine the to-hit number for both targets and make separate to-hit rolls against each target, using the higher (more difficult) of the to-hit numbers and adding a +1 modifier for firing at multiple targets with a single shot. Note that this is *not* the secondary target modifier; that modifier does not apply to this type of attack unless multiple targets also are being attacked in the same phase. If the to-hit roll succeeds, the target is struck by a single hit that inflicts damage equal to half the normal damage done by the weapon (rounded down).

For Ultra autocannons, make a single to-hit roll against the highest to-hit number plus 1. Then determine whether one or both shots hit. If only one shot hit, it will strike one of the targets—determined at random—with a single shot that does full damage. If both shots hit, one will strike each target at full damage.

Players can fire at multiple targets in rapid-fire mode (see above). Resolve damage as though the autocannon is an Ultra model.

SPECIAL MUNITIONS

To improve the performance of standard and light autocannons, special munitions are being developed for those weapons. None of the following munitions are available for Ultra and LB-X autocannons. As with other types of special ammo, these munitions must be carried in full-ton lots, and the player must announce which type he will use when declaring weapons attacks.

Armor-Piercing Ammunition

Standard autocannon ammunition consists of high-explosive armor-piercing (HEAP) rounds. Manufacturers have always experimented with ways to improve the armor-piercing qualities of standard AC rounds, but have made no significant advances in the last four centuries. However, researchers at the New Avalon Institute of Science (NAIS) are close to a breakthrough that will greatly increase the armor-piercing power of an AC round by using a combination of top-secret materials and explosives. Though the sheer weight of this type of round significantly reduces its speed, cutting its accuracy and reducing the number of rounds per ton, its designers believe the increased armor penetration is worth that tradeoff.

Every hit with armor-piercing ammunition that strikes armor provides a chance for a critical hit, even if the internal structure was not damaged by the attack. After marking off the armor damage for the attack, roll once on the Determining Critical Hits Table. Apply a modifier to the die roll based on the type of autocannon used: -1 for AC/20; -2 for AC/10; -3 for AC/5; or -4 for AC/2. If the initial attack damages the internal structure, make the standard roll for possible critical hits. Armor-piercing ammunition has no additional effect for attacks that damage the internal structure.

The weight of armor-piercing ammunition means that a ton of armor-piercing ammo contains half as many rounds as a ton of standard ammo (rounded down). In addition, armor-piercing rounds are rather hard to aim, adding a +1 modifier to the to-hit number at all ranges.

Caseless Ammunition

In a caseless round, the metal casing that normally holds a standard shell's primer and powder is replaced with a solid propellant that also acts as a "case" for the round. Caseless ammo is therefore smaller and lighter than a conventional shell, and so a ton of caseless ammo contains twice as many rounds as standard ammunition. However, the ammo feed system for caseless ammo is significantly different from that used for cased ammo. For this reason, an autocannon that uses caseless ammo may not fire any other type of ammo during the same scenario. The player must choose which type of ammo to use before play begins, and cannot switch to another ammo type during the game.

Caseless ammunition vents hot waste gases as it fires, which occasionally ignite the propellant casings of other rounds in the ammo feed system. Though safety systems shield the ammo bin from ammunition explosions, caseless ammo remains vulnerable to exploding rounds in the feed belt.

When firing with caseless ammunition, a To-Hit Roll of 2 raises the risk of such an explosion. The shot automatically misses and the weapon jams; it cannot be fired for the remainder of the scenario, in the same way as a jammed Ultra AC. In addition, the firing player must roll once on the Determining Critical Hits Table (p. 35, *BMR*). A result of 8+ means an explosion has occurred. Any critical hits from this roll are applied directly to the autocannon, starting with the uppermost undamaged critical slot. This explosion is not an ammunition explosion

and has none of the additional effects associated with one, such as pilot damage.

Flechette Ammunition

Flechette rounds are similar to LB-X cluster rounds, except that they release a shower of metal slivers instead of shotgun-like flak. Designed to combat unarmored infantry, these rounds are ineffective against armored targets.

Autocannons firing flechette ammo inflict double the normal damage against unarmored infantry units. If such a unit struck by flechettes is in Clear terrain, the flechettes do four times normal damage. Against all other types of units the damage is halved (round fractions down).

Tracer Rounds

Tracer rounds are loaded into standard ammo bins at regular intervals. For game purposes, an entire ton of ammunition is called "tracer ammo" even though less than 10 percent of the rounds in it are actually tracers. When the autocannon is fired, the tracers illuminate the firing path, making it much easier to adjust fire in darkness. Because the tracer rounds themselves inflict insignificant damage, however, the weapon's overall damage is reduced.

Autocannons firing tracer rounds reduce the to-hit modifier for night combat to +1 and eliminate the to-hit modifier for dusk. The damage inflicted by shots using tracer ammo is reduced by 1 point.

LIGHT AUTOCANNONS

The NAIS devotes a portion of its autocannon research into improving the efficiency of lower-caliber weapons, which have never been popular with MechWarriors because their massive weight is too great a drawback for the limited damage they inflict. The light autocannon (LAC) variants recently designed by the NAIS function much like standard AC/2s and AC/5s, but they are lighter and have shorter ranges. For ranges, cost, weight and so on, see the Weapons and Equipment tables at the end of this section.

CASE II

The Inner Sphere and the Clans are both developing an improved version of cellular ammunition storage equipment, known as CASE II, that protects the area holding the ammunition as well as preventing an explosion from spreading to other locations. In game terms, CASE II works like standard CASE (p. 126, *BMR*) with the following exceptions. The internal structure in the affected location takes only 1 point of damage (roll for possible critical hit); the rest of the damage is applied to the (rear) armor of the location. Make a separate 2D6 roll for each critical hit that occurs. On a result of 8+, that critical hit is not applied. Otherwise, assign the critical hits as normal.

Inner Sphere CASE II weighs 1 ton per protected location, and can be mounted in any location. The Clan version weighs 0.5 ton per location. Both types take up 1 critical slot in each protected location. In Level 3 play, standard CASE has enhanced effectiveness on vehicles (see *Vehicle Critical Hit Effects*, p. 32 in *Vehicles*). Therefore, CASE II is not available for vehicles.

COOLANT POD

Designed as an emergency "one-shot" cooling system, this device contains a reserve of compressed coolant that can be flushed into the heat sinks of an overheating BattleMech. It connects easily to a BattleMech's existing cooling system, but the pod explodes readily upon impact, which limits its usefulness in combat.

Both the Inner Sphere and the Clans are developing coolant pods, though neither have been able to get them to work properly in an OmniMech's modular chassis. Therefore, OmniMechs may not mount coolant pods.

Each coolant pod weighs 1 ton and occupies 1 critical slot in any torso location. The pod must be activated at the start of a turn's Heat Phase and may only be used once (though it may be refilled with coolant after combat). When activated, the coolant pod dissipates 1 additional Heat Point from each of the 'Mech's heat sinks in that turn. The amount of heat expended is the same for single and double heat sinks; a pod-equipped 'Mech with 10 heat sinks will shed 10 extra Heat Points whether the sinks are single or double-strength. A 'Mech may mount more than one coolant pod, but only one pod can be used in a turn.

If weapons fire hits an unused (full) coolant pod critical slot, the violent force of the pressurized coolant escaping causes 10 points of damage to the pod's location in exactly the same manner as an ammo explosion.

ECM SUITES

The rules below expand on the use of ECM suites. For basic ECM suite rules, see pp. 126–127, *BMR*.

ECCM

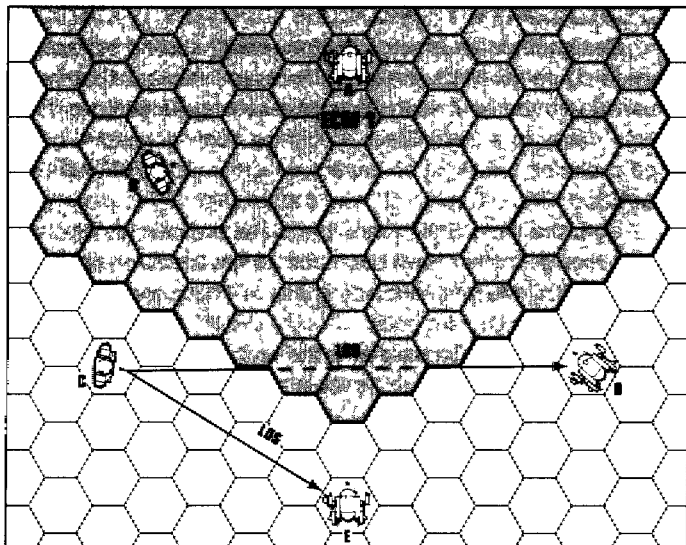
An ECM suite can be tuned to act as electronic counter-countermeasures (ECCM) in order to jam enemy ECM systems. The ECM loses its normal functions when used in this way. The player must announce the switch to ECCM in the End Phase of any turn, or may set the suite for ECCM at the start of the scenario. In either case, note the change on the record sheet of the unit in question.

While the ECCM suite is active, the electronic countermeasures of an enemy unit within the ECCM's radius will not work. Also, any LOS traced through a hex that is encompassed by both ECM and ECCM will be unaffected by the ECM, even if the actual unit carrying the ECM suite is outside the ECCM bubble.

If multiple units equipped with both ECM and ECCM are on the map, the interaction between the two types of electronics systems becomes complicated, because multiple ECM suites operating in the same area can counter an enemy's ECCM (see diagram on p. 78). One ECCM suite can counter one ECM suite. If the amount of friendly ECCM in a hex is equal to or greater than the enemy ECM in that hex, ECM does not function in that hex. For this purpose, the advanced Angel ECM suite (described below) counts as two ECM or ECCM suites.

ANGEL ECM SUITE

This system represents a quantum leap forward in ECM technology from the standard Guardian model. Within its 6-hex



radius of effect, the Angel suite completely blocks the following systems on enemy units: Artemis IV and V fire-control systems, Beagle and Bloodhound active probes and their Clan equivalents, C³ computers and slaves, Streak missiles and Narc missile beacons. Streak missiles may be fired at units affected by ECM, but they function as standard launchers.

When using the ECCM rules given above, an Angel counts as two ECM or ECCM suites (depending on how it is set) for the purposes of determining the ratio of ECM to ECCM in a given hex.

ER PULSE LASERS

The Clans have begun experimenting with what many observers fear may be the ultimate laser weapon: the extended-range pulse laser. Combining a vastly increased range with a pulse laser's pinpoint accuracy, these weapons promise to be a decisive factor on the battlefield if ever perfected. As usual for advanced laser systems, the ER pulse laser's enhanced performance comes at the price of a marked increase in heat build-up. Clan scientists and technicians assert that the benefits are worth the additional heat; the warrior caste will determine in practice whether the technicians are right.

Unlike standard pulse lasers, ER pulse lasers receive a -1 to-hit modifier. In all other respects, treat ER pulse lasers like other laser weapons.

FLAMERS

Though not especially potent weapons, flamers can be quite effective if used as originally intended. The horrific damage done by flamers can crush the morale of unarmored infantry units (see *Morale*, p. 37 in *Infantry*). They can also damage units hidden in trenches and fieldworks, sidestepping normal cover bonuses for such obstacles (see *Digging In*, p. 36).

HEAVY FLAMER

Larger and more potent than the standard vehicle flamer, the heavy flamer uses compressed flammable gas as fuel. The

high-pressure stream can propel flames for more than 180 meters, twice as far as a standard flamer.

As with normal flamers, the attacker can choose to increase the target's heat level rather than inflicting damage. A heavy flamer hit increases the target's heat by 4 points.

INFERNO FUEL

Vehicle and heavy flamers can use a special fuel that ignites a target in the same way as inferno SRMs. A successful attack from a standard vehicle flamer using inferno fuel is the equivalent of a single inferno SRM attack; a successful attack from a heavy flamer is equivalent to two inferno SRM attacks. Inferno fuel costs twice as much as standard flamer fuel. It is also just as volatile as inferno ammunition (see p. 131, *BMR*), which increases the risk of ammunition explosions.

GRENADE LAUNCHERS

Grenade launchers and mortars, common in infantry support, have never been popular mounted on vehicles. However, standard grenades—too short-ranged and inaccurate to be of any real use in most combat situations—can make cheap and effective defensive weapons.

The grenade launcher consists of a cluster of launch tubes loaded with a spread of large grenades that can be fired to a pre-set range and pattern. Each grenade launcher weighs 0.5 tons and takes up 1 critical slot. A grenade launcher can only be mounted in torso locations. As single-shot items they can only be fired once during the course of a game, but can be reloaded between games in a campaign. Grenade launchers are destroyed but do not explode if struck by a critical hit.

FIRING

Grenade launchers always fire into three adjacent hexes, the precise ones determined by the location in which the grenade launcher is mounted (see diagram above). No to-hit roll is required; the shot always hits the target hexes.

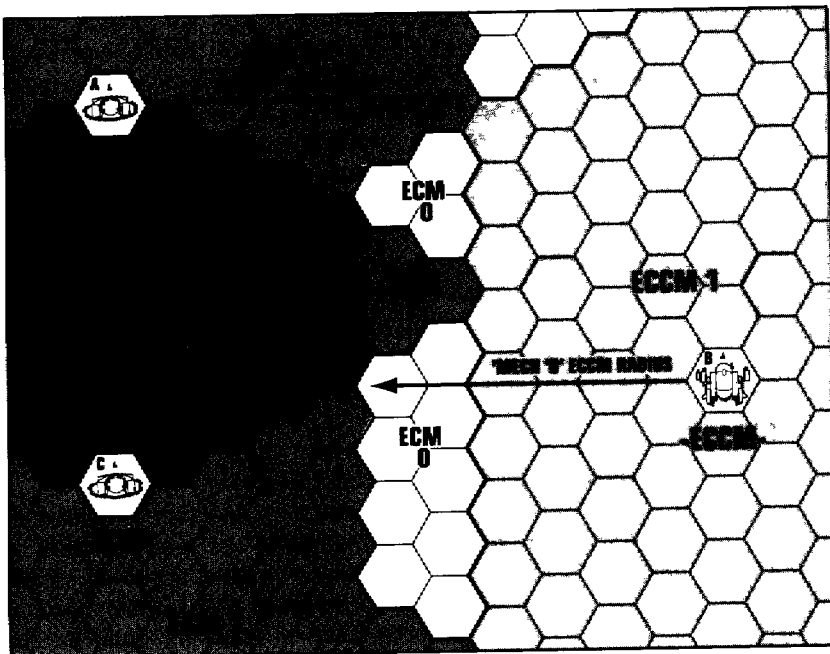
As with artillery, the attack affects all units in the target hexes. The actual effect on the units depends on the type of grenade.

GRENADE TYPES

The type of grenade—fragmentation, smoke screen, chaff or incendiary—determines its effect on units in the target hexes. The controlling player must assign the grenade type to be carried by each launcher before the game begins, writing down the information clearly on the record sheet.

Fragmentation Grenades

This basic grenade type explodes into thousands of pieces of shrapnel that tear through flesh with ease. A fragmentation grenade blast causes 1D6 damage to unarmored infantry in the target hexes, which is doubled if the infantry is in Clear terrain (per the standard rules for attacks against infantry). Battle-armored units in the target hexes take 1 point of damage per trooper. Fragmentation grenades do not affect other types of units.



CONSTRUCTION

Each hand-held weapon must be completely self-contained—that is, it must include any heat sinks and ammunition required to fire the weapon as well as the weapon itself. A hand-held weapon can also mount standard armor at the usual cost in tonnage. Hand-held weapons are too compact to make use of double heat sinks or other special types of heat sinks. Also, hand-held weapons may not be linked to targeting computers or other systems in the 'Mech carrying the weapon (for example, an Artemis IV FCS mounted in the arm). Finally, hand-held weapons may not mount equipment from the Other Equipment section of the Weapons and Equipment tables except for Artemis and TAG systems, and heat sinks.

Bob wants his 'Mech to carry a hand-held medium laser. The laser weighs 1 ton and requires 3 heat sinks to fire. Each sink also weighs 1 ton. Without armor, the weapon weighs 4 tons.

For another 'Mech, Bob is considering a hand-held SRM-6 launcher. This weapon weighs 3 tons and requires a ton of ammunition as well. The weapon generates 4 Heat Points when fired, and so requires heat sinks weighing a total of 4 tons. The complete, unarmored weapon therefore weighs 8 tons: 3 for the launcher, 1 for ammunition and 4 for the heat sinks.

Bob decides that a hand-held twin small laser might come in handy for close-in fighting. Each small laser weighs 0.5 tons and generates 1 Heat Point. This weapon weigh 3 tons unarmored: 1 ton for the two lasers and 1 ton for each laser's heat sink.

Smoke Screen Grenades

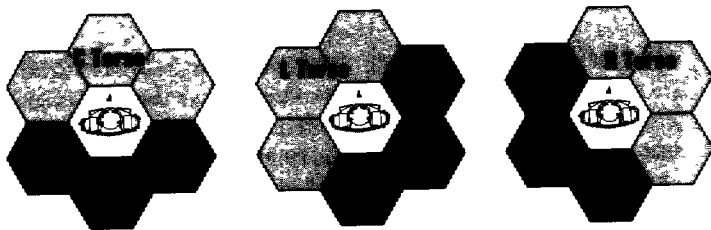
These grenades fill the target hexes with Light smoke that rises 2 levels above the underlying terrain. See *Smoke*, p. 50 in *Miscellaneous Rules* for rules on smoke types, drifting and dissipation.

Chaff Grenades

Chaff grenades fill the target hexes with clouds of metallic particles that disrupt targeting and tracking systems. The clouds drift and dissipate like Light smoke that rises 2 levels above the underlying terrain, but chaff has no effect on LOS. Weapon attacks firing into or through a Chaff hex are modified by +1; physical attacks are unaffected. Also, as with an ECM suite's radius of effect, Chaff hexes block the use of certain advanced weapons in the same way as a Guardian ECM Suite.

Incendiary Grenades

This type of grenade sets fires like an inferno missile (see p. 131, *BMR*). It has no other effect on the target hexes.



HAND-HELD WEAPONS

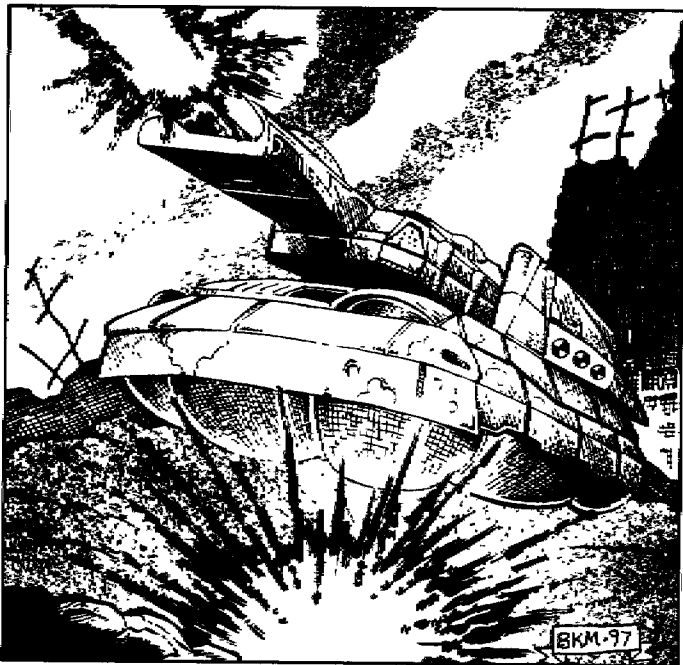
BattleMechs equipped with hands can use weapons not mounted directly on the chassis. Though vulnerable to damage, these hand-held weapons can provide the extra firepower a 'Mech needs in a pinch.

ATTACKS

A hand-held weapon must be carried according to the rules for *BattleMech Lifting Capabilities* (p. 72, *BMR*). Aside from those restrictions, the weapon may be fired as a standard arm-mounted weapon. However, because it must be carried in both arms, the weapon can only fire into the front firing arc. Damage to arm actuators in either or both arms will affect the firing of a hand-held weapon as though it was an arm-mounted weapon, and such modifiers are cumulative for both arms. If the 'Mech suffers critical hits that leave it with no functioning hand actuators, the hand-held weapon is dropped at the end of the phase in which the hits were taken.

The weapon carries its own heat sinks and so does not generate heat. It consumes ammunition only from its own supply. It cannot draw ammunition from the BattleMech, even if the 'Mech stores the same type of ammo.

Though a 'Mech can only carry one hand-held weapon, that weapon may consist of one or more individual weapon systems; for example, a single hand-held weapon might consist of ten medium lasers. All components of a hand-held weapon must be fired at the same target, though they need not all fire every time the weapon is used.



DAMAGE

Whenever a 'Mech carrying a hand-held weapon takes damage to an arm, make an additional 1D6 roll. On a result of 1 or 6, the weapon is hit rather than the arm. When the hit location roll results in a center torso (front) hit, a result of 6 on the additional 1D6 roll indicates a hit against the weapon instead.

If the weapon is armored, mark off the appropriate armor damage. Any excess damage destroys the weapon. An unarmored weapon is destroyed by the first successful attack against it. In either case, the 'Mech remains undamaged by a hit against the hand-held weapon.

Dropping the Weapon

A hand-held weapon can be dropped or picked up from the ground in any End Phase, though the same weapon cannot be dropped and picked up in the same phase.

Also, if the carrying 'Mech falls, it may drop the hand-held weapon. A Piloting Skill Roll is required to hold on to the weapon, with all the usual modifiers plus an additional +1 for every damaged or missing arm actuator. If the weapon is dropped, it may not be picked up until the End Phase of the following turn.

A dropped hand-held weapon immediately ceases to function. It cannot be the target of attacks while it is on the ground.

HEAT SINKS

Following are rules for two new heat sink systems: compact heat sinks under development in the Inner Sphere and laser heat sinks being developed among the Clans.

COMPACT HEAT SINKS

Compact heat sinks are intended as an alternative to double heat sinks for large 'Mechs carrying energy weapons, such

as the *Awesome*, where space is of greater concern than weight. Compact heat sinks dissipate heat in the same way as standard heat sinks, but two of them can fit in a single critical slot. Each compact heat sink weighs 1.5 tons.

As with normal heat sinks, a 'Mech receives 10 compact heat sinks that require no allocation of extra tonnage. Also, the number of heat sinks that need not be assigned to critical slots (per the rules for *Add Heat Sinks*, p. 112, *BMR*) is doubled. When a critical slot containing 2 compact heat sinks is hit, both heat sinks are destroyed.

Vehicles cannot carry compact heat sinks, nor can compact heat sinks be combined with other types of heat sinks on the same 'Mech. Only Inner Sphere 'Mechs can use compact heat sinks.

LASER HEAT SINKS

Standard heat sinks use radiators and heat-conductive fluids to cool the 'Mechs. Laser heat sinks use lasers to excite the hot exhaust gases into a higher-energy state, effectively converting the infrared (IR) energy of the gases to the visual spectrum. The light is then shunted out of the 'Mech via highly polished surfaces rather than the usual collection of pipes and tubing.

Prototypes of these heat sinks, possessed only by the Clans and first seen on the *Night Gyr*, performed as well as standard double-strength heat sinks. Computer simulations show that laser-based heat sinks have impressive potential.

Laser heat sinks function as standard double heat sinks, but because they reduce the amount of hot gas and liquid streaming around the inside of the 'Mech, the chance of ammunition explosions is reduced. When rolling to avoid an ammunition explosion due to heat, add a +1 modifier to the die roll.

A laser heat sink's ability to dissipate heat is not affected by immersion in water or by weather conditions.

A 'Mech equipped with laser heat sinks emits bright flashes of light, making it an easy target at night. If the 'Mech takes any action in a turn that generates heat (movement, firing weapons, and so on), the night combat or dusk modifier for shots against it is reduced by 1 whether or not the heat is dissipated by the sinks. If the 'Mech's heat level rises above 0, the night or dusk modifier no longer applies.

Vehicles cannot carry laser heat sinks, nor can laser heat sinks be combined with other types of heat sinks on the same 'Mech. Only Clan 'Mechs can use laser heat sinks.

JUMP JETS

One major advantage of BattleMechs over vehicles is jump jets, which give them unprecedented mobility over difficult terrain (though at the price of serious heat build-up). Research into alternative and improved jump systems is a high priority across known space. Level 3 *BattleTech* permits the three variations described below: the jump pack, improved jump jets and mechanical jump boosters.

BATTLEMECH JUMP PACK

Designed to give normally ground-bound 'Mechs the edge of surprise in the early stages of battle, the jump pack allows a

'Mech to make a single jump or a few short jumps at an important moment. The 'Mech can execute effective flanking maneuvers even in the most difficult terrain.

A 'Mech may carry only one jump pack of any desired weight, with the following restrictions. As with standard Jumping MP, the maximum jump is limited by the 'Mech's Walking MP. The amount of Jumping MP granted by the pack is determined by comparing its weight to the 'Mech's tonnage. To determine the Jumping MP allowance, see the Jump Jet Weight Table on p. 112, *BMR*.

A 4-ton jump pack provides 8 Jumping MP to a 'Mech weighing 10 to 55 tons; 4 Jumping MP to a 'Mech weighing 60 to 85 tons; and 2 Jumping MP to a 'Mech weighing 90 to 100 tons. None of these Jumping MP may exceed the 'Mech's Walking MP.

The jump pack provides jumping movement in the same manner as normal jump jets, except that the jump generates no heat. The pack carries a limited supply of fuel, enough to make two full-distance jumps. This jump distance can be split up into smaller jumps, but the total hexes jumped cannot exceed the MP rating of the jump pack x 2. For example, a pack that provides 5 Jumping MP could be used to make two 5-hex jumps, or two 3-hex jumps and one 4-hex jump, or five 2-hex jumps. After the pack's fuel is exhausted, it is automatically dropped.

A jump pack is strapped to the outside of a 'Mech as unprotected cargo (see *Cargo Carriers*, p. 72, *BMR*) and follows most of the appropriate cargo rules. Unlike standard unprotected cargo, however, the jump pack can only be destroyed by successful attacks on the rear torso locations. Any successful rear torso hit automatically destroys the jump pack, as well as inflicting normal damage to the 'Mech.

IMPROVED JUMP JETS

Larger and heavier than standard models, improved jump jets can propel a 'Mech farther with less heat build-up. Improved jump jets weigh twice as much as standard jets and take up twice as many critical slots (2 for each Jumping MP). However, the jets allow the 'Mech's Jumping MP to equal its Running MP. The heat from jumping is reduced by half (1 Heat Point per 2 hexes or portion thereof jumped), to a minimum of 3 Heat Points.

MECHANICAL JUMP BOOSTERS

The goal of this odd system is to give BattleMechs heat-free jumping ability. At a considerable cost in weight and space, mechanical jump boosters provide limitless jump capability with no heat build-up. The boosters also will function when submerged in water, often allowing 'Mechs equipped with them the advantage of surprise when jumping from an immersed position into battle.

The booster system, housed in a BattleMech's legs, uses special myomer bundles and hydraulic pistons. The equipment is so bulky that it leaves no room for anything else to be mounted in the legs. Jump boosters take up all critical slots in both

legs of a bipedal 'Mech and all four legs of a quad 'Mech. Critical damage to any one of these slots disables the entire booster system. The boosters weigh 5 percent of the 'Mech's tonnage x the desired Jumping MP (round up to the nearest half-ton). Unlike standard jump jets, the Jumping MP bestowed by boosters is not limited by the 'Mech's Walking MP.

Jump boosters act like standard jump jets, with the following exceptions. Because jump boosters cannot be steered in midflight, the 'Mech must land with the same facing as when it started movement. Death-from-above attacks cannot be launched using jump boosters. As noted above, jump boosters generate no heat and can be used even when submerged.

A single 'Mech can mount both standard jump jets and jump boosters, but cannot use both systems in the same turn.

MACHINE GUNS

The humblest weapon on the *BattleTech* battlefield, the often-neglected machine gun can be fired in new optional modes in Level 3 play. Like autocannons (see p. 76), machine guns can be fired against multiple targets or in rapid-fire mode. Against multiple targets, machine guns use the rules for autocannons; when rapid-firing, use the optional rule below.

RAPID-FIRE MODE

A machine gun may be modified to fire at a much higher rate than normal, chewing up huge amounts of ammunition but significantly increasing the weapon's damage potential. The controlling player must mark any machine guns to be used in rapid-fire mode on the record sheet at the beginning of the game, and the weapons must be rapid-fired for the entire game.

Each time the weapon is rapid-fired, roll 1D6 to determine the heat generated. This number also becomes the damage inflicted by the weapon if it hits (it is possible for a burst to inflict only 1 point of damage). Each rapid-fire burst uses a number of rounds equal to the damage it inflicted x 3.

Rapid-fire machine guns do not inflict increased damage on infantry. For attacks against infantry made in rapid-fire mode, use the standard rules for resolving shots against unarmored infantry found on p. 60, *BMR*, including those for ammunition expenditure and heat.

MISSILE LAUNCHERS

The following paragraphs describe two advanced missile launchers.

IMPROVED SINGLE-SHOT MISSILE

A Level 3 single-shot missile system weighs half a ton less than the launcher itself, including a single salvo of ammunition at no additional cost in weight, space or C-bills. These missile systems follow all other standard rules for single-shot launchers given on p. 129, *BMR*.

STREAK LRMS

Clan weapon designers are currently attempting to adapt Streak targeting to a direct-fire LRM system, in hopes of devel-

EQUIPMENT

oping a powerful weapon that conserves often-meager ammunition supplies.

The Streak LRM is fired like a Streak SRM, but with the ranges given for this weapon on the Clan Level 3 Weapon and Equipment Table (p. 86). If the to-hit roll fails, the weapon achieves no lock and does not fire. Consequently, it expends no ammunition and generates no heat. If the to-hit roll is successful, the weapon fires and all of its missiles hit the target; players need not roll on the Missile Hits Table. Damage is grouped into 5-point clusters, and hit location is determined normally.

MISSILES

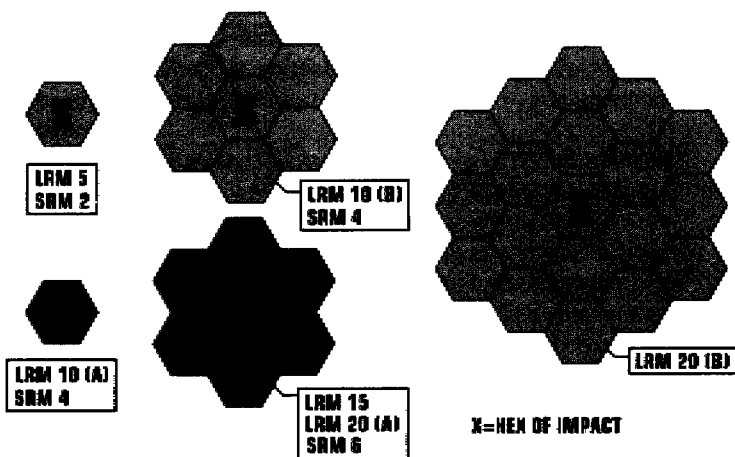
The following paragraphs describe various types of advanced missile ordnance, as well as Level 3 rules for hot-loading LRMs.

HOT-LOADING

The minimum range of LRMs and ATMs in the standard rules reflects the time it takes for the internal guidance systems to lock on to targets and for the explosive payloads to arm. Hot-loading enables a player to arm his LRM or ATM warheads before firing the missiles.

Because a BattleMech's ammo bays are enclosed during battle, LRMs and ATMs must be hot-loaded before a scenario. The controlling player must indicate any launcher using hot-loaded missiles on the BattleMech's record sheet before play begins. Because vehicles have crews that can set up LRMs or ATMs to be hot-loaded during battle, a player controlling a vehicle can announce hot-loading during the End Phase of a turn. After the End Phase of the following turn, any of the vehicle's LRM or ATM launchers can be set to fire hot-loaded missiles. A player may follow the same procedure to switch back to normal firing mode.

Minimum-range modifiers do not apply to hot-loaded LRMs and ATMs. However, hot-loaded LRMs and ATMs are not as accurate as standard missiles. When resolving damage from a flight of hot-loaded LRMs or ATMs, the attacking player rolls 3D6. Add the two *lowest* die results together to determine hits on the Missile Hits Table.



HEAT-SEEKING MISSILE MODIFIERS TABLE

Target's Heat Level (in Heat Points)	To-Hit Modifier
0	+2
1-5	0
6-10	-1
11-15	-2
16+	-3

Because hot-loaded LRMs and ATMs are fully armed in the launcher, any critical hit to the launcher triggers a missile explosion that destroys all of the launcher's critical slots. Also, the body location of the launcher takes damage equal to the maximum potential damage of the missile flight. For example, an exploding hot-loaded LRM-10 launcher causes 10 damage points. Any time a hot-loaded missile launcher explodes, the controlling player must roll 2D6. On a result of 2 through 5, the destruction of the launcher triggers an ammunition explosion in the ammo bays, if any exist in that location.

HEAT-SEEKING MISSILES

These missiles lock on to a target's heat signature. The higher the target's heat level, the stronger the lock and the more accurate the shot. Modify the to-hit number according to the Heat Seeking Missile Modifiers Table. When targeting vehicles and infantry units, which have no heat scale, apply a +2 modifier.

SMOKE MISSILES

These missiles create clouds of smoke rather than inflicting damage. They are fired at a hex rather than a unit, in the same way as Thunder LRMs (p. 132, *BMR*). See advanced *Smoke* rules (p. 50) for more information on types of smoke and their effects on game play.

The size and type of smoke created depends on the size of the missile launcher used. In cases where the firing player can choose the smoke cloud's size and composition, he must announce his choice before making the to-hit roll. An LRM-5 or SRM-2 creates Light smoke that fills 1 hex. An LRM-10 or SRM-4 can fill a single hex with Heavy smoke or fill the hex of impact and all surrounding hexes with Light smoke. An LRM-15 or SRM-6 fills the target hex and all hexes adjacent to it with Heavy smoke. An LRM-20 can fill the target hex and adjacent hexes with Heavy smoke, or spread Light smoke across the target hex and all hexes within 2 hexes of the target hex. In all cases, the smoke rises 2 levels above the underlying terrain.

See the diagram below for examples of various smoke clouds.

NARC MISSILE BEACON

The following paragraph describes an advanced missile ordnance for the Narc Missile Beacon, (see p. 133, *BMR*).

BOLA PODS

Designed for use against BattleMechs, these pods contain a small explosive charge that fires just before the missile strikes the target. The explosion releases chains that extend horizontally, creating a powerful bola that entangles the target's limbs.

The weapon has no effect on a target unless it hits a BattleMech's arm or leg, in which case the limb automatically becomes entangled. In the case of a leg hit, the pilot of the target 'Mech must make a Piloting Skill Roll at the end of the Weapon Attack Phase, with a +1 modifier to the target number. When an arm is hit, weapon and physical attacks made with that arm suffer a +1 modifier to the to-hit number, only during the following turn.

NULL-SIGNATURE SYSTEM

First used on the EXT-4D *Exterminator*, the Star League's finest achievement in stealth systems consists of several subsystems that combine to mask a BattleMech's presence on the battlefield. The system makes a hidden BattleMech as good as invisible. Only Inner Sphere BattleMechs can mount this system; the Clans find such systems dishonorable, and stopped researching them more than a century ago.

A player may turn the null-signature system on or off during the End Phase of any turn. A 'Mech may also start the game with the system already engaged; this must be indicated on the unit's record sheet. While the system is engaged, the 'Mech is more difficult to attack at long distance. Medium-range attacks receive a +3 to-hit modifier in place of the standard medium-range modifier; long-range attacks add a +6 to-hit modifier. In addition, Beagle active probes and their Clan equivalents cannot locate a hidden unit with its null-signature system engaged. Only the Bloodhound probe (see p. 72) can penetrate the null-signature masking.

The null-signature system features heat baffles that mask the 'Mech's heat sinks and reduce its infrared signature. However, the baffles restrict the normal venting of heat, making the heat sinks virtually useless. While engaged, the null-signature system generates 10 Heat Points per turn.

The null-signature system incorporates a phased-array sensor system and a sheathed directional communication beacon. Therefore, a 'Mech with this system may not mount any of the special targeting and tracking systems or the satellite uplink systems described in the *Construction* section of this book, and also may not mount an advanced targeting computer or C³ system.

The null-signature system does not weigh a significant amount, but takes up 1 critical slot in each of the BattleMech's hit locations except for the head (that is, one slot each in the center, right, and left torsos, the right and left arm, and the right and left leg, for a total of 7 critical slots). A critical hit to any of these slots will destroy the entire system.

PARTICLE PROJECTOR CANNON (PPC)

Level 3 rules for particle projector cannons allow players to disengage the weapon's field inhibitors if they so desire. The field

inhibitors restrict the dangerous charged-particle feedback produced when a PPC is fired, but also prevent the weapon from firing accurately at targets closer than minimum range. Disengaging a PPC's field inhibitor removes the minimum range modifier, at the risk of subjecting the firing unit to particle feedback.

To disengage a unit's PPC inhibitor, a player must declare the inhibitor disengaged at any time before firing the weapon. The standard minimum-range modifier does not apply to that attack; otherwise, the player makes his to-hit roll per standard rules. The player must then roll 2D6 to determine if the shot causes particle feedback. If the result is less than the safe level shown below, the PPC's critical slots are destroyed and the 'Mech takes an additional 10 points of internal structure damage to the body location in which the weapon was mounted.

Target Distance

1 hex
2 hexes
3 or more hexes

Avoid Feedback On

10+
6+
3+

PPC CAPACITOR

Inner Sphere scientists have been struggling to match the destructive capability of the Clan particle projector cannon, to no avail. The Inner Sphere's extended-range PPC features comparable range, but cannot match the Clan weapon's firepower. However, an innovative new item takes a different approach to improving the damage a PPC can inflict. The system features a bank of capacitors that are attached to the standard-model PPCs and ER PPCs. The capacitors store up charged particles over a period of several seconds until the attacker unleashes the beam against a target. Though the rate of fire suffers due to the need to charge the weapon longer, the damage it can inflict increases by 50 percent.

The bank of capacitors attached to a particular weapon is referred to as a PPC capacitor. Any given PPC may only mount one such capacitor. A PPC capacitor weighs 1 ton and takes 1 critical space, and must be placed in the same location as a PPC or ER PPC. The capacitor allows the weapon to be fired as described below.

A PPC with a capacitor may always be fired as a normal weapon of its type. Instead of firing the weapon, the capacitor can be charged. This generates only 5 Heat Points. In the following turn, the weapon can be fired or the charge can be held in the capacitor. If the charge is held, it generates 5 Heat Points. The charge can be held indefinitely in this way.

When the PPC is fired with a charged capacitor, it generates 5 more Heat Points than it normally does (15 for a standard PPC or 20 for an ER PPC). However, the weapon inflicts 5 additional points of damage as well, striking a single hit location on the target with 15 points of damage, the same as a Clan ER PPC. The range of the weapon is unchanged.

Channeling such a massive blast through a weapon that is not designed to handle it creates the risk of overloading the weapon. When firing the PPC with a charged capacitor, if the to-hit roll is a 2 the weapon overloads and burns out. The shot is resolved normally, but the weapon suffers a single critical hit to

one of its slots and is considered destroyed. Even if the Expanded Critical Damage rules are in effect (p. 17), the weapon will not function for the remainder of the scenario. The capacitor is undamaged by an overload.

If the PPC or capacitor is struck by a critical hit while it is charged, the capacitor will explode. This inflicts 15 points of damage directly to the internal structure of the location containing the PPC, in exactly the same way as an ammunition explosion. Because weapon attacks occur at the same time, an explosion will not result if the weapon or capacitor is hit in the phase it is fired, but it will explode if hit in the turn the capacitor is charged or in a turn in which a charge is held.

PULSE LASERS

The following options apply to pulse lasers in Level 3 play.

OPTIONAL FIRING MODES

Because pulse lasers fire a stream of laser pulses rather than a single beam, they can be fired against multiple targets in the same way as autocannons (see p. 76).

X-PULSE LASERS

Inner Sphere technicians have attempted to improve the range of pulse lasers so that they can compete with superior Clan models. Testing has shown that any extension of the weapon's effective range comes with a dramatic increase in heat output. The so-called X-pulse laser is intended to strike a balance between increased heat and enhanced range.

X-pulse technology is not a new piece of equipment, but an upgrade that can be applied to existing Inner Sphere pulse lasers. The extra cost is added to the cost of the base weapon. For ranges, cost, weight and so on, see the Weapons and Equipment tables at the end of this section.

SUPERCHARGER

A major limiting factor on engine performance is safety; an engine driven too hard can literally shake itself apart. In the case of fusion reactors, extra stress can cause engine shielding to crack and fail, leading to emergency shutdown. In war, however, safety often falls by the wayside in favor of performance—leading to the development of devices like the supercharger.

A supercharger maximizes engine performance by overriding normal safety inhibitors. At the press of a button, it pushes a fusion reactor's output as high as 125 percent of normal. In internal combustion engines, the device injects specially designed chemicals into the fuel mix to achieve similar results.

A supercharger can be mounted on BattleMechs and most vehicles with any type of engine. However, VTOLs and naval vessels may not use a supercharger. The charger weighs 10 percent of the unit's engine weight, rounded up to the nearest half ton. In a 'Mech, it takes up 1 critical slot in any location that also includes engine critical slots; in a vehicle, it counts as one item for space limitations. A supercharger can be mounted on an OmniMech as a pod.

The supercharger works like MASC (p. 132, *BMR*), except that its failure does not freeze up the 'Mech's legs. Instead, supercharger failure requires the controlling player to roll once on the Determining Critical Hits Table. Any resulting critical hits are applied directly to the engine. Mark the damage in the center torso engine critical slots, starting with the topmost undamaged engine slot and working your way down. Whether or not the failure results in engine damage, the supercharger is burned out and considered destroyed.

A supercharger can be combined with MASC, but a player must make separate rolls to see if each system fails. Subtract 1 from the die roll results if both items are engaged in the same turn. When both systems are active in the same turn, the unit carrying them has Running MP equal to its Walking MP times 2.5 (rounded down). The unit's Sprinting MP (see *Terrain and Movement*, page 13) are equal to its Walking MP times 3.

TARGETING COMPUTER

Scientists at the New Avalon Institute of Science (NAIS) are close to a breakthrough in replicating the Clan targeting computer that makes OmniMechs such as the *Masakari* and *Puma* so deadly. The computer will function in the same way as Clan models, but will be somewhat larger and heavier.

Inner Sphere targeting computers follow the rules for Clan targeting computers on p. 134, *BMR*, with the following exceptions. The computer weighs 1 ton for every 4 tons (or fraction thereof) of direct-fire weapons that the unit is carrying. The computer fills a number of critical slots equal to its tonnage.

THUNDERBOLT LAUNCHER

Following the success of the Thunderbolt missile system in the dueling arenas of Solaris, several design firms began testing their own versions of this weapon. The Thunderbolt is derived from the standard LRM rack, but fires a single missile with a destructive power roughly equivalent to a flight of LRMs. Though this single missile has a shorter range than a standard LRM, its sheer power greatly increases its chances of breaching the target's armor. It does have certain drawbacks. Thunderbolt launchers tend to be heavier than their LRM counterparts and also generate much more heat. The single large missile is also an easy target for enemy anti-missile systems.

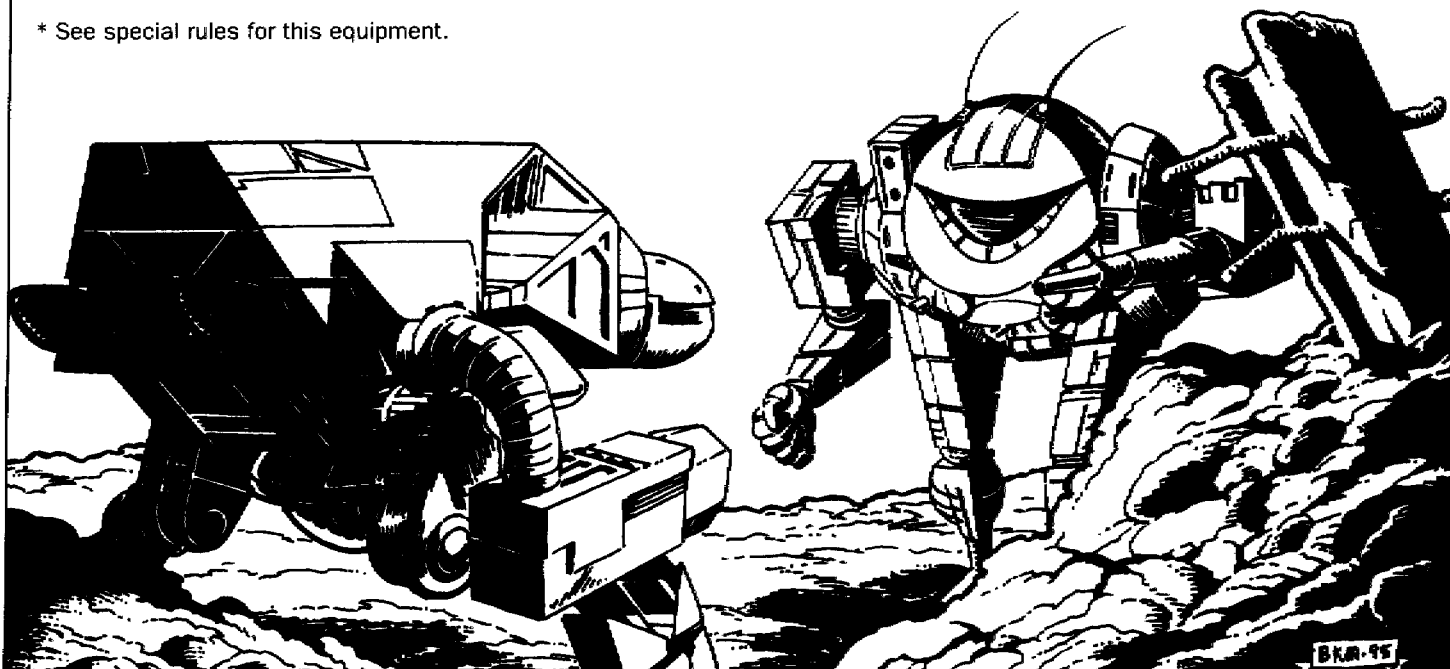
The Thunderbolt does not arm itself until it has reached its minimum range. If it strikes a target prior to reaching minimum range, the Thunderbolt does half its normal damage (rounded down). If the players agree, they may negate this penalty by using the hot-loading rules for LRMs and ATMs (see p. 82). Thunderbolt missiles can be fired indirectly like standard LRMs (see p. 80, *BMR*).

EQUIPMENT

INNER SPHERE LEVEL 3 WEAPONS AND EQUIPMENT

Range Type	Heat	Dmg	Min.	Short	Med.	Long	Ext.	Tons	Crit.	Ammo
<i>Energy Weapons</i>										
Laser AMS	2D6*	*	—	—	—	—	—	1.5	2	—
X-Pulse Laser (Large)	14	9	—	1-5	6-10	11-15	16-20	7	2	—
X-Pulse Laser (Medium)	6	6	—	1-3	4-6	7-9	10-12	2	1	—
X-Pulse Laser (Small)	3	3	—	1-2	3-4	5	6-8	1	1	—
<i>Ballistic Weapons</i>										
Grenade Launcher	1	*	—	1	—	—	—	.5	1	*
Heavy Flamer	5	4	—	1-2	3-4	5-6	7-8	1	1	10
LAC/2	1	2	—	1-6	7-12	13-18	19-24	4	1	45
LAC/5	1	5	—	1-5	6-10	11-15	16-20	5	2	20
Long Tom Cannon	20	20/10*	4	1-6	7-13	14-20	21-26	20	15	5
Sniper Cannon	10	10/5*	2	1-4	5-8	9-12	13-16	15	10	10
Thumper Cannon	6	5/2*	3	1-4	5-9	10-14	15-18	10	7	20
<i>Missile Weapons</i>										
Thunderbolt 5	3	5	5	1-6	7-12	13-18	19-24	3	1	12
Thunderbolt 10	5	10	5	1-6	7-12	13-18	19-24	7	2	6
Thunderbolt 15	7	15	5	1-6	7-12	13-18	19-24	11	3	4
Thunderbolt 20	8	20	5	1-6	7-12	13-18	19-24	15	5	3
<i>Other Equipment</i>										
Angel ECM Suite	—	—	—	—	—	6	—	2	2	—
BattleMech Jump Pack	*	—	—	—	—	—	—	*	4*	*
Bloodhound Active Probe	—	—	—	—	—	8	—	2	3	—
CASE II	—	—	—	—	—	—	—	1	1	—
Compact Heat Sink	-1	—	—	—	—	—	—	1.5	*	—
Coolant Pod	*	—	—	—	—	—	—	1	1	*
Null-Signature System	10	—	—	—	—	—	—	0	7*	—
PPC Capacitor	5*	+5*	—	—	—	—	—	1	1	—
Supercharger	—	—	—	—	—	—	—	*	1	—
Targeting Computer	—	—	—	—	—	—	—	*	*	—

* See special rules for this equipment.



EQUIPMENT

CLAN LEVEL 3 WEAPONS AND EQUIPMENT

Range Type	Heat	Dmg	Min.	Short	Med.	Long	Ext.	Tons	Crit.	Ammo
<i>Energy Weapons</i>										
ER Pulse Laser (lg)	13	10	—	1-7	8-15	16-23	24-30	6	3	—
ER Pulse Laser (Med)	6	7	—	1-5	6-9	10-14	15-18	2	2	—
ER Pulse Laser (Sm)	3	5	—	1-2	3-4	5-6	7-8	1.5	1	—
Laser AMS	2D6*	*	—	—	—	—	—	1.5	2	—
<i>Ballistic Weapons</i>										
Grenade Launcher	1	*	—	1	—	—	—	.5	1	*
<i>Missile Weapons</i>										
Streak LRM 5	2	*	—	1-7	8-14	15-21	22-28	2	1	24
Streak LRM 10	4	*	—	1-7	8-14	15-21	22-28	5	2	12
Streak LRM 15	5	*	—	1-7	8-14	15-21	22-28	7	3	8
Streak LRM 20	6	*	—	1-7	8-14	15-21	22-28	10	5	6
<i>Other Equipment</i>										
Angel ECM Suite	—	—	—	—	—	6	—	1.5	2	—
Artemis V FCS*	—	—	—	—	—	—	—	1.5	2	—
BattleMech Jump Pack	*	—	—	—	—	—	—	*	4*	*
CASE II	—	—	—	—	—	—	—	.5	1	—
Coolant Pod	*	—	—	—	—	—	—	1	1	*
Laser Heat Sink	*	—	—	—	—	—	—	1	2	—
Supercharger	—	—	—	—	—	—	—	*	1	—

* See special rules for this equipment.



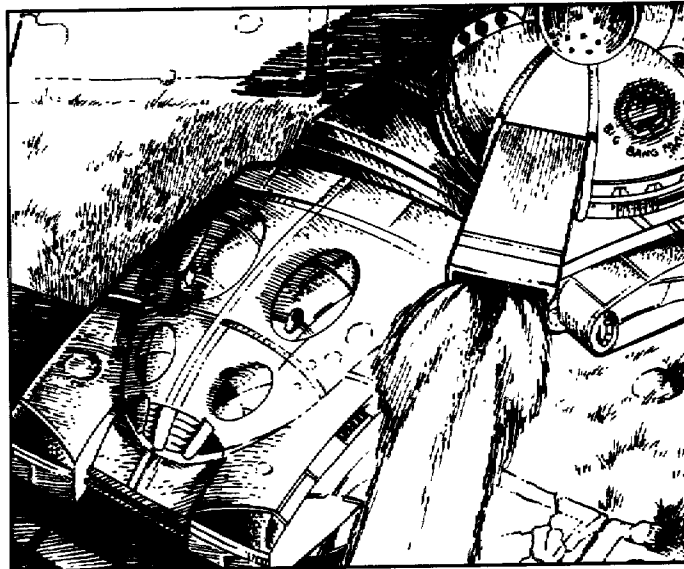
COSTS

The following tables list C-bill costs for the new items introduced in this book. Note that the prices are higher than might be expected, but those costs reflect the fact that these items are prototypes, and each one must be custom-made. Use these C-bill costs in conjunction with the rules and tables found on pages 136-138 of the *BMR* to determine the costs of Level 3 'Mechs and vehicles you design.

Level 3 item costs are supplied for comparison purposes only, because these items are not available "for sale" in the *BattleTech* universe.

WEAPON AND EQUIPMENT PRICES

Type	Cost (unloaded)	Ammo Costs (per ton)
Angel ECM Suite	750,000	—
Armor-Piercing AC	—	4 x normal
Artemis V FCS	250,000	5 x normal
BattleMech Jump Pack (per ton)	20,000	—
Bloodhound Active Probe	500,000	—
CASE II	175,000	—
Caseless AC	—	1.5 x normal
Chainsaws (LoggerMech)	100,000	—
Combine (AgroMech)	150,000	—
Command Console	500,000	—
Component Armor (per slot)	150,000	—
Coolant Pod	50,000	—
ER Pulse Laser (Lg)	400,000	—
ER Pulse Laser (Med)	150,000	—
ER Pulse Laser (Sm)	30,000	—
Flechette AC	—	1.5 x normal
Grenade Launcher	10,000	—
Hand-Held Weapon	2 x normal	—
Heat-Seeking LRM/SRM	—	2 x normal
Heavy Flamer	20,000	2,000
Inferno Flamer	—	2 x normal
LAC/2	100,000	2,000
LAC/5	150,000	5,000
Laser AMS	225,000	—
Lift Hoists (CargoMech)	50,000	—
Long Tom Cannon	650,000	20,000
Narc Missile Beacon	—	2,000
Bola Pods	—	2,000
Null-Signature System	2,000,000	—
PPC Capacitor	150,000	—
Smoke LRM/SRM	—	1.5 x normal
Sniper Cannon	475,000	15,000
Streak LRM 5	75,000	60,000
Streak LRM 10	225,000	60,000
Streak LRM 15	400,000	60,000
Streak LRM 20	600,000	60,000
Supercharger	Engine Rating x 10,000	—
Thumper Cannon	200,000	10,000



Thunderbolt 5	50,000	50,000
Thunderbolt 10	175,000	50,000
Thunderbolt 15	325,000	50,000
Thunderbolt 20	450,000	50,000
Tracer AC	—	1.5 x normal
X-Pulse Laser (Large)	+100,000	—
X-Pulse Laser (Medium)	+50,000	—
X-Pulse Laser (Small)	+15,000	—

EXPANDED BATTLEMECH COST TABLE

Structural Cost	Formula or Cost (in C-bills)
Cockpit	
Standard	200,000
Enhanced Imaging Display	400,000
Small	175,000
Torso-Mounted	750,000
Life Support	50,000
Sensors	
Standard	Tonnage x 2,000
Variable-Range Targeting	Tonnage x 10,000
Multi-Trac II Targeting	Tonnage x 5,000
Musculature	
Standard	Tonnage x 2,000
Triple-Strength	Tonnage x 16,000
Internal Structure Skeleton	
Standard	Tonnage x 400
Endo Steel/Composite	Tonnage x 1,600
Reinforced	Tonnage x 6,400
Arm Actuators (each; do not purchase for armless 'Mechs)	
Upper	Tonnage x 100

COSTS

Lower Hand	Tonnage x 50
Leg Actuators (each)	Tonnage x 80
Upper	Tonnage x 150
Lower	Tonnage x 80
Foot	Tonnage x 120
Engine	
See Combined Engines Table, p. 58	
Gyro	
Standard	300,000 x gyro tons
Compact	400,000 x gyro tons
Heavy-Duty	500,000 x gyro tons
XL	750,000 x gyro tons
Jump Jets	
Standard	Tonnage x (number of jets) ² x 200
Improved	Tonnage x (number of jets) ² x 500
Mechanical Jump Boosters	Tonnage x (Jumping MP) ² x 150
Heat Sinks	
Standard	2,000 per each over 10
Double	6,000 each
Compact	3,000 each
Laser	6,000 each
Armor	
Standard	10,000 x tons of armor
Ferro-Fibrous	20,000 x tons of armor
Hardened	15,000 x tons of armor
Light Ferro-Fibrous	15,000 x tons of armor
Heavy Ferro-Fibrous	25,000 x tons of armor
Laser Reflective	30,000 x tons of armor
Reactive	30,000 x tons of armor
Turret	10,000 x turret tonnage

Other Costs

Weapons and Equipment	See Weapon and Equipment Prices
OmniMech Conversion Cost	
(Weapon and Equipment Cost + Structural Cost) x .25	

Final BattleMech Cost Multiplier

(Structural Cost + Weapons and Equipment Cost + OmniMech Conversion Cost) x [1 + (Tonnage ÷ 100)]

EXPANDED VEHICLE COSTS TABLE

Structural Cost	Formula or Cost (in C-bills)
Engine	
See Combined Engines Table, p. 58	
Control Components	10,000 x Control Tonnage
Internal Structure	10,000 x Structure Tonnage
Heat Sinks (Standard)	2,000 each over 10 if fusion engine 2,000 each if ICE engine
Armor	
Standard	10,000 x tons of armor
Ferro-Fibrous	20,000 x tons of armor

Light Ferro-Fibrous	15,000 x tons of armor
Heavy Ferro-Fibrous	25,000 x tons of armor
Laser Reflective	30,000 x tons of armor
Reactive	30,000 x tons of armor
Power Amplifiers	20,000 x Amplifier tonnage
Turret	
Standard	5,000 x turret tonnage
Sponsons (pair)	4,000 x sponson turret tonnage
Lift/Dive Equipment	20,000 x equipment tonnage
(Hovercraft, Hydrofoils, Submarines)	
Rotors (VTOLs)	40,000 x rotor tonnage
Weapons and Equipment	See Weapon and Equipment Prices

Cost Multipliers

Tracked	1 + (Tons ÷ 100)
Super-Heavy Tracked	1 + (Tons ÷ 75)
Wheeled	1 + (Tons ÷ 200)
Hover	1 + (Tons ÷ 50)
VTOL	1 + (Tons ÷ 30)
Displacement Hull	1 + (Tons ÷ 200)
Hydrofoil	1 + (Tons ÷ 75)
Submarine	1 + (Tons ÷ 50)

Special Vehicle Equipment

Special Vehicle Equipment	Cost
Additional Crew (each)	5,000
Amphibious Capability	10,000 x tonnage of equipment
Bridgelayer	
Light Bridge	40,000
Medium Bridge	75,000
Heavy Bridge	100,000
Bulldozer Blade	50,000
Coolant System	10,000 x tonnage of equipment
Drone System	
Carrier Control System	10,000 x tonnage of equipment
Remote Equipment	10,000 x tonnage of equipment
Sensor Equipment	10,000 x tonnage of equipment
Dune Buggy	(vehicle tonnage) ² x 10
Jet Boosters (VTOL)	Engine Rating x 10,000
MASH Unit	10,000 x tonnage of equipment
Mast-Mount (VTOL)	50,000
Minesweeper	40,000
Mobile HQ	10,000 x tonnage of equipment
Snowmobile	(vehicle tonnage) ² x 1

EXPANDED INFANTRY COSTS TABLE

Type	Cost (in C-bills)
Foot Platoon	
Rifle	600,000
Machine Gun/Flamer	800,000
Portable Lasers	1,200,000
SRM/LRM	1,400,000
Motorized Platoon	
Rifle	960,000
Machine Gun/Flamer	1,280,000
Portable Lasers	1,920,000

COSTS

SRM/LRM	2,240,000
Combat Engineers	3,000,000
Jump Platoon	
Rifle	1,200,000
Machine Gun/Flamer	1,600,000
Portable Lasers	2,400,000
SRM/LRM	2,800,000
Battle Armor Point (Clan; 5 troopers)	
Standard	3,500,000
Battle Armor Squad (Inner Sphere; 4 troopers)	
Standard	2,400,000

Special Equipment and Training (non-battle armor only)

Anti-Mech Training	5 x normal cost
ECM Suits	2 x normal cost
Camo Suits	2 x normal cost
Field Guns (Motorized only)	per weapons
Heavy Armor (Foot only)	+100,000 per platoon
Narc Launchers (each)	10,000
Paratroops	2 x normal cost
Submersible	2 x normal cost
(can be applied to battle armor)	

STRUCTURE COSTS TABLE

Structural Costs*	Formula or Cost (in C-bills)
Construction Factor (CF)	CF x 10,000
Heat Sinks (Standard)	2,000 each
Armor (Standard)	60,000 x tons of armor
Turret	5,000 x turret tonnage
Weapons and Equipment	See Weapons and Equipment Prices
Large Door	10,000 x door's height in levels

Structure Type Multipliers

Building	$1 + (CF \div 150)$
Fortress	$1 + (CF \div 75)$
Hangar	$1 + (CF \div 175)$
Wall	$1 + (CF \div 200)$
Bridge	$1 + (CF \div 150)$

*Calculate cost for each hex of a multihex structure separately, then add together for total cost. Each hexside of wall has its own CF and cost.



LEVEL THREE BATTLE VALUES

The core Battle Value system presented on pages 139–145 of the *BattleTech Master Rules* is designed to represent the performance of units in the standard Level 2 game. If players are using certain Level 3 rules, the values may need to be adjusted. For example, if players are using the expanded target movement modifiers (p. 20), extremely fast units will tend to be more powerful, because they will be harder to hit. If the Level 3 vehicle rules are in effect, conventional vehicles will be more durable than usual, and so on.

There are so many potential combinations of rules options available in this book that it would be impossible to account for them all in the BV point system. Players should simply keep the various rules permutations and equipment options in mind when choosing sides, so that the forces on each side can be appropriately handicapped based on the rules in effect.

That being said, it is a relatively simple matter to provide Battle Values for Level 3 equipment and construction materials. The values for most of this equipment are included in the equipment Battle Value tables on page 90. Certain items and construction materials require more detailed explanations, which appear following the equipment BV tables. If a specific rule is not addressed, players may assume the item has no significant impact on BV.

WEAPON AND EQUIPMENT BATTLE VALUES

The following tables list the BV for Level 3 weapons and equipment.

INNER SPHERE WEAPONS AND EQUIPMENT BV

Item	Item BV	Ammo BV (per ton)
<i>Energy Weapons</i>		
ER PPC w/Capacitor	321	—
Laser AMS	105	—
PPC w/Capacitor	247	—
X-Pulse Laser (Large)	178	—
X-Pulse Laser (Medium)	71	—
X-Pulse Laser (Small)	21	—
<i>Ballistic Weapons</i>		
Grenade Launcher	1	—
Heavy Flamer	20	3
Light AC/2	30	3
Light AC/5	62	5
Long Tom Cannon	348	48
Sniper Cannon	115	16
Thumper Cannon	58	7
<i>Missile Weapons</i>		
Thunderbolt 5	64/13	8
Thunderbolt 10	127/25	16
Thunderbolt 15	229/46	26

Thunderbolt 20	305/61	35
<i>Other Equipment</i>		
Angel ECM Suite	100	—
Bloodhound Active Probe	25	—
CASE II	*	—
Supercharger	*	—
Targeting Computer	**	—

NOTES

* **CASE II/Supercharger:** Though these items are used when calculating the Defensive Battle Rating, they have no individual BV.

** **Targeting Computer:** The BV of a Targeting Computer equals 20 percent of the total BV of all weapons linked to the computer. Do not include the BV of ammo when calculating the sum, and use half the BV ratings of rear-mounted weapons.

CLAN WEAPONS AND EQUIPMENT BV

Item	Item BV	Ammo BV (per ton)
<i>Energy Weapons</i>		
ER Pulse Laser (Large)	271	—
ER Pulse Laser (Medium)	116	—
ER Pulse Laser (Small)	36	—
Laser AMS	105	—
<i>Ballistic Weapons</i>		
Grenade Launcher	1	—
<i>Missile Weapons</i>		
Streak LRM 5	87/17	11
Streak LRM 10	173/35	22
Streak LRM 15	260/52	32
Streak LRM 20	346/69	43
<i>Other Equipment</i>		
Angel ECM Suite	100	—
Artemis V FCS	*	—
CASE II	**	—

NOTES

* **Artemis V FCS:** Increase by 30 percent the BV of any missile launcher equipped with Artemis V.

** **CASE II:** Though these items are used when calculating the Defensive Battle Rating, they have no individual BV.

GENERAL RULES

The following rules apply to all types of units.

Special Armor

Except for Hardened armor, the advantages and drawbacks of special armor types tend to balance each other out. Apply the standard armor BV based on the armor carried by the unit.

In the case of Hardened armor, add Armor Factor x 4 instead of x 2 when calculating the base Defensive Battle

BATTLE VALUE SYSTEMS

Rating. Note that Hardened armor reduces the 'Mech's Running MP by 1; take that into account when calculating the Defensive Movement Factor and the Speed Factor.

If a 'Mech is using Patchwork armor, the armor value is calculated normally unless the patchwork includes any Hardened armor. In that case, double the value of the points of Hardened armor.

Supercharger/Jet Boosters

When calculating the Defensive Movement Factor, use the maximum possible movement for the unit, including additional movement generated by the supercharger. When calculating the Speed Factor, add 1 to the Running MP + Jumping MP amount if the unit carries a supercharger, in the same manner as for MASC.

Targeting and Tracking Systems

The bonuses and penalties associated with most of the targeting and tracking systems balance each other out. The flexibility offered by the variable-range targeting system, however, adds a +10 percent modifier to the weapon Battle Values in the same way as a targeting computer.

If a unit has the Multi-Trac II system, then the full value of any rear-mounted weapons should be included in the Base Weapon Battle Rating and in the calculation of the unit's Heat Sink Capacity. The Multi-Trac system itself has no point value.

Advanced Satellite Uplink

Having a satellite uplink on your side is worth 200 points. In the same way as the value for Arrow IV combined with TAG, the value for an uplink is added after the total BV is calculated. Because each side can only benefit from one uplink or Mobile HQ, add this amount only once regardless of whether there are multiple such units in play. The value of the uplink is added per side, and does not apply to any particular vehicle.

Ammunition

The basic BV for every unit assumes the unit is carrying standard ammunition. In Level 3 play, the relative values of the various ammunition types should be applied to the Battle Value of each unit. This requires players to recalculate the BV before each battle—which is why the basic Battle Values assume standard ammo.

BATTLEMECHS

The following rules apply to BattleMech units only.

Cockpit Equipment

With a compact cockpit, use the modified Piloting Skill when applying skill modifiers to the final BV.

A torso-mounted cockpit significantly improves the BattleMech's chances of survival, especially if the 'Mech has ample center-torso armor. To reflect this greater chance for surviving a battle, add the center torso armor (front and rear combined) x 2 to the base Defensive Battle Rating. However, also apply the modified Piloting Skill in the same way as for the compact cockpit.

SPECIAL AMMUNITION BATTLE VALUES

Ammo Type	BV Multiplier
Armor-Piercing AC	6
Caseless AC	1
LB-X Cluster AC	.75
Flechette AC	0.5
Tracer AC	1
Flare Missile	.05
Fragmentation Missile	0.5
Heat-Seeking Missile	1
Incendiary LRM	1
Semi-Guided LRM	6*
Smoke Missile	1
Swarm-I LRM	1.5
	Cost
Narc Explosive Pods	4 per ton
Narc Bola Pods	1 per ton

* This value only applies if there is a TAG-equipped unit on the same side. Otherwise, the ammo has standard value.

Enhanced imaging effectively raises the MechWarrior's Piloting Skill, so use the increased Piloting Skill when applying skill modifiers to the unit's BV. Also, apply a +5 percent modifier to the unit's weapon Battle Values in the same way as for a targeting computer (this modifier is cumulative with a targeting computer, so a unit with both has a total +25 percent modifier). However, to reflect the increased vulnerability of the pilot, subtract 25 points from the base Defensive Battle Rating.

A command console adds 25 points to the base Defensive Battle Rating, as well as adding 200 points to the 'Mech's side in the same way as an advanced satellite uplink. This bonus is cumulative with the satellite uplink, but not with a Mobile HQ.

Engines

If a 'Mech has one of the engine types shown on the Engine MultipliersTable, apply the listed multiplier to the total internal structure points in the same way as for an XL engine.

ENGINE MULTIPLIERS TABLE

Engine Type	Internal Structure Multiplier
Large	1.125
Clan XXL	0.75
Clan Large XL	0.75
Clan Large XXL	0.5
Inner Sphere XXL	0.5
Inner Sphere Large XL	0.75
Inner Sphere Large XXL	0.375

BATTLE VALUE SYSTEMS

Gyroscopes

The new types of gyroscopes tend to have advantages and drawbacks that balance each other out, except for the heavy-duty gyro. Add 30 points to the base Defensive Battle Rating if the 'Mech has an HD gyro.

Hand-Held Weapons

The hand-held weapon has its own BV, which is the total of the BV values of the weapons and ammunition it includes, plus any armor it mounts (Armor Factor x 2). When a 'Mech carries the hand-held weapon, this BV is added directly to the unit's final BV.

Jump Jets

Improved jump jets and mechanical jump boosters impact the BV in the same way as standard jets. Remember to take into account the different heat generated by these new systems.

The BattleMech jump pack does not affect the 'Mech's BV like other jump jets. To reflect this, do not add the jump pack's value to the 'Mech's BV during BV calculation. Instead, add a BV point value of the jump pack's MP x 5 to the final BV of the 'Mech.

Null-Signature System

When calculating the Defensive Battle Rating for a 'Mech with a null signature system, add 0.5 to the Defensive Movement Factor. Also, add the heat generated by the system to the calculation for the 'Mech's maximum potential Heat Points.

Structural Options

Add 5 points to the base Defensive Battle Rating for each critical slot protected by component armor.

If a 'Mech has a reinforced internal structure, double the Battle Value of the internal structure. On the other hand, if the 'Mech has composite internal structure, divide the Battle Value of the internal structure by 2.

Armless 'Mechs will be missed by attacks more often than 'Mechs with arms, so add 0.1 to the Defensive Movement Factor for 'Mechs designed without arms. This bonus does not apply to BattleMechs that appear to not have arms (such as certain 'Mechs illustrated in the *Technical Readout* series), but whose stats include arms.

Coolant Pod

Add 1 to the Heat Sink Capacity for each coolant pod carried by a 'Mech.

CASE II

Reduce the Defensive Battle Rating penalty for explosive ammunition carried in a location protected by CASE II to 5 points per ton rather than the standard 20 points per ton.

VEHICLES

The following rules apply to conventional vehicles only.

Additional Crew

Add 2 points to the Base Weapon Battle Rating for each additional crewman added.

Bridgelayer

Add points to the Defensive Battle Rating for the bridge type carried, *after* the modifiers for heat and movement have been applied. Add 5 points for a Light bridge, 10 for a Medium bridge or 20 for a Heavy bridge.

Bulldozer

Add 10 points to the base Defensive Battle Rating for a bulldozer blade.

Minesweeper

Add 30 points to the base Defensive Battle Rating for a minesweeper.

Amphibious, Dune Buggy, Snowmobile

Add 0.1 directly to the Vehicle Type Modifier for amphibious capability. Add 0.05 to the vehicle type modifier for either dune buggy or snowmobile capability.

Jump Jets

Value for jump jets is applied to vehicles in the same way as 'Mechs. Simply add the Jump MP to the Flank MP when calculating the vehicle's Speed Factor.

Coolant System

Each coolant system carried by a vehicle adds 15 points to its base Defensive Battle Rating.

Mobile HQ

A basic field HQ is worth 100 points. An advanced mobile HQ is worth 200 points. In the same way as the value for Arrow IV combined with TAG, the value for a field or mobile HQ is added after the total BV is calculated. Because each side can only benefit from one mobile HQ or satellite uplink, add this amount only once even if there are multiple such units in play. The value of the HQ is added per side, and does not apply to any particular vehicle.

Mast-Mount

Add 10 points to the base Weapon Battle Rating for a VTOL mast mount.

Trailers

A tractor and trailer combination is considered a single unit. Calculate the BV for the tractor and each trailer separately, using the MP of the combined tractor-trailer rig in all cases. Then, add together all the Battle Values to determine the total BV for the entire unit.

INFANTRY

The values for the new types of infantry appear in the Infantry Battle Values Table. Add all applicable modifiers before

BATTLE VALUE SYSTEMS

LEVEL 3 INFANTRY BATTLE VALUES TABLE

Infantry Type	BV	BV (Anti-Mech Trained)
Motorized Platoon		
Engineers	42	63
Unit Equipment:		
Camouflage		
Sneak Suits	+1	+1
ECM Suits	+1	+1
Field Guns	*	—
Heavy Armor	+14	—
Narc Launchers		
(per launcher)	+1	+1
Paratroops	+1	+1
Submersible	+1	+1
TAG	+1	+1

*For Field Guns, add the BV of each weapon as shown on the Weapon and Equipment tables (p. 143–144, *BMR*). Do not add the BV of ammunition.

LRM INFANTRY BATTLE VALUES TABLE

Infantry Type	BV
Foot Infantry Platoon	
LRM	56
Jump Infantry Platoon	
LRM	87
Motorized Infantry	
LRM	75

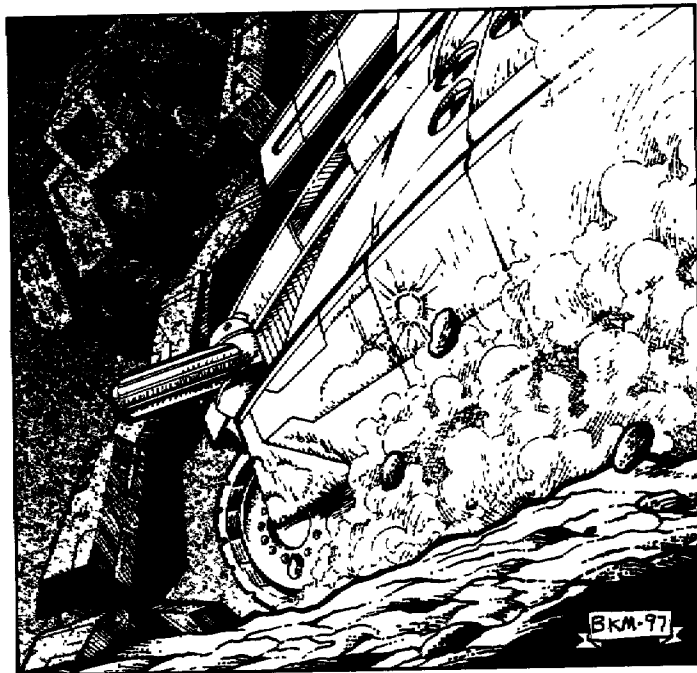
adjusting the BV for the skill level of the troops. Specific values for LRM infantry appear in the LRM Infantry Battle Values Table.

When fielding infantry in squads, simply divide the BV of the platoon by the number of squads in the platoon to find the BV of each squad. Round fractions up.

STRUCTURES

Structures also have BV, but these ratings tend to be low because structures are immobile. Do not bother to calculate BV for structures that serve only as terrain, such as neutral buildings and bridges. Only calculate the Battle Values for those buildings fitted with weapons or occupied by battlefield units at the start of the scenario. Walls have no BV unless they surround a scenario objective or armed fortress.

To calculate the BV of a structure, first determine the BV of each hex the structure occupies, then add together the hex Battle Values. Calculate the BV of a structure hex in the following manner:



Step 1: Calculate Defensive Battle Rating

First, **ADD** the following figures:

Total Armor Factor of Hex

Construction Factor of Hex

Total BV of all Defensive Equipment in Hex

Defensive equipment comprises anti-missile systems (including ammo) and ECM suites. All other weapons and equipment are considered offensive equipment.

DIVIDE the resulting total by **2**. The result is the hex Defensive Battle Rating.

Step 2: Calculate Offensive Battle Rating

Calculate Base Weapon Rating of Hex

To determine a hex's Base Weapon Rating, add the BV ratings of all remaining weapons, ammunition and equipment. Reduce by half the BV of any weapon not mounted in a turret.

Multiply the Base Weapon Rating by 0.44. The result is the hex Offensive Battle Rating.

Step 3: Calculate Final BV

Add together the Defensive and Offensive Battle Ratings and round off to the nearest whole number. The result is the hex BV.

BATTLE VALUE TABLES

The following tables include all FASA-published battle armor, vehicles, ProtoMechs and BattleMechs. Variants of vehicles are listed in parentheses after the name of the vehicle; specific Clan names of 'Mechs appear in parentheses after the 'Mech.

Because FASA made necessary corrections to many BattleMechs and vehicles for the record sheet books published in 1996, the *Source* notations refer to the record sheet books rather than the *Technical Readouts* in which the 'Mechs, vehicles and battle armor originally appeared. Units that do not appear in a record sheet book but that have been published in various other *BattleTech* source-books, such as the *Field Manual* series, are also included.

SOURCE

BattleTech Record Sheets: 3025 & 3026
BattleTech Record Sheets: 3050
BattleTech Record Sheets: 3055 & 3058
BattleTech Record Sheets: 3060
BattleTech Field Manual: Draconis Combine
BattleTech Field Manual: Free Worlds League
BattleTech Field Manual: Crusader Clans
BattleTech Field Manual: Warden Clans
BattlePack: Fourth Succession War

ABBREVIATION

3025/3026
 3050
 3055/3058
 3060
 DCMS
 FWLM
 Crusader
 Warden
 BP 4th

BATTLE ARMOR TABLE

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Achilleus Light Battle Armor Squad					
Flamer	88	4	1,920,000	IS/Level 2	3060
Machine Gun	86	4	1,920,000	IS/Level 2	3060
Small Laser	95	4	1,920,000	IS/Level 2	3060
Clan Battle Armor Point (Standard)					
Flamer	245	5	3,500,000	Clan/Level 2	3060
Machine Gun	234	5	3,500,000	Clan/Level 2	3060
Small Laser	279	5	3,500,000	Clan/Level 2	3060
Gnome Battle Armor Point	360	5	5,250,000	Clan/Level 2	3060
Gray Death Light Scout Armor Squad					
Rifle/Flamer	63	4	1,650,000	IS/Level 2	3060
Machine Gun	65	4	1,650,000	IS/Level 2	3060
Laser/SRM	74	4	1,650,000	IS/Level 2	3060
Infiltrator Battle Armor Squad	60	4	1,800,000	IS/Level 2	3060
Inner Sphere Battle Armor Squad (Standard)					
Flamer	150	4	2,400,000	IS/Level 2	3060
Machine Gun	141	4	2,400,000	IS/Level 2	3060
Small Laser	177	4	2,400,000	IS/Level 2	3060
SRM	132	4	2,400,000	IS/Level 2	3060
Kage Light Battle Armor Squad					
Flamer	79	4	1,850,000	IS/Level 2	3060
Machine Gun	77	4	1,850,000	IS/Level 2	3060
Small Laser	88	4	1,850,000	IS/Level 2	3060
TAG	63	4	1,850,000	IS/Level 2	3060
Kanazuchi Battle Armor Squad	251	4	3,300,000	IS/Level 2	3060
Longinus Battle Armor Squad					
Flamer	168	4	2,550,000	IS/Level 2	3060
Machine Gun	159	4	2,550,000	IS/Level 2	3060
Small Laser	195	4	2,550,000	IS/Level 2	3060
Salamander Battle Armor Point	247	5	3,325,000	Clan/Level 2	3060
Sloth Battle Armor Squad	109	4	1,800,000	IS/Level 2	3060
Sylph Battle Armor Point	211	5	3,325,000	Clan/Level 2	Warden
Undine Battle Armor Point	168	5	3,500,000	Clan/Level 2	Warden

MASTER TABLES

VEHICLE TABLE

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
AC/2 Carrier	263	60	1,086,400	IS/Level 1	3025/3026
Alacorn Mk VI Heavy Tank	1,372	95	16,609,125	IS/Level 2	3055/3058
Anhur Transport	1,221	30	1,262,000	Clan/Level 2	3060
APC (Hover)	46	10	87,600	IS/Level 1	3025/3026
APC (Tracked)	53	10	64,350	IS/Level 1	3025/3026
APC (Wheeled)	62	10	68,425	IS/Level 1	3025/3026
Ares Medium Tank	938	40	2,078,767	Clan/Level 2	3060
Asshur Artillery Spotter	809	20	900,433	Clan/Level 2	3060
Athena Combat Vehicle	1,471	75	4,288,375	Clan/Level 2	3060
Badger A	221	30	685,100	IS/Level 2	3055/3058
Badger B	215	30	789,100	IS/Level 2	3055/3058
Badger C	235	30	715,000	IS/Level 2	3055/3058
Badger D	325	30	785,850	IS/Level 2	3055/3058
Badger E	219	30	744,250	IS/Level 2	3055/3058
Badger Tracked Transport	334	30	802,100	IS/Level 2	3055/3058
Bandit A	539	50	2,413,333	IS/Level 2	3055/3058
Bandit B	389	50	2,381,333	IS/Level 2	3055/3058
Bandit C	428	50	2,387,333	IS/Level 2	3055/3058
Bandit D	463	50	2,253,333	IS/Level 2	3055/3058
Bandit E	476	50	2,353,333	IS/Level 2	3055/3058
Bandit F	526	50	2,297,333	IS/Level 2	3055/3058
Bandit G	474	50	2,316,333	IS/Level 2	3055/3058
Bandit Hovercraft	566	50	2,358,333	IS/Level 2	3055/3058
BattleMech Recovery Vehicle	16	50	391,667	IS/Level 1	3060
Beagle	234	15	611,000	IS/Level 2	3050
Behemoth Heavy Tank	748	100	3,044,667	IS/Level 1	3025/3026
Behemoth (Flamer Variant)	706	100	3,004,667	IS/Level 1	3025/3026
Blizzard Hover Transport	157	25	333,125	IS/Level 1	3055/3058
Brutus Assault Tank	797	75	3,694,250	IS/Level 1	3055/3058
Bulldog Medium Tank	358	60	1,128,800	IS/Level 1	3025/3026
Bulldog (AC/2 Variant)	313	60	1,174,400	IS/Level 1	3025/3026
Bulldog (LRM Variant)	499	60	1,475,200	IS/Level 1	3025/3026
Burke	594	75	3,088,750	IS/Level 2	3050
Cavalry Attack Helicopter	629	25	705,528	IS/Level 1	3055/3058
Cavalry (SRM Variant)	714	25	705,528	IS/Level 1	3055/3058
Centipede Scout Car	163	20	541,100	IS/Level 2	3055/3058
Challenger X MBT	1,170	90	15,691,150	IS/Level 2	3055/3058
Chaparral	467	50	2,195,500	IS/Level 2	3050
Chevalier Light Tank	444	35	985,629	IS/Level 2	3060
Chevalier (Active Probe Variant)	431	35	823,088	IS/Level 2	3060
Chevalier (Speed Variant)	140	35	1,197,717	IS/Level 2	3060
Condor Heavy Hover Tank	425	50	1,217,000	IS/Level 1	3025/3026
Condor (Davion Variant)	383	50	1,280,000	IS/Level 1	3025/3026
Condor (Liao Variant)	473	50	1,184,000	IS/Level 1	3025/3026
Coolant Truck 135-K	114	30	212,175	IS/Level 3	3025/3026
Cyrano	754	30	1,850,000	IS/Level 2	3050
Demolisher Heavy Tank	609	80	2,151,000	IS/Level 1	3025/3026
Demolisher II Heavy Tank	1,039	100	7,511,000	IS/Level 2	3060
Demon	775	60	2,185,950	IS/Level 2	3050
Donar Assault Helicopter	1,435	21	957,100	Clan/Level 2	3060
Donar (Reconnaissance Variant)	1,113	21	1,239,300	Clan/Level 2	3060

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Drillson Heavy Hover Tank	711	50	2,505,333	IS/Level 1	3025/3026
Drillson (SRM Variant)	687	50	2,433,333	IS/Level 1	3025/3026
Engineering Vehicle	42	40	462,000	IS/Level 3	3025/3026
Epona A	1,741	50	3,653,333	Clan/Level 2	3060
Epona B	1,022	50	3,149,333	Clan/Level 2	3060
Epona C	1,322	50	3,461,333	Clan/Level 2	3060
Epona Pursuit Tank	1,242	50	2,785,333	Clan/Level 2	3060
Ferret Light Scout VTOL	45	5	46,764	IS/Level 1	3025/3026
Ferret (Armor Variant)	54	5	58,431	IS/Level 1	3025/3026
Ferret (Cargo Transport)	1	5	34,514	IS/Level 1	3025/3026
Flatbed Truck	9	10	26,250	IS/Level 1	3060
Flatbed Truck (Armor Variant)	38	10	47,250	IS/Level 1	3060
Flatbed Truck (SRM Variant)	42	10	65,100	IS/Level 1	3060
Fulcrum Heavy Hovertank	819	50	8,675,667	IS/Level 2	3055/3058
Fury	694	80	4,183,500	IS/Level 2	3050
Gabriel	175	5	98,633	IS/Level 2	3050
Galleon Light Tank GAL-100	162	30	323,700	IS/Level 1	3025/3026
Galleon GAL-200	168	30	313,950	IS/Level 1	3025/3026
Galleon Light Tank	393	30	1,205,750	IS/Level 2	3055/3058
Gladius Medium Hover Tank	378	40	771,600	IS/Level 1	3060
Goblin Medium Tank	280	45	607,550	IS/Level 1	3025/3026
Goblin (LRM Variant)	380	45	848,975	IS/Level 1	3025/3026
Goblin (SRM Variant)	371	45	933,075	IS/Level 1	3025/3026
Goblin Infantry Support Vehicle	436	45	1,739,275	IS/Level 2	3055/3058
Hachiman Fire Support Tank	1,245	50	3,199,750	Clan/Level 2	3060
Harasser Missile Platform	336	25	561,750	IS/Level 1	3025/3026
Harasser (Laser Variant)	245	25	381,750	IS/Level 1	3025/3026
Harasser (LRM Variant)	316	25	525,750	IS/Level 1	3025/3026
Hawk Moth Gunship	734	25	935,000	IS/Level 2	3060
Hawk Moth (Armor Variant)	672	25	935,000	IS/Level 2	3060
Heavy BattleMech Recovery Vehicle	45	70	585,000	IS/Level 1	3060
Heavy Hover APC	70	20	196,700	IS/Level 1	3060
Heavy Hover APC (LRM Variant)	167	20	280,700	IS/Level 1	3060
Heavy Hover APC (MG Variant)	89	20	210,700	IS/Level 1	3060
Heavy Hover APC (SRM Variant)	153	20	318,500	IS/Level 1	3060
Heavy LRM Carrier	769	80	2,940,000	IS/Level 1	3060
Heavy Tracked APC	77	20	130,600	IS/Level 1	3060
Heavy Tracked APC (LRM Variant)	147	20	202,600	IS/Level 1	3060
Heavy Tracked APC (MG Variant)	90	20	142,600	IS/Level 1	3060
Heavy Tracked APC (SRM Variant)	137	20	235,000	IS/Level 1	3060
Heavy Wheeled APC	70	20	119,717	IS/Level 1	3060
Heavy Wheeled APC (LRM Variant)	147	20	185,717	IS/Level 1	3060
Heavy Wheeled APC (MG Variant)	85	20	130,717	IS/Level 1	3060
Heavy Wheeled APC (SRM Variant)	136	20	215,417	IS/Level 1	3060
Hetzer Wheeled Assault Gun	377	40	664,000	IS/Level 1	3025/3026
Hi-Scout Drone Carrier (Napfind & Path Track)	251	65	797,475	IS/Level 3	3025/3026
Huitzilopochtli Assault Tank	769	85	3,381,954	Clan/Level 2	3060
Hunter Light Support Tank	423	35	1,135,125	IS/Level 1	3025/3026
Hunter Light Support Tank	480	35	1,527,750	IS/Level 2	3055/3058
Indra Infantry Transport	689	35	998,358	Clan/Level 2	3060
Ishtar Heavy Fire Support Tank	1,128	65	2,866,858	Clan/Level 2	3060
J. Edgar Light Hover Tank	328	25	729,250	IS/Level 1	3025/3026
J. Edgar (Flamer Variant)	243	25	681,250	IS/Level 1	3025/3026
J. Edgar (Machine Gun Variant)	266	25	690,250	IS/Level 1	3025/3026

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
J-27 Ordnance Transport & Trailer	34	10	61,517	IS/Level 3	3025/3026
Kanga	679	50	2,119,000	IS/Level 3	3050
Kamov UR Transport	18	30	550,000	IS/Level 1	3025/3026
Kamov UR Transport	69	30	572,000	IS/Level 2	3055/3058
Kestrel VTOL	75	25	425,639	IS/Level 1	3050
Ku Wheeled Assault Tank	831	50	1,912,188	Clan/Level 2	3060
Lightning	348	35	1,470,500	IS/Level 2	3050
Light SRM Carrier	423	40	920,200	IS/Level 1	3060
LRM Carrier	693	60	1,872,000	IS/Level 1	3025/3026
LRM Carrier	663	60	3,088,000	IS/Level 2	3055/3058
Magi	395	70	3,585,867	IS/Level 2	3050
Manticore Heavy Tank	619	60	2,640,800	IS/Level 1	3025/3026
Manticore Heavy Tank	578	60	3,196,800	IS/Level 2	3055/3058
Mantis Light Attack VTOL	546	15	954,375	IS/Level 2	3060
Marksman	392	65	2,951,300	IS/Level 2	3050
Mars Assault Vehicle	1,620	100	8,309,667	Clan/Level 2	3060
Mars (XL Variant)	2,029	100	21,602,000	Clan/Level 2	3060
MASH Truck	87	20	304,333	IS/Level 3	3025/3026
Maultier Hover APC	115	15	242,450	IS/Level 2	3055/3058
Maxim Heavy Hover Transport	548	50	1,320,000	IS/Level 1	3025/3026
Maxim Heavy Hover Transport	548	50	1,558,000	IS/Level 2	3055/3058
Maxim (Anti-Personnel)	477	50	1,443,000	IS/Level 2	3055/3058
Maxim (Fire Support)	624	50	1,546,000	IS/Level 2	3055/3058
Mithras Light Tank	506	25	807,500	Clan/Level 2	3060
Mobile Headquarters	149	25	477,188	IS/Level 3	3025/3026
Mobile Long Tom (w/2 Ammo, 2 Support)	532	80	1,722,275	IS/Level 3	3025/3026
Monitor Naval Vessel	560	75	1,568,531	IS/Level 1	3025/3026
Myrmidon Medium Tank	492	40	1,791,600	IS/Level 1	3060
Neptune Submarine	604	100	4,614,000	IS/Level 1	3025/3026
Neptune (LRM Variant)	730	100	5,271,000	IS/Level 1	3025/3026
Neptune (SRM Variant)	701	100	5,304,000	IS/Level 1	3025/3026
Nightshade	351	25	1,375,000	IS/Level 2	3050
Odin Scout Tank	619	20	714,358	Clan/Level 2	3060
Ontos Heavy Tank	619	95	2,264,438	IS/Level 1	3025/3026
Ontos (LRM Variant)	866	95	3,117,563	IS/Level 1	3025/3026
Ontos Heavy Tank	842	95	6,656,325	IS/Level 2	3055/3058
Oro Heavy Tank	873	60	3,128,000	Clan/Level 2	3060
Packrat LRPV PKR-T5	200	20	408,650	IS/Level 1	3025/3026
Padilla Heavy Artillery Tank	621	75	14,794,500	IS/Level 2	3055/3058
Partisan Heavy Tank	768	80	1,872,000	IS/Level 1	3025/3026
Partisan (AC/2 Variant)	327	80	1,629,000	IS/Level 1	3025/3026
Partisan (LRM Variant)	768	80	2,530,800	IS/Level 1	3025/3026
Partisan Air Defense Tank	588	80	5,066,100	IS/Level 2	3055/3058
Partisan (Company Command)	585	80	9,830,700	IS/Level 2	3055/3058
Partisan (Lance Command)	503	80	6,579,900	IS/Level 2	3055/3058
Partisan (XL Variant)	861	80	12,635,100	IS/Level 2	3060
Patton Tank	513	65	2,754,538	IS/Level 1	3025/3026
Pegasus Scout Hover tank	419	35	841,925	IS/Level 1	3025/3026
Pegasus Scout Hover tank	515	35	2,037,733	IS/Level 2	3055/3058
Peregrine Attack VTOL	520	30	1,536,000	IS/Level 1	3055/3058
Pike Support Vehicle	334	60	1,035,200	IS/Level 1	3025/3026
Pilum Heavy Tank	624	70	3,324,150	IS/Level 2	3055/3058
Pilum (Arrow IV Variant)	585	70	3,000,150	IS/Level 2	3060
Pinto Attack VTOL	980	30	2,150,000	IS/Level 2	3060

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Plainsman Medium Hovertank	413	35	871,533	IS/Level 1	3055/3058
Po Heavy Tank	361	60	1,074,400	IS/Level 1	3055/3058
Puma	936	95	5,914,838	IS/Level 1	3050
Regulator Hovertank	955	45	2,161,250	IS/Level 2	3055/3058
Rhino	904	80	3,838,500	IS/Level 1	3050
Ripper	517	10	282,222	IS/Level 2	3050
Rommel Tank	550	65	2,905,513	IS/Level 1	3025/3026
Rotunda	341	20	440,367	IS/Level 2	3050
Saladin Assault Hover Tank	483	35	911,625	IS/Level 1	3025/3026
Saracen Medium Hover Tank	439	35	813,025	IS/Level 1	3025/3026
Savannah Master Hovercraft	160	5	91,667	IS/Level 1	3025/3026
Schiltron	776	80	10,959,666	IS/Level 2	3060
Schiltron A	1,088	80	10,763,666	IS/Level 2	3060
Schiltron B	1,117	80	11,712,166	IS/Level 2	3060
Schiltron C	714	80	10,034,266	IS/Level 2	3060
Schrek PPC Carrier	662	80	3,825,900	IS/Level 1	3025/3026
Scimitar Medium Hover Tank	323	35	727,175	IS/Level 1	3025/3026
Scorpion Light Tank	163	25	327,083	IS/Level 1	3025/3026
Scorpion (SRM Variant)	231	25	466,458	IS/Level 1	3025/3026
Sea Skimmer Hydrofoil	188	25	371,333	IS/Level 1	3025/3026
Sea Skimmer (SRM 2 Variant)	270	25	324,000	IS/Level 1	3025/3026
Shamash Reconnaissance Vehicle	406	11	227,530	Clan/Level 2	3060
Skurker Wheeled Scout Tank	155	20	183,700	IS/Level 1	3025/3026
Sprint Scout Helicopter	72	10	504,444	IS/Level 2	3055/3058
Sprint (C3 Variant)	72	10	771,111	IS/Level 2	3055/3058
Sprint (Laser Variant)	352	10	491,111	IS/Level 2	3055/3058
Sprint (Troop Transport)	11	10	171,111	IS/Level 2	3055/3058
SRM Carrier	676	60	1,932,800	IS/Level 1	3025/3026
SRM Carrier	645	60	2,108,800	IS/Level 2	3055/3058
Striker Light Tank	342	35	563,315	IS/Level 1	3025/3026
Striker (LRM Variant)	383	35	599,740	IS/Level 1	3025/3026
Striker Light Tank	449	35	1,143,471	IS/Level 2	3055/3058
Striker (Narc Variant)	356	35	1,050,646	IS/Level 2	3055/3058
SturmFeur Heavy Tank	763	85	2,395,288	IS/Level 1	3025/3026
Svantovit Infantry Fighting Vehicle	546	35	1,322,317	Clan/Level 2	3060
Svantovit (Streak SRM Variant)	737	35	1,590,067	Clan/Level 2	3060
Swift Wind Scout Car	25	7.5	82,948	IS/Level 1	3025/3026
Swift Wind (ICE Variant)	10	7.5	51,175	IS/Level 1	3025/3026
Thor	325	55	1,906,125	IS/Level 2	3050
Tokugawa Heavy Tank	586	60	2,504,450	IS/Level 2	3055/3058
Typhoon Urban Assault Vehicle	720	70	2,850,075	IS/Level 2	3055/3058
Vedette Medium Tank	229	50	725,750	IS/Level 1	3025/3026
Vedette (AC/2 Variant)	211	50	701,000	IS/Level 1	3025/3026
Vedette (Liao Variant)	248	50	673,250	IS/Level 1	3025/3026
Vedette Medium Tank	308	50	941,000	IS/Level 2	3055/3058
Vedette (NETC Variant)	299	50	919,250	IS/Level 2	3055/3058
Von Luckner Heavy Tank VNL-K65N	663	75	3,685,938	IS/Level 1	3025/3026
Warrior H-7 Attack Helicopter	404	21	544,850	IS/Level 1	3025/3026
Warrior H-7A	398	21	497,250	IS/Level 1	3025/3026
Warrior H-7C	719	21	687,650	IS/Level 1	3025/3026
Warrior H-8 Attack Helicopter	545	20	740,000	IS/Level 2	3055/3058
Yellow Jacket Gunship	1,106	30	1,120,000	IS/Level 2	3055/3058
Yellow Jacket (Ammo Variant)	1,200	30	1,140,000	IS/Level 2	3060
Zephyr	630	40	2,323,950	IS/Level 2	3050

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Zhukov Heavy Tank	532	75	1,816,063	IS/Level 1	3055/3058
Zorya Light Tank	415	35	1,224,675	Clan/Level 2	3060

PROTOMECH TABLE

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Centaur	138	5	727,020	Clan/Level 2	3060
Gorgon	213	8	871,902	Clan/Level 2	3060
Harpy	28	2	614,559	Clan/Level 2	3060
Hydra	140	6	757,927	Clan/Level 2	3060
Minotaur	368	9	946,556	Clan/Level 2	3060
Roc	284	7	839,388	Clan/Level 2	3060
Satyr	102	4	662,688	Clan/Level 2	3060
Siren	53	3	635,974	Clan/Level 2	3060

BATTLEMECH TABLE

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Akuma AKU-1X	1,535	90	9,502,280	IS/Level 2	DCMS
Albatross ALB-3U	1,296	95	25,493,651	IS/Level 2	3055/3058
Annihilator ANH-1A	1,151	100	7,696,668	IS/Level 1	3050
Annihilator ANH-2A	1,299	100	9,700,668	IS/Level 2	3050
Anvil ANV-3M	1,244	60	5,856,960	IS/Level 2	3055/3058
Anvil ANV-3R	1,264	60	5,732,160	IS/Level 2	3060
Anvil ANV-5M	1,452	60	6,372,160	IS/Level 2	3060
Anvil ANV-5Q	1,210	60	5,548,160	IS/Level 2	3060
Apollo APL-1M	1,044	55	4,866,174	IS/Level 2	3055/3058
Apollo APL-1R	973	55	4,649,174	IS/Level 2	3060
Apollo APL-2S	1,120	55	4,940,574	IS/Level 2	3060
Apollo APL-3T	1,011	55	4,894,074	IS/Level 2	3060
Archer ARC-2K	977	70	6,170,774	IS/Level 1	3025/3026
Archer ARC-2R	1,117	70	6,384,974	IS/Level 1	3025/3026
Archer ARC-2S	997	70	6,405,374	IS/Level 1	3025/3026
Archer ARC-2W	932	70	6,452,974	IS/Level 1	3025/3026
Archer ARC-4M	1,539	70	7,352,274	IS/Level 2	3050
Archer ARC-5R	1,319	70	7,287,674	IS/Level 2	3050
Archer ARC-5S	1,122	70	13,861,574	IS/Level 2	3050
Archer ARC-5W	1,128	70	13,586,174	IS/Level 2	3050
Arctic Fox AF1	766	30	5,102,175	IS/Level 2	3060
Arctic Fox AF1A	736	30	5,064,800	IS/Level 2	3060
Arctic Fox AF1B	634	30	4,993,463	IS/Level 2	3060
Arctic Fox AF1C	747	30	5,011,338	IS/Level 2	3060
Arctic Fox AF1D	643	30	4,993,300	IS/Level 2	3060
Arctic Wolf	1,044	40	7,617,494	Clan/Level 2	3060
Arctic Wolf 2	1,207	40	7,432,694	Clan/Level 2	3060
Assassin ASN-101	586	40	3,533,064	IS/Level 1	3025/3026
Assassin ASN-21	596	40	3,765,814	IS/Level 1	3025/3026
Assassin ASN-23	609	40	3,882,014	IS/Level 2	3050
Atlas AS7-C	1,665	100	22,960,000	IS/Level 2	3060
Atlas AS7-CM	1,749	100	25,176,000	IS/Level 2	3060
Atlas AS7-D	1,557	100	9,682,000	IS/Level 1	3025/3026
Atlas AS7-K	1,664	100	22,392,000	IS/Level 2	3050

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Atlas AS7-S	1,658	100	10,368,000	IS/Level 2	3050
Avatar AV1-O	1,089	70	17,100,231	IS/Level 2	3055/3058
Avatar AV1-OA	1,204	70	17,276,606	IS/Level 2	3055/3058
Avatar AV1-OB	1,179	70	17,902,418	IS/Level 2	3055/3058
Avatar AV1-OC	1,094	70	19,757,543	IS/Level 2	3055/3058
Avatar AV1-OD	1,170	70	17,187,356	IS/Level 2	3060
Awesome AWS-8Q	1,358	80	6,598,170	IS/Level 1	3025/3026
Awesome AWS-8R	1,283	80	6,436,170	IS/Level 1	3025/3026
Awesome AWS-8T	1,312	80	6,598,170	IS/Level 1	3025/3026
Awesome AWS-8V	1,323	80	6,481,170	IS/Level 1	3025/3026
Awesome AWS-9M	1,445	80	18,090,121	IS/Level 2	3050
Awesome AWS-9Q	1,623	80	7,456,050	IS/Level 2	3060
Axman AXM-1N	1,166	65	11,840,511	IS/Level 2	3050
Axman AXM-2N	1,238	65	11,989,011	IS/Level 2	3050
Baboon (Howler)	587	20	1,826,241	Clan/Level 2	3055/3058
Bandersnatch BNDR-01A	1,216	75	15,986,250	IS/Level 2	3055/3058
Banshee BNC-3E	1,223	95	9,530,854	IS/Level 1	3025/3026
Banshee BNC-3M	1,267	95	9,824,329	IS/Level 1	3025/3026
Banshee BNC-3Q	1,151	95	9,574,729	IS/Level 1	3025/3026
Banshee BNC-3S	1,323	95	8,952,645	IS/Level 1	3025/3026
Banshee BNC-5S	1,613	95	25,429,496	IS/Level 2	3050
Barghest BGS-1T	1,205	70	16,488,868	IS/Level 2	3060
Barghest BGS-2T	1,236	70	16,074,068	IS/Level 2	3060
Battle Cobra A	1,178	40	4,515,000	Clan/Level 2	3055/3058
Battle Cobra B	1,421	40	5,026,000	Clan/Level 2	3055/3058
Battle Cobra PRIME	1,236	40	4,595,500	Clan/Level 2	3055/3058
Battle Hawk BH-K305	710	30	3,761,940	IS/Level 2	3055/3058
BattleMaster BLR-1D	1,323	85	8,146,044	IS/Level 1	3025/3026
BattleMaster BLR-1G	1,212	85	8,549,344	IS/Level 1	3025/3026
BattleMaster BLR-1S	1,227	85	8,299,594	IS/Level 1	3025/3026
BattleMaster BLR-3M	1,495	85	8,987,794	IS/Level 2	3050
BattleMaster BLR-3S	1,165	85	19,778,844	IS/Level 2	3050
Behemoth (Stone Rhino)	2,626	100	10,512,000	Clan/Level 2	3055/3058
Beowulf BEO-12	1,147	45	9,180,240	IS/Level 2	3060
Berserker BRZ-A3	1,666	100	32,120,334	IS/Level 2	3055/3058
Berserker BRZ-B3	1,659	100	32,060,334	IS/Level 2	3060
Bishamon BSN-3K	1,089	45	8,874,000	IS/Level 2	3060
Bishamon BSN-4K	932	45	10,740,875	IS/Level 2	3060
Black Hawk A (Nova)	2,344	50	11,426,877	Clan/Level 2	3050
Black Hawk B (Nova)	1,501	50	10,693,283	Clan/Level 2	3050
Black Hawk C (Nova)	1,455	50	10,722,815	Clan/Level 2	3050
Black Hawk D (Nova)	1,392	50	10,921,565	Clan/Level 2	3050
Black Hawk H (Nova)	1,552	50	11,659,377	Clan/Level 2	3060
Black Hawk PRIME (Nova)	2,448	50	11,586,252	Clan/Level 2	3050
Black Hawk S (Nova)	2,092	50	11,208,440	Clan/Level 2	3060
Black Hawk-KU BHKU-O	1,510	60	14,595,000	IS/Level 2	3055/3058
Black Hawk-KU BHKU-OA	1,541	60	15,162,000	IS/Level 2	3055/3058
Black Hawk-KU BHKU-OB	1,165	60	14,328,000	IS/Level 2	3055/3058
Black Hawk-KU BHKU-OC	1,485	60	14,280,000	IS/Level 2	3055/3058
Black Hawk-KU BHKU-OD	1,430	60	14,586,000	IS/Level 2	3055/3058
Black Hawk-KU BHKU-OE	1,710	60	15,546,000	IS/Level 2	3060
Black Knight BL-6-KNT	1,191	75	6,786,938	IS/Level 2	3050
Black Knight BL-7-KNT	1,106	75	6,594,438	IS/Level 1	3025/3026
Black Knight BL-9-KNT	1,222	75	15,438,500	IS/Level 2	3050

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Black Lanner A	1,801	55	18,046,199	Clan/Level 2	3055/3058
Black Lanner B	1,636	55	17,697,449	Clan/Level 2	3055/3058
Black Lanner C	1,900	55	17,759,449	Clan/Level 2	3055/3058
Black Lanner D	1,390	55	17,711,981	Clan/Level 2	3055/3058
Black Lanner PRIME	1,657	55	18,098,512	Clan/Level 2	3055/3058
Black Watch BKW-7R	1,831	85	8,918,018	IS/Level 2	3060
Blackjack BJ-1	795	45	3,153,750	IS/Level 1	3025/3026
Blackjack BJ-1DB	881	45	3,105,175	IS/Level 1	3025/3026
Blackjack BJ-1DC	718	45	2,973,950	IS/Level 1	3025/3026
Blackjack BJ-2	1,050	45	3,441,575	IS/Level 2	3050
Blackjack BJ-3	1,099	45	3,592,375	IS/Level 2	BP 4th
Blackjack BJ2-0	1,187	50	8,923,439	IS/Level 2	3055/3058
Blackjack BJ2-0A	1,231	50	9,127,346	IS/Level 2	3055/3058
Blackjack BJ2-0B	1,298	50	9,671,096	IS/Level 2	3055/3058
Blackjack BJ2-0C	1,161	50	9,509,846	IS/Level 2	3055/3058
Blackjack BJ2-0D	1,184	50	8,973,596	IS/Level 2	3055/3058
Blackjack BJ2-0E	1,134	50	9,020,469	IS/Level 2	FWLM
Blackjack BJ2-0F	1,258	50	9,344,846	IS/Level 2	3060
Blitzkrieg BTZ-3F	1,092	50	10,787,501	IS/Level 2	3060
Blood Asp A	2,901	90	29,561,625	Clan/Level 2	3060
Blood Asp B	2,662	90	30,164,875	Clan/Level 2	3060
Blood Asp C	1,969	90	29,857,313	Clan/Level 2	3060
Blood Asp D	1,977	90	29,309,875	Clan/Level 2	3060
Blood Asp PRIME	2,295	90	29,416,750	Clan/Level 2	3060
Blood Kite	2,484	85	9,691,225	Clan/Level 2	Crusader
Bombardier BMB-10D	1,015	65	5,497,911	IS/Level 1	3025/3026
Bombardier BMB-12D	1,277	65	13,958,562	IS/Level 2	3050
Buccaneer BCN-3R	1,092	55	11,622,520	IS/Level 2	3060
Bushwacker BSW-S2	1,123	55	10,390,788	IS/Level 2	3060
Bushwacker BSW-X1	1,073	55	9,807,368	IS/Level 2	3055/3058
Caesar CES-3R	1,420	70	13,424,674	IS/Level 2	3050
Canis	2,223	80	15,796,800	Clan/Level 2	3060
Cataphract CTF-1X	1,092	70	5,998,054	IS/Level 1	3050
Cataphract CTF-2X	1,035	70	5,877,354	IS/Level 1	BP 4th
Cataphract CTF-3D	1,266	70	13,588,554	IS/Level 2	3050
Cataphract CTF-3L	1,294	70	15,379,504	IS/Level 2	3050
Catapult CPLT-A1	1,184	65	5,658,126	IS/Level 1	3025/3026
Catapult CPLT-C1	1,165	65	5,790,126	IS/Level 1	3025/3026
Catapult CPLT-C3	1,030	65	5,872,626	IS/Level 2	3050
Catapult CPLT-C4	1,104	65	5,893,251	IS/Level 1	3025/3026
Catapult CPLT-K2	1,052	65	5,349,576	IS/Level 1	3025/3026
Cauldron-Born A	1,860	65	18,614,753	Clan/Level 2	3055/3058
Cauldron-Born B	2,048	65	18,756,034	Clan/Level 2	3055/3058
Cauldron-Born C	1,666	65	18,013,534	Clan/Level 2	3055/3058
Cauldron-Born PRIME	1,769	65	18,405,409	Clan/Level 2	3055/3058
Centurion CN9-A	772	50	3,563,501	IS/Level 1	3025/3026
Centurion CN9-AH	749	50	3,589,751	IS/Level 1	3025/3026
Centurion CN9-AL	887	50	3,395,876	IS/Level 1	3025/3026
Centurion CN9-D	940	50	9,628,500	IS/Level 2	3050
Centurion CN9-D3	1,018	50	10,678,500	IS/Level 2	3050
Centurion CN9-YLW	782	50	3,454,751	IS/Level 1	3025/3026
Centurion CN9-YLW2	1,327	50	10,191,000	IS/Level 2	3060
Centurion CN10-B	1,078	55	5,073,254	IS/Level 2	3060
Cerberus MR-5M	1,647	95	25,544,351	IS/Level 2	3055/3058

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Cerberus MR-V2	1,791	95	25,236,251	IS/Level 2	3055/3058
Cestus CTS-6Y	1,495	65	11,327,361	IS/Level 2	3055/3058
Cestus CTS-6Z	1,275	65	11,432,961	IS/Level 2	3055/3058
Chameleon CLN-7V	839	50	4,623,375	IS/Level 1	3055/3058
Chameleon CLN-7W	1,101	50	4,857,000	IS/Level 2	3055/3058
Chameleon CLN-7Z	1,283	50	9,538,500	IS/Level 2	3055/3058
Champion CHP-1N	942	60	5,674,400	IS/Level 2	3050
Champion CHP-2N	839	60	5,037,600	IS/Level 1	3025/3026
Champion CHP-3N	1,059	60	11,834,400	IS/Level 2	3050
Charger CGR-1A1	820	80	7,520,372	IS/Level 1	3025/3026
Charger CGR-1A5	1,132	80	7,756,771	IS/Level 1	BP 4th
Charger CGR-1A9	1,315	80	8,021,371	IS/Level 1	3050
Charger CGR-1L	772	80	7,662,122	IS/Level 1	3025/3026
Charger CGR-3K	1,485	80	11,228,722	IS/Level 2	3050
Charger CGR-C	1,479	80	21,624,722	IS/Level 2	3060
Charger CGR-SB	1,330	80	6,298,920	IS/Level 1	3025/3026
Cicada CDA-2A	567	40	3,705,218	IS/Level 1	3025/3026
Cicada CDA-2B	523	40	3,692,968	IS/Level 1	3025/3026
Cicada CDA-3C	656	40	3,306,334	IS/Level 1	3025/3026
Cicada CDA-3M	714	40	7,742,468	IS/Level 2	3050
Clint CLNT-1-2R	621	40	3,220,280	IS/Level 1	3025/3026
Clint CLNT-2-3T	672	40	3,572,380	IS/Level 1	3025/3026
Clint CLNT-2-3U	943	40	3,951,080	IS/Level 2	3050
Clint CLNT-2-4T	531	40	3,143,280	IS/Level 1	3025/3026
Clint IIC	1,176	40	6,990,480	Clan/Level 2	3060
Cobra CBR-02	994	45	4,143,375	IS/Level 2	3060
Commando COM-2D	432	25	1,891,250	IS/Level 1	3025/3026
Commando COM-3A	392	25	1,879,375	IS/Level 1	3025/3026
Commando COM-5S	504	25	2,118,750	IS/Level 2	3050
Commando IIC	816	25	2,372,500	Clan/Level 2	3060
Corvis	1,366	40	3,373,814	Clan/Level 2	3060
Cossack C-SK1	374	20	2,362,440	IS/Level 2	3060
Cougar A	1,429	35	6,716,815	Clan/Level 2	3060
Cougar B	1,564	35	6,069,659	Clan/Level 2	3060
Cougar C	1,422	35	6,197,486	Clan/Level 2	3060
Cougar D	1,088	35	6,114,798	Clan/Level 2	3060
Cougar PRIME	1,227	35	6,065,440	Clan/Level 2	3060
Crab CRB-20	921	50	3,909,876	IS/Level 1	3025/3026
Crab CRB-27	965	50	4,050,876	IS/Level 2	3050
Crab CRB-C	950	50	4,365,876	IS/Level 2	3060
Crockett CRK-5003-0	1,325	85	8,333,325	IS/Level 1	3025/3026
Crockett CRK-5003-1	1,619	85	7,378,725	IS/Level 2	3050
Crossbow A	1,628	65	8,508,503	Clan/Level 2	3055/3058
Crossbow B	1,521	65	8,632,253	Clan/Level 2	3055/3058
Crossbow PRIME	1,658	65	9,135,503	Clan/Level 2	3055/3058
Crusader CRD-3D	1,020	65	5,620,011	IS/Level 1	3025/3026
Crusader CRD-3K	997	65	5,445,111	IS/Level 1	3025/3026
Crusader CRD-3L	1,032	65	5,583,711	IS/Level 1	3025/3026
Crusader CRD-3R	948	65	5,547,411	IS/Level 1	3025/3026
Crusader CRD-4D	1,015	65	5,653,011	IS/Level 2	3050
Crusader CRD-4K	946	65	5,489,661	IS/Level 2	3050
Crusader CRD-5M	1,348	65	11,708,181	IS/Level 2	3050
Crusader CRD-5S	1,149	65	5,925,756	IS/Level 2	3050
Cyclops CP-10-Q	1,213	90	9,126,460	IS/Level 1	3025/3026

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Cyclops CP-10-Z	965	90	9,375,360	IS/Level 1	3025/3026
Cyclops CP-11-A	1,251	90	9,318,360	IS/Level 2	3050
Cyclops CP-11-C	1,364	90	11,902,360	IS/Level 2	3050
Daikyu DAI-01	1,324	70	16,239,308	IS/Level 2	3055/3058
Daimyo DMO-1K	936	40	3,265,548	IS/Level 2	3055/3058
Daimyo DMO-2K	928	40	3,142,348	IS/Level 2	3060
Daimyo DMO-4K	1,034	40	3,167,548	IS/Level 2	3060
Daishi A (Dire Wolf)	2,689	100	28,330,000	Clan/Level 2	3050
Daishi B (Dire Wolf)	2,127	100	29,423,126	Clan/Level 2	3050
Daishi H (Dire Wolf)	2,517	100	28,343,750	Clan/Level 2	3060
Daishi Hohiro (Dire Wolf)	2,676	100	28,645,626	Clan/Level 2	3060
Daishi PRIME (Dire Wolf)	2,341	100	29,455,000	Clan/Level 2	3050
Daishi Prometheus (Dire Wolf)	2,319	100	29,175,000	Clan/Level 2	3060
Daishi S (Dire Wolf)	2,875	100	29,407,500	Clan/Level 2	3060
Daishi Widowmaker (Dire Wolf)	2,534	100	29,278,126	Clan/Level 2	3050
Dart DRT-3S	360	25	2,183,750	IS/Level 2	3055/3058
Dart DRT-4S	560	25	2,273,750	IS/Level 2	3060
Dart DRT-6S	548	25	2,292,500	IS/Level 2	3060
Dasher A (Fire Moth)	550	20	4,343,801	Clan/Level 2	3050
Dasher B (Fire Moth)	840	20	4,100,801	Clan/Level 2	3050
Dasher C (Fire Moth)	636	20	4,004,801	Clan/Level 2	3050
Dasher D (Fire Moth)	1,446	20	4,154,051	Clan/Level 2	3050
Dasher H (Fire Moth)	485	20	3,806,801	Clan/Level 2	3060
Dasher PRIME (Fire Moth)	982	20	4,208,801	Clan/Level 2	3050
Dervish DV-6M	868	55	4,980,668	IS/Level 1	3025/3026
Dervish DV-7D	1,328	55	5,645,618	IS/Level 2	3050
Devastator DVS-2	2,093	100	22,398,000	IS/Level 2	3055/3058
Devastator DVS-3	2,182	100	22,270,500	IS/Level 2	3055/3058
Dragon DRG-1C	1,021	60	4,899,200	IS/Level 1	3025/3026
Dragon DRG-1N	952	60	5,118,400	IS/Level 1	3025/3026
Dragon DRG-5N	1,053	60	5,260,480	IS/Level 2	3050
Dragon Fire DGR-3F	1,618	75	15,946,000	IS/Level 2	3055/3058
Dragon Fire DGR-4F	1,565	75	16,093,000	IS/Level 2	3060
Dragonfly A (Viper)	1,845	40	11,379,786	Clan/Level 2	3050
Dragonfly B (Viper)	1,632	40	10,815,061	Clan/Level 2	3050
Dragonfly C (Viper)	1,190	40	11,114,661	Clan/Level 2	3050
Dragonfly D (Viper)	1,727	40	11,072,222	Clan/Level 2	3050
Dragonfly H (Viper)	1,562	40	11,192,536	Clan/Level 2	3060
Dragonfly PRIME (Viper)	1,484	40	11,004,411	Clan/Level 2	3050
Duan Gung D9-G9	729	25	3,344,584	IS/Level 2	3060
Eagle EGL-1M	718	25	2,216,980	IS/Level 2	3060
Eagle EGL-2M	745	25	2,237,918	IS/Level 2	3060
Emperor EMP-6A	1,636	90	18,682,700	IS/Level 2	3055/3058
Enfield END-6J	1,345	50	8,840,001	IS/Level 2	3060
Enfield END-6Q	1,090	50	8,594,376	IS/Level 2	3055/3058
Enforcer ENF-4R	895	50	3,536,876	IS/Level 1	3025/3026
Enforcer ENF-5D	1,039	50	8,808,876	IS/Level 2	3050
Enforcer III ENF-6M	1,427	50	8,685,876	IS/Level 2	3060
Excalibur EXC-B2	1,361	70	15,816,688	IS/Level 2	3055/3058
Excalibur EXC-C1	1,403	70	15,932,288	IS/Level 2	3055/3058
Extremator EXT-4A	1,067	65	6,485,299	IS/Level 1	3025/3026
Extremator EXT-4D	1,239	65	15,806,423	IS/Level 2	3050
Falcon FLC-4N	523	30	2,249,390	IS/Level 1	3050
Falcon FLC-4P	561	30	2,307,890	IS/Level 2	3050

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Falcon Hawk FNHK-9K	889	35	4,544,551	IS/Level 2	3055/3058
Falcon Hawk FNHK-9K1A	900	35	4,436,551	IS/Level 2	3055/3058
Falconer FLC-8R	1,887	75	18,891,250	IS/Level 2	3055/3058
Fenris A (Ice Ferret)	1,210	45	12,332,886	Clan/Level 2	3050
Fenris B (Ice Ferret)	1,308	45	12,336,238	Clan/Level 2	3050
Fenris C (Ice Ferret)	1,057	45	12,737,254	Clan/Level 2	3050
Fenris D (Ice Ferret)	1,541	45	12,122,363	Clan/Level 2	3050
Fenris H (Ice Ferret)	1,342	45	12,432,300	Clan/Level 2	3060
Fenris PRIME (Ice Ferret)	1,529	45	12,543,588	Clan/Level 2	3050
Fire Falcon A	742	25	4,450,132	Clan/Level 2	3055/3058
Fire Falcon B	1,275	25	4,540,367	Clan/Level 2	3055/3058
Fire Falcon C	930	25	4,813,413	Clan/Level 2	3055/3058
Fire Falcon D	745	25	4,755,992	Clan/Level 2	3055/3058
Fire Falcon E	1,025	25	4,860,676	Clan/Level 2	Warden
Fire Falcon PRIME	1,281	25	4,706,773	Clan/Level 2	3055/3058
Fire Scorpion	1,379	65	6,219,951	Clan/Level 2	3060
Fire Scorpion 2	1,340	65	6,630,801	Clan/Level 2	3060
Fireball ALM-7D	289	20	3,024,641	IS/Level 2	3055/3058
Fireball ALM-8D	481	20	3,107,441	IS/Level 2	3060
Fireball ALM-9D	434	20	3,135,041	IS/Level 2	3060
Firefly FFL-4A	649	30	2,203,500	IS/Level 1	3050
Firefly FFL-4B	730	30	2,342,600	IS/Level 2	3050
Firestarter FS9-H	500	35	3,046,950	IS/Level 1	3025/3026
Firestarter FS9-M	671	35	3,066,525	IS/Level 1	3025/3026
Firestarter FS9-S	560	35	3,241,688	IS/Level 2	3050
Firestarter FS9-S1	623	35	3,511,688	IS/Level 2	3050
Firestarter FS9-O	1,009	45	9,783,875	IS/Level 2	3055/3058
Firestarter FS9-OA	902	45	10,179,000	IS/Level 2	3055/3058
Firestarter FS9-OB	957	45	10,493,017	IS/Level 2	3055/3058
Firestarter FS9-OC	939	45	10,338,954	IS/Level 2	3055/3058
Firestarter FS9-OD	1,210	45	10,930,736	IS/Level 2	3055/3058
Firestarter FS9-OE	931	45	9,792,213	IS/Level 2	DCMS
Firestarter FS9-OF	1,225	45	10,440,453	IS/Level 2	FWLM
Firestarter FS9-OG	1,008	45	10,183,986	IS/Level 2	3060
Flashman FLS-7K	1,192	75	6,341,125	IS/Level 1	3025/3026
Flashman FLS-8K	1,423	75	17,831,625	IS/Level 2	3050
Flea FLE-15	352	20	1,520,400	IS/Level 1	3050
Flea FLE-17	371	20	1,728,000	IS/Level 2	3050
Flea FLE-4	360	20	1,519,200	IS/Level 1	3050
Galahad (Glass Spider)	1,636	60	5,712,000	Clan/Level 2	3055/3058
Galahad 2 (Glass Spider)	1,755	60	5,318,400	Clan/Level 2	3060
Gallowglas GAL-1GLS	1,497	70	6,646,179	IS/Level 2	3055/3058
Gallowglas GAL-2GLS	1,664	70	6,596,454	IS/Level 2	3055/3058
Gallowglas WD	2,024	70	7,594,638	Clan/Level 2	3055/3058
Garm GRM-01A	662	35	2,874,061	IS/Level 2	3060
Garm GRM-01B	732	35	2,961,811	IS/Level 2	3060
Gladiator A (Executioner)	2,761	95	35,828,612	Clan/Level 2	3050
Gladiator B (Executioner)	2,811	95	36,387,408	Clan/Level 2	3050
Gladiator C (Executioner)	2,531	95	36,675,033	Clan/Level 2	3050
Gladiator D (Executioner)	2,384	95	35,435,808	Clan/Level 2	3050
Gladiator H (Executioner)	2,500	90	36,099,418	Clan/Level 2	3060
Gladiator PRIME (Executioner)	2,586	95	35,620,450	Clan/Level 2	3050
Goliath GOL-1H	1,200	80	7,546,801	IS/Level 1	3025/3026
Goliath GOL-3M	1,310	80	17,045,401	IS/Level 2	3050

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Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Goshawk (Vapor Eagle)	2,243	55	12,268,870	Clan/Level 2	3055/3058
Goshawk 2 (Vapor Eagle)	2,016	55	12,210,745	Clan/Level 2	3060
Grand Crusader GRN-D-01	1,208	80	14,923,800	IS/Level 2	3055/3058
Grand Crusader GRN-D-02	1,211	80	15,033,600	IS/Level 2	3055/3058
Grand Dragon DRG-1G	997	60	5,212,800	IS/Level 1	3025/3026
Grand Dragon DRG-5K	1,188	60	13,354,880	IS/Level 2	3050
Grand Dragon DRG-C	1,154	60	13,690,880	IS/Level 2	3060
Grand Titan T-IT-N10M	1,375	100	28,833,334	IS/Level 2	3055/3058
Grasshopper GHR-5H	1,268	70	6,024,574	IS/Level 1	3025/3026
Grasshopper GHR-5J	1,217	70	6,427,474	IS/Level 2	3050
Grasshopper GHR-C	1,234	70	6,672,274	IS/Level 2	3060
Great Wurm	1,139	45	4,064,133	Clan/Level 2	3060
Grendel A	1,972	45	12,052,400	Clan/Level 2	3055/3058
Grendel B	1,800	45	12,457,948	Clan/Level 2	3055/3058
Grendel C	1,450	45	12,360,073	Clan/Level 2	3055/3058
Grendel D	1,991	45	12,445,713	Clan/Level 2	3055/3058
Grendel PRIME	2,124	45	12,362,338	Clan/Level 2	3055/3058
Griffin GRF-1DS	1,202	55	10,041,108	IS/Level 2	3050
Griffin GRF-1N	1,021	55	4,957,108	IS/Level 1	3025/3026
Griffin GRF-1S	1,061	55	4,783,508	IS/Level 1	3025/3026
Griffin GRF-3M	1,440	55	10,250,746	IS/Level 2	3050
Griffin IIC	1,492	40	4,255,510	Clan/Level 2	3055/3058
Grim Reaper GRM-R-PR29	1,133	55	10,241,058	IS/Level 2	3055/3058
Grizzly	2,152	70	7,080,954	Clan/Level 2	3055/3058
Guillotine GLT-3N	1,296	70	6,300,484	IS/Level 2	3050
Guillotine GLT-4L	1,222	70	6,062,484	IS/Level 1	3025/3026
Guillotine GLT-5M	1,295	70	6,470,484	IS/Level 2	3050
Guillotine IIC	2,187	70	7,353,634	Clan/Level 2	3060
Gunslinger GUN-1ERD	2,176	85	16,397,013	IS/Level 2	3055/3058
Ha Otoko	1,466	65	6,458,211	Clan/Level 2	3060
Ha Otoko HKO-1C	1,082	65	11,637,561	IS/Level 2	3060
Hammer HMR-3M	616	30	2,411,240	IS/Level 2	3055/3058
Hammer HMR-3S	526	30	2,541,240	IS/Level 2	3055/3058
Hankyu A	1,148	30	6,662,988	Clan/Level 2	3055/3058
Hankyu B	1,094	30	6,458,400	Clan/Level 2	3055/3058
Hankyu C	1,627	30	6,948,988	Clan/Level 2	3055/3058
Hankyu PRIME	1,313	30	7,257,738	Clan/Level 2	3055/3058
Hatamoto-Chi HTM-27T	1,270	80	8,236,921	IS/Level 2	3050
Hatamoto-Hi HTM-27U	1,251	80	8,107,321	IS/Level 2	3050
Hatamoto-Hi HTM-C	1,237	80	8,553,721	IS/Level 2	3060
Hatamoto-Hi HTM-CM	1,238	80	10,587,721	IS/Level 2	3060
Hatamoto-Kaze HTM-27V	1,302	80	8,175,721	IS/Level 2	3050
Hatamoto-Ku HTM-27W	1,285	80	7,904,821	IS/Level 2	3050
Hatamoto-Mizo HTM-27Y	1,311	80	8,046,121	IS/Level 2	3050
Hatchetman HCT-3F	770	45	3,129,390	IS/Level 1	3025/3026
Hatchetman HCT-5S	826	45	6,135,240	IS/Level 2	3050
Hauptmann HA1-O	1,819	95	12,943,736	IS/Level 2	3060
Hauptmann HA1-OA	2,172	95	12,346,425	IS/Level 2	3060
Hauptmann HA1-OB	1,662	95	12,454,407	IS/Level 2	3060
Helios HEL-3D	1,559	60	5,736,000	IS/Level 2	3060
Helios HEL-4A	1,426	60	5,604,800	IS/Level 2	3060
Helios HEL-C	1,544	60	6,008,000	IS/Level 2	3060
Hellfire	1,495	60	6,824,960	Clan/Level 2	Crusader
Hellhound (Conjuror)	1,714	50	5,320,500	Clan/Level 2	3055/3058

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Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Hellion A	1,290	30	6,545,500	Clan/Level 2	Crusader
Hellion B	1,043	30	6,659,900	Clan/Level 2	Crusader
Hellion PRIME	1,439	30	6,600,425	Clan/Level 2	Crusader
Hercules HRC-LS-9000	1,357	70	16,275,688	IS/Level 2	3055/3058
Hermes HER-1A	501	30	2,569,970	IS/Level 1	3025/3026
Hermes HER-1S	596	30	2,701,270	IS/Level 1	3050
Hermes HER-3S	510	30	3,328,520	IS/Level 2	3050
Hermes HER-3S1	572	30	3,588,520	IS/Level 2	3050
Hermes HER-3S2	466	30	3,601,520	IS/Level 2	3050
Hermes II HER-2M	740	40	3,263,214	IS/Level 1	3025/3026
Hermes II HER-2S	665	40	3,165,680	IS/Level 1	3025/3026
Hermes II HER-5S	740	40	3,205,160	IS/Level 2	3050
Hermes III HER-4K	749	40	3,456,180	IS/Level 1	3025/3026
Highlander HGN-732	1,838	90	8,871,480	IS/Level 2	3050
Highlander HGN-733	1,424	90	8,423,460	IS/Level 1	3025/3026
Highlander IIC	2,827	90	9,863,280	Clan/Level 2	3060
Hitman HM-1	704	30	5,239,520	IS/Level 2	3055/3058
Hollander BZK-F3	861	35	2,585,161	IS/Level 2	3055/3058
Hollander BZK-G1	768	35	2,860,561	IS/Level 2	3055/3058
Hollander II BZK-F5	1,084	45	3,912,390	IS/Level 2	3060
Hoplite HOP-4B	994	55	4,335,759	IS/Level 1	BP 4th
Hoplite HOP-4C	836	55	4,065,909	IS/Level 1	3050
Hoplite HOP-4D	865	55	4,403,809	IS/Level 2	3050
Hornet HNT-151	429	20	1,248,701	IS/Level 1	3050
Hornet HNT-171	491	20	1,374,401	IS/Level 2	3050
Hunchback HBK-4G	851	50	3,467,876	IS/Level 1	3025/3026
Hunchback HBK-4H	850	50	3,425,876	IS/Level 1	3025/3026
Hunchback HBK-4J	853	50	3,560,876	IS/Level 1	3025/3026
Hunchback HBK-4N	843	50	3,437,126	IS/Level 1	3025/3026
Hunchback HBK-4P	960	50	3,377,876	IS/Level 1	3025/3026
Hunchback HBK-4SP	854	50	3,446,876	IS/Level 1	3025/3026
Hunchback HBK-5M	932	50	3,643,001	IS/Level 2	3050
Hunchback HBK-5N	903	50	3,575,876	IS/Level 2	3050
Hunchback IIC	1,524	50	8,110,001	Clan/Level 2	3055/3058
Huron Warrior HUR-WO-R4L	1,139	50	8,110,001	IS/Level 2	3055/3058
Huron Warrior HUR-WO-R4M	1,180	50	8,279,001	IS/Level 2	3055/3058
Hussar HSR-200-D	577	30	8,264,001	IS/Level 2	3050
Hussar HSR-300-D	484	30	2,790,840	IS/Level 1	3025/3026
Hussar HSR-400-D	534	30	4,821,440	IS/Level 2	3050
Icestorm	619	25	4,423,750	Clan/Level 2	3060
Imp IMP-2E	1,619	100	2,563,340	IS/Level 1	3050
Imp IMP-3E	1,411	100	9,420,000	IS/Level 2	3050
Initiate INI-02	913	40	3,177,184	IS/Level 2	3060
Jackal JA-KL-1532	692	30	22,330,000	IS/Level 2	3055/3058
JagerMech JM6-A	841	65	4,567,940	IS/Level 1	3025/3026
JagerMech JM6-DD	713	65	5,562,426	IS/Level 2	3050
JagerMech JM6-S	749	65	11,393,526	IS/Level 1	3025/3026
JagerMech III JM6-D3	1,225	65	14,006,577	IS/Level 2	3060
JagerMech JM7-D	1,171	70	13,742,234	IS/Level 2	3060
Javelin JVN-10F	702	30	5,248,926	IS/Level 1	3025/3026
Javelin JVN-10N	487	30	2,361,840	IS/Level 1	3025/3026
Javelin JVN-10P	514	30	2,400,840	IS/Level 2	3050
Jenner IIC	1,024	35	2,370,940	Clan/Level 2	3055/3058
Jenner IIC 2	1,330	35	7,614,675	Clan/Level 2	3060

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Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Jenner IIC 3	725	35	7,177,275	Clan/Level 2	3060
Jenner JR7-C	651	35	3,589,876	IS/Level 2	3060
Jenner JR7-D	669	35	7,454,025	IS/Level 1	3025/3026
Jenner JR7-F	792	35	3,198,376	IS/Level 1	3025/3026
Jenner JR7-K	694	35	3,121,426	IS/Level 2	3050
Jinggau JN-G8A	1,915	65	14,427,327	IS/Level 2	3060
Kabuto KBO-7A	448	20	2,413,041	IS/Level 2	3060
Katana CRK-5003-2	1,312	85	3,306,376	IS/Level 2	3050
Katana CRK-5003-C	1,321	85	8,214,000	IS/Level 2	3060
Katana CRK-5003-CM	1,331	85	10,328,550	IS/Level 2	3060
King Crab KGC-000	1,509	100	7,737,625	IS/Level 2	3050
King Crab KGC-0000	1,401	100	10,202,000	IS/Level 1	3025/3026
King Crab KGC-001	1,714	100	9,582,000	IS/Level 2	3050
Kingfisher A	2,047	90	22,948,000	Clan/Level 2	3055/3058
Kingfisher B	2,057	90	13,439,533	Clan/Level 2	3055/3058
Kingfisher C	2,391	90	13,924,033	Clan/Level 2	3055/3058
Kingfisher D	1,966	90	13,193,125	Clan/Level 2	3055/3058
Kingfisher PRIME	2,103	90	13,265,563	Clan/Level 2	3055/3058
Kintaro KTO-18	864	55	13,017,970	IS/Level 1	3025/3026
Kintaro KTO-19	857	55	4,699,808	IS/Level 2	3050
Kintaro KTO-20	1,081	55	4,749,408	IS/Level 2	3050
Kintaro KTO-C	1,069	55	5,251,608	IS/Level 2	3060
Kodiak	2,363	100	4,921,458	Clan/Level 2	3055/3058
Komodo KIM-2	1,374	45	29,927,334	IS/Level 2	3055/3058
Komodo KIM-2A	1,301	45	7,740,390	IS/Level 2	3055/3058
Koshi A (Mist Lynx)	631	25	7,740,390	Clan/Level 2	3050
Koshi B (Mist Lynx)	1,141	25	4,796,355	Clan/Level 2	3050
Koshi C (Mist Lynx)	1,362	25	4,892,059	Clan/Level 2	3050
Koshi D (Mist Lynx)	861	25	5,199,480	Clan/Level 2	3050
Koshi H (Mist Lynx)	1,036	25	4,940,105	Clan/Level 2	3060
Koshi P (Mist Lynx)	1,058	25	4,654,949	Clan/Level 2	3060
Koshi PRIME (Mist Lynx)	895	25	4,616,668	Clan/Level 2	3050
Kraken (Bane)	1,685	100	4,684,637	Clan/Level 2	3055/3058
Kraken 2 (Bane)	2,106	100	22,997,000	Clan/Level 2	3060
Kraken 3 (Bane)	2,581	100	24,018,000	Clan/Level 2	3060
Lancelot LNC25-01	1,185	60	22,509,000	IS/Level 2	3050
Lancelot LNC25-02	968	60	13,025,600	IS/Level 1	3025/3026
Linebacker A	1,854	65	20,394,825	Clan/Level 2	3055/3058
Linebacker B	1,849	65	19,747,717	Clan/Level 2	3055/3058
Linebacker C	1,824	65	20,137,219	Clan/Level 2	3055/3058
Linebacker D	1,865	65	20,308,717	Clan/Level 2	3055/3058
Linebacker PRIME	2,016	65	20,277,986	Clan/Level 2	3055/3058
Lineholder KW1-LH2	987	55	4,515,668	IS/Level 1	3055/3058
Lineholder KW1-LH3	935	55	4,608,668	IS/Level 2	3055/3058
Locust IIC	975	25	2,044,793	Clan/Level 2	3055/3058
Locust LCT-1E	484	20	1,574,201	IS/Level 1	3025/3026
Locust LCT-1L	364	20	1,848,401	IS/Level 2	3050
Locust LCT-1M	382	20	1,571,201	IS/Level 1	3025/3026
Locust LCT-1S	376	20	1,543,601	IS/Level 1	3025/3026
Locust LCT-1V	356	20	1,512,401	IS/Level 1	3025/3026
Locust LCT-3D	377	20	1,660,001	IS/Level 2	3050
Locust LCT-3M	464	20	1,788,401	IS/Level 2	3050
Locust LCT-3S	431	20	1,700,801	IS/Level 2	3050
Locust LCT-3V	434	20	1,553,801	IS/Level 1	3025/3026

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Loki A (Hellbringer)	1,651	65	18,717,361	Clan/Level 2	3050
Loki B (Hellbringer)	1,454	65	18,077,986	Clan/Level 2	3050
Loki C (Hellbringer)	1,698	65	18,862,043	Clan/Level 2	Warden
Loki H (Hellbringer)	1,492	65	18,504,409	Clan/Level 2	3060
Loki PRIME (Hellbringer)	2,196	65	18,963,315	Clan/Level 2	3050
Longbow LGB-7Q	1,376	85	8,647,672	IS/Level 1	3055/3058
Longbow LGB-7V	1,366	85	7,408,325	IS/Level 2	3055/3058
Longbow LGB-OW	1,034	85	17,176,325	IS/Level 1	3055/3058
Lynx LNX-9C	1,478	55	10,164,643	IS/Level 2	3055/3058
Lynx LNX-9Q	1,525	55	10,105,743	IS/Level 2	3055/3058
Lynx LNX-9R	1,529	55	10,260,743	IS/Level 2	3055/3058
Mackie MSK-6S	1,180	100	8,784,000	IS/Level 3	3055/3058
Mad Cat A (Timber Wolf)	2,470	75	23,652,892	Clan/Level 2	3050
Mad Cat B (Timber Wolf)	2,012	75	23,741,486	Clan/Level 2	3050
Mad Cat C (Timber Wolf)	2,182	75	24,253,361	Clan/Level 2	3050
Mad Cat D (Timber Wolf)	2,457	75	24,326,642	Clan/Level 2	3050
Mad Cat H (Timber Wolf)	2,095	75	24,553,048	Clan/Level 2	3060
Mad Cat PRIME (Timber Wolf)	2,252	75	24,106,250	Clan/Level 2	3050
Mad Cat Pryde (Timber Wolf)	2,624	75	24,614,298	Clan/Level 2	3050
Mad Cat S (Timber Wolf)	2,229	75	24,173,517	Clan/Level 2	3060
Maelstrom MTR-5K	1,490	75	18,016,688	IS/Level 2	3055/3058
Man O' War A (Gargoyle)	2,166	80	26,234,964	Clan/Level 2	3050
Man O' War B (Gargoyle)	1,631	80	26,040,903	Clan/Level 2	3050
Man O' War C (Gargoyle)	1,969	80	26,523,528	Clan/Level 2	3050
Man O' War H (Gargoyle)	1,821	80	26,364,903	Clan/Level 2	3060
Man O' War PRIME (Gargoyle)	1,342	80	26,105,814	Clan/Level 2	3050
Mandrill	1,279	30	3,900,065	Clan/Level 2	3060
Marauder II MAD-4A	1,769	100	9,356,000	IS/Level 1	3050
Marauder II MAD-5A	1,725	100	22,528,000	IS/Level 2	3050
Marauder IIC	2,217	85	9,913,534	Clan/Level 2	3055/3058
Marauder MAD-3D	1,136	75	6,597,500	IS/Level 1	3025/3026
Marauder MAD-3L	1,098	75	6,467,125	IS/Level 1	3025/3026
Marauder MAD-3M	1,105	75	6,299,125	IS/Level 1	3025/3026
Marauder MAD-3R	1,089	75	6,635,125	IS/Level 1	3025/3026
Marauder MAD-5D	1,504	75	15,828,750	IS/Level 2	3050
Marauder MAD-5M	1,391	75	15,641,500	IS/Level 2	3050
Marauder MAD-5S	1,466	75	15,498,000	IS/Level 2	3050
Marshal MHL-X1	995	55	4,545,324	IS/Level 2	3060
Masakari A (Warhawk)	2,167	85	26,261,716	Clan/Level 2	3050
Masakari B (Warhawk)	2,063	85	25,943,168	Clan/Level 2	3050
Masakari C (Warhawk)	2,522	85	25,499,747	Clan/Level 2	3050
Masakari H (Warhawk)	2,185	85	25,569,700	Clan/Level 2	3060
Masakari PRIME (Warhawk)	2,632	85	26,425,325	Clan/Level 2	3050
Matador	1,830	60	5,740,960	Clan/Level 2	3060
Mauler MAL-1R	1,113	90	18,179,200	IS/Level 2	3050
Mauler MAL-C	1,133	90	18,872,700	IS/Level 2	3060
Men Shen MS1-O	1,199	55	16,570,469	IS/Level 2	3060
Men Shen MS1-OA	1,232	55	16,897,907	IS/Level 2	3060
Men Shen MS1-OB	1,128	55	16,719,657	IS/Level 2	3060
Men Shen MS1-OC	1,151	55	16,613,579	IS/Level 2	3060
Men Shen MS1-OD	1,157	55	16,624,719	IS/Level 2	3060
Mercury MCY-97	380	20	1,734,941	IS/Level 2	3050
Mercury MCY-98	484	20	1,580,441	IS/Level 1	3025/3026
Mercury MCY-99	471	20	1,796,441	IS/Level 2	3050

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Merlin MLN-1A	1,039	60	4,960,000	IS/Level 1	3055/3058
Merlin MLN-1B	1,060	60	4,954,400	IS/Level 1	3055/3058
Mongoose MON-66	633	25	1,979,480	IS/Level 2	3050
Mongoose MON-67	612	25	1,885,730	IS/Level 1	3025/3026
Naga A	1,344	80	26,744,814	Clan/Level 2	3055/3058
Naga B	1,379	80	26,902,314	Clan/Level 2	3055/3058
Naga C	1,252	80	26,590,128	Clan/Level 2	3055/3058
Naga D	1,287	80	26,699,814	Clan/Level 2	3055/3058
Naga PRIME	1,268	80	26,457,939	Clan/Level 2	3055/3058
Naginata NG-C3A	1,734	95	12,910,170	IS/Level 2	3055/3058
Nexus NXS1-A	626	25	2,213,959	IS/Level 2	3055/3058
Night Gyr A	2,522	75	20,690,469	Clan/Level 2	3055/3058
Night Gyr B	2,145	75	20,364,532	Clan/Level 2	3055/3058
Night Gyr C	2,350	75	20,207,032	Clan/Level 2	3055/3058
Night Gyr D	2,708	75	22,475,469	Clan/Level 2	3055/3058
Night Gyr PRIME	2,750	75	20,565,782	Clan/Level 2	3055/3058
Night Hawk NTK-2Q	863	35	5,126,625	IS/Level 2	3055/3058
Nightsky NGS-4S	1,029	50	9,324,000	IS/Level 2	3055/3058
Nightsky NGS-4T	1,122	50	9,627,375	IS/Level 2	3060
Nightsky NGS-5S	904	50	8,907,000	IS/Level 2	3060
Nightsky NGS-5T	1,175	50	9,607,500	IS/Level 2	3060
Nightstar NSR-9FC	1,600	95	25,712,441	IS/Level 2	3055/3058
Nightstar NSR-9J	2,135	95	20,159,978	IS/Level 2	3055/3058
No-Dachi NDA-1K	1,184	70	17,628,886	IS/Level 2	DCMS
Nobori-nin A (Huntsman)	1,870	50	11,334,065	Clan/Level 2	3055/3058
Nobori-nin B (Huntsman)	1,960	50	11,683,752	Clan/Level 2	3055/3058
Nobori-nin C (Huntsman)	1,927	50	11,902,658	Clan/Level 2	3055/3058
Nobori-nin PRIME (Huntsman)	1,889	50	12,578,127	Clan/Level 2	3055/3058
Nova Cat A	2,646	70	17,298,918	Clan/Level 2	3060
Nova Cat B	2,078	70	18,429,418	Clan/Level 2	3060
Nova Cat C	1,705	70	17,284,256	Clan/Level 2	3060
Nova Cat D	1,671	70	17,766,418	Clan/Level 2	3060
Nova Cat PRIME	2,165	70	17,672,918	Clan/Level 2	3060
O-Bakemono OBK-M10	1,027	80	18,093,451	IS/Level 2	3055/3058
Orion IIC	1,923	75	8,267,000	Clan/Level 2	3060
Orion ON1-K	1,069	75	6,763,750	IS/Level 1	3025/3026
Orion ON1-M	1,192	75	15,398,250	IS/Level 2	3050
Orion ON1-V	931	75	6,837,250	IS/Level 1	3025/3026
Orion ON1-VA	1,111	75	6,510,000	IS/Level 1	3025/3026
Ostroc OSR-2C	951	60	5,025,600	IS/Level 1	3025/3026
Ostroc OSR-2D	942	60	5,360,960	IS/Level 2	3050
Ostroc OSR-2L	970	60	4,982,400	IS/Level 1	3025/3026
Ostroc OSR-2M	1,036	60	5,238,400	IS/Level 1	3025/3026
Ostroc OSR-3C	976	60	4,918,400	IS/Level 1	3025/3026
Ostscout OTT-7J	497	35	3,416,761	IS/Level 1	3025/3026
Ostscout OTT-7K	372	35	3,422,701	IS/Level 2	3050
Ostsol OTL-4D	1,034	60	5,017,600	IS/Level 1	3025/3026
Ostsol OTL-4F	1,023	60	5,096,960	IS/Level 1	3025/3026
Ostsol OTL-5M	1,102	60	11,458,560	IS/Level 2	3050
Owens OW-1	695	35	7,545,377	IS/Level 2	3055/3058
Owens OW-1A	551	35	7,385,909	IS/Level 2	3055/3058
Owens OW-1B	629	35	7,713,284	IS/Level 2	3055/3058
Owens OW-1C	729	35	7,591,784	IS/Level 2	3055/3058
Owens OW-1D	526	35	7,613,721	IS/Level 2	3055/3058

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Owens OW-1E	654	35	7,887,096	IS/Level 2	3060
Pack Hunter	1,384	30	3,206,840	Clan/Level 2	3060
Panther PNT-10K	706	35	2,879,911	IS/Level 2	3050
Panther PNT-9R	664	35	2,485,711	IS/Level 1	3025/3026
Panther PNT-C	696	35	3,082,411	IS/Level 2	3060
Penetrator PTR-4D	1,385	75	7,628,250	IS/Level 2	3055/3058
Penetrator PTR-4F	1,401	75	7,523,250	IS/Level 2	3060
Penetrator PTR-6M	1,472	75	7,453,250	IS/Level 2	3060
Penetrator PTR-6S	1,401	75	7,952,000	IS/Level 2	3060
Peregrine (Horned Owl)	1,409	35	3,487,860	Clan/Level 2	3055/3058
Peregrine 2 (Horned Owl)	1,232	35	3,629,610	Clan/Level 2	3060
Perseus P1	1,290	75	20,994,141	IS/Level 2	FWLM
Perseus P1A	1,409	75	20,901,563	IS/Level 2	FWLM
Perseus P1B	1,398	75	19,335,859	IS/Level 2	FWLM
Perseus P1C	1,463	75	19,472,031	IS/Level 2	FWLM
Phantom A	1,271	40	10,550,139	Clan/Level 2	3055/3058
Phantom B	966	40	11,055,889	Clan/Level 2	3055/3058
Phantom C	1,413	40	10,394,825	Clan/Level 2	3055/3058
Phantom D	1,443	40	10,845,889	Clan/Level 2	3055/3058
Phantom PRIME	1,029	40	11,206,389	Clan/Level 2	3055/3058
Phoenix Hawk IIC	1,996	80	21,639,842	Clan/Level 2	3055/3058
Phoenix Hawk PXH-1	838	45	4,067,540	IS/Level 1	3025/3026
Phoenix Hawk PXH-1D	883	45	4,057,390	IS/Level 1	3025/3026
Phoenix Hawk PXH-1K	872	45	3,628,553	IS/Level 1	3025/3026
Phoenix Hawk PXH-3D	1,163	45	8,394,340	IS/Level 2	3050
Phoenix Hawk PXH-3K	1,204	45	8,288,490	IS/Level 2	3050
Phoenix Hawk PXH-3M	1,070	45	8,455,240	IS/Level 2	3050
Phoenix Hawk PXH-3S	1,037	45	8,910,540	IS/Level 2	3050
Pillager PLG-3Z	2,551	100	22,290,000	IS/Level 2	3055/3058
Piranha	801	20	2,780,940	Clan/Level 2	3055/3058
Pouncer A	1,942	40	9,228,889	Clan/Level 2	3055/3058
Pouncer B	1,588	40	9,140,950	Clan/Level 2	3055/3058
Pouncer C	1,596	40	8,662,064	Clan/Level 2	3055/3058
Pouncer D	2,182	40	9,148,389	Clan/Level 2	3055/3058
Pouncer PRIME	2,191	40	8,755,689	Clan/Level 2	3055/3058
Predator	1,592	60	12,127,200	Clan/Level 2	3060
Puma A (Adder)	1,304	35	7,232,794	Clan/Level 2	3050
Puma B (Adder)	1,176	35	7,042,867	Clan/Level 2	3050
Puma C (Adder)	1,268	35	7,285,444	Clan/Level 2	3050
Puma D (Adder)	1,130	35	6,980,429	Clan/Level 2	3050
Puma H (Adder)	1,158	35	6,852,938	Clan/Level 2	3060
Puma PRIME (Adder)	1,560	35	7,021,688	Clan/Level 2	3050
Quickdraw QKD-4G	1,012	60	5,514,560	IS/Level 1	3025/3026
Quickdraw QKD-4H	1,006	60	5,509,760	IS/Level 1	3025/3026
Quickdraw QKD-5A	1,070	60	5,452,160	IS/Level 1	3025/3026
Quickdraw QKD-5K	1,170	60	5,720,960	IS/Level 2	3050
Quickdraw QKD-5M	1,142	60	5,746,560	IS/Level 2	3050
Quickdraw QKD-C	1,124	60	6,052,160	IS/Level 2	3060
Raijin RJN101-A	1,132	50	9,946,500	IS/Level 2	3055/3058
Rakshasa MDG-1A	1,412	75	18,838,750	IS/Level 2	3055/3058
Rakshasa MDG-1B	1,439	75	18,488,750	IS/Level 2	3060
Raptor RTX1-O	655	25	3,917,449	IS/Level 2	3055/3058
Raptor RTX1-OA	702	25	3,918,622	IS/Level 2	3055/3058
Raptor RTX1-OB	533	25	4,030,340	IS/Level 2	3055/3058

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Raptor RTX1-OC	797	25	4,156,512	IS/Level 2	3055/3058
Raptor RTX1-OD	428	25	4,228,387	IS/Level 2	3055/3058
Raptor RTX1-OE	517	25	3,820,964	IS/Level 2	DCMS
Raptor RTX1-OF	959	25	4,589,324	IS/Level 2	3060
Raven RVN-3L	592	35	5,353,425	IS/Level 2	3050
Rifleman IIC	2,123	65	5,741,588	Clan/Level 2	3055/3058
Rifleman RFL-3C	860	60	4,808,000	IS/Level 1	3025/3026
Rifleman RFL-3N	797	60	4,869,600	IS/Level 1	3025/3026
Rifleman RFL-4D	869	60	4,980,800	IS/Level 1	3025/3026
Rifleman RFL-5D	1,115	60	10,208,000	IS/Level 2	3050
Rifleman RFL-5M	1,043	60	9,926,400	IS/Level 2	3050
Ryoken A (Stormcrow)	1,894	55	15,329,113	Clan/Level 2	3050
Ryoken B (Stormcrow)	1,785	55	15,447,011	Clan/Level 2	3050
Ryoken C (Stormcrow)	1,656	55	14,890,948	Clan/Level 2	3050
Ryoken D (Stormcrow)	1,698	55	15,096,613	Clan/Level 2	3050
Ryoken E (Stormcrow)	1,757	55	16,137,050	Clan/Level 2	Warden
Ryoken H (Stormcrow)	1,731	55	14,937,157	Clan/Level 2	3060
Ryoken PRIME (Stormcrow)	1,911	55	14,771,113	Clan/Level 2	3050
Salamander PPR-5S	1,381	80	18,406,921	IS/Level 2	3055/3058
Salamander PPR-5T	1,352	80	20,772,422	IS/Level 2	3060
Salamander PPR-6S	1,424	80	18,729,121	IS/Level 2	3060
Salamander PPR-6T	1,381	80	18,225,121	IS/Level 2	3060
Savage Coyote A	2,536	85	22,143,460	Clan/Level 2	Warden
Savage Coyote B	1,867	85	21,403,344	Clan/Level 2	Warden
Savage Coyote PRIME	2,145	85	22,937,688	Clan/Level 2	Warden
Scarabus SCB-9A	732	30	5,486,650	IS/Level 2	3055/3058
Scarabus SCB-9T	749	30	6,033,820	IS/Level 2	3060
Scorpion SCP-10	785	55	5,201,800	IS/Level 2	3050
Scorpion SCP-1N	786	55	5,356,800	IS/Level 1	3025/3026
Sentinel STN-3K	536	40	3,117,730	IS/Level 1	3025/3026
Sentinel STN-3L	614	40	3,292,030	IS/Level 2	3050
Sentinel STN-3M	655	40	3,287,480	IS/Level 2	3050
Sentinel STN-C	586	40	3,581,480	IS/Level 2	3060
Sentry SNT-04	948	40	3,232,928	IS/Level 2	3060
Shadow Cat A	1,972	45	12,039,532	Clan/Level 2	3055/3058
Shadow Cat B	2,123	45	13,043,657	Clan/Level 2	3055/3058
Shadow Cat PRIME	2,057	45	11,774,907	Clan/Level 2	3055/3058
Shadow Hawk IIC	1,646	45	4,752,303	Clan/Level 2	3055/3058
Shadow Hawk SHD-2D	765	55	4,617,658	IS/Level 1	3025/3026
Shadow Hawk SHD-2D2	896	55	4,741,658	IS/Level 2	3050
Shadow Hawk SHD-2H	918	55	4,539,383	IS/Level 1	3025/3026
Shadow Hawk SHD-2K	1,018	55	4,505,283	IS/Level 1	3025/3026
Shadow Hawk SHD-5M	1,349	55	10,194,558	IS/Level 2	3050
Shogun SHG-2E	1,498	85	7,966,100	IS/Level 2	3050
Shogun SHG-2F	1,490	85	8,151,100	IS/Level 2	3050
Shootist ST-8A	1,277	70	6,555,229	IS/Level 2	3055/3058
Shugenja SJA-7C	1,274	75	17,745,000	IS/Level 2	3060
Sirocco SRC-3C	1,807	95	10,159,500	IS/Level 2	3060
Sirocco SRC-5C	1,835	95	10,132,200	IS/Level 2	3060
Snake SNK-1V	910	45	7,233,470	IS/Level 2	3055/3058
Snow Fox	627	20	1,826,201	Clan/Level 2	3060
Snow Fox 2	484	20	1,883,201	Clan/Level 2	3060
Spartan SPT-N2	1,294	80	20,365,442	IS/Level 2	3055/3058
Spartan SPT-NF	1,294	80	20,455,442	IS/Level 2	3055/3058

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Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Spector SPR-5F	1,141	35	6,136,718	IS/Level 2	3055/3058
Spider SDR-5D	412	30	2,942,290	IS/Level 1	3025/3026
Spider SDR-5K	433	30	2,728,440	IS/Level 1	3025/3026
Spider SDR-5V	514	30	2,984,540	IS/Level 1	3025/3026
Spider SDR-7M	492	30	3,115,840	IS/Level 2	3050
Spider SDR-C	500	30	3,414,840	IS/Level 2	3060
Stalker STK-3F	1,152	85	7,452,725	IS/Level 1	3025/3026
Stalker STK-3H	1,249	85	7,637,725	IS/Level 1	3025/3026
Stalker STK-4N	1,225	85	7,245,525	IS/Level 1	3025/3026
Stalker STK-5M	1,316	85	7,696,925	IS/Level 2	3050
Stalker STK-5S	1,018	85	15,938,675	IS/Level 2	3050
Stalking Spider	1,884	50	5,799,501	Clan/Level 2	3060
Stalking Spider 2	1,735	50	5,813,001	Clan/Level 2	3060
Starslayer STY-3C	1,294	50	4,873,626	IS/Level 2	3055/3058
Starslayer STY-3D	1,408	50	5,020,251	IS/Level 2	3055/3058
Stealth STH-1D	1,067	45	10,166,240	IS/Level 2	3055/3058
Stinger STG-3G	438	20	1,662,240	IS/Level 1	3025/3026
Stinger STG-3R	320	20	1,615,440	IS/Level 1	3025/3026
Stinger STG-5M	362	20	1,768,440	IS/Level 2	3050
Stooping Hawk A	2,333	55	7,143,823	Clan/Level 2	3060
Stooping Hawk B	1,709	55	7,779,323	Clan/Level 2	3060
Stooping Hawk C	2,286	55	7,066,323	Clan/Level 2	3060
Stooping Hawk D	1,639	55	6,798,657	Clan/Level 2	3060
Stooping Hawk PRIME	1,881	55	7,229,073	Clan/Level 2	3060
Strider SR1-O	738	40	4,732,439	IS/Level 2	3055/3058
Strider SR1-OA	613	40	4,809,439	IS/Level 2	3055/3058
Strider SR1-OB	798	40	4,348,750	IS/Level 2	3055/3058
Strider SR1-OC	759	40	4,716,250	IS/Level 2	3055/3058
Strider SR1-OD	713	40	4,795,439	IS/Level 2	3055/3058
Strider SR1-OE	864	40	4,572,750	IS/Level 2	DCMS
Strider SR1-OF	878	40	4,947,250	IS/Level 2	3060
Striker STC-2C	1,154	80	7,709,701	IS/Level 1	3055/3058
Striker STC-2D	1,329	80	8,037,301	IS/Level 2	3055/3058
Sunder SD1-O	1,381	90	27,774,438	IS/Level 2	3055/3058
Sunder SD1-OA	1,722	90	27,911,000	IS/Level 2	3055/3058
Sunder SD1-OB	1,362	90	34,511,125	IS/Level 2	3055/3058
Sunder SD1-OC	1,493	90	28,382,438	IS/Level 2	DCMS
Sunder SD1-OD	1,782	90	28,604,500	IS/Level 2	3060
Supernova	2,508	90	9,346,100	Clan/Level 2	3055/3058
Tai-sho TSH-7S	1,518	85	13,738,100	IS/Level 2	3060
Talon TLN-5W	1,030	35	6,034,276	IS/Level 2	3055/3058
Tarantula ZPH-1A	636	25	3,627,918	IS/Level 2	3055/3058
Tempest TMP-3M	1,613	65	11,912,451	IS/Level 2	3055/3058
Thor A (Summoner)	2,119	70	20,650,399	Clan/Level 2	3050
Thor B (Summoner)	2,175	70	21,257,086	Clan/Level 2	3050
Thor C (Summoner)	2,168	70	21,044,054	Clan/Level 2	3050
Thor D (Summoner)	2,692	70	20,968,086	Clan/Level 2	3050
Thor H (Summoner)	2,416	70	20,934,086	Clan/Level 2	3060
Thor M (Summoner)	2,254	70	21,402,116	Clan/Level 2	3050
Thor PRIME (Summoner)	2,306	70	21,342,086	Clan/Level 2	3050
Thorn THE-N	484	20	1,653,120	IS/Level 2	3050
Thorn THE-S	445	20	1,558,320	IS/Level 1	3025/3026
Thresher	2,043	60	13,371,200	Clan/Level 2	3055/3058
Thug THG-10E	1,203	80	7,760,641	IS/Level 1	3025/3026

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Thug THG-11E	1,450	80	8,414,041	IS/Level 2	3050
Thunder Hawk TDK-7KMA	1,562	100	22,342,000	IS/Level 2	3055/3058
Thunder Hawk TDK-7X	1,967	100	22,162,000	IS/Level 2	3055/3058
Thunder Hawk TDK-7Y	2,037	100	22,082,000	IS/Level 2	3055/3058
Thunder Stallion	2,099	85	9,429,450	Clan/Level 2	3060
Thunder Stallion 2	2,153	85	8,693,150	Clan/Level 2	3060
Thunder THR-1L	1,227	70	15,579,538	IS/Level 2	3055/3058
Thunderbolt TDR-5S	1,015	65	5,446,761	IS/Level 1	3025/3026
Thunderbolt TDR-5SE	1,180	65	5,560,611	IS/Level 1	3025/3026
Thunderbolt TDR-5SS	1,077	65	5,320,536	IS/Level 1	3025/3026
Thunderbolt TDR-7M	1,338	65	5,910,411	IS/Level 2	3050
Thunderbolt TDR-9S	1,255	65	6,045,381	IS/Level 2	3050
Thunderbolt TDR-9SE	1,355	65	5,851,011	IS/Level 2	3050
Ti Ts'ang TSG-9H	1,462	60	15,361,280	IS/Level 2	3060
Ti Ts'ang TSG-9J	1,464	60	15,299,680	IS/Level 2	3060
Toyama TYM-1A	1,352	75	16,267,125	IS/Level 2	3060
Trebuchet TBT-5J	1,034	50	4,383,501	IS/Level 1	3025/3026
Trebuchet TBT-5N	864	50	4,293,501	IS/Level 1	3025/3026
Trebuchet TBT-5S	841	50	4,023,501	IS/Level 1	3025/3026
Trebuchet TBT-7K	792	50	4,085,001	IS/Level 1	3025/3026
Trebuchet TBT-7M	1,206	50	8,844,501	IS/Level 2	3050
Turkina A	2,812	95	26,457,844	Clan/Level 2	3055/3058
Turkina B	3,043	95	25,507,219	Clan/Level 2	3055/3058
Turkina C	2,464	95	27,137,907	Clan/Level 2	3055/3058
Turkina PRIME	2,759	95	27,028,219	Clan/Level 2	3055/3058
Uller A (Kit Fox)	1,218	30	5,165,713	Clan/Level 2	3050
Uller B (Kit Fox)	1,016	30	5,291,245	Clan/Level 2	3050
Uller C (Kit Fox)	1,195	30	6,047,925	Clan/Level 2	3050
Uller D (Kit Fox)	1,070	30	5,594,550	Clan/Level 2	3050
Uller H (Kit Fox)	1,122	30	5,230,713	Clan/Level 2	3060
Uller PRIME (Kit Fox)	1,014	30	5,432,213	Clan/Level 2	3050
Uller S (Kit Fox)	1,354	30	5,444,400	Clan/Level 2	3060
UrbanMech IIC	737	30	1,830,725	Clan/Level 2	3060
UrbanMech UM-R60	454	30	1,471,925	IS/Level 1	3025/3026
UrbanMech UM-R60L	443	30	1,581,125	IS/Level 1	3025/3026
UrbanMech UM-R63	494	30	1,760,525	IS/Level 2	3050
Ursus	1,509	50	4,535,501	Clan/Level 2	3060
Valkyrie VLK-QA	640	30	2,205,320	IS/Level 1	3025/3026
Valkyrie VLK-QD	690	30	2,548,520	IS/Level 2	3050
Valkyrie VLK-QF	563	30	2,163,070	IS/Level 1	3025/3026
Venom SDR-9K	634	35	6,371,911	IS/Level 2	3055/3058
Venom SDR-9KA	677	35	6,344,911	IS/Level 2	3060
Venom SDR-9KB	638	35	6,063,436	IS/Level 2	3060
Victor VTR-9A	971	80	7,931,821	IS/Level 1	3025/3026
Victor VTR-9A1	1,110	80	7,940,821	IS/Level 1	3025/3026
Victor VTR-9B	1,165	80	8,013,721	IS/Level 1	3025/3026
Victor VTR-9K	1,634	80	8,499,721	IS/Level 2	3050
Victor VTR-9S	1,140	80	8,154,121	IS/Level 1	3025/3026
Victor VTR-C	1,601	80	8,958,721	IS/Level 2	3060
Viking VKG-2F	1,749	90	9,828,700	IS/Level 2	3060
Viking VKG-2G	1,878	90	9,539,900	IS/Level 2	3060
Vindicator VND-1AA	835	45	3,864,033	IS/Level 1	3025/3026
Vindicator VND-1R	900	45	3,181,083	IS/Level 1	3025/3026

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Vindicator VND-3L	1,069	45	3,524,370	IS/Level 2	3050
Viper (Black Python)	2,413	75	18,838,750	Clan/Level 2	3055/3058
Viper 2 (Black Python)	2,131	75	19,227,250	Clan/Level 2	3060
Vixen (Incubus)	1,422	30	5,314,790	Clan/Level 2	3055/3058
Vixen 2 (Incubus)	1,573	30	5,477,290	Clan/Level 2	3060
Vixen 3 (Incubus)	1,216	30	5,326,490	Clan/Level 2	3060
Vulcan VL-2T	523	40	3,462,900	IS/Level 1	3025/3026
Vulcan VL-5T	744	40	3,558,100	IS/Level 1	3025/3026
Vulcan VT-5M	761	40	7,137,900	IS/Level 2	3050
Vulcan VT-5S	681	40	3,789,100	IS/Level 2	3050
Vulture A (Mad Dog)	1,510	60	15,704,000	Clan/Level 2	3050
Vulture B (Mad Dog)	1,903	60	15,807,200	Clan/Level 2	3050
Vulture C (Mad Dog)	1,707	60	14,580,000	Clan/Level 2	3050
Vulture H (Mad Dog)	1,735	60	15,762,000	Clan/Level 2	3060
Vulture PRIME (Mad Dog)	1,871	60	15,292,000	Clan/Level 2	3050
War Dog WR-DG-02FC	1,530	75	15,401,750	IS/Level 2	3055/3058
Warhammer IIC	2,159	80	9,183,001	Clan/Level 2	3055/3058
Warhammer WHM-6D	1,169	70	5,945,184	IS/Level 1	3025/3026
Warhammer WHM-6K	1,022	70	6,059,084	IS/Level 1	3025/3026
Warhammer WHM-6L	943	70	6,077,784	IS/Level 1	3025/3026
Warhammer WHM-6R	978	70	6,026,784	IS/Level 1	3025/3026
Warhammer WHM-7M	1,251	70	6,648,134	IS/Level 2	3050
Warhammer WHM-7S	1,236	70	6,577,584	IS/Level 2	3050
Wasp WSP-1A	336	20	1,646,640	IS/Level 1	3025/3026
Wasp WSP-1D	327	20	1,636,320	IS/Level 1	3025/3026
Wasp WSP-1K	330	20	1,613,520	IS/Level 1	3025/3026
Wasp WSP-1L	290	20	1,656,720	IS/Level 1	3025/3026
Wasp WSP-1S	336	20	1,725,120	IS/Level 2	3050
Wasp WSP-1W	316	20	1,633,320	IS/Level 1	3025/3026
Wasp WSP-3M	346	20	1,781,520	IS/Level 2	3050
Wasp WSP-3W	276	20	1,656,720	IS/Level 2	3050
Watchman WTC-4M	865	40	2,990,028	IS/Level 2	3055/3058
Whitworth WTH-1	771	40	2,859,734	IS/Level 1	3025/3026
Whitworth WTH-1S	753	40	2,912,934	IS/Level 1	3025/3026
Whitworth WTH-2	784	40	3,080,934	IS/Level 2	3050
Wolf Trap WFT-1	827	45	7,872,558	IS/Level 2	3050
Wolf Trap WFT-C	836	45	8,203,158	IS/Level 2	3060
Wolfhound IIC	1,473	35	5,694,030	Clan/Level 2	3050
Wolfhound WLF-1	736	35	2,925,180	IS/Level 1	3050
Wolfhound WLF-2	903	35	3,141,180	IS/Level 2	3050
Wolverine WVR-6K	970	55	4,514,196	IS/Level 1	3025/3026
Wolverine WVR-6M	1,059	55	4,865,658	IS/Level 1	3025/3026
Wolverine WVR-6R	957	55	4,827,683	IS/Level 1	3025/3026
Wolverine WVR-7D	1,090	55	11,270,258	IS/Level 2	3050
Wolverine WVR-7K	1,165	55	9,962,058	IS/Level 2	3050
Wolverine WVR-7M	1,309	55	11,451,608	IS/Level 2	3050
Wraith TR1	1,089	55	13,225,324	IS/Level 2	3055/3058
Wyvern IIC	1,426	45	4,060,290	Clan/Level 2	3060
Wyvern WVE-5N	883	45	3,470,865	IS/Level 2	3050
Wyvern WVE-6N	797	45	3,241,765	IS/Level 1	3025/3026
Wyvern WVE-9N	951	45	3,725,340	IS/Level 2	3050
Yeoman YMN-6Y	1,222	60	5,696,000	IS/Level 2	3060
Yu Huang Y-H10G	2,132	90	24,033,100	IS/Level 2	3060

MASTER TABLES

Name	Battle Value	Tons	C-bill Cost	Technology Base	Source
Yu Huang Y-H9G	1,781	90	23,712,000	IS/Level 2	3060
Zeus ZEU-6S	1,148	80	7,617,901	IS/Level 1	3025/3026
Zeus ZEU-6T	1,170	80	7,752,001	IS/Level 1	3025/3026
Zeus ZEU-9S	1,419	80	8,614,201	IS/Level 2	3050

INNER SPHERE WEAPONS AND EQUIPMENT TABLE

Type	Range							Tons	Crit.	Ammo	Rules Level
	Heat	Dmg	Min.	Short	Med.	Long	Ext.				
Energy Weapons											
ER Large Laser	12	8	—	1-7	8-14	15-19	20-28	5	2	—	2
ER Medium Laser	5	5	—	1-4	5-8	9-12	13-16	1	1	—	2
ER Small Laser	2	3	—	1-2	3-4	5	6-8	.5	1	—	2
Flamer	3	2	—	1	2	3	4	1	1	—	1
Large Laser	8	8	—	1-5	6-10	11-15	16-20	5	2	—	1
Medium Laser	3	5	—	1-3	4-6	7-9	10-12	1	1	—	1
Small Laser	1	3	—	1	2	3	4	.5	1	—	1
Laser AMS	2D6*	*	—	—	—	—	—	1.5	2	—	3
PPC	10	10	3	1-6	7-12	13-18	19-24	7	3	—	1
ER PPC	15	10	—	1-7	8-14	15-23	24-28	7	3	—	2
Pulse Laser (Large)	10	9	—	1-3	4-7	8-10	11-14	7	2	—	2
Pulse Laser (Medium)	4	6	—	1-2	3-4	5-6	7-8	2	1	—	2
Pulse Laser (Small)	2	3	—	1	2	3	4	1	1	—	2
X-Pulse Laser (Large)	14	9	—	1-5	6-10	11-15	16-20	7	2	—	3
X-Pulse Laser (Medium)	6	6	—	1-3	4-6	7-9	10-12	2	1	—	3
X-Pulse Laser (Small)	3	3	—	1-2	3-4	5	6-8	1	1	—	3
Ballistic Weapons											
Anti-Missile System	1	*	—	—	—	—	—	.5	1	12	2
Long Tom Cannon	20	20/10*	4	1-6	7-13	14-20	21-26	20	15	5	3
Sniper Cannon	10	10/5*	2	1-4	5-8	9-12	13-16	15	10	10	3
Thumper Cannon	6	5/2*	3	1-4	5-9	10-14	15-18	10	7	20	3
Autocannon/2	1	2	4	1-8	9-16	17-24	25-32	6	1	45	1
Autocannon/5	1	5	3	1-6	7-12	13-18	19-24	8	4	20	1
Autocannon/10	3	10	—	1-5	6-10	11-15	16-20	12	7	10	1
Autocannon/20	7	20	—	1-3	4-6	7-9	10-12	14	10	5	1
Flamer (Vehicle)	3	2	—	1	2	3	4	.5	1	20	1
Heavy Flamer	5	4	—	1-2	3-4	5-6	7-8	1	1	10	3
Gauss Rifle	1	15	2	1-7	8-15	16-22	23-30	15	7	8	2
Light Gauss Rifle	1	8	3	1-8	9-17	18-25	26-34	12	5	16	2
Grenade Launcher	1	*	—	1	—	—	—	.5	1	*	3
LB 2-X AC	1	2	4	1-9	10-18	19-27	28-36	6	4	45	2
LB 5-X AC	1	5	3	1-7	8-14	15-21	22-28	8	5	20	2
LB 10-X AC	2	10	—	1-6	7-12	13-18	19-24	11	6	10	2
LB 20-X AC	6	20	—	1-4	5-8	9-12	13-16	14	11	5	2
Light AC/2	1	2	—	1-6	7-12	13-18	19-24	4	1	45	3
Light AC/5	1	5	—	1-5	6-10	11-15	16-20	5	2	20	3
Machine Gun	0	2	—	1	2	3	4	.5	1	200	1
Ultra AC/2	1	2	3	1-8	9-17	18-25	26-34	7	3	45	2
Ultra AC/5	1	5	2	1-6	7-13	14-20	21-26	9	5	20	2
Ultra AC/10	4	10	—	1-6	7-12	13-18	19-24	13	7	10	2
Ultra AC/20	8	20	—	1-3	4-7	8-10	11-14	15	10	5	2

MASTER TABLES

Name	Battle Value			Tons		C-bill Cost		Technology Base			Source
Missile Weapons											
LRM 5	2	1/missile	6	1-7	8-14	15-21	22-28	2	1	24	1
LRM 10	4	1/missile	6	1-7	8-14	15-21	22-28	5	2	12	1
LRM 15	5	1/missile	6	1-7	8-14	15-21	22-28	7	3	8	1
LRM 20	6	1/missile	6	1-7	8-14	15-21	22-28	10	5	6	1
MRM 10	4	1/missile	—	1-3	4-8	9-15	16	3	2	24	2
MRM 20	6	1/missile	—	1-3	4-8	9-15	16	7	3	12	2
MRM 30	10	1/missile	—	1-3	4-8	9-15	16	10	5	8	2
MRM 40	12	1/missile	—	1-3	4-8	9-15	16	12	7	6	2
Narc Missile Beacon	0	*	—	1-3	4-6	7-9	10-12	3	2	6	2
SRM 2	2	2/missile	—	1-3	4-6	7-9	10-12	1	1	50	1
SRM 4	3	2/missile	—	1-3	4-6	7-9	10-12	2	1	25	1
SRM 6	4	2/missile	—	1-3	4-6	7-9	10-12	3	2	15	1
Streak SRM 2	2	*	—	1-3	4-6	7-9	10-12	1.5	1	50	2
Streak SRM 4	3	*	—	1-3	4-6	7-9	10-12	3	1	25	2
Streak SRM 6	4	*	—	1-3	4-6	7-9	10-12	4.5	2	15	2
Thunderbolt 5	3	5	5	1-6	7-12	13-18	19-24	3	1	12	3
Thunderbolt 10	5	10	5	1-6	7-12	13-18	19-24	7	2	6	3
Thunderbolt 15	7	15	5	1-6	7-12	13-18	19-24	11	3	4	3
Thunderbolt 20	8	20	5	1-6	7-12	13-18	19-24	15	5	3	3
Artillery Weapons*											
					Maximum						
Arrow IV System	10	20/10*	—	—	—	5 Maps	—	15	15	5	2
Long Tom	20	20/10*	—	—	—	20 Maps	—	30	30	5	2
Sniper	10	10/5*	—	—	—	12 Maps	—	20	20	10	2
Thumper	6	5/2*	—	—	—	14 Maps	—	15	15	20	2
Other Equipment*											
Anti-Personnel Pod	0	*	—	—	—	—	—	.5	1	—	2
Artemis IV FCS	—	—	—	—	—	—	—	1	1	—	2
BattleMech Jump Pack	0	—	—	—	—	—	—	**	—	—	3
Beagle Active Probe	—	—	—	—	—	4	—	1.5	2	—	2
Bloodhound Probe	—	—	—	—	—	8	—	2	3	—	3
CASE	—	—	—	—	—	—	—	.5	1	—	2
CASE II	—	—	—	—	—	—	—	1	1	—	3
C ³ Computer (Master)	—	—	—	—	—	—	—	5	5	—	2
C ³ Slave	—	—	—	—	—	—	—	1	1	—	2
Coolant Pod	**	—	—	—	—	—	—	1	1	**	3
Angel ECM Suite	—	—	—	—	—	6	—	2	2	—	3
Guardian ECM Suite	—	—	—	—	—	6	—	1.5	2	—	2
Hatchet	0	*	—	—	—	—	—	*	*	—	1
Compact Heat Sink	-1	—	—	—	—	—	—	1.5	**	—	3
Double Heat Sink	-2	—	—	—	—	—	—	1	3	—	2
Heat Sink	-1	—	—	—	—	—	—	1	1	—	1
MASC	—	—	—	—	—	—	—	*	*	—	2
Null-Signature System	10	—	—	—	—	—	—	0	7**	—	3
PPC Capacitor	5*	+5*	—	—	—	—	—	1	1	—	3
Supercharger	—	—	—	—	—	—	—	**	1	—	3
Sword	0	*	—	—	—	—	—	*	*	—	2
Targeting Computer	—	—	—	—	—	—	—	**	**	—	3
TAG 0	—	—	1-5	6-9	10-15	16-18	1	1	—	2	
Triple-Strength Myomer	*	—	—	—	—	—	—	0	6	—	2

* See rules in the *BattleTech Master Rules* for this equipment.

** See rules for this equipment.

MASTER TABLES

CLAN WEAPONS AND EQUIPMENT TABLE

Type	Heat	Dmg	Min.	Short	Range Med.	Long	Ext.	Tons	Crit.	Ammo	Rules Level
<i>Energy Weapons</i>											
ER Laser (Large)	12	10	—	1-8	9-15	16-25	26-30	4	1	—	2
ER Laser (Medium)	5	7	—	1-5	6-10	11-15	16-20	1	1	—	2
ER Laser (Small)	2	5	—	1-2	3-4	5-6	7-8	.5	1	—	2
ER Laser (Micro)	1	2	—	1	2	3-4	—	.25	1	—	2
ER Pulse Laser (Lg)	13	10	—	1-7	8-15	16-23	24-30	6	3	—	3
ER Pulse Laser (Med)	6	7	—	1-5	6-9	10-14	15-18	2	2	—	3
ER Pulse Laser (Sm)	3	5	—	1-2	3-4	5-6	7-8	1.5	1	—	3
Heavy Laser (Large)	18	16	—	1-5	6-10	11-15	16-20	4	3	—	2
Heavy Laser (Medium)	7	10	—	1-3	4-6	7-9	10-12	1	2	—	2
Heavy Laser (Small)	3	6	—	1	2	3	4	.5	1	—	2
Flamer	3	2	—	1	2	3	4	.5	1	—	2
Laser AMS	2D6*	*	—	—	—	—	—	1.5	2	—	3
ER PPC	15	15	—	1-7	8-14	15-23	24-28	6	2	—	2
Pulse Laser (Large)	10	10	—	1-6	7-14	15-20	21-28	6	2	—	2
Pulse Laser (Medium)	4	7	—	1-4	5-8	9-12	13-16	2	1	—	2
Pulse Laser (Small)	2	3	—	1-2	3-4	5-6	7-8	1	1	—	2
Pulse Laser (Miro)	1	3	—	1	2	3	4	.5	1	—	2
<i>Ballistic Weapons</i>											
Anti-Missile System	1	*	—	—	—	—	—	.5	1	24	2
Flamer (vehicle)	3	2	—	1	2	3	4	.5	1	20	2
Gauss Rifle	1	15	2	1-7	8-15	16-22	23-30	12	6	8	2
Grenade Launcher	1	*	—	1	—	—	—	.5	1	*	3
LB 2-X AC	1	2	4	1-10	11-20	21-30	31-40	5	3	45	2
LB 5-X AC	1	5	3	1-8	9-15	16-24	25-30	7	4	20	2
LB 10-X AC	2	10	—	1-6	7-12	13-18	19-24	10	5	10	2
LB 20-X AC	6	20	—	1-4	5-8	9-12	13-16	12	9	5	2
Heavy Machine Gun	0	3	—	1	2	—	—	.5	1	100	2
Machine Gun	0	2	—	1	2	3	4	.25	1	200	2
Light Machine Gun	0	1	—	1-2	3-4	5-6	7-8	.25	1	200	2
Ultra AC/2	1	2	2	1-9	10-18	19-27	28-36	5	2	45	2
Ultra AC/5	1	5	—	1-7	8-14	15-21	22-28	7	3	20	2
Ultra AC/10	3	10	—	1-6	7-12	13-18	19-24	10	4	10	2
Ultra AC/20	7	20	—	1-4	5-8	9-12	13-16	12	8	5	2
<i>Missile Weapons</i>											
ATM 3	2	2/missile	4	1-5	6-10	11-15	16-20	1.5	2	20	2
ATM 6	2	2/missile	4	1-5	6-10	11-15	16-20	3.5	3	10	2
ATM 9	2	2/missile	4	1-5	6-10	11-15	16-20	5	4	7	2
ATM 12	2	2/missile	4	1-5	6-10	11-15	16-20	7	5	5	2
LRM 5	2	1/missile	—	1-7	8-14	15-21	22-28	1	1	24	2
LRM 10	4	1/missile	—	1-7	8-14	15-21	22-28	2.5	1	12	2
LRM 15	5	1/missile	—	1-7	8-14	15-21	22-28	3.5	2	8	2
LRM 20	6	1/missile	—	1-7	8-14	15-21	22-28	5	4	6	2
Narc Missile Beacon	0	*	—	1-4	5-8	9-12	13-16	2	1	6	2
SRM 2	2	2/missile	—	1-3	4-6	7-9	10-12	.5	1	50	2
SRM 4	3	2/missile	—	1-3	4-6	7-9	10-12	1	1	25	2
SRM 6	4	2/missile	—	1-3	4-6	7-9	10-12	1.5	1	15	2
Streak LRM 5	2	*	—	1-7	8-14	15-21	22-28	2	1	24	3
Streak LRM 10	4	*	—	1-7	8-14	15-21	22-28	5	2	12	3
Streak LRM 15	5	*	—	1-7	8-14	15-21	22-28	7	3	8	3
Streak LRM 20	6	*	—	1-7	8-14	15-21	22-28	10	5	6	3

MASTER TABLES

Type	Heat	Dmg	Min.	Short	Range			Tons	Crit.	Ammo	Rules Level
					Med.	Long	Ext.				
Streak SRM 2	2	*	—	1-4	5-8	9-12	13-16	1	1	50	2
Streak SRM 4	3	*	—	1-4	5-8	9-12	13-16	2	1	25	2
Streak SRM 6	4	*	—	1-4	5-8	9-12	13-16	3	2	15	2
<i>Artillery Weapons*</i>						<i>Maximum</i>					
Arrow IV System	10	20/10*	—	—	—	6 Maps	—	12	12	5	2
Long Tom	20	20/10*	—	—	—	20 Maps	—	30	30	5	2
Sniper	10	10/5*	—	—	—	12 Maps	—	20	20	10	2
Thumper	6	5/2*	—	—	—	14 Maps	—	15	15	20	2
<i>Other Equipment*</i>											
Angel ECM Suite	—	—	—	—	—	6	—	1.5	2	—	3
Active Probe	—	—	—	—	—	5	—	1	1	—	2
Light Active Probe	—	—	—	—	—	3	—	.5	1	—	2
Anti-Personnel Pod	0	*	—	—	—	—	—	.5	1	—	2
Artemis IV FCS	—	—	—	—	—	—	—	1	1	—	2
Artemis V FCS	—	—	—	—	—	—	—	1.5	2	—	3
BattleMech Jump Pack	0	—	—	—	—	—	—	**	—	—	3
CASE	—	—	—	—	—	—	—	0	0	—	2
CASE II	—	—	—	—	—	—	—	.5	1	—	3
Coolant Pod	**	—	—	—	—	—	—	1	1	**	3
ECM Suite	—	—	—	—	—	6	—	1	1	—	2
Double Heat Sink	-2	—	—	—	—	—	—	1	2	—	2
Heat Sink	-1	—	—	—	—	—	—	1	1	—	2
Laser Heat Sink	-2	—	—	—	—	—	—	1	2	—	3
MASC	—	—	—	—	—	—	—	*	*	—	2
Supercharger	—	—	—	—	—	—	—	**	1	—	3
TAG	0	—	—	1-5	6-9	10-15	16-18	1	1	—	2
Light TAG	0	—	—	1-3	4-6	7-9	10-12	.5	1	—	2
Targeting Computer	—	—	—	—	—	—	—	*	*	—	2

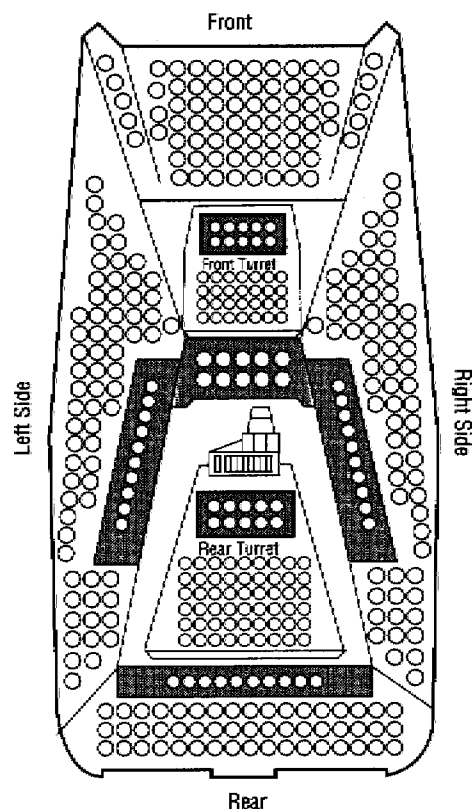
* See rules in the *BattleTech Master Rules* for this equipment.

** See rules for this equipment.

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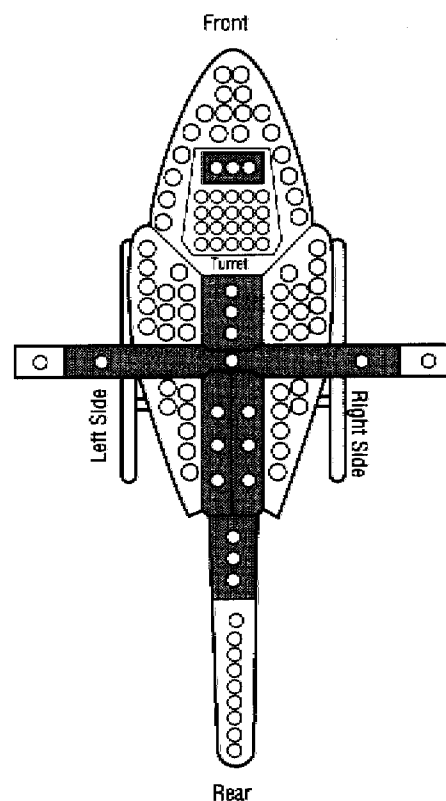
LEVEL 3 BATTLETECH® GROUND VEHICLE RECORD SHEET

Unit Type:			Driving Skill:	# Crew:
Movement Type:	Cruising MP:	Flank MP:	Gunnery Skill:	
Tonnage:			Weapons and Ammo	
Engine Rating:	Tonnage:	Fusion I.C.E.		
Control Tonnage:	Lift Equipment:			
Power Amplifier:	Heat Sinks:			
Internal Structure:				
Turret:				
Armor tons:	Armor points:			
Front:				
Left/Right side:	/			
Rear:				
Front Turret:				
Rear Turret:				



LEVEL 3 BATTLETECH® V.T.O.L. RECORD SHEET

Unit Type:			Driving Skill:	# Crew:	
Movement Type: VTOL	Cruising MP:	Flanking MP:	Gunnery Skill:		
Tonnage:			Weapons and Ammo	Turn	Elev.
Engine Rating:	Tonnage:	Fusion I.C.E.			
Control Tonnage:	Lift Equipment:				
Power Amplifier:	Heat Sinks:				
Internal Structure:					
Rotor Arrangement:					
Armor tons:	Armor points:				
Front:					
Left/Right side:	/				
Rear:					
Rotor:					
Turret:					

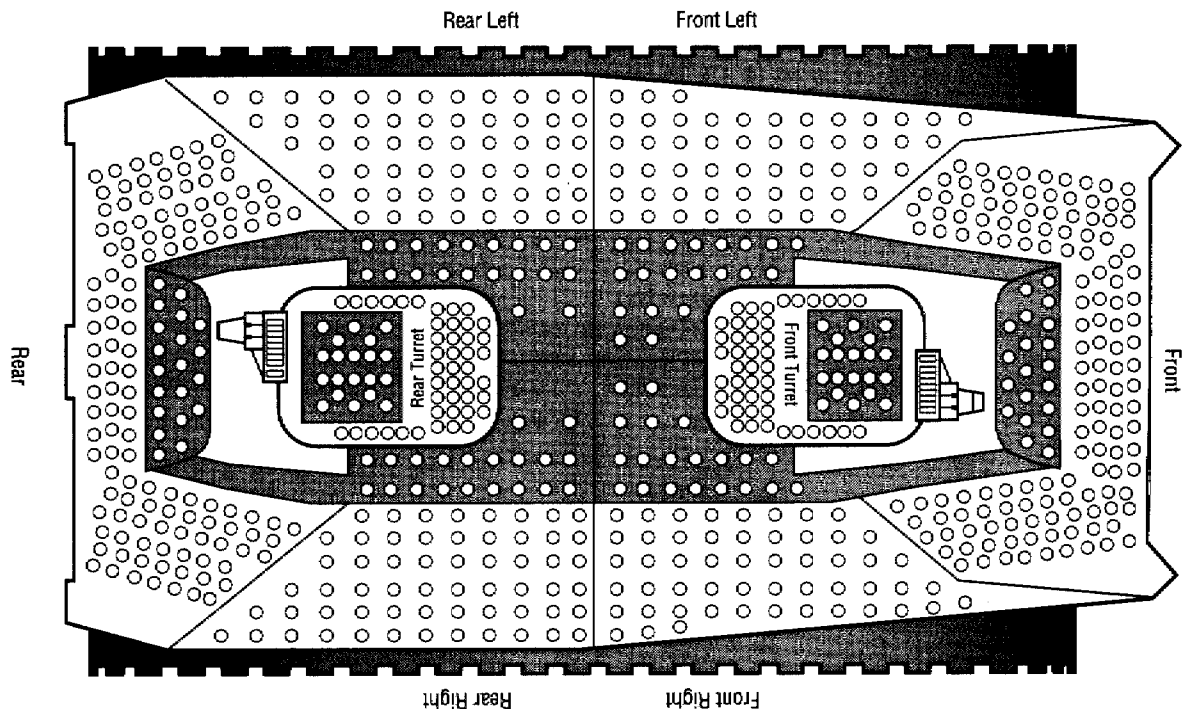


LEVEL 3

BATTLETECH®

SUPER-HEAVY TANK RECORD SHEET

Unit Type:			Driving Skill:	# Crew:
Movement Type:	Cruising MP:	Flanking MP:	Gunnery Skill:	
Tonnage:			Weapons and Ammo	
Engine Rating:	Tonnage:	Fusion ☐ I.C.E. ☐		
Control Tonnage:	Lift/Diving Equipment:			
Power Amplifier:	Heat Sinks:			
Internal Structure:				
Turret:				
Armor tons:	Armor points:			
Front:				
Front Left/Front Right:	/			
Rear Left/Rear Right:	/			
Rear:				
Front Turret:				
Rear Turret:				



LEVEL 3 BATTLETECH® INFANTRY RECORD SHEET

▼ Jump Platoons Start Here

Platoon I.D.
Experience:

28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7	7	7	7	6	6	6	6	5	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	1	1	1	1
10	9	9	8	8	8	7	7	7	6	6	6	5	5	5	4	4	4	3	3	3	2	2	2	1	1	1	1
14	14	13	13	12	12	11	11	10	10	9	9	8	8	7	7	6	6	5	5	4	4	3	3	2	2	1	1

Narc Pods: ☐ ☐ ☐ ☐ Field Guns: Type _____ # _____ Ammo: _____

▼ Jump Platoons Start Here

Platoon I.D.
Experience:

28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7	7	7	7	6	6	6	6	5	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	1	1	1	1
10	9	9	8	8	8	7	7	7	6	6	6	5	5	5	4	4	4	3	3	3	2	2	2	1	1	1	1
14	14	13	13	12	12	11	11	10	10	9	9	8	8	7	7	6	6	5	5	4	4	3	3	2	2	1	1

Narc Pods: ☐ ☐ ☐ ☐ Field Guns: Type _____ # _____ Ammo: _____

▼ Jump Platoons Start Here

Platoon I.D.
Experience:

28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7	7	7	7	6	6	6	6	5	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	1	1	1	1
10	9	9	8	8	8	7	7	7	6	6	6	5	5	5	4	4	4	3	3	3	2	2	2	1	1	1	1
14	14	13	13	12	12	11	11	10	10	9	9	8	8	7	7	6	6	5	5	4	4	3	3	2	2	1	1

Narc Pods: ☐ ☐ ☐ ☐ Field Guns: Type _____ # _____ Ammo: _____

▼ Jump Platoons Start Here

Platoon I.D.
Experience:

28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
7	7	7	7	6	6	6	6	5	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	1	1	1	1
10	9	9	8	8	8	7	7	7	6	6	6	5	5	5	4	4	4	3	3	3	2	2	2	1	1	1	1
14	14	13	13	12	12	11	11	10	10	9	9	8	8	7	7	6	6	5	5	4	4	3	3	2	2	1	1

Narc Pods: ☐ ☐ ☐ ☐ Field Guns: Type _____ # _____ Ammo: _____

Leg Attacks Table

Men in Platoon	Base To-Hit Number
28-22	4
21-16	7
15-10	10
9-5	12
4-1	No attack possible

Swarm Attacks Table

Men in Platoon	Base To-Hit Number
28-22	7
21-16	10
15-1	No attack possible

Swarm Hit Location Table

Die Roll (2D6)	Location
2	Head
3	Rear Center Torso
4	Rear Rt Torso
5	Front Rt Torso
6	Rt Arm
7	Front Center Torso
8	Lt Arm
9	Front Lt Torso
10	Rear Lt Torso
11	Rear Center Torso
12	Head

Base To Hit Number Table

Weapon Type	Range in Hexes
	0 1 2 3 4 5 6 7 8 9 10 11 12
Rifle	-2 0 +2 - - - - - - - - - -
Machine Gun	-2 0 +2 +4 - - - - - - - - - -
Flamer	-1 0 +2 - - - - - - - - - -
Portable Laser/TAG	-2 0 +2 +4 - - - - - - - - - -
SRM or NARC	-1 0 0 +2 +2 +4 +5 - - - - -
LRM	+8 +6 +4 +2 0 0 0 +2 +2 +2 +4 +4 +5

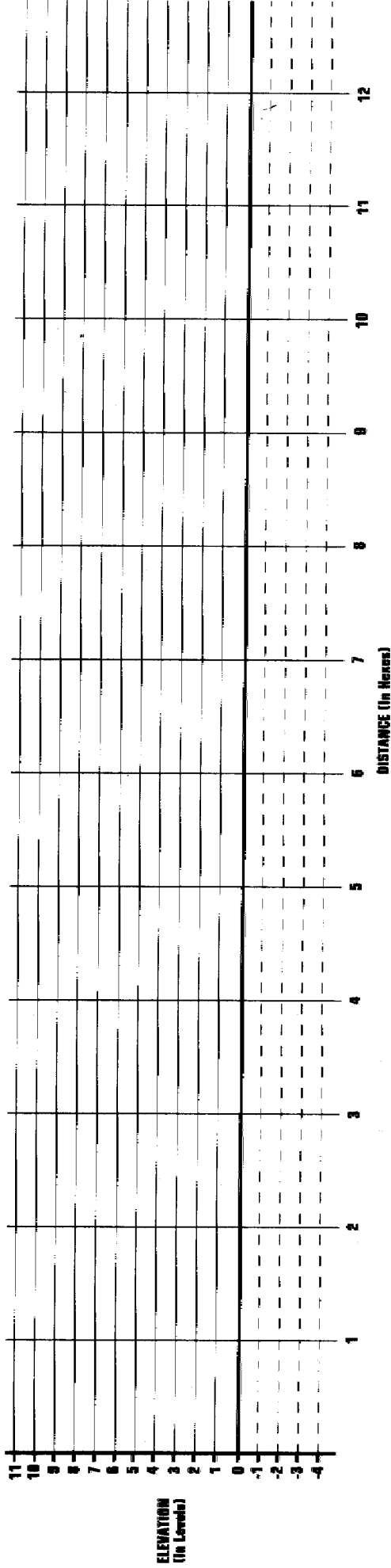
Double Blind Turn Record Sheet

#TURN

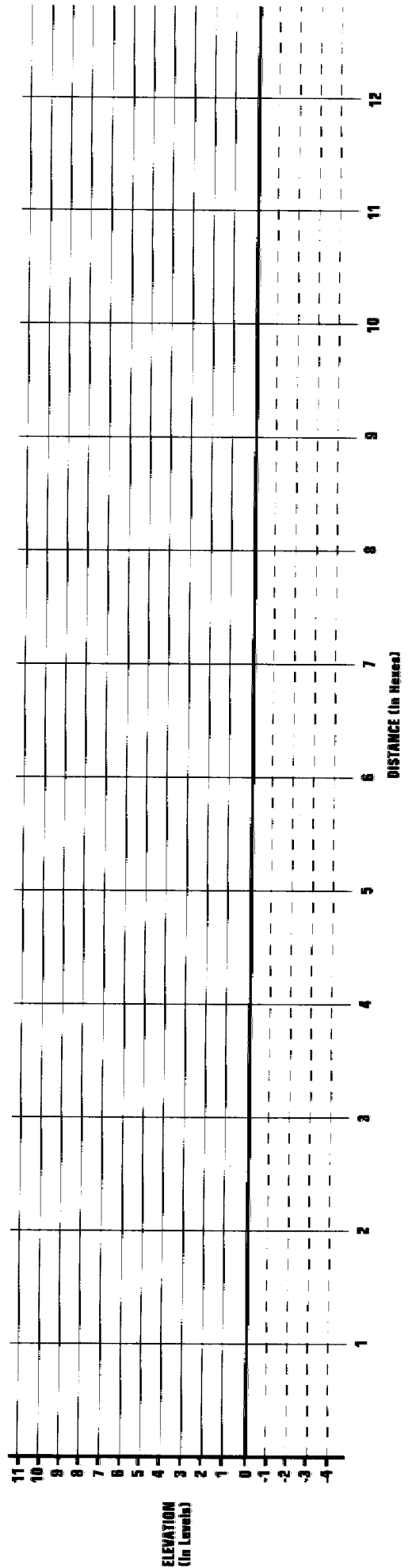
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Line of Sight Chart



Line of Sight Chart



BATTLETECH LEVEL 3 TABLES

EXPANDED MOVEMENT COST AND TERRAIN TABLE

Base Terrain	MP Cost per hex	To-Hit Modifier	Piloting Modifier	Prohibited Units
Building, Light	2 ^A	0	0	Naval
Building, Medium	3 ^A	0	0	Naval
Building, Heavy	4 ^A	0	0	Naval
Building, Hardened	5 ^A	0	0	Naval
Clear	1	0	0	Naval
Jungle, Light	3	+1	+1	Ground, Naval
Jungle, Heavy	4	+2	+2	Ground, Naval
Jungle, Ultra-heavy	5	+3 ^{**}	+3	BattleMech, Ground, Naval
Magma, Crust	1 ^{**}	0	+1 ^{**}	Wheeled, Infantry, Naval
Magma, Liquid	2 ^{**B}	0	+4 ^{**}	All except VTOLs and BattleMechs
Paved	1 ^C	0	0	Naval
Tundra	1 ^B	0	+1	Naval
Rough	2	0	0	Wheeled, Naval
Sand	1/2 ^{**}	0	+1	Naval
Water, Depth 0	1 [*]	0	0	Naval
Water, Depth 1	2 ^D	0 [*]	0 [*]	Infantry, Ground ^E
Water, Depth 2	4 ^D	0	0 [*]	Infantry, Ground ^E
Water, Depth 3+	4 ^D	0	0 [*]	Infantry, Ground ^E
Woods, Light	2	+1	0	Wheeled, Hover, Naval
Woods, Heavy	3	+2	0	Ground, Naval
Woods, Ultra-heavy	4	+3 ^{**}	0	BattleMech, Ground, Naval

Terrain Condition	MP Cost per hex	To-Hit Modifier	Piloting Modifier	Prohibited Units (includes restrictions for underlying terrain)
Deep Snow	+1BF	0	+1	Wheeled
Geyser	+1 ^{**}	+2 ^{**}	+1 ^{**}	Wheeled, Infantry ^{**}
Ice	+1 ^C CFG	0	+4 [*]	— [*]
Mud	+1BF	0	+1	—
Rapids ^F	+1	0	+2	—
Road/Bridge [*]	1 ^H C	0	0	—
Rubble	+1C	0	0	Wheeled
Swamp	+1 ⁻ BF	0	0	—

Weather Conditions	MP Cost per hex	To-Hit Modifier	Piloting Modifier
Blizzard	0	+2 ballistic weapons ^I , +1 all other weapons	+1 ^{**J}
Blowing Sand	0	+1 ballistic weapons ^I , +2 all other weapons	0
Dusk	0	+1	0
Earthquake	0	—	—
Fire ^K	0 ^K	0	0
Fog	+2 ^G	+1 energy weapons ^L	— ^J
Gravity	—	—	—
Night	0	+2	0
Rainfall, Light	0	+1	0
Rainfall, Heavy	0	+1	+1
Smoke ^K	0	+2	0
Snowfall	0	+1	+1
Winds, Moderate	0	+1 ballistic weapons ^{**I}	0 ^{**}
Winds, High	0	+2 ballistic weapons ^{**I}	+2 ^{**}

Notes

^ASee special rules in BMR.

^{**}See special rules below.

^PPiloting Skill Roll required to prevent damage. Infantry units pay only 1 MP to enter or leave any building.

^BUnits entering this terrain may get stuck.

^CSkidding rules apply.

^DPiloting Skill Roll required to prevent falling.

^EHovercraft may enter all Water hexes.

^FThese terrain modifiers do not apply to hovercraft.

^GDoes not apply to infantry units. A non-infantry unit entering this terrain may choose to ignore the additional MP cost. However, the unit may fall or crash as a result.

^HIf traveling along road; otherwise, cost of underlying terrain.

^IIncluding all artillery weapons, autocannon, flamers, Gauss rifles, machine guns, missile launchers and Narc pods.

^JPoor visibility. Units jumping into Woods hexes must make Piloting Skill Rolls. Apply a +1 modifier if the target hex is Heavy Woods. Failure results in a fall in the target hex from a height of 1 level.

^KSee also Fire (pp. 74–75, BMR).

^LIncluding all lasers and PPCs.

BATTLEMECH HIT LOCATION TABLE

Dice Roll (2D6)	Left Side	Front/Rear	Right Side
2 [*]	L. Torso (critical)	C. Torso (critical)	R. Torso (critical)
3	Left Leg	Right Arm	Right Leg
4	Left Arm	Right Arm	Right Arm
5	Left Arm	Right Leg	Right Arm
6	Left Leg	Right Torso	Right Leg
7	Left Torso	C. Torso	Right Torso
8	C. Torso	Left Torso	C. Torso
9	Right Torso	Left Leg	Left Torso
10	Right Arm	Left Arm	Left Arm
11	Right Leg	Left Arm	Left Leg
12	Head	Head	Head

^{*}A result of 2 may inflict a critical hit. Apply damage to the armor in that section in the normal manner, but the attacking player also rolls once on the Determining Critical Hits Table.

WEAPONS FIRE MODIFIERS TABLE

Attacker Movement	
Stationary	None
Walked	+1
Ran	+2
Jumped	+3
VTOL	+1
BattleMech Damage	
Sensor Hit	+2
Shoulder	+4 for weapons in arm
Arm Actuator (each)	+1 for weapons in arm
Heat	
8–12	+1
13–16	+2
17–23	+3
24–32	+4
33–40	+5
41–47	+6
48+	+7
Prone	+2
Careful Aim	–1
Bracing	–2
Range and Terrain	
Range	
Short	None
Medium	+2
Long	+4
Extreme	+8
Minimum Range	+1 at minimum range, additional +1 per hex less than minimum range
Light Woods/Smoke	+1 per intervening hex; +1 if target in Light Woods
Heavy Woods/Smoke	+2 per intervening hex; +2 if target in Heavy Woods
Water	
Depth 1	–1 to hit a BattleMech in Water hex; use BattleMech Punch Location Table
Depth 2	+1 to hit for BattleMech firing from Water hex BattleMechs cannot fire into or out of Depth 2+ water
Target	
Partial Cover	+3 (use BattleMech Punch Location Table)
Prone	–2 from adjacent hex; +1 from all others
Secondary Target	+1
Immobile	–4
Hull-Down	+2
Infantry Squad	+1
Movement	
Moved 0–2 hexes	0
Moved 3–4 hexes	+1
Moved 5–6 hexes	+2
Moved 7–8 hexes	+3
Moved 10–13 hexes	+4
Moved 14–18 hexes	+5
Moved 19–24 hexes	+6
Moved 25+ hexes	+7
Jumped	+1
Sprinting	–1

DETERMINING CRITICAL HITS TABLE

Dice Roll (2D6)	Effect
2–7	No Critical Hit
8–9	Roll 1 Critical Hit Location
10–11	Roll 2 Critical Hit Locations
12	Head/Limb Blown Off/Roll 3 Critical Hit Locations [*]

^{*}Roll 3 Critical Hit Locations if the section struck is a torso.

FACING AFTER A FALL TABLE

Die Roll (1D6)	New Facing	Hit Location
1	Same Direction	Front
2	1 Hexside Right	Right Side
3	2 Hexsides Right	Right Side
4	Opposite Direction	Rear
5	2 Hexsides Left	Left Side
6	1 Hexside Left	Left Side

BATTLETECH LEVEL 3 TABLES

ADVANCED GROUND VEHICLE HIT LOCATION TABLE

2D6 Roll	Attack Direction			Large Vehicles	
	Front	Rear	Side	Front Side	Rear Side
2*	Front	Rear	Side	Side	Side
	(critical)	(critical)	(critical)	(critical)	(critical)
3	Front	Rear	Side	Side	Side
4	Front	Rear	Side	Side	Side
5	R Side	L Side	Front	Front	Rear
6	Front	Rear	Side	Side	Side
7	Front	Rear	Side	Side	Side
8	Front	Rear	Side	Side	Side
9	L Side	R Side	Rear	Rear Side	Front Side
10	Turret	Turret**	Turret**	Turret**	Turret**
11	Turret	Turret**	Turret**	Turret**	Turret**
12*	Turret**	Turret	Turret	Turret	Turret**
	(critical)	(critical)	(critical)	(critical)	(critical)

*A result of 2 or 12 may inflict a critical hit on the vehicle. Apply damage normally to the armor in that section. The attacking player also rolls once on the Advanced Ground Vehicle Critical Hits Table. A result of 12 may inflict a critical hit against the turret; if the vehicle has no turret, a 12 indicates the chance of a critical hit on the side attacked.

**If the vehicle has two turrets, this hit strikes the rear turret. All other turret hits strike the front turret.

The vehicle may suffer motive system damage even if its armor remains intact. Apply damage normally to the armor in that section, but the attacking player also rolls once on the Motive System Damage Table.

Side hits strike the side as indicated by the attack direction. For example, if an attack hits the right side, all Side results strike the right side armor. If the attack hits the front right side of a super-heavy tank, all Side results strike the front right side armor, while Rear Side results strike the rear right side armor. If the vehicle has no turret, a turret hit strikes the armor on the side attacked.

EXPANDED HEAT POINT TABLE

Activity/Condition	Modifier
Walking	+1 per turn
Running	+2 per turn
Jumping	+1 per hex (minimum of 3 per turn)
Standing Up	+1 per attempt
Weapons Fire	See Weapons and Equipment Table (pp. 115-117, BMR)
Heat Sinks	-1 per operational heat sink
	-1 additional per heat sink under water (6 HP maximum)
Double Heat Sinks	-2 per operational double heat sink
	-2 additional per double heat sink under water (6 HP maximum)
First Engine Hit	+5 ¹ per turn
Second Engine Hit	+10 (total) per turn
Low Temperature	-1 per turn per 10°C below -30°C
High Temperature	+1 per turn per 10°C above 50°C
Snowfall/Light Rainfall	-1 per turn
Blizzard/Heavy Rainfall	-2 per turn
Deep Snow	-1 per turn if Mech has at least 1 operational leg-mounted heat sink
Fire/Magma Crust	+5 if occupied during Heat Phase
	+2 per each hex exited during Movement Phase
Magma, Liquid	+10 if occupied during Heat Phase
	+5 per each hex exited during Movement Phase

ADVANCED GROUND VEHICLE CRITICAL HITS TABLE

Location Hit	Front	Side	Rear	Turret
2-5	No Critical Hit	No Critical Hit	No Critical Hit	No Critical Hit
6	Driver Hit	Cargo/Infantry Hit	Weapon Jam	Stabilizer
7	Weapon Jam	Weapon Jam	Cargo/Infantry Hit	Turret Jam
8	Stabilizer	Crew Stunned	Stabilizer	Weapon Jam
9	Sensors	Stabilizer	Weapon Destroyed	Turret Locks
10	Commander Hit	Weapon Destroyed	Engine Hit	Weapon Destroyed
11	Weapon Destroyed	Engine Hit	Ammunition**	Turret Blown Off
12	Crew Killed	Fuel Tank*	Fuel Tank*	Ammunition**

*If vehicle has ICE engine only. If vehicle has a fusion engine, treat this result as Engine Hit.

**If vehicle carries no ammunition, treat this result as Weapon Destroyed.

BATTLEMECH KICK LOCATION TABLE

Die Roll	Left Side	Front/Rear	Right Side
Result	Left Leg	Right Leg	Right Leg
1-3	Left Leg	Left Leg	Right Leg
4-6	Left Leg	Left Leg	Right Leg

PILOTING SKILL ROLL TABLE

BattleMech's Situation	Modifier
Damage to BattleMech	
BattleMech takes 20+ Damage Points in one turn	-1/20 pts. damage
BattleMech reactor shuts down	+3 ¹
Leg/foot actuator destroyed	+1
Gyro hit	+3
Gyro destroyed	Automatic Fail
Leg destroyed	Automatic Fail
Physical Attacks on BattleMech	
BattleMech was kicked	0
BattleMech was pushed	0
BattleMech was charged/death from above attack	+2
Unit's Actions	
BattleMech missed kick	0
BattleMech charging	+2
BattleMech death from above attack	+4 ²
BattleMech entering Depth 1 Water hex	-1
BattleMech entering Depth 2 Water hex	0
BattleMech entering Depth 3+ Water hex	+1
BattleMech attempting to stand	0
BattleMech entering Rubble hex	0
Unit entering/leaving Light Building hex	0/3
Unit entering/leaving Medium Building hex	+1/3
Unit entering/leaving Heavy Building hex	+2/3
Unit entering/leaving Hardened Building hex	+5/3
Unit Skids	See Skidding, BTC: RoW.
BattleMech jumping with damaged leg actuators	per Additional Modifiers, below
MechWarrior trying to avoid damage when his BattleMech is falling	+1/ level fallen
Changing elevation while moving backwards	0
Attempting sideslip	-1

¹Only during the turn that the reactor shuts down. If the MechWarrior must make a Piloting Skill Roll for a Mech with a shut-down reactor, the BattleMech automatically fails.

²Automatic fail if death from above attack is unsuccessful.

³To avoid damage only. Does not result in a fail if Piloting Skill Roll fails.

Additional Modifiers

Per leg/foot actuator previously destroyed	-1
Per hip also previously destroyed	+2
Gyro also previously hit (automatic fail if 2 previous hits)	+3
Leg previously destroyed	+5 ⁴

⁴Do not add modifiers for the destroyed hip and other damaged actuators in the leg.

MISSILE HITS TABLE

Die Roll (2D6)	Number of Missiles Fired										
	2	3	4	5	6	8	9	10	12	15	20
2	1	1	1	1	2	3	3	4	5	6	
3	1	1	2	2	2	3	3	4	5	6	
4	1	1	2	2	3	4	4	5	6	9	
5	1	2	2	3	3	5	6	8	9	12	
6	1	2	2	3	4	5	6	8	9	12	
7	1	2	3	3	4	5	6	8	9	12	
8	2	2	3	3	4	5	6	8	9	12	
9	2	2	3	4	5	7	8	10	12	16	
10	2	3	3	4	5	7	8	10	12	16	
11	2	3	4	5	6	9	10	12	15	20	
12	2	3	4	5	6	9	10	12	15	20	

BATTLEMECH PUNCH LOCATION TABLE

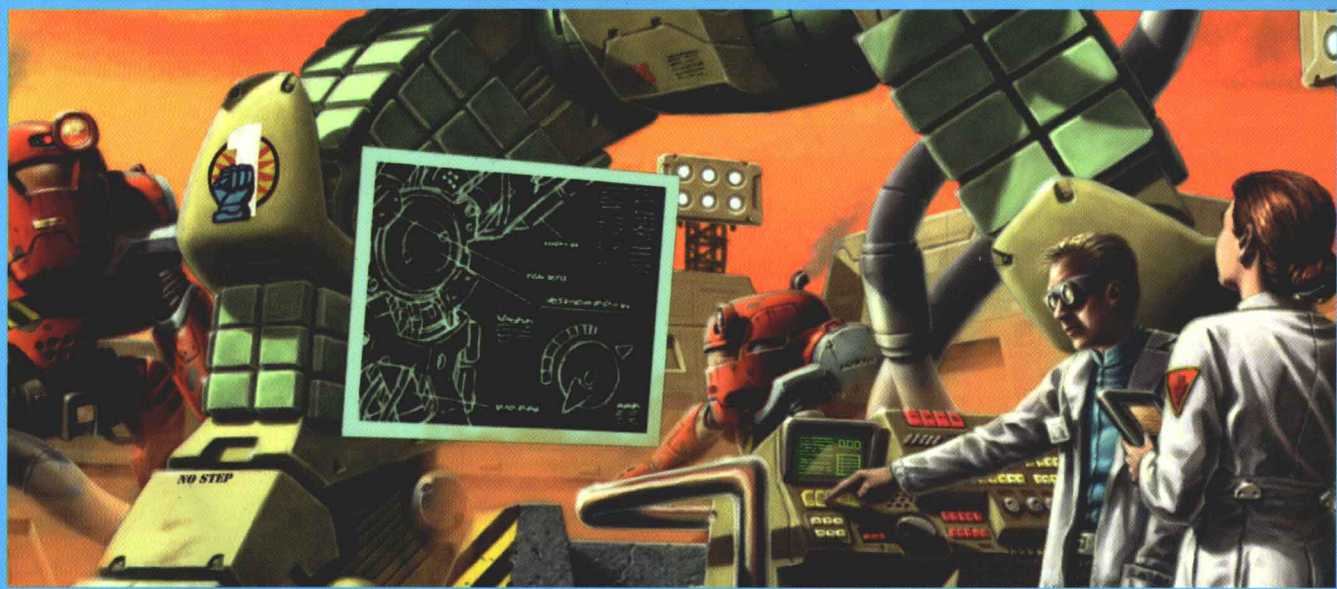
Die Roll (1D6)	Left Side	Front/Rear	Right Side
1	Left Torso	Left Arm	Right Torso
2	Left Torso	Left Torso	Right Torso
3	Center Torso	Center Torso	Center Torso
4	Left Arm	Right Torso	Right Arm
5	Left Arm	Right Arm	Right Arm
6	Head	Head	Head

MOTIVE SYSTEM DAMAGE TABLE

2D6 Roll	Effect
2-7	No effect
8-9	Minor damage; +1 modifier to all Driving Skill rolls
10-11	Moderate damage; -1 Cruising MP, +2 modifier to all Driving Skill rolls
12+	Major damage; no movement for the rest of the game. Vehicle is an immobile target.

Vehicle-type Modifiers:

Tracked, Naval	+0
Wheeled	+2
Hovercraft, Hydrofoil	+4



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