

INTRODUCTION

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With the discovery of the New Dallas memory core and the expanded opening of Clan historical archives, interest in the history of the so-called Age of War and the early Star League era has exploded, especially among the "average" Inner Spheroid. Some are undoubtedly looking to find solace in tales of how their long-past forebears coped with the ongoing violence and devastation of the era while others are simply looking for answers on how such terrible inhumanity could strike over and over again, how to stop the terrible cycle of violence once and for all. Many, of course, are simply interested in the history of Mankind, taking advantage of the many new resources suddenly opened to them.

No matter your reasons, we hope that this treatise will help provide you some historical perspective upon the Age of War, that little-understood era which led directly to Mankind's greatest of achievements: the Star League. In some ways, this work could be considered a technical readouts of *firsts*—the *BattleAxe, Gladiator* and *lcarus* were the very first BattleMechs produced by the Federated Suns, Draconis Combine and Free Worlds League, respectively, while the *Wasp* was the very first 'Mech that could jump. The *Banshee* and the *Crossbow*, meanwhile, were the first 'Mechs produced by their manufacturers. And the LTV-4 Hovertank was, near as our research could determine, the one design that seemingly revolutionized the state of the art and ushered in the "modern" technological era of the twenty-fifth century.

Meanwhile, this work continues to unravel the "truth" of the state of technology during the Age of War. While we have known for some time now that many of the so-called "facts" presented by ComStar in their popular Technical Readouts were simply suppositions crossed with well-regarded legends and at least a few manufactured "truths" about the almost-mythical Terran Hegemony. For example, many military historians have long assumed that aerospace and naval construction technology had somehow advanced faster than land-based vehicles, a "fact" we now aim to correct with the inclusion of the *Black Eagle* DropShip and the *Ares* Mk. I Landing Craft.

This *Experimental Technical Readout: Primitives* is certainly not the final or most definitive work on military technology of the era. No doubt, as historians continue to delve into the new sources open to them, we will see more and more publications such as this. Taken as a whole, they will give you a better, if not complete, picture of the advancing state of the art in the final decades of the Age of War and leading into the formation of the Star League.

-Dr. Saga Brest, 19 June 3079

HOW TO USE THIS BOOK

The 'Mechs, combat vehicles, and fighters described in *Experimental Technical Readout: Primitives, Volume 2* provide players with a sampling of designs from the period of time covered by the Age of War and the rise of the First Star League. While the focus of the designs featured in this book is historical, many of the designs have modern counterparts detailed in other Technical Readouts.

The rules for using 'Mechs, vehicles and fighters in BattleTech game play can be found in *Total Warfare*, while the rules for their construction can be found in *TechManual*. However, the primitive nature of these designs also utilized the RetroTech construction rules found in *Jihad Secrets: The Blake Documents*, supplemented by the Experimental-level rules presented in *Tactical Operations*.

Special additions to the Primitive construction rules have also been introduced in this book. For reference, a special Additional Game Rules section follows the design specs provided in these pages.

Developer's Addendum

Astute readers may notice that several of the designs that will appear in this and other volumes of the XTR: Primitives mini-series have appeared in previous Record Sheets books such as Record Sheets: 3075. This redundancy is intentional, both as a means of correcting minor errors in the original Primitive units' stats (where conflict arises, the Primitives XTRs supersede) and as a means of providing a clearer and more focused treatment of the primitive machines that were contemporaries during the Age of War.

INTRODUCTION



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Dedicated to: My Historicals cohort Chris Hartford, along with Herb and Randall—had we not written *Historical: Reunification War*, I probably wouldn't have wrapped my head around the pre-history of the BattleMech as much as I did, leading me directly into finishing off this series of XTROs.

JIHAD ERA



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WSP-1 WASP

Field Testing Summation: Original Wasp Primitive Chassis Producer/Site: General Mechanics, Inc., Mars Supervising Engineer: Soren lishi Prototype Introduction Date: 2464 Non-Production Equipment Analysis:

Primitive Armor Primitive Cockpit Primitive Engine Prototype Jump Jets

Overview

The mid-twenty-fifth century BattleMech was the undeniable king of the battlefield, but was a lumbering beast compared to the tanks it had supplanted. Conventional vehicles were still needed as scouts and flankers, a paradigm Terran Hegemony generals were more than willing to accept, at least until they learned that the Lyran Commonwealth was pursuing its own home-grown BattleMech, one designed from the ground up as a scout.

When the Hegemony Armed Forces released its requirements for a "highly mobile fast reconnaissance BattleMech", General Mechanics, Incorporated jumped at the opportunity. The company was one of the primary subcontractors involved in the design and production of both the *Mackie* and the *Banshee* and was looking to expand its operations and profile. General Mechanics gave Dr. Soren lishi the mandate to win that contract.

The company spared no expense in supporting Soren, who recruited an expansive talent pool and built an advanced research department, known as "The Hive", dedicated to the project. The design of a fast BattleMech was no problem for Soren's engineers, who had baseline plans and models ready for approval within weeks. Their challenge, however, was in realizing Dr. Soren's vision—a 'Mech that could fly, giving it truly unsurpassed mobility and survivability.

The Hive's combined brainpower and resources were ultimately unable to quite reach that lofty goal (indeed, the state of the art would require more than two centuries of advancement to replicate Dr. Soren's vision in the form of the Land-Air 'Mech), but they came close—in doing so also indelibly leaving their own mark upon the very nature of the BattleMech. When WSP-1X-02 first appeared during its preliminary trials, landing in front of the HAF High Command after jetting over the top of its hangar, the competition was over. General Mechanics' *Wasp* had won.

Not, of course, that development of the *Wasp* was complete. "Jumping" the twenty-ton machine was a dangerous prospect that often left the *Wasp* a mangled wreck and its pilot traumatized. The 'Mech's gyroscope could not maintain stability through the maneuver, requiring absolute concentration and deft reflexes from its pilot to land safely. It would be almost a decade—and hundreds of damaged HAF *Wasps* and injured MechWarriors—before The Hive's engineers solved the jump "problem". The company went on to construct countless thousands of *Wasps* for the Hegemony and Star League, making it one of the most iconic of 'Mechs in existence.

Type: Wasp

Technology Base: Inner Sphere (Primitive) Tonnage: 20

	Equipment			Mass	
	Internal Structure:			2	
	Engine:	120 Primiti	ve	4	
	Walking MP:	5			
	Running MP:	8			
	Jumping MP:	5			
	Heat Sinks:	10		0	
ble	Gyro:			2	
the	Cockpit (Primitive):			5	
led	Armor Factor (Primitive):	37		3.5	
rals		Internal	Armor		8
hat		Structure	Value		
wn	Head	3	4	S	
	Center Torso	6	6	X	
nts	Center Torso (rear)		3	5	
eral	R/L Torso	5	4		
any	R/L Torso (rear)		2		A LAG
nd	R/L Arm	3	3		
ing	R/L Leg	4	3		
Dr.					
	Weapons and Ammo	Location	Critical	Tonnage	
/ho	Medium Laser	RA	1	1	
rch	Jump Jet	RT	1	.5	
Гhe	Jump Jet	LT	1	.5	
ers,	Jump Jet	СТ	1	.5	
eks.	Jump Jet	RL	1	.5	4
ech	Jump Jet	LL	1	.5	\$ /
у.					A la

Notes: Features the following Design Quirks: Weak Legs, Hard to Pilot

ICR-1X ICARUS

Field Testing Summation: Original *lcarus* Primitive Chassis Producer/Site: Corean Enterprises, Stewart Supervising Engineer: Abrahim Chiu Prototype Introduction Date: 2470 Non-Production Equipment Analysis:

Primitive Armor Primitive Cockpit Primitive Engine

Overview

The Free Worlds League's "acquisition" of the BattleMech in 2462 brought a tremendous technological leap to the relative handful of premier military manufacturers the League government entrusted with those secrets. The first goal was, of course, to replicate the *Mackie* and bring it into service within the League's military as quickly as possible. A close, but unspoken, second was the debut of the League's first native 'Mech design.

Corean Enterprises was intent on winning that competition, tasking two separate development teams with designing the new "standard" for the FWLM. The Icarus, a mid-weight design meant to support both heavy Mackie lances as well as conventional armor and infantry formations alike, was the first to reach prototype status. The FWLM was impressed by Corean's speed in delivering an operational prototype, and likewise showed significant enthusiasm at the design-especially as the *lcarus* mounted a large laser on a frame less than half the Mackie's mass, allowing more 'Mechs to be carried on military transports. Unfortunately, the rushed nature of the project led to a long series of problems and delays that ultimately doomed the design. While the *lcarus* design team worked furiously to correct the 'Mech's numerous design flaws, Corean's other design team unveiled their own 'Mech prototype-the Hector-a year after the first Icarus walked out of the lab. Utilizing lessons learned from the *lcarus'* numerous problems, the Hector team presented the FWLM an operational BattleMech that was guickly accepted for production.

Corean Enterprises naturally shifted the bulk of its resources towards the *Hector*, though a handful of the *lcarus* team members remained on project, fixing the design flaws and upgrading the six prototype models with refinements made possible by the *Hector's* development. Four of the six *lcarus* prototypes saw limited, but favorable, service with the FWLM during the Age of War, which provided Corean engineers enough data and support to keep the *lcarus* project alive as a research and advanced technology demonstration testbed. The *lcarus* prototypes served Corean Enterprises well for years, ultimately prompting the company to revisit the design in the twenty-sixth century as the muchupgraded *lcarus II*.

Type: Icarus

Technology Base: Inner Sphere (Primitive	<u>e</u>)
Tonnage: 40	

Equipment	Mass	
Internal Structure		4
Engine:	195 Primitive	8
Walking MP:	4	
Running MP:	6	
Jumping MP:	0	
Heat Sinks:	10	0
Gyro:		2
Cockpit (Primitive):		5
Armor Factor (Primitive):	112	10.5
	Internal	Armor
	Structure	Value
Head	3	9
Center Torso	12	15
Center Torso (rear)		4
R/L Torso	10	13
R/L Torso (rear)		4
R/L Arm	6	9
R/L Leg	10	16

Weapons and Ammo	Location	Critical	Tonnage	
2 Machine Guns	RA	2	1	
Ammo (MG) 200	RT	1	1	
2 SRM 2	LT	2	2	
Ammo (SRM) 50	LT	1	1	
Large Laser	LA	2	5	
Small Laser	LA	1	.5	

Notes: Features the following Design Quirks: Prototype, Poor Performance, Difficult to Maintain, Obsolete/2470, Extended Torso Twist



GLD-1R GLADIATOR

Field Testing Summation: Original *Gladiator* Primitive Chassis Producer/Site: New Samarkand Armor Works, New Samarkand Supervising Engineer: Mikimoto Hibiki Prototype Introduction Date: 2468

Non-Production Equipment Analysis:

Primitive Armor Primitive Cockpit Primitive Engine

Overview

The Draconis Combine's 2461 raid on Coventry may have netted the technical specifications needed to construct the BattleMech, but that was just one—albeit critical—piece in the massive puzzle that the Combine needed to solve in order to enter the BattleMech era. The Dragon attempted to steal and purchase what it could, but nonetheless relied heavily upon the skill and ingenuity of its own engineers and technicians to solve many of the problems inherent in the fielding of a brand-new technology.

Coordinator Kozo Von Rohrs set up New Samarkand Armor Works specifically to oversee the design and production of the Combine's first BattleMech. It took the Combine's best and brightest minds seven full years to build the *Gladiator*, which Von Rohrs immediately accepted into service despite numerous mechanical and technical problems with the 'Mech (problems that could cause the *Gladiator* to suddenly topple over or which prompted its electronic systems to spontaneously restart, crippling the 'Mech for a minute or longer).

Despite these problems, New Samarkand Armor Works pushed a steady stream of *Gladiators* off of its production lines as fast as it could, sending techs and "upgrade kits" into the field to solve the "minor technical difficulties" as soon as work-arounds and fixes could be made. Not every 'Mech-equipped unit received those on a timely basis however, which was the excuse given by the elite Second Sword of Light when the regiment failed to secure Nox in 2475—despite having accepted delivery of a full complement of refit kits two months before the Nox invasion.

Following the Nox invasion, the *Gladiator* design fell out of favor with Coordinator Von Rohrs and the Combine's military. While the 'Mech was well armed and well armored, it could not stand against the Terran Hegemony's massive behemoths like the *Mackie* or the *Banshee*, and its MechWarriors did not yet possess the skill to stand toe-to-toe with their more experienced Davion or Steiner counterparts. New Samarkand Armor Works officially ceased production of the *Gladiator* in 2488 after the *Von Rohrs* was accepted as the Combine's new standard BattleMech over the high-tech GLD-2R *Gladiator* offering. The *Gladiator* lingered briefly in the Combine's second line and militia services before becoming extinct, but thanks to salvaged models and secondhand markets, the -1R survived within militaries across the Inner Sphere and Periphery for many decades longer, finally reaching virtual extinction following the Reunification War.

Type: Gladiator

Technology Base: Inner Sphere (Primitive) Tonnage: 55

Equipment Internal Structure:			Mass 5.5
Engine:	265 Primi	tive	14
Walking MP:	4		0
Running MP:	6		Ø
Jumping MP:	0		17
Heat Sinks:	14		4
Gyro:			3
Cockpit (Primitive):			5
Armor Factor (Primitive):	176		16.5
	Interna	ıl Arm	or
	Structur	re Valı	le
Head	3	9	
Center Torso	18	26	5
Center Torso (rear)		9	
R/L Torso	13	19)
R/L Torso (rear)		6	
R/L Arm	9	17	,
R/L Leg	13	24	Ļ
Weapons and Ammo	Location	Critical	Tonnage
Large Laser	RA	2	5
2 Medium Lasers	LA	2	2

Notes: Features the following Design Quirks: Bad Reputation, Poor Sealing, Poor Workmanship, Unbalanced, Obsolete/2488, Cowl





CRS-X CROSSBOW

Field Testing Summation: Original Crossbow Primitive Chassis Producer/Site: Arcturan Arms, Arcturus Supervising Engineer: Durna Godel Kann Prototype Introduction Date: 2468 Non-Production Equipment Analysis:

Primitive Armor Primitive Cockpit Primitive Engine

Overview

While the Coventry Defense Conglomerate experienced year after year of record profits thanks to their contracts with the Lyran government to produce both the *Mackie* and the *Commando*, dozens of other military contractors lined up to win their own pieces of the massive military spending pie. Arcturan Arms positioned itself as a viable contender with the CRS-X *Crossbow*.

As originally envisioned, the *Crossbow* was a fast cavalry BattleMech capable of delivering heavy ranged missile fire upon opponents before engaging at mid- and close-ranges with directed energy weapons. To provide the maximum possible firing arcs, the primary weapons systems—paired five-tube long range missile launchers and a medium-class laser—were mounted in each arm, while the heavy laser was mounted within the torso, where the 'Mech's cooling system could best dissipate its waste heat buildup.

In reality, the *Crossbow* failed to live up to the designers' expectations. Barrages of a mere twenty missiles, less than half of which could regularly hit their target, were unable to deliver significant enough ranged damage, while the 'Mech's cooling system was unable to keep up with a constant fusillade of laser fire. Moreover, penetrating fire against an arm-mounted pod was likely to knock all of that pod's weapons off-line—or worse, cause a catastrophic ammunition explosion.

Less than a dozen prototype *Crossbows* were constructed before the Lyran government rejected the 'Mech, but Arcturan Arms' efforts did convince the government to award the company a supplemental contract that allowed them to produce *Banshees* for the Lyran military. This gave them the expertise needed to eventually upgrade the *Crossbow* to a faster 'Mech with a betterranged and harder-hitting PPC instead of the heavy laser. This, combined with a changed political climate, won Arcturan Arms a long-term contract to build the CRS-6B *Crossbow* in 2485.

Arcturan Arms found itself quickly over-extended however, thanks to widespread labor disputes and the planetary recession that followed with the relocation of the Lyran capital from Arcturus. Instead of the hundred *Crossbows* planned for production in the first year, followed by hundreds more in the following years, just twenty left Arcturan's plant in the first year, followed by forty the next year. The Lyran government cancelled the *Crossbow* order in 2490 after just 337 had been built.

Type: Crossbow

Technology Base: Inner Sphere (Primitive) Tonnage: 60



BKX-1X BATTLEAXE

Field Testing Summation: Original BattleAxe Primitive Chassis Producer/Site: Achernar BattleMechs, New Avalon Supervising Engineer: Urgham St. Croix Prototype Introduction Date: 2459 Non-Production Equipment Analysis:

Primitive Armor Primitive Cockpit Primitive Engine

Overview

Within months of receiving the first technical documentation on the design and manufacture of the BattleMech from the Lyran Commonwealth, the Federated Suns was already building components that would later be assembled into finished *Mackies*. That of course was merely the first step in becoming a true BattleMech power. Work on the *BattleAxe*, the Federated Suns' first native BattleMech design and the next technological step, began shortly thereafter.

With the *BattleAxe*, the combined Achernar and AFFS design team settled upon a paired primary weapon scheme. The *Mackie's* medium autocannon was deemed too weak a weapon, while its PPC was both expensive and difficult to manufacture. They settled upon a pairing of Bright Star Heavy Lasers, one mounted in each arm. The designers also included a series of secondary weapons, allowing *BattleAxe* pilots to effectively engage a variety of targets—from infantry to armor to other 'Mechs—at all ranges. Moreover, this first *BattleAxe* possessed sufficient heat dissipation capacity to selectively fire either the two primary lasers or one supported by the remaining secondary weapons.

The Federated Suns' *BattleAxe* performed well in the earliest years of BattleMech warfare, but suffered the same primary complaints as did the *Mackie*—namely that it was a lumbering beast. Unfortunately there was little the team could do without dramatically altering the design, at least until they learned of the Terran Hegemony's first jumping 'Mech, the *Wasp*. Four years later, the jump-capable *BattleAxe*-4X debuted; though unstable and hard to control during jumps, it was a welcome upgrade, albeit at a cost of heat capacity. Three more models followed in fairly rapid order: the first a year later which finally replaced the two heavy lasers with PPCs, the second six years after that which resulted in a complete re-engineering of the 'Mech to increase its speed and jump capacity by a third, and the final coming in 2478 to make the 'Mech a completely stable jumping platform.

These continual upgrades kept the *BattleAxe* in continuous production for decades longer, while older models that could not be easily upgraded were sold or transferred to reserve and militia units. The 'Mech served well throughout the Reunification War, but by war's end was quickly supplanted by newer 'Mechs like the *Hammerhands* and the later *Warhammer*.

Type: BattleAxe

SRM 6

LRM 5

Ammo (SRM) 15

Ammo (LRM) 24

Ammo (MG) 100

Large Laser

Machine Gun

Machine Gun

Technology Base: Inner Sphere (Primitive) Tonnage: 70

	Equipment	Mass			
	Internal Structure:		7		
	Engine:	255 Primiti	ve 13		
	Walking MP:	3			
	Running MP:	5			E
	Jumping MP:	0			
on	Heat Sinks:	18	8		
he	Gyro:		3		
ng	Cockpit (Primitive):		5		
es.	Armor Factor (Primitive):	144	13.5		
ue		Internal	Armo	r	
rst		Structure	value	2	
an	Head	3	9		
	Center Torso	22	20		
gn	Center Torso (rear)		7		
ie's	R/L Torso	15	18		
ile	R/L Torso (rear)		6		
ey	R/L Arm	11	14		
ed	R/L Leg	15	16		
ary					
ety	Weapons and Ammo	Location	Critical	Tonnage	
es.	Large Laser	RA	2	5	
on	LRM 5	RT	1	2	

Notes: Features	the	following	Design	Quirks:	Prototype,	Poor
Performance Ha	rd to	Pilot				

RT

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BNC-1E BANSHEE

Field Testing Summation: Original Banshee Primitive Chassis Producer/Site: Hegemony Weapons Research, New Earth Supervising Engineer: Irina Bendakov Prototype Introduction Date: 2445

Non-Production Equipment Analysis:

Primitive Armor Primitive Cockpit Primitive Engine Prototype PPC

Overview

After the Mackie was accepted into service, many of the contractors involved in the design and development of the Mackie began working on design proposals of their own. Hegemony Weapons Research of New Earth won the second follow-on 'Mech design competition with their close assault Banshee (having lost to Martinson Armaments' Kyudo a few years earlier). Five tons lighter than the Mackie, and with a similar primary weapons loadout-a PPC and a medium autocannon-the hardy and easily maintained Banshee boasted heavier armor protection as well as several lasers to provide a better close-ranged damage profile than the Mackie. Just as significantly, the Banshee was a true anthropomorphic design, featuring fully articulated arms with hands—an important consideration as Hegemony MechWarriors were already employing physical attacks, including "punches" that more often than not left their heavy arm-mounted weapons seriously damaged. What impressed the Hegemony government most, however, was the speed that the company could produce the Banshee coupled with a significantly lower cost per unit than the Mackie.

The appearance of an HAF *Banshee*, with its signature death's head, was often enough to cause panic in opposing MechWarriors in the early years of 'Mech combat, but the *Banshee*'s reputation ultimately faded as more capable designs took to the battlefield. Three decades after its introduction, Hegemony Weapons Research debuted the BNC-3E, an upgrade that significantly increased the *Banshee*'s top speed, though at a cost of most of its close-range firepower.

The HAF immediately accepted this model, which soon became the standard with over 5,000 units produced over a tenyear span (not counting the countless more converted from -1E models). The *Banshee*'s heyday was already over however; it was undergunned when compared to other assault 'Mech counterparts and never regained popularity with HAF MechWarriors. By the beginning of the twenty-sixth century, the *Banshee* had long been removed from the HAF's frontlines, though it (and its clones, by way of salvage and corporate espionage) remained in varying levels of service with the five Great Houses throughout the Star League era, and even into the Succession Wars.

Type: Banshee

Technology Base: Inner Sphere (Primitive) Tonnage: 95

· · · · · · · · · · · · · · · · · · ·			
Equipment	Mass		
Internal Structure:		9.5	
Engine:	345 Primit	tive 28.5	i
Walking MP:	3		
Running MP:	5		
Jumping MP:	0		
Heat Sinks:	16	6	
Gyro:		4	
Cockpit (Primitive):		5	
Armor Factor (Primitive):	240	22.5	;
	Interna		
	Structur		
Head 3	9		· ·
Center Torso	30	40	
Center Torso (rear)	20	17	
R/L Torso	20	30	$\langle D \rangle$
R/L Torso (rear)	20	10	
R/L Arm	16	21	
R/L Leg	20	26	
IVE Leg	20	20	
Weapons and Ammo	Location	Critical	Tonnage
PPC	RT	3	7
Small Laser	Н	1	.5
2 Medium Lasers	СТ	2	2
AC/5	LT	4	8
Ammo (AC) 40	LT	2	2
Notes: Features the follow	ving Design Qu	irks: Bad Re	outation, Easy
to Maintain, Distracting			
			-



STRIKE FALCON ATTACK VTOL

Field Testing Summation: Common Primitive Attack VTOL Producer/Site: Grand Union Battle Works, Tikonov Supervising Engineer: P.L. Tupolev Prototype Introduction Date: 2371 **Non-Production Equipment Analysis:** Primitive Combat Vehicle

Overview

The helicopter has been an integral feature on the battlefield since the late twentieth century. Though many tried during the following centuries to replace this intrinsically fragile combat unit, it remained just as vital a player during the Age of War as it did in the twentieth and twenty-first centuries. Some were configured to carry cargo or passengers, while others were dedicated gunships that carried a powerful arsenal of guns and missiles. A few, like the Strike Falcon, were designed to do both.

When the Capellan Confederation formed in 2367, it subsumed a number of smaller powers, each which lent its own strengths to the new nation. In the case of the Tikonov Grand Union, it provided the Confederation a strong industrial base and powerful military. Tikonov's primary attack helicopter, the OT-22 Bird of Prey, was showing its age and due to be replaced. Four years after the Confederation was born, the Strike Falcon Attack VTOL debuted. Designed to carry a strong infantry force into battle and then support them, the Strike Falcon was built around a large transport bay that could comfortably carry one heavily armed platoon (or two light platoons in cramped conditions). Its wings carried its primary weaponry—an SRM 4 on each—but despite their stubby appearance also provided significant aerodynamic lift in forward flight, which gave the vehicle an operational range of well over 1,500 kilometers. The Strike Falcon also carried three machine guns, one mounted side-by-side with a sensor suite in the chin and one each on the helicopter's flanks, for antiinfantry support.

When the Strike Falcon debuted, it was hailed by its operators and feared by its opponents. Both relatively speedy and well-armored in its heyday, few opponents could hope to take one down with a single shot which led many other powers to copy the design, with varying levels of success. Like any high-tech marvel, however, the Strike Falcon was eventually superseded by lighter, faster and better armored designs; by the end of the Age of War, the only Strike Falcons still flying were those stripped of weapons and sold to civilian operators.



Equipment Rating: D/C-X-X/E Mass: 30 tons

Equipment	Mass				
Chassis:		7.5			
Engine/Controls:		6	Weapons and Ammo	Location	Tonnage
Туре	ICE		2 SRM 4	Front	4
Cruise MP:	7		Machine Gun	Front	.5
Flank MP:	11		Machine Gun	Right	.5
Heat Sinks:	0	0	Machine Gun	Left	.5
Fuel:	1,666 km	1	Ammo (SRM) 25	Body	1
Turret:		0	Ammo (MG) 100	Body	.5
Armor Factor (BAR 7):	33	1.5	Advanced Fire Control	Body	1
	Internal	Armor			
	Structure	Value	Crew: 5 (1 officer, 2 enlisted	l/non-rated, 2 gunn	ers)
Front:	3	10	Cargo:	-	
R/L Side:	3/3	8/8	6 tons infantry	3 Doors (Ri	ght, Left, Rear)
Rear:	3	5			-
Rotor:	2	2	Notes: Features the followi	ng Design Quirks: Ea	asy to Pilot, Obso

Obsolete/2510

RANDOLPH SUPPORT VEHICLE

Field Testing Summation: Common Primitive Tracked Vehicle Producer/Site: Various Supervising Engineer: Unknown Prototype Introduction Date: Circa 2300 Non-Production Equipment Analysis: Primitive Combat Vehicle

Overview

Every military, paramilitary and "private military contract" (or mercenary) organization is filled with many time more support personnel and vehicles than those assigned strictly to combat operations, many times at a five-to-one—or even greater—ratio. These support units keep the combat forces supplied, paid, fed and maintained, among other services. Though classified as non-combatants, their assignments often take these support troops directly into the thick of the fighting, or at least to its justslightly-less-dangerous periphery. To better protect them in their tasks, they are commonly provided lightly armed and armored vehicles capable of traversing a wide variety of terrain.

The Randolph is just one of those armored support vehicles manufactured for military and private concerns, common upon the battlefields and line of communications controlled by every power throughout the Age of War and Reunification War. It relied upon both oversized self-sealing tires for outstanding maneuverability as well as wide tracks for superior traction. The vehicle carried relatively heavy armor all around that provided exceptional protection to its crew and cargo, and also featured three universal mounts that could fit any large-caliber machine guns the user chose.

Additionally, it boasted a large interior cargo bed and a standard trailer coupler. The Randolph could carry more than forty tons of cargo itself, or if the cargo was too large to fit inside the vehicle, it could pull a trailer—be it a common wheeled trailer or a sled—or even a disabled vehicle.

Given its versatility, the Randolph, along with other vehicles like it, were purchased en masse by militaries, governments and private concerns across the Inner Sphere, assigning them to both support and combat units alike. Though typically assigned to priority missions where personnel and valuable cargoes had to traverse dangerous regions, Randolphs were also often used to haul field artillery pieces, mobile repair gantries, or even converted into ambulances or command posts.

Type: Randolph

Technology Base: Inner Sphere Movement Type: Tracked (Medium) Equipment Rating: D/B-X-X/E Mass: 35 tons

Equipment Mass Chassis: Engine/Controls: Type ICE Cruise MP: 4 Flank MP: 6 Heat Sinks: 0 Fuel: 714 km Turret: Armor Factor (BAR 5): 62 Internal Structure Front: 4 **R/L Side:** 4/4 Rear: 4

6.5

14

0

1

0

2

Armor

Value

16

16/16

14

0

Weapons and Ammo Location Tonnage Machine Gun Front .5 .5 Machine Gun Right Machine Gun Left .5 Ammo (MG) 100 .5 Body **Basic Fire Control** .5 Body

Crew: 2 (1 enlisted/non-rated, 1 gunner) Cargo:

9 tons 1 Door (Rear)

737901

Notes: Features Tractor Chassis Modification. Features the following Design Quirks: Easy to Maintain, Modular Weapons, Obsolete/2500

LTV-4 HOVER TANK

Field Testing Summation: Common Hovertank Producer/Site: Lucas Technologies, Outreach Supervising Engineer: Harrison Lucas Prototype Introduction Date: 2464 **Non-Production Equipment Analysis:** Prototype Standard-Grade Armor

Overview

Lucas Technologies proposed its series of fast hovertanks to the HAF in 2458 in response to the proliferation of BattleMech technology as well as evolving HAF doctrine that indicated formations of fast, maneuverable tanks could be used to effectively swarm a 'Mech force and hold it in place until 'Mechs or heavy armor could be brought to bear. The HAF didn't bite, however: the LTV-2 hovertank, while fast, utilized armor that was easily penetrated by most modern weapons, making the vehicle very fragile indeed. Its primary weapon, a heavy laser, made it popular with some smaller buyers though, which kept the hovertank line open into the next decade.

Meanwhile, Lucas Technologies bought out several smaller firms in an effort to expand its operations, in the process acquiring one that had developed a revolutionary process for manufacturing heat and EM shielding for consumer products. Recognizing the incredible value of this process, Lucas Technologies' CEO and President Harrison Lucas himself took charge of the hovertank design team and within a year debuted the LTV-4—a tank with superior armor lighter than any currently utilized, incredible maneuverability thanks to a smaller but more powerful engine, and which mounted the mighty particle cannon alongside a four-tube missile launcher.

While it took the HAF two more years of testing before they accepted the tank for mass production, Lucas made billions by refining the new armor and shielding alloys he had developed—instantly revolutionizing the production of military-grade armor as well as other subsystems, licensing this technology to dozens of other Hegemony contractors. Within two years, he was listed among the twenty richest Hegemony citizens, and by the end of the decade Lucas Technologies had merged with General Mechanics, forming the arguably largest and most important military contractor in the Terran Hegemony-and further boosting Lucas' own personal wealth.

These developments may have been Harrison Lucas' most enduring legacy, followed by the LTV series of military-grade fusion engines designed during the same era, but the LTV-4 Hovertank is without a doubt a close third. Lucas Arms and General Mechanics produced tens of thousands of these simple, cheap and powerful tanks for both the HAF and later the SLDF, while production was later licensed within each of the Star League Member-States, who kept what is now commonly known simply as the "Hover Tank" in service throughout the Succession Wars.

Type: Hover Tank **Technology Base: Inner Sphere** Tonnage: 50

Equipment	Mass	
Internal Structure		5
Engine:	115	10
Туре:	ICE	
Cruise MP:	7	
Flank MP:	11	
Heat Sinks:	10	10
Control Equipment:		2.5
Lift Equipment:		5
Power Amplifier:		1
Turret:		1
Armor Factor:	88	5.5
	Armor	
	Value	
Front	24	
R/L Side	16/16	
Rear	16	
Turret	16	

Weapons and Ammo	Location	Tonnage
PPC	Turret	7
SRM 4	Turret	2
Ammo (SRM) 25	Body	1

Notes: Features the following Design Quirks: Easy to Maintain, Low Profile, Obsolete/2700



LRM/SRM/AC CARRIER

Field Testing Summation: Common Armored Combat Vehicles Producer/Site: Various Supervising Engineer: Unknown Prototype Introduction Date: Circa 2440 Non-Production Equipment Analysis: Primitive Combat Vehicle

Overview

The concept of the "weapons carrier" was not new to the armies of the Inner Sphere during the Age of War. After all, armored war machines had been used since the era of the ancient Greeks and Romans millennia before. While the "tank"—a heavily armored vehicle that carried one or more heavy weapons in a turret—certainly became the most iconic of combat vehicle since the onset of the twentieth century's World Wars, a whole host of different types and configurations debuted over the course of the next three centuries.

The utter simplicity and utility of the "weapons carrier" concept is hard to ignore, and has been employed throughout the modern era by both high-tech and low-tech combatants. The first such vehicles were known as "tank destroyers" and typically mounted a single heavy-caliber weapon designed to penetrate the armor of even the most powerful tank. Others evolved from simplistic artillery vehicles that were little more than a mass of rockets mounted on the back of a truck. Those simple concepts advanced only with the introduction of new technologies in the twenty-fourth century, followed by better fire control systems in the twenty-fifth century.

Representing a large family of similar vehicles employed by every power throughout the Age of War, the weapons carrier is typically a tracked vehicle, capable of traversing a wide variety of terrain types, but mounts only enough armor to protect its crew from light counterattack. It is also a large, ungainly beast incapable of anything but moderate speeds. Rather than speed or armor, weapons carriers must site themselves in ambush positions and rely wholly upon a surprise mass attack from their numerous heavy weapons to protect them from enemy forces. Should they be outnumbered or flanked, they will likely be fodder, their crews lucky to escape with their lives.

On the other hand, weapons carriers are cheap and easy to produce "force multipliers" and are often fitted with weapons captured or stolen from the very enemies they will face in battle. Used as mobile gun

emplacements, area denial weapons and in shock attacks, they can easily be the tipping point in a battle, and can provide significant supporting fire to commanders who lack artillery or air support.

Type: LRM/SRM/AC Carrier

Technology Base: Inner Sphere Movement Type: Tracked (Medium) Equipment Rating: D/C-X-X/E Mass: 55 tons

Equipment		Mass
Chassis/Controls:		8.5
Engine/Trans:		14
Туре	ICE	
Cruising MP:	3	
Flank MP:	5	
Heat Sinks:	0	0
Fuel:	714 km	1
Turret:		0
Armor Factor (BAR 6):	78	3
	Internal	Armor
	Structure	Value
Front:	6	22
R/L Side:	6/6	22/22
Rear:	6	12

Notes: All of these Carriers feature the following Design Quirks: Easy to Maintain, Low Profile, Fast Reload, Poor Performance, Obsolete/2580

AC/2 Carrier (Primitive)		
Weapons and Ammo	Location	Tonnage
4 AC/2	Front	24
Ammo (AC) 90	Body	2
Advanced Fire Control	Body	2.5

Crew: 9 (2 officers, 1 enlisted/non-rated, 6 gunners) Cargo:

None



Weapons and Ammo	Location	Tonnage
3 LRM 15	Front	21
Ammo (LRM) 40	Body	5
Advanced Fire Control	Body	2.5

Crew: 9 (2 officers, 1 enlisted/non-rated, 6 gunners) Cargo:

SRM Carrier (Primitive)

Location	Tonnage
Front	18
Body	8
Body	2
	Front Body

Crew: 7 (1 officer, 1 enlisted/no-rated, 5 gunners) Cargo: None

Notes: Carries 1.5 tons of fuel (1,071 km total range)





MOSQUITO LIGHT FIGHTER

Field Testing Summation: Primitive Conventional Fighter Producer/Site: AeroTech Industries, Andurien Supervising Engineer: Guenther Hamm Prototype Introduction Date: 2302 Non-Production Equipment Analysis: Primitive Conventional Fighter

Overview

The late twenty-third century was a golden age for military industries across the Inner Sphere. While the five Great Houses slowly consolidated power to form their own interstellar nations, smaller powers throughout the Inner Sphere battled each other for possession of single worlds, many important only because a supposed enemy desired it. Of course, each of these powers needed a steady supply of military hardware to equip their armies and few were particular on who supplied that hardware.

AeroTech Industries was just one of hundreds of mid-sized concerns across the stars that supplied conventional military aircraft. Headquartered on beleaguered Andurien, the company had the dual benefits of witnessing firsthand the capabilities of its designs as well as a built-in customer base of defenders that desperately needed additional fighters. While the company built numerous different airframes, the Mosquito light fighter was, without a doubt, its best-selling and most popular offering.

Designed primarily as an interceptor, the Mosquito's designers used simple, proven engineering techniques that made the fighter inexpensive, easy to build and just as easy to maintain. The only "modern" concession made was the inclusion of a fusion power plant, giving the fighter the ability to carry more weapons and ordnance than other similar airframes. A single five-tube missile launcher and a pair of miniguns comprised the Mosquito's main armament, making it just as capable of taking down enemy fighters and bombers as providing close air support fire missions. A pair of hardpoints also gave operators the option of carrying additional ordnance or fuel, dependent upon mission requirements.

AeroTech Industries sold tens of thousands of Mosquitos to armies and militias throughout what are now the Capellan Confederation and Free Worlds League, additionally licensing it for production in almost a dozen other minor powers of the time. While the Mosquito is almost unknown today, its massive success led directly to the formation of one of the largest military suppliers in the Inner Sphere—by the end of the twenty-fourth century the company had merged with several other interstellar corporations to form Andurien AeroTech in the years just before the formation of the Star League.

Type: Mosquito Light Fighter

Technology Base: Inner Sphere Movement Type: Fixed Wing (Medium) Equipment Rating: D/D-X-X/E Mass: 20 tons

Equipment	Mass
Chassis:	
Engine/Controls:	Fusion
Safe Thrust:	6
Max Thrust:	9
Structural Integrity:	6
Heat Sinks:	0
Fuel:	150
Armor Factor (BAR 6):	24
	Armor
	Value
Nose:	9
Wings:	6/6
Aft:	3

Weapons and Ammo	Location	Tonnage	Heat	SRV	MRV	LR\
LRM 5	Nose	2	0	3	3	3
Ammo (LRM) 24	_	1				
Machine Gun	RW	.5	0	2	_	_
Machine Gun	LW	.5	0	2	_	_
Ammo (MG) 200	_	1				
2 External Stores Hardpoin	ts —	.5				
Advanced Fire Control		.5				

2 8

3

Crew: 3 (2 enlisted/non-rated, 1 gunner)

Cargo:

None

Notes: Features the following Design Quirks: Atmospheric Flyer, Easy to Maintain, Obsolete/2510



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ERV

ARES LANDING CRAFT

Field Testing Summation: Combat Landing Craft Producer/Site: IncStar Dynamics Supervising Engineer: Orastar Antonin Prototype Introduction Date: 2438 Non-Production Equipment Analysis: Primitive Landing Craft

Overview

The Ares Landing Craft evolved from a number of earlier designs to become the standard HAF orbit-to-surface combat transport in the twenty-fifth century, replacing designs that were simple cargo movers or which sacrificed cargo capacity for additional armor and self-defense weaponry. The only way these ships could hope to pierce a concerted enemy fighter screen was with sheer numbers—knowing full well that a loss of just twenty-five percent would be a "good" mission.

The Ares was born to correct those inadequacies while also delivering up to a sixty-five ton tank to the battlefield. Armed with two heavy long-range missile racks as well as both foreand aft-facing lasers, the Ares could cut a swath through almost any conventional fighter screen. Moreover, after delivering their cargoes, the Ares landing craft could return to the skies to establish aerial superiority with their heavy arsenals, destroying opposing fighters and delivering powerful air-to-ground strikes against enemy positions. Following the success of the "Mark I" Ares, the HAF constructed a modified Mk. II "Close Attack Landing Craft" which traded cargo capacity for an additional array of three heavy lasers and extra fuel, assigning one or two of these per landing craft squadron to provide heavy support to landing operations. A third variant designed to directly engage enemy fighters-the Mk. III Ares Assault Craft-debuted a few years later; this model mounted a heavy laser in place of one of the nose-mounted medium lasers, along with additional heat sinks, a beefed up structure with heavier armor and sported a more powerful engine that provided nearly double the Ares' normal maximum acceleration-all while still retaining enough cargo space to deliver up to two platoons of marines or infantry.

The Ares served for more than three centuries in various capacities within the HAF and the Star League nations, even after being operationally replaced in 2476 by a more advanced base frame (the newer Mk. IV/V/VI models were ten tons lighter and slightly smaller but nonetheless featured the same cargo capacity and armaments, and almost exactly the same armor profiles as the Mk. I/II/III). These new models were finally replaced by today's common Mk. VII (and its sister-designs) after the fall of the Star League and the dawn of the Succession Wars.

Type: Military Aerodyne Use: Armed Cargo Transport Tech: Inner Sphere Introduced: 2438

Dimensions

Length: 27 meters Width: 24 meters

Fuel: 6 tons (480 points) Safe Thrust: 3 Maximum Thrust: 5 Heat Sinks: 16 Structural Integrity: 6

Armor

Nose: 76 Sides: 75 Aft: 55

Cargo

Bay 1: Cargo (65 tons)

Crew: 3 enlisted/non-rated, 1 gunner

Notes: Equipped with 24 tons of primitive armor, all crew quarters assigned as Steerage-class (5 tons per crewman). Features the following Design Quirks: Atmospheric Flyer, Easy to Maintain, Obsolete/2476

Weapons and Ammo	Location	Tonnage	Heat	SRV	MRV	LRV	ERV
2 Medium Lasers	Nose	2	3	5	_	_	_
LRM 15	RW	7	5	9	9	9	_
LRM 15	LW	7	5	9	9	9	_
Ammo (LRM) 32	—	4					
2 Medium Lasers	Aft	2	3	5	_	_	





BLACK EAGLE DROPSHIP

Field Testing Summation: Primitive Military DropShip Producer/Site: Mikoyan Aerospace Consortium, Terra Supervising Engineer: Hans Sulimar Prototype Introduction Date: 2453 Non-Production Equipment Analysis: Primitive DropShip

Overview

The employment of the BattleMech in combat during the first half of the twenty-fifth century forced the Terran Hegemony to develop new battlefield tactics and new logistical methods to effectively employ this new weapon. Of critical importance was a way to transport these behemoths to and from battlefields on distant worlds. While a *Mackie* could walk under its own power onto the cargo deck of the largest of spheroid DropShips and then be secured, the loading and unloading process was extremely time consuming—certainly not conducive to surprise strikes. Worse still, while the 'Mech could be carried by many of the numerous aerodyne cargo ships in existence, they could only be loaded while laying on their backs (typically on a flatbed trailer), requiring even more precious time to offload and then right the 'Mech for start-up.

Many different extant DropShip designs were considered for transformation into the first true BattleMech carriers. The *Manatee* was the first ship so modified and employed a unique cubicle structure that a 'Mech could easily enter and exit under its own power. These cubicles, which included integral hardpoints that could keep a standing 'Mech secure under high-G maneuvers, could even be used to repair and rearm the 'Mech. Unfortunately, the *Manatee* could only carry a single lance of BattleMechs, far too few to support major combat operations.

The *Black Eagle*, on the other hand, represented a far more ideal carrier. Originally constructed as a military transport, it featured a strengthened structure and heavy armor, along with a powerful self-defense arsenal. The base design featured three cargo decks that could carry either a battalion of light armor or more than a company of heavy armor, along with sufficient consumables to supply that armor through the first stages of an invasion. While the *Mackie* could not stand upright on any one of those decks, the *Black Eagle* could be constructed without the mid-deck, creating more than enough room for twelve of the behemoths and their transit cubicles.

Though the transport of entire BattleMech battalions was still left to large bulk cargo ships, the HAF began to assign *Black Eagles* to its primary assault companies, units that would quickly secure a spaceport or landing zone where the lengthy disembarkation process could happen. Of course, the *Black Eagle* became the standard for BattleMech assault carriers, ultimately spawning the *Lion* and later the *Union*. So successful was the *Black Eagle* design that the HAF also reworked it into the slightly lighter but much faster and heavily armed *Pentagon* assault ship in the mid-twenty-sixth century.

Type: Military Spheroid Use: 'Mech Carrier Tech: Inner Sphere Introduced: 2458 Mass: 4,500 tons

Dimensions

Length: 77 meters Width: 77 meters Height: 90 meters

Fuel: 250 tons (7,500 points) Tons/Burn-Day: 1.84 Safe Thrust: 4 Maximum Thrust: 6 Heat Sinks: 156 Structural Integrity: 16

Armor

Nose: 191 Sides: 171 Aft: 120

Cargo

Bay 1: BattleMechs (12) 2 Doors Bay 2: Cargo (540 tons) 2 Doors

Life Boats: 1

Escape Pods: 8

Crew: 5 officers, 14 enlisted/non-rated, 9 gunners, 24 bay personnel

Ammunition: 144 rounds LRM 20 Ammo (24 tons)

Notes: Equipped with 55 tons of primitive armor. Features the following Design Quirks: Easy to Maintain, Obsolete/2545



WeaponsCapital Attack Values (Standard)

meaponseapitaim	each ve	nacs (56	uniaura,			
Arc (Heat) Type	Heat	Short	Medium	Long	Extreme	Class
Nose (28 heat)						
2 LRM 20	12	2 (24)	2 (24)	2 (24)	_	LRM
(36 rounds)						
2 Large Lasers	16	2 (16)	2 (16)	_	—	Laser
FR/FL (28 heat)						
2 LRM 20	12	2 (24)	2 (24)	2 (24)	_	LRM
(36 rounds)						
2 Large Lasers	16	2 (16)	2 (16)	—	—	Laser
AR/AL (26 heat)						
LRM 20 (18 rounds)	6	1 (12)	1 (12)	1 (12)	_	LRM
Large Laser	8	3 (28)	1 (8)	_	—	Laser
4 Medium Lase	rs 12					
Aft (20 heat)						
Large Laser	8	3 (28)	1 (8)	_	_	Laser
4 Medium Lase	rs 12					

ADDITIONAL GAME RULES

This *Experimental Technical Readout* Incorporates a few new and expanded rules to better cover certain technologies that existed at this point in the Age of War, but received little attention prior to this volume. These rules build on those found in *TechManual (TM), Tactical Operations (TO), Strategic Operations (SO),* and the special Primitive Tech construction rules found in *Jihad Secrets: The Blake Documents.*

Prototype Jump Jets

Standard production model jump jets (along with their required BattleMech gyroscope modifications and control software upgrades) debuted in 2471 within the Terran Hegemony (later, in each of the other Inner Sphere and Periphery nations). Prototype jump jet models were introduced in 2464 with the debut of the *Wasp* BattleMech (prototype jump jets were later included in the *BattleAxe* and the *Shadow Hawk*).

While prototype jump jets have the same mass and take up the same critical space as standard jump jets, their use was problematic and induced instability within the jumping BattleMech. These problems were later cleared up within the production model jump jets.

Any BattleMech mounting prototype jump jets that jumps must make a Piloting Skill Roll with a TN of +3 (in addition to any other modifiers) to avoid falling when it lands (see *Piloting/Driving Skill Rolls*, p. 59, *TW*).

Prototype PPC

While the Terran Hegemony did not "perfect" the design and manufacture of the particle projection cannon until 2460, the Hegemony utilized PPCs on designs such as the *Mackie* and the *Banshee* BattleMechs for more than two decades before advances in miniaturization and manufacturing processes allowed the debut of the "standard" model PPC.

A Prototype PPC follows the standard rules for the PPC, but costs five times as much (1,000,000 C-Bills).

Primitive Aerospace Unit Construction

Primitive aerospace fighters, small craft and DropShips are built using the standard Aerospace Unit Construction rules (see pp. 180-199, *TM*), with the changes described below (based on Primitive BattleMech Construction rules found in *Jihad Secrets: The Blake Documents*). All of these aerospace units designed and constructed prior to the introduction of "modern" technology in each of the major Inner Sphere and Periphery powers will adhere to these construction rules.

Primitive Aerospace Fighter Construction

The primitive aerospace fighters shown in this *Experimental Tech Readout* are constructed using the rules found on p. 146 of *Jihad Secrets: The Blake Documents*.

Primitive Small Craft and DropShip Construction

The primitive small craft and DropShips shown in this *Experimental Tech Readout* are constructed using the standard rules found in *TechManual*, but employ armor identical to the armor used by primitive BattleMechs (see p. 145, *The Blake Documents*), which is mounted using the standard limits for small craft and DropShips (see pp. 190-191, *TM*).

Introduction of "Modern" Tech

"Modern" technology—which utilizes the standard construction rules for BattleMechs, combat vehicles and aerospace units as found in the *Tech Manual*—debuted in each of the major Inner Sphere and Periphery powers in the years listed below.

Year Realm

- 2470 Terran Hegemony
- 2475 Federated Suns
- and Lyran Commonwealth 2487 Draconis Combine
- 2501 Free Worlds League
- 2503 Rim Worlds Republic
- 2504 Capellan Confederation
- 2505 Taurian Concordat

INCOMING

MESSAGE

SEND

SAVE

CANCEL

I)HERTS















*Only if the VTOL has an ICE engine. For VTOLs with fusion engines, treat this result as Engine Hit. **If the VTOL carries no ammunition, treat this result as Weapon Destroyed.

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VTOL COMBAT VEHICLE CRITICAL HITS TABLE

No Critical Hit

11

12

Rotors⁻

2D6 Roll

2–5

6

7

8

9

10

11

12

Rotors (critical)†

Rotors

Rotors (critical)†

*A result of 2 or 12 (or an 8 if the attack strikes the side) may inflict a critical hit on the VTOL. For each such attack, apply damage normally to the armor in that section. The attacking player then immediately rolls once on the VTOL Combat Vehicle Critical Hits Table, below.

 \uparrow Damage Value / 10 (round up); see *Rator Hits*, p. 197, *Total Warfare*. Additionally, damage to rotors slows down the VTOL. Each hit reduces the VTOL's Cruising MP by 1, meaning that the controlling player must also recalculate Flank MP; multiply the new Cruising MP by 1.5 and round up. As with all damage, such movement penalties do not apply until the end of the phase in which the damage occurred.

FRONT

No Critical Hit

Co-Pilot Hit

Weapon Malfunction

Stabilizer

Sensors

Pilot Hit

Weapon Destroyed

Crew Killed

Cargo/Infantry Hit Stabilizer Weapon Destroyed Engine Hit Ammunition **

SIDE

Rotors⁻

Rotors (critical)†

No Critical Hit Cargo/Infantry Hit Weapon Malfunction Stabilizer Weapon Destroyed Sensors Engine Hit Fuel Tank*

DIFFERENCE IN LEVELS

-1 or lower

0 1_2

з

ROTORS

PHYSICAL ATTACKS AGAINST VTOL VEHICLES TABLE

TYPES OF PHYSICAL ATTACK ALLOWED None

All except Punch

All except Kick

Club and Physical Weapons only None

No Critical Hit Rotot Damage Rotor Damage Rotor Damage Flight Stabilizer Hit Flight Stabilizer Hit Rotots Destroyed **Rotors** Destroyed

Weapon Malfunction Fuel Tank*

LOCATION HIT REAR



		ATTACK DIRECTION	
2D6 Roll	FRONT	REAR	SIDES
2*	Front (critical)	Rear (critical)	Side (critical)
3	Front†	Rear†	Side†
4	Front†	Rear†	Side†
5	Right Side †	Left Side †	Front†
6	Front	Rear	Side
7	Front	Rear	Side
8	Front	Rear	Side (critical)*
9	Left Side†	Right Side†	Rear†
10	Turret	Turret	Turret
11	Turret	Turret	Turret
12*	Turret (critical)	Turret (critical)	Turret (critical)

*A result of 2 or 12 (or an 8 if the attack strikes the side) may inflict a critical hit on the vehicle. For each result of 2 or 12 (or 8 for side attacks), apply damage normally to the armor in that section. The attacking player then automatically rolls once on the Ground Combat Vehicle Critical Hits Table below (see *Combat*, p. 192 in *Total Warfare* for more information). A result of 12 on the Ground Combat Vehicles Fit Location Table may inflict critical hit against the turret; if the vehicle has no turret, a 12 indicates the chance of a critical hit on the side corresponding to the attack direction. The attacking player also rolls once on the Motive System Damage Table at right (see *Combat*, p. 192 in *Total Warfare* for more information). Apply damage at the end of the phase in which the damage takes effect. Side hit side armore in fits armore rearming the damage takes effect.

ΜΟΤΙΛ	/E SYSTEN	1 DAMAGE TAE	BLE			
2D6 Roll	EFFECT*					
2–5 6–7	No effect		D-II-			
8-9		modifier to all Driving Skill ; –1 Cruising MP, +2 modif				
0-3	Driving Skill Rolls	e, - i Gruising MP, +2 mouil	ier to all			
10-11		ly half Cruising MP (round t	fractions up)			
10-11	+3 modifier to all [n dedons up),			
12+		movement for the rest of	the game.			
	Vehicle is immobile		sile gainer			
Attack Direction Modifier: Vehicle Type Modifiers:						
Hit from rear	+1	Tracked, Naval	+0			
Hit from the sides	+2	Wheeled	+2			
		Hovercraft, Hydrofoil	+3			
		Wige	+4			
*All movement and Driving Skill Roll penalties are cumulative. However, each Driving Skill Roll modifier can only be applied once. For example, if a roll of 6-7 is made for a vehicle, inflicting a +1 modifier, that is the only time that particular +1 can be applied; a subsequent roll of 6-7 has no additional effect. This means the maximum Driving Skill Roll modifier that can be inflicted from the Motive System Damage Table is +6. If a unit's Cruising MP is reduced to D, it cannot move for the rest of the game, but is not considered an immobile target. In addition, all motive system damage takes effect at the end of the phase in which the damage occurred. For example, if two units are attacking the same Combat Vehicle during the Weapon Attack Phase and the first unit inflicts motive system damage and rolls a 12, the -4 immobile target modifier would not apply for the second unit. However, the -4 modifier would take effect during the Physical Attack Phase. If a hover vehicle is rendered immobile while over a Depth 1 or deeper water hex, it sinks and is destroyed.						

GROUND COMBAT VEHICLE CRITICAL HITS TABLE

LOCATION HIT

2D6 Roll 2–5 N 6 Vea 8 9 10 Co 11 Wea 12

FRONT No Critical Hit Driver Hit Weapon Malfunction Stabilizer Sensors Commander Hit Weapon Destroyed Crew Killed SIDE No Critical Hit Cargo/Infantry Hit Weapon Malfunction Crew Stunned Stabilizer Weapon Destroyed Engine Hit Fuel Tank* REAR No Critical Hit Weapon Malfunction Cargo/Infantry Hit Stabilizer Weapon Destroyed Engine Hit Ammunition ** Fuel Tank *

TURRET No Critical Hit Stabilizer Turret Jam Weapon Malfunction Turret Locks Weapon Destroyed Ammunition ** Turret Blown Off

*If Combat Vehicle has ICE engine only. If Combat Vehicle has a fusion engine, treat this result as Engine Hit. **If Combat Vehicle carries no ammunition, treat this result as Weapon Destroyed.



Turret Turret Turret Turret (critical) Turret (critical) Turret (critical) *A result of 2 or 12 (or an 8 if the attack strikes the side) may inflict a critical hit on the vehicle. For each result of 2 or 12 (or 8 for side attacks), apply damage normally to the armor in that section. The attacksing player then automatically rolls once on the Ground Combat Vehicle Critical Hits Table below (see *Combat*, p. 192 in *Total Warfer* for more information). A result of 12 on the Ground Combat Vehicles Hit Location Table may inflict critical hit against the turret; if the vehicle has A result or 12 on the Ground Combat Vehicles Hit Location label may inflict critical int against the turret, if the venicle has no turret, a 12 indicates the chance of a critical hit on the side corresponding to the attack direction. †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 at right (see Combat, p. 192 in Total Warfare for more information). Apply damage at the end of the phase in which the damage takes effect. §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 vehicle has no turret, a turret hit strikes the armor on the side attacked.

Side (critical)*

Rear†

Turret

Rear

Right Side †

Turret

6–7	Minor damage; +1 modifier to all Driving Skill Rolls				
8–9	Moderate damage; –1 Cruising MP, +2 modifier to all				
	Driving Skill Rolls				
10-11	Heavy damage: d	only half Cruising MP (round	fractions up).		
		Driving Skill Rolls			
12+		no movement for the rest of	the name		
121	Vehicle is immob		une garne.		
	VEHICLE IS ITTITIOD	ne.			
Attack Direction	Modifier:	Vehicle Type Modifiers:			
Hit from rear	+1	Tracked, Naval	+0		
Hit from the sides	+2	Wheeled	+2		
		Hovercraft, Hydrofoil	+3		
		WiGE	+4		
WGE +4 *All movement and Driving Skill Roll penalties are cumulative. However, each Driving Skill Roll modifier can only be applied once. For example, if a roll of 6-7 is made for a vehicle, inflicting a +1 modifier, that is the only time that particular +1 can be applied, a subsequent roll of 6-7 has no additional effect. This means the maximum Driving Skill Roll modifier that can be inflicted from the Motive System Damage Table is +6. If a unit's Cruising MP is reduced to 0, it cannot move for the rest of the game, but is not considered an immobile target. In addition, all motive system damage takes effect at the end of the phase in which the damage cocurred. For example, if two units are attacking the same Combat Vehicle during the Weapon Attack Phase and the first unit inflicts motive system damage tand to ls a 12, the -4 immobile target modifier would not apply for the second unit. However, the -4 modifier would take effect during the Physical Attack Phase. If a hover vehicle is rendered immobile while over a Depth 1 or deeper water hex, it sinks and is destroyed.					

GROUND COMBAT VEHICLE CRITICAL HITS TABLE

LOCATION HIT

Front.

Left Side t

Turret

9

10

11

12

FRONT SIDE No Critical Hit No Critical Hit Driver Hit Cargo/Infantry Hit Weapon Malfunction Weapon Malfunction Stabilizer **Crew Stunned** Sensors Stabilizer Commander Hit Weapon Destroyed Weapon Destroyed Engine Hit Crew Killed Fuel Tank*

REAR No Critical Hit Weapon Malfunction Cargo/Infantry Hit Stabilizer Weapon Destroyed Engine Hit Ammunition ** Fuel Tank*

TURRET No Critical Hit Stabilizer Turret, Jam Weapon Malfunction Turret Locks Weapon Destroyed Ammunition* Turret Blown Off

* If Combat Vehicle has ICE engine only. If Combat Vehicle has a fusion engine, treat this result as Engine Hit. ** If Combat Vehicle carries no ammunition, treat this result as Weapon Destroyed.



	ATTAOK DINEOTION	
FRONT	REAR	SIDE§
Front (critical)	Rear (critical)	Side (critical)
Front†	Rear†	Side†
Front†	Rear†	Side†
Right Side †	Left Side †	Front†
Front	Rear	Side
Front	Rear	Side
Front	Rear	Side (critical)*
Left Side†	Right Side†	Rear†
Turret	Turret	Turret
Turret	Turret	Turret
Turret (critical)	Turret (critical)	Turret (critical)
	Front (critical) Front† Front† Right Side† Front Front Left Side† Turret Turret	FRONT REAR Front (critical) Rear (critical) Front † Rear † Front † Rear † Right Side † Left Side † Front Rear Front Rear Front Rear Left Side † Right Side † Left Side † Right Side † Turret Turret

*A result of 2 or 12 (or an 8 if the attack strikes the side) may inflict a critical hit on the vehicle. For each result of 2 or 12 (or 8 for side attacks), apply damage normally to the armor in that section. The attacking player then automatically rolls once on the Ground Combat Vehicle Critical Hits Table below (see *Combat*, p. 192 in *Total Warfare* for more information). A result of 12 on the Ground Combat Vehicles Thics Table below (see *Combat*, p. 192 in *Total Warfare* for more information). A result of 12 on the Ground Combat Vehicles Thic Location Table may inflict critical hit against the turret; if the vehicle has no turret, a 12 indicates the chance of a critical hit on the side corresponding to the attack direction. The static 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 at right (see *Combat*, p. 192 in *Total Warfare* for more information). Apply damage at the end of the phase in which the damage takes effect. Side hit strike the side as indicated by the attack direction. For example, if an attack hits the right side armor. If the vehicle has no turret, a turret hit strikes the armor on the side attacked.

ΜΟΤΙΝ	E SYSTEN	/I DAMAGE TAE	BLE			
2D6 Roll 2–5	EFFECT*					
6-7 8-9		1 modifier to all Driving Skil e; –1 Cruising MP, +2 modi				
10–11		nly half Cruising MP (round Driving Skill Rolls	fractions up),			
12+	Major damage; n Vehicle is immobi	o movement for the rest of le.	the game.			
Attack Direction Modifier: Vehicle Type Modifiers:						
Hit from rear Hit from the sides	+1 +2	Tracked, Naval Wheeled Hovercraft, Hydrofoil WiGE	+0 +2 +3 +4			
*All movement and Driving Skill Roll penalties are cumulative. However, each Driving Skill Roll modifier can only be applied once. For example, if a roll of 6-7 is made for a vehicle, inflicting a +1 modifier, that is the only time that particular +1 can be applied; a subsequent roll of 6-7 has no additional effect. This means the maximum Driving Skill Roll modifier that can be inflicted from the Motive System Damage Table is +6. If a unit's Cruising MP is reduced to D, it cannot move for the rest of the game, but is not considered an immobile target. In addition, all motive system damage takes effect at the end of the phase in which the damage occurred. For example, if two units are attacking the same Combat Vehicle during the Weapon Attack Phase and the first unit inflicts motive system damage and rolls a 12, the -4 immobile target modifier would not apply for the second unit. However, the -4 modifier would take effect during the Physical Attack Phase. If a hover vehicle is rendered immobile while over a Depth 1 or deeper water hex, it sinks and is destroyed.						

GROUND COMBAT VEHICLE CRITICAL HITS TABLE

SIDE

LOCATION HIT

FRONT No Critical Hit No Critical Hit Driver Hit Cargo/Infantry Hit Weapon Malfunction Weapon Malfunction Stabilizer **Crew Stunned** Stabilizer Sensors Commander Hit Weapon Destroyed Weapon Destroyed Engine Hit Fuel Tank* Crew Killed

REAR No Critical Hit Weapon Malfunction Cargo/Infantry Hit Stabilizer Weapon Destroyed Engine Hit Ammunition ** Fuel Tank*

TURRET No Critical Hit Stabilizer Turret Jam Weapon Malfunction Turret Locks Weapon Destroyed Ammunition* Turret Blown Off

* If Combat Vehicle has ICE engine only. If Combat Vehicle has a fusion engine, treat this result as Engine Hit. ** If Combat Vehicle carries no ammunition, treat this result as Weapon Destroyed.



*A result of 2 or 12 (or an 8 if the attack strikes the side) may inflict a critical hit on the vehicle. For each result of 2 or 12 (or 8 for side attacks), apply damage normally to the armor in that section. The attacking player then automatically rolls once on the Ground Combat Vehicle Critical Hits Table below (see *Combat*, p. 192 in *Total Warfare* for more information). A result of 12 on the Ground Combat Vehicle Hit Location Table may inflict critical Hits Tage at the turret; if the vehicle has no turret, a 12 indicates the chance of a critical Hit in on the side corresponding to the attack direction. The attacking player the automatically rolls that section, but the attack direction. Due to the attack direction is a soft of a critical Hit is armor remains intact. Apply damage normally to the armor in that section, but the attack direction also rolls once on the Motive System Damage Table at right (see *Cambat*, p. 192 in *Total Warfare* for more information). Apply damage at the end of the phase in which the damage takes effect. Side hits strike the side as indicated by the attack direction. For example, if an attack hits the right side armor. If the vehicle has no turret, a turret hit strikes the amore on the side attacked.

*All movement and Driving Skill Roll penalties are cumulative. However, each Driving Skill Roll modifier can only be applied once. For example, if a roll of 6-7 is made for a vehicle, inflicting a +1 modifier, that is the only time that particular +1 can be applied; a subsequent roll of 6-7 has no additional effect. This means the maximum Driving Skill Roll modifier that can be inflicted from the Motive System Damage Table is +6. If a unit's Cruising MP is reduced to 0, it cannot move for the rest of the game, but is not considered an immobile target. In addition, all motive system damage takes effect at the end of the phase in which the damage occurred. For example, if two units are attacking the same Combat Vehicle during the Weapon Attack Phase and the first unit inflicts motive system damage and rolls a 12, the -4 immobile target modifier would not apply for the second unit. However, the -4 modifier would take effect during the Physical Attack Phase. If a hover vehicle is rendered immobile while over a Depth 1 or deeper water hex, it sinks and is destroyed.

GROUND COMBAT VEHICLE CRITICAL HITS TABLE

LOCATION HIT

2D6 Roll 2–5 No 6 7 Weap 8 9 10 Coo 11 Wea 12 (

FRONT No Critical Hit Driver Hit Ca Weapon Malfunction We Stabilizer Sensors Commander Hit W Weapon Destroyed Crew Killed

SIDE No Critical Hit Cargo/Infantry Hit Weapon Malfunction Crew Stunned Stabilizer Weapon Destroyed Engine Hit Fuel Tank * REAR No Critical Hit Weapon Malfunction Cargo/Infantry Hit Stabilizer Weapon Destroyed Engine Hit Ammunition ** Fuel Tank * TURRET No Critical Hit Stabilizer Turret Jam Weapon Malfunction Turret Locks Weapon Destroyed Ammunition ** Turret Blown Off

*If Combat Vehicle has ICE engine only. If Combat Vehicle has a fusion engine, treat this result as Engine Hit. **If Combat Vehicle carries no ammunition, treat this result as Weapon Destroyed.



*A result of 2 or 12 (or an 8 if the attack strikes the side) may inflict a critical hit on the vehicle. For each result of 2 or 12 (or 8 for side attacks), apply damage normally to the armor in that section. The attacksting player then automatically rolls once on the Ground Combat Vehicle Critical Hits Table below (see *Combat*, p. 129 in *Total Warfare* for more information). A result of 12 on the Ground Combat Vehicle Critical Hits Table below (see *Combat*, p. 129 in *Total Warfare* for more information). A result of 12 on the Ground Combat Vehicle Stitu Context, p. 132 in *Total Warfare* for more information), but the attack direction. If the vehicle has no turret, a 12 indicates the chance of a ortical hit on the side corresponding to the attack direction. If 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 nols once on the Motive System Damage Table at right (see *Combat*, p. 192 in *Total Warfare* for more information). Apply damage at the end of the phase in which the damage takes effect. Side hits strike the side as indicated by the attack direction. For example, if an attack hits dee right side, all Side results strike the right side armor. If the vehicle has no turret, a turret hit strikes the armor on the side attacked.

GROUND COMBAT VEHICLE CRITICAL HITS TABLE

LOCATION HIT

2D6 Roll	
2-5	N
6	
7	Weap
8	
9	_
10	Co
11	Wea
12	(

FRONT Jo Critical Hit Driver Hit (pon Malfunction W Stabilizer Sensors ommander Hit W apon Destroyed Crew Killed

SIDE No Critical Hit Cargo/Infantry Hit Weapon Malfunction Crew Stunned Stabilizer Weapon Destroyed Engine Hit Fuel Tank* REAR No Critical Hit Weapon Malfunction Cargo/Infantry Hit Stabilizer Weapon Destroyed Engine Hit Ammunition ** Fuel Tank *

TURRET No Critical Hit Stabilizer Turret Jam Weapon Malfunction Turret Locks Weapon Destroyed Ammunition ** Turret Blown Off

*If Combat Vehicle has ICE engine only. If Combat Vehicle has a fusion engine, treat this result as Engine Hit. **If Combat Vehicle carries no ammunition, treat this result as Weapon Destroyed.









