1681

BATTLETECH
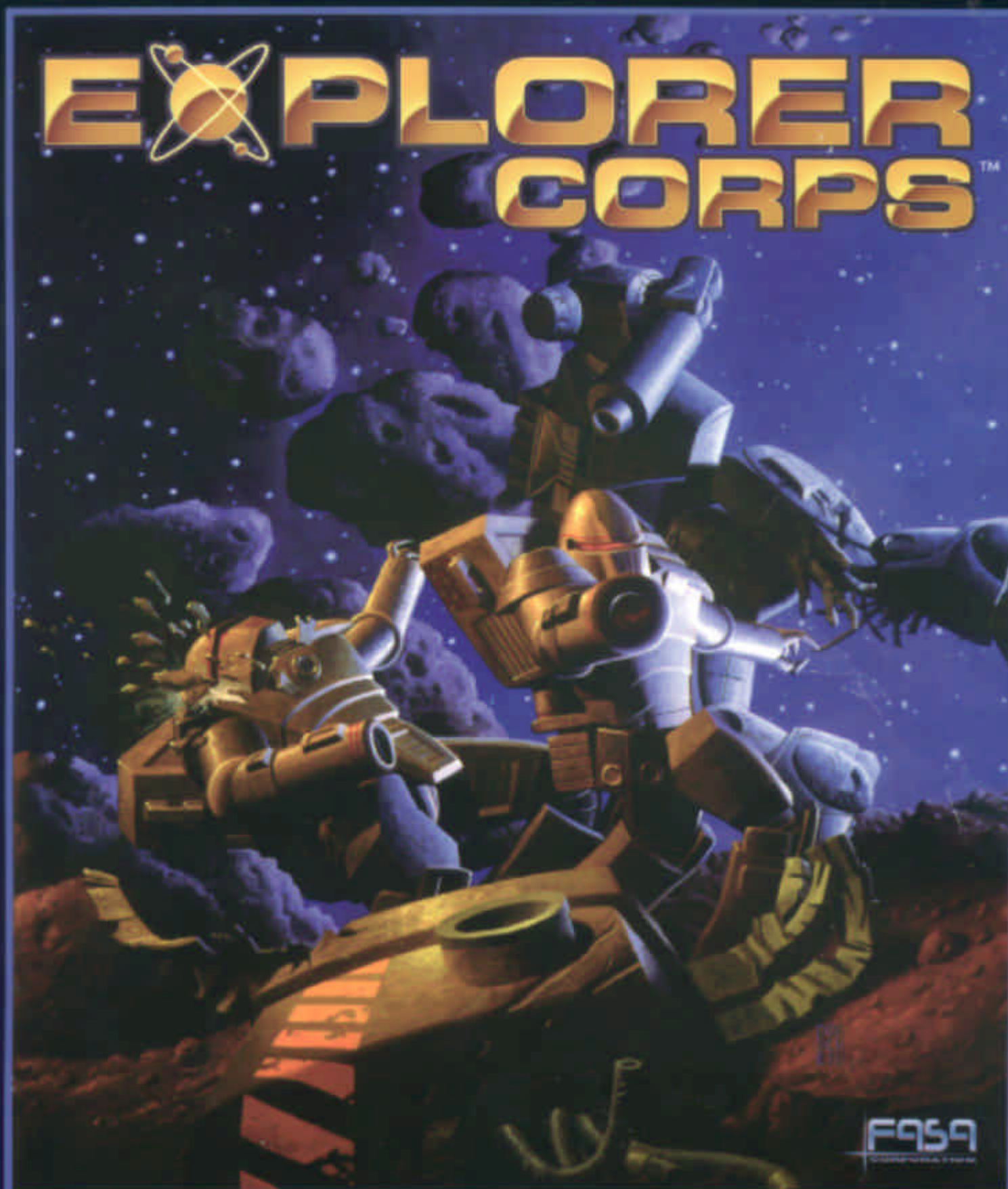
EXPLORER CORPS™

FASA
CORPORATION

EXPLORER CORPS™

CORPS

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[Start Wolfnet communications protocol

>Enter ID: **Noketsuna, Michi**

>Enter Password: **########**

ID and password accepted.

Welcome to Wolfnet Communications and Data Retrieval System, Harlech.

22 January 3059. 07:15 Outreach Standard Time (19:20 Terran Standard Time)

You have 1 mail message waiting. Do you wish to download? Y/N

>Yes

From: LDressel @ Wolfnet.Harlech.Mil
Date: Sun. 21 Jan 3059 23:49:21 OST (11:54:21 TST)
Message-Id: <1153@Wolfnet.Harlech.Mil>
To: MNoketsuna@Wolfnet.Harlech.Mil
Subject: Explorer Corps
Lines: 12

Major Noketsuna,

   Agent Lasadh has obtained a copy of ComStar's latest **Explorer Corps** briefing document. Though much of it is only of interest to new members of the Explorer Corps, some sections provide valuable insights into Corps operations, as well as hints of their progress toward discovering the Clan homeworlds.
   I have uploaded a copy of the briefing onto the Wolfnet mainframe for annotation, and also forwarded ComDat-linked copies to the Commander, General Wolf and Fleet Captain Chandra.

Lars Dressel
Captain, ComStar Analysis Division
Wolfnet

Access Linked Document? Y/N

>Yes
End communications protocol]

INTRODUCTION
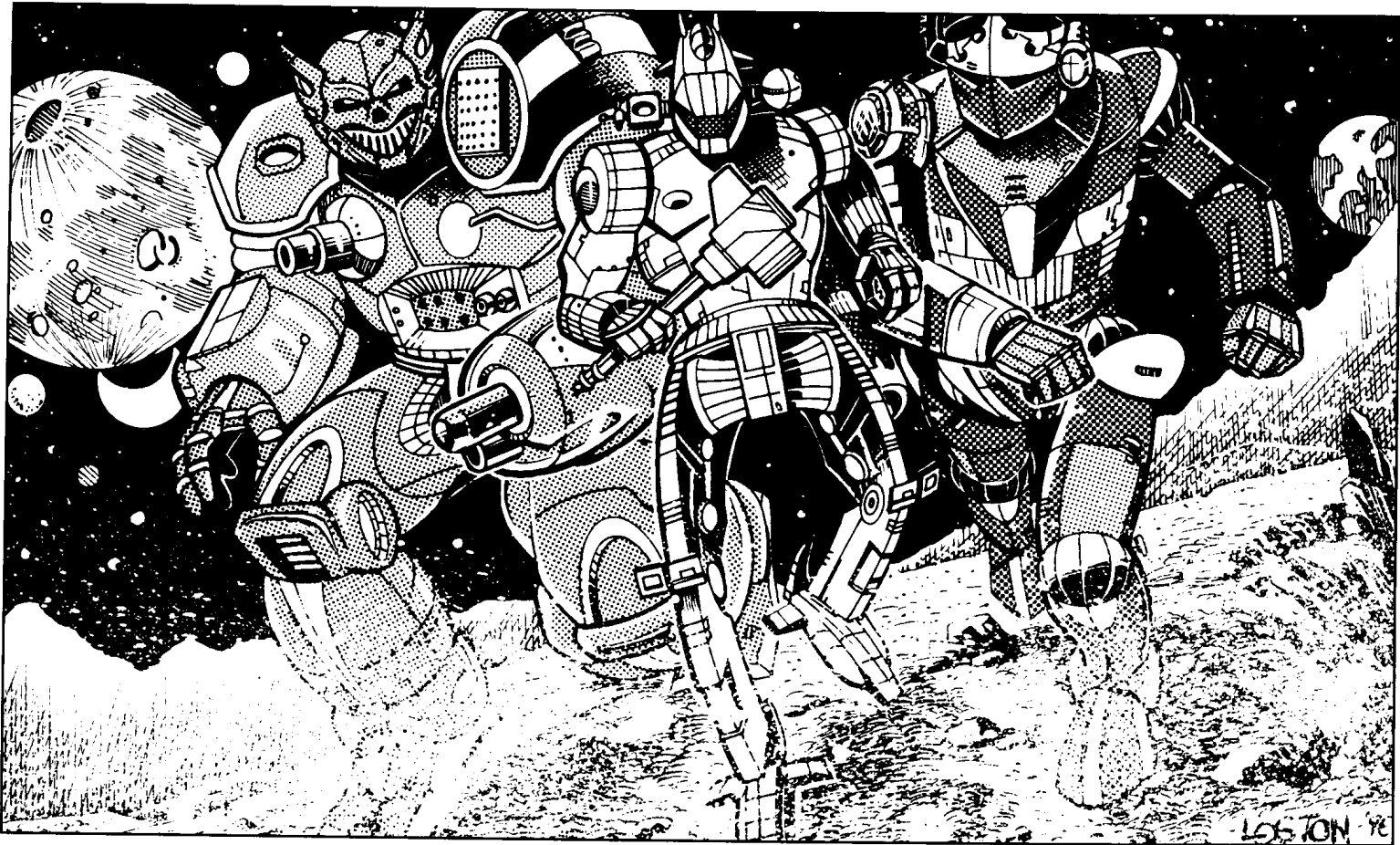
In 2784, General Aleksandr Kerensky led the military forces of the fallen Star League on their epic Exodus away from the Inner Sphere. Centuries later, their descendants—the formidable warriors known as the Clans—returned to the worlds their forefathers had left, determined to found a new Star League by conquest. For nearly three years, no Successor State army could stop the Clan juggernaut, until ComStar's Com Guards battled the combined Clans to a standstill on the backwater world of Tukayyid. The subsequent truce gave the Inner Sphere fifteen precious years of breathing space, in which most of the Successor States beefed up their defenses in preparation for a renewed Clan onslaught.

Theodore Kurita of the Draconis Combine, however, was not content with defense. Instead, he sought to take the offensive—specifically, to discover the location of the Clan homeworlds so that Inner Sphere forces could attack them. He found an enthusiastic ally in ComStar, whose own Explorer Corps division had run across the Clans in 3048 and inadvertently triggered the Clan invasion. Together with ComStar's Primus, Sharilar Mori, Theodore began hiring top-flight mercenary units and adding elements of the Draconis Combine Mustered Soldiery to ComStar's exploratory force.

Flush with funds, equipment and personnel, the new Explorer Corps now ranges across the fringes of known space and beyond. Though Explorer Corps units may take on many missions, they are dedicated to a single overriding cause—finding the Clan homeworlds and taking the war to the enemy.

Explorer Corps is a campaign sourcebook for the **BattleTech, MechWarrior** and **BattleSpace** game systems. The various sections of background material—**Overview, The Modern Corps, Notable Personalities, Life in Space** and **Denizens of the Deep Periphery**—trace the development of the Explorer Corps and provide detailed information on all aspects of life as a Corps member, from living in space to dealing with long-lost colonists on alien worlds. The four rules sections offer new and expanded rules for integrating Explorer Corps characters and scenarios into **BattleTech, MechWarrior** and **BattleSpace** campaigns, and for playing mercenary units on Explorer Corps missions. The rules sections also include new vehicles, ships and a new **MechWarrior** archetype.

Depending on the type of Explorer Corps campaign they wish to run, players and gamemasters will need **BattleTech Compendium: The Rules of Warfare, Mechwarrior: Second Edition,** and/or the **BattleSpace** rulebook. Players may also find the **Periphery** sourcebook and the **Mercenary's Handbook: 3055** useful.

OVERVIEW

The origination of the Explorer Corps must be credited to Adrienne Sims, Ninth Primus of ComStar. An aggressive, ambitious member of the organization, Sims took command of ComStar in the spring of 2947, shortly after the tragic death of the Eighth Primus, Hollis York, at the Sandhurst Royal Military Academy. The early years of Sims' tenure were uneventful, but in the late 2950s the Primus began to be tormented by nightmares and visions of a horde of strange monsters—the metallic viper, the emerald birds of death, the demon horses, and the six-legged bear among others—that would destroy the Inner Sphere.

Initially, the members of the First Circuit were quite distressed by the Primus's visions and persuaded her to take a six-month leave of absence and seek professional psychological counseling at the Rampton Clinic in the British Isles. The clinic doctors found no signs of psychological dysfunction in the Primus, but they did put the Primus through a stress-relief program. Despite their efforts, Sims continued to experience the apocalyptic nightmares and visions. Eventually, Sims's opponents leaked news of the Primus's visions to all ComStar personnel, hoping to discredit her. In fact, their scheme produced the opposite effect. A great many ComStar members had been attracted to ComStar by its pseudo-mystical trappings; these individuals interpreted Sims's visions as a sign from Blake himself and began hailing the Primus as a prophet.

Her power base within ComStar strengthened by the acceptance of her visions, Primus Sims addressed the First Circuit in November 2959 to propose the formation of a new branch of ComStar—the Explorer Service. This new organization would explore beyond the Periphery, scouting and mapping the star systems it found. But more important, the Explorer Service would search for the Exodus fleet of General Aleksandr Kerensky. That fleet, she pointed out during her impassioned speech, constituted the only real threat to ComStar. If Kerensky's Star League army returned unexpectedly to the Inner Sphere, she warned, ComStar would most likely lose its present position of power. Therefore, gathering information on the whereabouts of Kerensky's fleet would be the Explorer Service's top priority. Responding to Primus Sims's renewed popularity, the First Circuit unanimously supported her proposal.

The founding of the Explorer Service gave Primus Sims hope that the future predicted by her terrible visions might somehow be averted, but her nightmares continued to plague her until she died of natural causes in 2979.

THE EARLY YEARS

ComStar had made an earlier foray into deep-space exploration in 2825 when it mounted an unsuccessful mission to make contact with the Minnesota Tribe, a mysterious group that raided coreward areas of the Draconis Combine before disappearing back into the Periphery. An ad-hoc fleet of ComStar ships, commanded by ROM Precentor Emilo Travis, spent four months following the Tribe's path and charting the course as it went, eventually losing the trail spinward of the Outworlds Alliance. Unlike the Minnesota Tribe task force, however, Primus Sims's new Explorer Service would draw qualified personnel from all branches of the organization to fill specific roles and would be equipped with its own commanders and bureaucracy.

Leadership of the corps fell to the newly appointed Director of the Explorer Service (DES), who reported to the Primus and the First Circuit. The first DES, appointed in December 2959, was Precentor Theta XI Sergei Gavilov, a JumpShip commander. Over the next year, Gavilov spent every working hour assembling personnel and equipment from other branches of ComStar, most notably ROM and the newly formed ComStar Guard and Militia, to form the new Explorer Service. By late 2960, the initial exploratory teams had been organized and trained. On 24 February 2961, the Explorer Service's first vessel, the *Providence*, jumped from the planet Lands End into the Periphery, marking the official start of the Explorer Service missions.

Under Gavilov's leadership, the Explorer Service established an aggressive exploration program. In addition to searching for Kerensky's fleet, the service also concentrated on discovering and "bringing back into the fold" the populated worlds of the Deep Periphery. Generally, ComStar informed the Successor States of those re-discovered worlds nearest the Inner Sphere, but it kept information about many others secret. (In recent years, ComStar has declassified information about re-discovered worlds lying up to 1,500 light-years from Terra. The most detailed of these reports describe populated star systems within 750 light-years of Terra, but the bulk of these briefs remains classified.)

Gavilov remained DES until 2977, when ill health prompted him to stand down. He was replaced by Precentor Xi XIII Athena Heath, who had been one of the crew members on the *Endurance*, the fourth Explorer Service vessel. (It was Heath who first referred to the Explorer Service as the "Explorer Corps," a descriptive that eventually became the more widely used name for the ComStar branch.)

Under the Heath regime, the Corps also began to mount purely scientific missions. In 2982, for example, the Explorer Corps vessels *Fortitude* and *Discovery* traveled to the M-class Orion Nebula, more than 1,600 light-years from Terra. At the time, the trip represented the farthest a manned voyage had ventured from Terra. The two vessels spent three months on-station gathering astronomical data. In 3002, the ECV *Herschel* visited the Sador (Gamma Cygni) system, 815 light-years from Terra, on a similar scientific mission. The crew spent six weeks studying the F-class star before traveling the short distance to the Cygnus X-1 binary system, a spectacular phenomenon consisting of a black hole and a visible supergiant primary. The flow of matter from the supergiant to the black hole creates a massive accretion disc around the hole and generates a vast outflow of X-ray radiation. Though this radiation forced the *Herschel*'s crew to observe the system from a distance, they learned a great deal of valuable information about X-ray stars and black holes.

Heath died in office in 3021. She was succeeded by Sumire Hiyama, a quiet, soft-spoken woman who was born on the Terran island of Kyushu and attended Waseda Daigaku in the Tokyo Metroplex, where she received a doctorate in astro-

Much has been published over the years regarding Adrienne Sims's visions. To date, nearly all accounts conclude that her visions proved that Sims possessed "higher powers of the mind." That she *reported* having visions is undoubtedly true, but can these reports be used to prove the existence of psychic phenomena?

The majority of investigations cite the fact that Sims could not possibly have known of the existence of the Clans in 2969, and so extrapolate that she must have possessed some sort of supernatural insight. Many so-called researchers, however, fail to note that the Clans were founded in the early 2800s—some one hundred fifty years before Sims's visions began. In fact, a number of people have suggested that covert contact between the Clans and the Inner Sphere—similar to modern contact between the Successor States and Wolf's Dragoons—allowed limited knowledge of the Clans' existence to pass into the Inner Sphere long before the invasion. Though no conclusive evidence of such contact exists, early intelligence on the fate of Kerensky's fleet seems well within the realm of possibility.

Another, more colorful theory about Sims's visions centers around the so-called Not Named Clan—Clan Wolverine. One of the twenty original Clans, Clan Wolverine advocated certain unClanlike principles, such as free choice and democracy, which put them out of step with Nicholas Kerensky's vision. The tension those ideas caused between Wolverine and the other Clans erupted into a direct confrontation in 2823, shortly after the ruling Grand Council denied the Clan Wolverine's claim to a Brian Cache. When Wolverine failed in its attempt to overturn the council decision in a Trial of Refusal, Wolverine Khan Sarah McEvedy denounced Nicholas Kerensky as a power-hungry madman, which prompted Kerensky to call for a Trial of Grievance against McEvedy. Before the Grand Council could vote on the matter, however, Clan Wolverine declared its independence from the Clans and underscored their disdain for Kerensky by destroying one of the Clans' eugenics laboratories with a tactical nuclear weapon. In response, the Clans set out to annihilate the renegade Wolverines.

Though many respected historians believe that no Wolverines survived the Clan death sentence, rumors persist of some escaping from Clan space. Some individuals suggest that Wolverine survivors may have fled deeper into the Periphery or possibly back to the Inner Sphere (which would provide a satisfactory explanation of the Minnesota Tribe incident in 2825). According to conspiracy theorists, these survivors then infiltrated ComStar and set in motion machinations to trigger hostilities between their two primary foes—the Great Houses of the Inner Sphere and their fellow Clans—in the hope that their enemies would destroy one another.

One theory suggests that Sims, among others, was a Wolverine descendant whose "visions" were actually a calculated attempt to foment hostilities between the Great Houses and the Clans. Other variations of this theory suggest that Clan Wolverine somehow subverted a faction within ComStar, which in turn manipulated Sims or simply orchestrated an elaborate campaign of disinformation to create and spread the story of the "visions."

While many people may find conspiracy theories more plausible than the existence of psychic powers to explain Sims's visions, no real evidence exists to support either explanation.

—Excerpt from *I Want to Believe*, by Piper Anderson. Tharkad Press, June 3056.
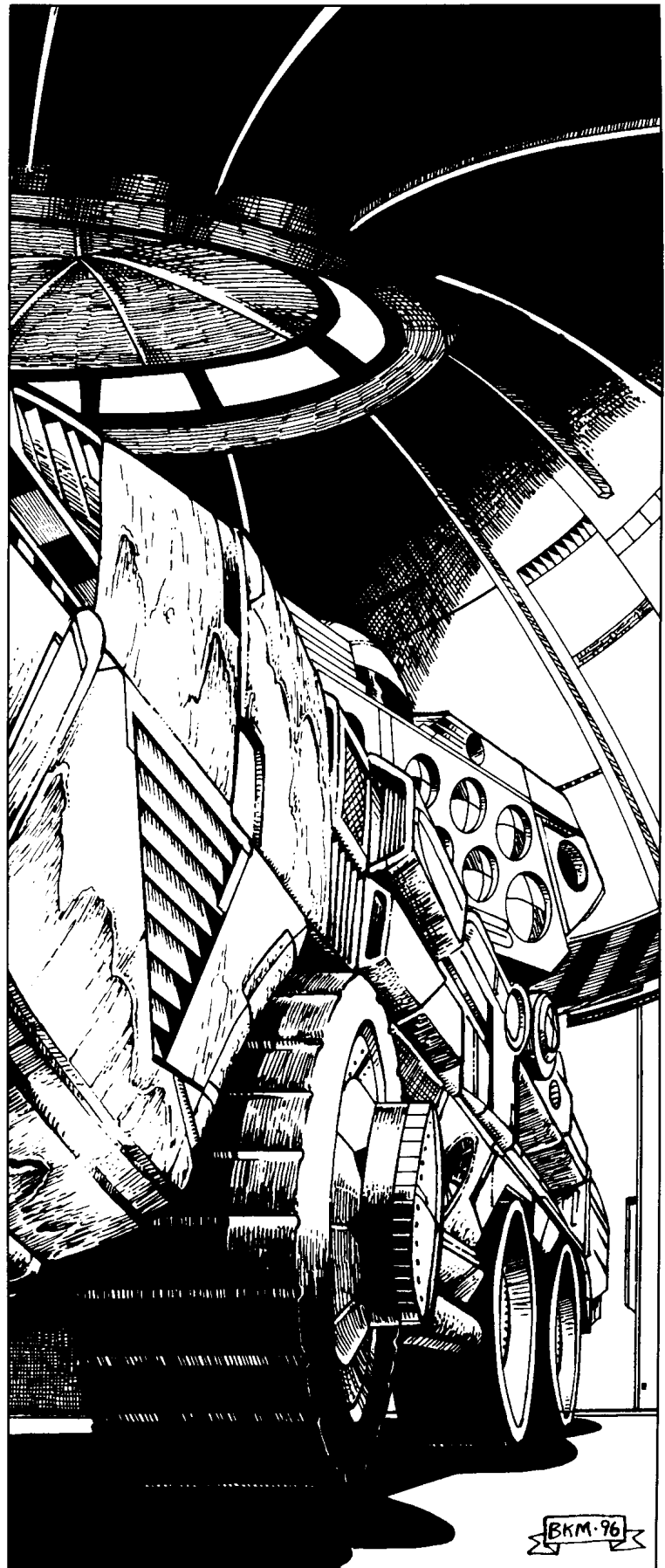
physics in 3011. Hiyama joined ComStar two years later, working in both the Omega (Research) and Beta (Scientific Analysis) divisions before joining the Explorer Corps in 3017. Her keen analytical mind and diplomatic relationships with her co-workers helped her to rise swiftly through the ranks, and she became Deputy Director of the Explorer Service in late 3020.

During Hiyama's tenure as DES, the Corps expanded its mission to include monitoring the exploratory missions of the Great Houses and other parties in the Deep Periphery, a task that the Corps continues to perform today. Some of these missions, mostly funded by the Federated Suns and Draconis Combine, also took as their prime directive the search for Kerensky's Exodus fleet, but none have succeeded in following the trail for more than one hundred light-years. Other missions have simply been attempts to locate new worlds to colonize or attempts to discover lostech. The Explorer Corps rarely interferes with such operations, though the Corps is authorized to dissuade explorers from surveying areas that may contain substantial lostech caches or other materials of particular importance.

The vast majority of "missions" to the Periphery, however, consist of small, unscheduled operations carried out by prospectors, fugitives or pirates. Because such small groups tend to be self-sufficient and autonomous, the Explorer Service perpetually experiences difficulty in effectively tracking and influencing their actions. Additionally, such groups may easily stumble on a site missed by a larger expedition, as was clearly demonstrated in 3054 when scavengers discovered a fleet of cached WarShips, JumpShips and DropShips rimward of the Federated Commonwealth. Apparently, the fleet had been hidden in 3004 by Wolf's Dragoons, which sent a recovery force to prevent the theft of the vessels. The Dragoons successfully retrieved the ships, which instantly made the mercenary group one of the most powerful naval forces in the Inner Sphere.

THE DISCOVERY OF COLUMBUS

The discovery of the abandoned Star League facility Columbus in 3023 represents the Explorer Service's greatest achievement to date. The facility was discovered by an Explorer Corps team aboard the ECV *Von Braun*, during a survey of the Epsilon Pegasus system, some 780 light-years coreward of Terra. Shortly after entering the system, the team determined that Pegasus IV represented the most likely site of human habitation of all the system's planets. After surveying the planet from orbit for two weeks, the team discovered signs of possible habitation on one of Pegasus IV's two northern continents. Subsequently, the team dispatched a remote-operated probe, which confirmed the existence of runways, buildings and roads but revealed no trace of inhabitants. Believing that they had discovered an abandoned colony, the team members prepared to explore the site.

After landing approximately fifty kilometers south of the complex, the team carefully approached the site. Initial reconnaissance missions confirmed that the site was manmade, with ferrocrete buildings and roads, and that it was long deserted. The native vegetation had overrun large areas of the site, concealing the true extent of the complex, but it appeared to cover several square kilometers. Cutting through heavy growth to force their way into one of the central buildings, the team members quickly discovered evidence that the site had been a Star League research facility.

Because the base was situated well beyond colonized space, and thus was well removed from the radio "pollution" generated by technological societies, the team initially concluded that the site had been used as a listening post for making radio observations of the universe—though the complex seemed quite massive for such a simple role. Eventually the team solved this puzzle when they investigated the base computers—still active after 250 years—and discovered that the site, known as Columbus, had housed the Star League equivalent of the Explorer Corps, along with a substantial garrison.

The computers contained little information on the expeditions that had departed from Columbus, but they did provide an intriguing account of an encounter with an unidentified JumpShip in 2755. Apparently, the ship entered and spent several days surveying the Pegasus system, only to depart when vessels from the Columbus garrison approached it. According to the computer records, the unidentified vessel appeared unarmed, did not deploy a jumpsail and was decorated with intricate swirling designs and motifs.

Unsure about the nature of the ship, a large part of the Columbus garrison hastily boarded their transports and set off in pursuit. Their destination was not specified, but dish-alignment logs from the base's HPG transmitter indicate that messages were sent to a number of systems spinward of Epsilon Pegasus following the incident—possibly to the departed troops. These transmissions ceased in late 2756, but it was not possible to discover the content of these messages because the HPG's message recorder had been removed when the base was evacuated shortly prior to Kerensky's Exodus.

(Wolfnet real-time communications mode:
I.Chandra: Given the location and the description of the vessel, it seems likely that the "visitor" was a JärnFölk JumpShip. The JärnFölk are a fairly passive group of Scandinavian colonists who settled several worlds approximately 250 light-years spinward of Columbus some time in the twenty-fourth century. The Clans captured one of the JärnFölk's ships in 2981 but dismissed the group as harmless. The information we have does not suggest the JärnFölk are capable of annihilating an SLDF combined-arms regiment.)

After cataloguing and removing several items of invaluable lostech at the site, the Explorer Corps outfitted the Columbus facility for use as a base, from which it launched a number of coreward missions.

THE CLAN WARS

In 3029, Myndo Waterly assumed the Primacy of ComStar. Apparently as a result of an old antipathy between the new

Primus and DES Hiyama, Hiyama resigned from her post in March 3031. The nature of the friction between the two is unknown, but shortly after resigning her post Hiyama also left ComStar, never officially to be seen or heard from again. Kennedy Odumbe, a staunch Waterly loyalist, became the fourth DES. Odumbe immediately instituted an expanded program of exploration missions, which included the ill-fated *Outbound Light* mission.

The *Outbound Light* departed from Bone-Norman in the Federated Commonwealth in June 3046, one of several Explorer Corps vessels assigned to explore areas coreward of the Inner Sphere and investigate any star systems their commanders deemed promising. With three and half years' worth of provisions on board, the vessel was not expected to return before the summer of 3049. In the summer of 3048, however, the *Outbound Light* jumped into Clan space above the Smoke Jaguar world of Huntress. The Smoke Jaguar Khan, Leo Showers, responded quickly, ordering OmniFighters from the *Comitatus* class JumpShip *High Guard* to seize the lightly armed *Outbound Light* before it could escape. Subjected to chemical interrogation, the Explorer Corps crew provided the Smoke Jaguars with the Clans' first solid information about the Inner Sphere in years.

At the time of the *Outbound Light* incident, the Clans remained deeply divided about a proposed invasion of the Inner Sphere. A consummate politician, Showers immediately realized that the appearance of the *Outbound Light* in Clan space and the information it yielded provided him with an opportunity to increase the influence of the Smoke Jaguars on the Grand Council and perhaps establish himself as the supreme leader of the Clans. After several successful days' of interrogation, Showers appeared before the Grand Council and masterfully described the inadvertent arrival of the ComStar ship in such a way that his fellow Khans became convinced that the Successor States were on the verge of locating the Clan homeworlds and invading with a unified military force. Showers insisted that the Clans could ensure the security of the homeworlds only by launching a pre-emptive invasion of the Inner Sphere. Shaken by Showers's dramatic warnings and dire predictions, the Clan Khans approved plans for Operation Revival, the Clan invasion of the Inner Sphere.

Unfortunately, the Clans' Operation Revival coincided with a lull in Explorer Corps activities, and so ComStar received no warning of the invasion prior to the Clan attacks on Periphery worlds such as Oberon VI and The Rock. After receiving telemetry of several Periphery battles, Primus Waterly instructed the Explorer Corps to make contact with the invaders before they entered the Inner Sphere.

The Corps' initial attempts to communicate with the Clans resulted in the destruction of two vessels, after they failed to respond to Smoke Jaguar challenges of batchall. But by November 3049, Explorer Service vessels succeeded in establishing contact with the invaders, and shortly thereafter, Precentor Martial Anastasius Focht became the ComStar ambassador to the Clans. In all respects of deed, if not intent, ComStar allied itself with the Clans until the invaders' true objective—the conquest of Terra—was revealed.

In the end, ComStar's use of the Com Guard to achieve victory at Tukayyid effectively halted the Clan advance. This triumph was marred, however, by Primus Waterly's ill-conceived attempt to seize control of the Inner Sphere and the schism that occurred following the implementation of Precentor Martial Focht's and Primus Sharilar Mori's reforms. DES Kennedy Odumbe was one of many ComStar members who chose to join the Word of Blake, leaving the Explorer Corps leaderless. But more important, the costly battle on Tukayyid and the schism severely weakened the Com Guard and dramatically reduced ComStar's revenues. As a result, ComStar leaders allocated their limited resources to rebuilding Com Guard at the expense of other ComStar branches—including the Explorer Service. In the end, Explorer Corps missions ground almost to a halt.

ALLIANCE WITH THE DRAGON

Help for the Explorer Corps came from an unexpected source—Theodore Kurita, *Gunji no Kanrei* (Deputy for Military Affairs) of the Draconis Combine.

Outbound Light

Had the *Outbound Light* been following a predetermined route, the Explorer Corps would have possessed a fairly accurate picture of the most likely locations of the Clan homeworlds. Corps leaders have confidently speculated that the Clan homeworlds must lie coreward of the Lyran Alliance or Draconis Combine, but the *Outbound Light's* irregular course of exploration prevented the Corps from extrapolating the location of the homeworlds with any precision. The Corps has learned its lesson: now every Explorer Corps vessel files a detailed flight plan before departing into the Deep Periphery, so that search-and-rescue missions can retrace a lost ship's path.

What of the *Outbound Light's* crew? Contrary to some reports circulated following the invasion, the crew of the *Outbound Light* was not returned to ComStar. As near as can be established, the crew was taken as bondsmen by Clan Smoke Jaguar. Unlike the Wolves and Ghost Bears, who released some of their bondsmen after Tukayyid, the Smoke Jaguars have not seen fit to return the Corps personnel.

JumpShip Name: *Outbound Light (Merchant* Class)
DropShips: *Knox (Union* Class), *Golden Hind (Buccaneer* Class)
Commander: Precentor Vincent Dupont
Crew Complement: 46 (all craft) plus a 7-man Explorer Service team
Mission Area: Free route, Coreward Operations Area
Current Status: Unknown
Current Location: Unknown; probably Huntress, Clan Sphere (coordinates unknown)

Then-Kanrei Theodore Kurita began, toward the end of the Clan invasion, to formulate plans for seizing the initiative from the invaders by launching a counterattack against the Clan homeworlds. Kurita's ambitious scheme met with very little interest and a complete lack of support from the rulers of the other Successor States. By contrast, Primus Mori immediately saw the potential of Kurita's plan, and instructed Precentor Martial Focht to meet with the Combine Warlord on Luthien during Focht's tour of the Inner Sphere in July of 3052 to discuss the details of this grand undertaking. Focht and Kurita finalized a cooperative working agreement in December for the Explorer Service to serve as a forward scout for a large-scale invasion of the Clan homeworlds. Under this deal, the Explorer Corps remained a part of ComStar, under the exclusive command of Mori and Focht, with their missions funded by the Draconis Combine. In exchange for this monetary support, the Corps would pursue mission directives established by Theodore Kurita. In effect, the Corps became a mercenary force under contract to the Draconis Combine, sparing Kurita the task of assembling his own exploration fleet from scratch. At the same time, the Corp's new primary goal—locating the Clan home-

worlds—represented a return to its original overall mission of locating the remnants of Kerensky's Exodus fleet.

To supplement the Corps' assets and to streamline operations, House Kurita assigned a number of Draconis Combine Admiralty ships to exploration missions and placed them under the command of the Explorer Corps. ComStar and Kurita also began contracting mercenary groups for service with the Corps. In fact, the Kanrei's personal involvement in hiring troops for this venture caused many rumors to circulate in the hiring halls of Galatea, Solaris and Outreach, the most frequently heard proposing that Theodore had "bought" the Corps from ComStar. Kanrei Kurita gave his personal attention to this effort specifically in order to circumvent his father's infamous "death-to-mercenaries" order, which remained in effect at the time. By hiring troops in his own name rather than under the auspices of the Draconis Combined Mustered Soldiery, Theodore Kurita alone shouldered the responsibility for defying the strictures against freelance soldiers. Though these arrangements created a great deal of tension between the Kanrei and the Coordinator when the deals came to light, the end result was worth the increased friction: the Explorer Corps began operations in the Deep

Periphery with renewed strength and purpose, and Theodore accomplished his objective without denuding the strength of the DCMS.

SEARCH FOR THE HOMEWORLDS

In January 3053, ComStar command appointed a new DES to oversee the revitalization of the Explorer Corps—Precentor Padraig O Bhaoil, a member of the Corps for more than thirty years. Unlike his predecessors, O Bhaoil took a much more active role in the operations of the Corps, choosing to serve as Commander of Coreward Operations as well as Corps director—a decision that would ultimately prove to be of great benefit.

In the early months of 3053, however, O Bhaoil primarily concerned himself with the Explorer Corps' first priority: establishing forward bases at the Inner Sphere–Periphery border and in the Deep Periphery itself. Though House Marik's sympathetic position toward Word of Blake prevented the Corps from establishing bases along the Free Worlds–Periphery border, the Corps successfully established bases on other Successor State–Periphery borders. The Corps established its initial operations on the Draconis Combine–Periphery border, while Precentor Martial Focht successfully persuaded Archon Melissa Steiner Davion and her son, Prince Victor Steiner-Davion, to allow the construction of Explorer Corps facilities at Engadine and Halifax in the Federated Commonwealth, though they offered no aid for the facilities.

For its first Deep Periphery base, the Explorer Corps decided to upgrade the Columbus facility at Epsilon Pegasus. Situated some 270 light-years coreward of Nowhere in the Draconis Combine, the Corps had been using the base as a stepping stone for missions into the Deep Periphery for the previous thirty years. In spring of 3053, advance parties of Draconis Combine and ComStar engineers arrived at the base and began rebuilding and upgrading Columbus to prepare it for use as a forward operational facility. Six months later, work on the facility was complete and Explorer Corps command and analysis staff, along with a complete aerospace wing, began arriving on-planet.

In the intervening five years, numerous missions have departed Columbus and other facilities, pursuing their primary mission of locating the Clan homeworlds. No team has yet succeeded in this mission, but it seems likely that such a discovery cannot be far off, though the greatest obstacle to this achievement may lie in the Inner Sphere itself. In the past year, several events in the Inner Sphere have come perilously close to disrupting Corps operations. First, the Lyran territories seceded from the Federated Commonwealth and formed the Lyran Alliance. The ruler of this new state is the intelligent, beautiful Katherine Steiner-Davion, who prefers to be known as Katrina Steiner (most likely in order to conjure memories of her famous grandmother). We possess confirmed reports that this young woman has been in communication with Thomas Marik, and are pursuing rumors of communications with Khan Vlad Ward of Clan Wolf. Though it is unlikely that Katherine knows any specifics of the Corp's mission and facilities in what is now Alliance territory, her apparent affiliation with two of ComStar's greatest enemies forced the Corps to greatly reduce the number of missions staging from its bases along the Lyran–Periphery border.

Then, barely five months after the Lyran secession, Clan Jade Falcon forces invaded the coreward portion of the Alliance. In an apparent attempt to disprove rumors of Falcon weakness following the Falcon–Wolf War of Refusal and to provide her green troops with valuable combat experience, Falcon Khan Marthe Pryde led her Clan on an invasive strike above the truce line. Her first target was the planet Engadine, site of one of the two Corps bases in the Alliance. Though the base had not been used as a staging facility since the Lyran secession, its computer core contained substantial information on Explorer Corps operations. Rather than risk the information falling into Clan hands, Precentor Neve ordered his staff to abandon the orbital facility. He then disabled safety circuits in the primary fusion plant and triggered an overload that completely destroyed the facility.

Meanwhile, Word of Blake forces moved against Terra, using stealth and deception to strike a decisive blow. Though Com Guard defenders inflicted considerable casualties on the invaders, successfully evacuated the Primus and retained control of Titan, the Word of Blake forces seized control of ComStar facilities on Terra, Venus, Mars and Luna.

The Word of Blake taking control of the Explorer Corps facilities on Terra along with other ComStar facilities ultimately constituted only a minor loss. DES O Bhaoil's decision to retain command of the Coreward Operations Area when he assumed the Corps directorship prompted the Explorer Service to move both the Coreward Operations and DES staff members to Columbus in 3053, which greatly reduced the damage of losing the Terra facility. Additionally, the withdrawing Com Guard troops sabotaged and set booby traps in the Terra facility before abandoning it, thus ensuring that the Word of Blake forces gained little or no information regarding Corps operations from the facility.

The worst consequence of the disaster at Terra is that ComStar can no longer use its shipyards on Titan because of the close proximity of an active enemy force. At present, essential maintenance on Explorer Corps vessels is being carried out in the Draconis Combine and at the Com Guard fleet facility at Luyten 68-28. Word of Blake forces also executed diversionary raids on ComStar shipyards at Luyten and Ross 248 during the Terra offensive, effectively delaying the completion of the Corps' *Faslane* class maintenance vessels. These ships are only now being finished and beginning to arrive in the Periphery, several months behind schedule.

Despite these hindrances, the Explorer Corps has successfully continued to perform its scientific and exploratory duties and now seems on the verge of its greatest triumph—locating the homeworlds of Kerensky's descendants and the Inner Sphere's fiercest enemies, the Clans.
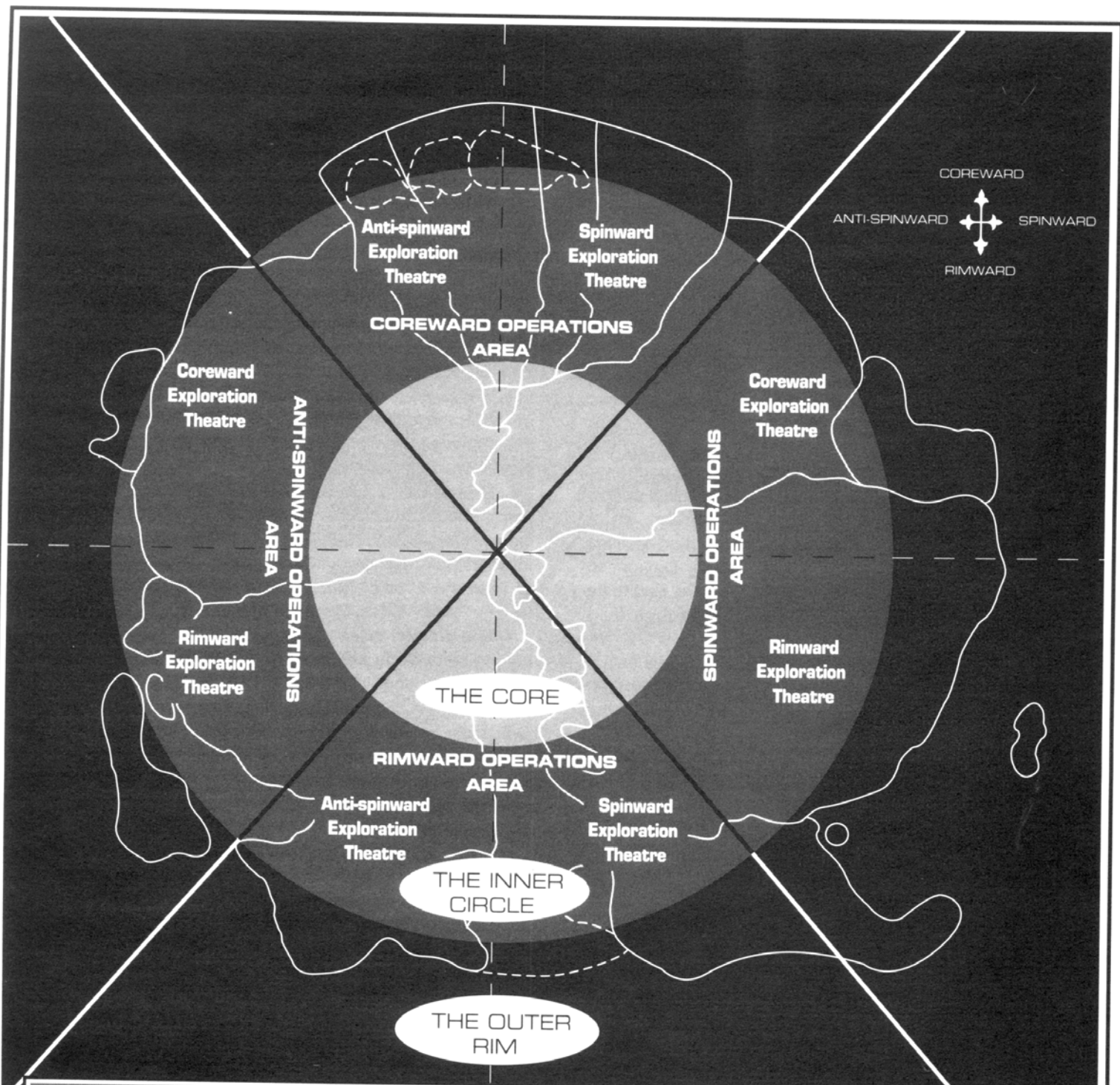
EXPLORER CORPS OPERATIONS MAP

80 PARSECS OR 260.8 LIGHT YEARS

Map Compiled by COMSTAR.
From information provided by the COMSTAR EXPLORER CORPS
and the STAR LEAGUE ARCHIVES on Terra.
© 3058 COMSTAR CARTOGRAPHIC CORPS.

THE MODERN CORPS

The duties of the modern Explorer Corps encompass the exploration of all uncharted areas of the universe. Naturally, the performance of these duties may frequently pose significant hazards and risks. Therefore, the Corps uses the most highly trained personnel and advanced vessels and equipment available.

OPERATIONS REGIONS AND COMMAND

Explorer Corps operations are organized and administered by regions of space. The Core region covers the areas of space within 250 light-years of Terra. The Inner Circle region encompasses the area between 250 and 500 light-years from Terra. These two regions roughly comprise the area known as the Inner Sphere, though areas of several Successor States extend beyond these regions. The Outer Rim region covers the area of space more than 500 light-years from Terra. This region includes portions of the Successor States, as well as the states of the Periphery. (All areas beyond the farthest Periphery states are commonly called the "Deep Periphery," but this term does not refer to any formal operations region.)

Each region is divided into four operations areas: Coreward, Spinward, Rimward and Anti-Spinward. Each operations area, in turn, is divided into two exploration theaters.

Each Explorer Corps operations area is commanded by a ComStar Precentor, while each exploration theater is commanded by a Precentor or Demi-Precentor. Smaller areas may fall under the tactical command of lower-ranked personnel, and occasionally even non-ComStar personnel. The Explorer Corps Operations Command shows the current operations command staff.

In the period between the founding of the Explorer Corps and the Clan invasion, Corps exploration efforts covered all areas of space. Generally, this undertaking concentrated on the Outer Rim, particularly the Coreward and Spinward Operations Areas, where Corps leaders hoped to discover some sign of the Exodus fleet. ComStar also assigned a number of vessels to perform exploration missions within the boundaries of the Inner Sphere during this time. Though the layman might wonder what remains to be explored in the inhabited areas of space, the fact is that the 1,200-light-year area of the Inner Sphere contains an estimated 110,000 uncharted star systems. Based on existing records, a number of these systems are known to contain research facilities and "lost" colonies, as well as secret military facilities. ComStar itself uses two of these "uncharted" star systems as fleet bases.

Since the arrival of the Clans in the Inner Sphere, however, the Explorer Corps has begun to re-organize its exploration effort in an attempt to speed the discovery of the Clan homeworlds. Explorer Corps leaders believe that the Clan worlds lie somewhere within the Coreward Operations Area, and so they have transferred 85 percent of the organization's assets to this region. A few vessels still operate in the other three operations areas, but these missions form only a minor part of current Explorer Corps missions.

EXPLORER CORPS OPERATIONS COMMAND, 3059

Coreward Operations Area
(Encompassing the Rift and the Draconian Drift)
HQ: Columbus, Deep Periphery
Commander: Precentor Padraig O Bhaoil
　　Deputy: *Tai-sa* Haruka Otanashi
Spinward Exploration Theater: Precentor Lane West
Anti-Spinward Exploration Theater: Precentor Morgan Cobby

Spinward Operations Area
(Encompassing the Outer Sphere and Hyades Rim)
HQ: Baliggora, Outworlds Alliance
Commander: Precentor Ingrid Snorrisdottir
　　Deputy: Precentor Albert McMahon
Coreward Exploration Theater: Precentor Carmen Nesfield
Rimward Exploration Theater: Demi-Precentor Wu-Fei Tang

Rimward Operations Area
(Encompassing the Hyades Rim, Capellan Marches and Marik Expanses)
HQ: Hellespont, Taurian Concordat
Commander: Precentor Saskia Dinelli
　　Deputy: Demi-Precentor Alain Crosier
Spinward Exploration Theater: Demi-Precentor Simon Bland
Anti-Spinward Exploration Theater: Demi-Precentor Lisle von Radoslov

Anti-Spinward Operations Area
(Encompassing the Rift, the March Worlds and Marik Expanses)
HQ: Halifax, Lyran Alliance
Commander: Precentor Natalia Croft
　　Deputy: Precentor Jinny Blanks
Coreward Exploration Theater: Precentor Chalngura Jahau
Rimward Exploration Theater: Demi-Precentor Karol Stanislav

Essentially, Corps leaders hope that the exploration missions in the Spinward and Anti-Spinward Operations Areas will confirm their belief that the Clan homeworlds lie somewhere coreward of the Inner Sphere. This theory stems from the fact that exploratory vessels traveling more than 800 light-years from Terra have encountered Clan vessels on only two occasions—both times near the border of the Coreward Operations Area. These encounters seem to indicate that the homeworlds are located coreward of the Inner Sphere—unless, of course, the Clans are taking a very circuitous route to the Inner Sphere, an unlikely possibility at best.

In practice, Corps exploration missions are seldom restricted to a single operations area. Vessels based at a Corps facility in one area often travel to another area to carry out their mission, and occasionally they change operations areas while "on station." Though such cross-area operations increase the difficulty of administering the Corps, any inconveniences are greatly outweighed by the advantages inherent in such flexible practices. For example, by conducting multi-area operations, Corps ships can approach their designated patrol/survey area by moving near, but not through, Clan-controlled space. Ships generally approach the Coreward Operations Area via the Spinward or Anti-Spinward Operations Areas, thereby avoiding the creation of a predictable pattern of deployment and so concealing the true scope of Corps activities from both the Clans and potentially hostile Inner Sphere parties. The recent Jade Falcon attack, some 190 light-years anti-spinward of the Falcon occupation zone, shows how dangerous a direct approach into the Coreward Operations Area can be. Engadine, the Falcon's first target, lies just inside the Coreward Operational Area, and the invasion route to Coventry neatly followed the boundary—actually crossing into the Anti-Spinward Operations Area following the battle at Recife. Vessels assigned to these operations areas were able to pass freely from one area to another as necessary to track the Jade Falcon force.

PERSONNEL

The members of the Explorer Corps may be divided into two distinct groups. The personnel in the Corps proper are directly employed by ComStar and many belong to the organization itself. Additionally, numerous personnel from the Draconis Combine have begun working with the Explorer Corps in recent years.

All personnel may also be classified by function: command staff, exploration teams and base crews. Command staff include the director of the Corps, as well as the commanders of each operations area and exploration theater. Exploration teams, which perform all corps missions, typically consist of mission specialists, military personnel and vessel crews.

EXPLORATION TEAMS

Prior to the Combine-sponsored revitalization of the Corps, nearly every exploration team consisted of two team co-leaders (usually of Precentor rank), five to eight adepts and acolytes acting as mission specialists, a contingent of troops (ranging between a squad and a platoon in strength) and a vessel crew. At that time, the Explorer Corps remained one of the least favored duty branches within ComStar, and exploration personnel comprised a diverse mix of troublemakers "exiled" to the Corps from other ComStar branches and "high flyers" attracted to the Corps by the seniority bonus (in those days, ComStar enticed recruits to the Corps by counting each year of Corps service as three years for the purposes of rank promotions).

Since its revitalization, the Explorer Corps has begun to tailor the structure and composition of each exploration team according to its mission objectives and area of operations. A number of Corps exploration teams continue to operate openly as the Explorer Corps, however, and to use old procedures, crew organization and equipment. This practice is part of a campaign of misdirection designed to conceal the Corps' efforts to locate the Clan homeworlds and to discourage the Clans from stepping up countermeasures against Explorer Corps ships and other non-Clan vessels.

Standard Camouflage Roles

As a further protection, most Corps exploration teams searching for the homeworlds routinely disguise themselves by immersing their crews, ships and equipment in any one of a wide range of believable cover stories. Typically, exploration teams pose as traders, lostech prospectors, colonists, explorers, nomads, pirates and privateers.

Traders: Numerous free-traders ply the Periphery, seeking markets for their goods and new sources of raw materials and other salable cargo. Some of these traders have made contact with the Clans' merchant caste and operate in the area coreward of Terra. Such opportunists know they face grave dangers from the Clan military if discovered, but believe that the contact with Clan markets outweighs the risk. Several Explorer Corps teams operating in this area pose as free-trader vessels, while others have signed on with legitimate merchants as vessel crews or security personnel.

Lostech Prospectors: For centuries, rumors of abandoned Star League facilities in the Deep Periphery have attracted Inner Sphere prospectors hoping to find lucrative caches of Star League technology, more commonly known as lostech. The stream of lostech prospectors grew substantially after the Fourth Succession War, when Inner Sphere entrepreneurs began to realize the astronomical prices that items of Star League technology, now irreplaceable, could fetch. Such treasure-hunters often meander around the Deep Periphery with no pre-determined flight plan or scheduled destinations—a practice that makes the lostech prospecting vessel an excellent cover for Explorer Corps teams.

Colonists: The lure of new territories has drawn people away from the familiar and settled for as long as human civilization has endured. The years since the Fourth Succession War have produced a new wave of Inner Sphere colonists heading out into the Periphery. Established states sponsor some of these settlers, but most pioneers are simply independent groups seeking economic opportunities, religious freedom or escape from the politics and warfare of the Inner Sphere. The Explorer Corps finds it convenient to disguise several teams as colonists at any one time, as such an endeavor justifies the group carrying a wide variety of equipment and personnel, and small Corps planetary bases are often disguised as new colonies.

Explorers: The uncharted space of the Deep Periphery also attracts independent and corporate-sponsored explorers searching for new vistas in which to expand their market and new economic opportunities, as well as expeditions from established colonies in the Periphery. Because the Explorer Corps is a branch of ComStar, all Corps exploration teams are suspect to the Clans, but the invaders are much less concerned about

the activities of independent exploration expeditions. As a result, many Corps exploration teams pose as independent expeditions to avoid close Clan scrutiny.

Nomads: Rather than settling on a planet, some groups spend their lives traveling among the stars like modern-day gypsies. One such group is the Wanderers, descendants of a twenty-fourth-century colonist group. Other groups are also known to ComStar, and several Corps missions have spent time among these nomads learning what they know of the Deep Periphery. At least two of these groups have had contact with the Clans, but were dismissed as posing no threat after the initial encounters.

Pirates/Privateers: Historically, the isolated colonies and relatively low number of military vessels in the Periphery have made settlements and merchant vessels in the area easy targets for pirates. By commanding the attentions of Periphery and Inner Sphere militaries, the Clan invasion has provided increased opportunities for pirate bands to operate with very little fear of reprisal, invigorating existing groups and fostering the formation of new ones. Additionally, some pirate groups have even taken to raiding Clan facilities and vessels, facing the greater risk of Clan weaponry in hopes of capturing highly lucrative Clan technology and materiel.

A large number of Explorer Corps teams masquerade as pirates (more precisely as *privateers*, pirates operating under official sanction from an Inner Sphere or Periphery power). Such a cover provides Corps teams with the additional opportunity to gain information about the Clans and the Deep Periphery from existing privateer and pirate bands, which sometimes include exiled Clan warriors.

Mission Specialists

Mission specialists form the core of all Explorer Corps teams and provide a solid base of skills and knowledge for every team. Almost all mission specialists are members of ComStar, usually of adept rank or higher, though a few hail from the Draconis Combine. Depending on a given team's mission, its cadre of specialists might include communications technicians, planetary scientists, diplomats and warriors.

The largest proportion of mission specialists come from ComStar's Beta (scientific analysis) and Omega (research) divisions, though each team contains a minimum number of Gamma (diplomacy) and Kappa (medical) staff. All such personnel have at least two years of relevant experience, and most also possess post-graduate university degrees. Experts in the hard sciences, such as biology, chemistry and physics, planetary scientists and astrophysicists form two-thirds of the typical mission specialist contingent of an exploration team. Remaining specialist positions are usually filled by sociologists, diplomats and linguists to handle contacts with new cultures.

A few explorer teams also include ROM or Delta division intelligence personnel. Typically, such personnel occupy senior command positions, such as mission commander or second-in-command.

Military Personnel

The military contingent of every exploration team functions as a self-contained unit, capable of independent operations once on a planetary surface. Com Guard troops form a large proportion of Explorer Corps military personnel, but the Corps also employs mercenary forces. A handful of Corps vessels carry Draconis Combine military forces as well.

The military contingents of exploration teams may range in size from a squad to a platoon. The military contingent of a team acts as a security force on board the team's vessel and on all planetary missions. Typically, this duty consists of defending the exploration team from pirate vessels and hostile Clan forces. Pirates, which frequently attempt to forcibly board vessels to seize goods and passengers, pose the most common threat to Corps teams, and are most easily defeated.

Corps military personnel are less effective against the advanced equipment and highly trained personnel of most Clan forces. In fact, the presence of fighting troops and weaponry aboard a Corps vessel can actually prove a major disadvantage if the vessel is boarded by Clan troops; Clan units frequently assume such vessels are privateer craft and usually destroy such vessels and their occupants without hesitation.

Foot soldiers, in various permutations of ordinary infantry, zero-G trained marines, or irregular troops, form the majority of Corps military personnel. Since the agreement between the Corps and House Kurita, the contingent of Corps irregular troops has been bolstered with Draconis Combine DEST and ISF teams. The majority of foot troops are equipped with conventional arms and armor, but a few use Inner Sphere and captured Clan battle-armor suits. Additionally, several elite Com Guard infantry units serving in the Corps use the light power-armor suits—known as PA(L) suits—developed by ComStar before the schism.

Aerospace pilots form the second largest group of Corps military personnel. Corps vessels typically contain contingents of aerospace fighters to augment the ships' defensive and offensive capabilities. Even disguised Corps vessels may carry fighters without arousing suspicion, because most civilian vessels operating in the Periphery carry aerospace fighters to defend against or deter pirate attacks.

The environmental protections, armor and extensive sensor arrays of BattleMechs make them invaluable for surveying worlds with toxic atmospheres or violent weather systems. For this reason, Corps teams frequently include individual 'Mechs or small 'Mech units. However, BattleMechs provide relatively little military advantage to most Explorer Corps teams because the majority of Corps vessels do not engage in hostilities on planetary surfaces. Generally, only the largest Corps vessels, such as WarShips and space stations. can make effective use of 'Mechs. Additionally, most MechWarriors find extended service aboard a spacecraft thoroughly unpleasant—they miss the camaraderie of their fellow MechWarriors, the comfort of their usual routines and the potential for conflict—and tend to take out their anger on the crew and other passengers, causing trouble from sheer boredom. Even the well-trained troops of Com

Guard succumb to this, and less-disciplined mercenary troops often cause major problems. Because the disadvantages regularly outweigh the advantages, few BattleMech units are stationed aboard Corps vessels, and MechWarriors form the smallest group of Corps troops.

Corps vessels occasionally transport armor and artillery units for troops serving garrison duty on Corps bases or conventional fighters and wet-naval vessels destined for special operations, but these types of military units rarely serve on exploration teams.

The Explorer Corps generally enjoys good relations with the mercenary forces in its employ. The egalitarian nature of Com Guard and the Explorer Corps, and the diverse origins of these organizations' personnel, make the two groups readily accepting of mercenary troops, who often have similar backgrounds. Mercenaries hiring on with Com Guard know that they will be working for a reliable employer whose recent hiring records speak well of their standards for quality and fair treatment.

Vessel Crews

Explorer Corps DropShip and JumpShip crews are perhaps the most vitally important group of personnel in a Corps exploration team. Almost all crew members are former members of the Com Guard and alumni of the Guard's Terran naval academies, which deserve their reputations for teaching the most thorough and advanced curriculums of all Inner Sphere academies.

Whether destined to serve as an officer or crew member, all Com Guard naval cadets receive rigorous instruction in fitness and military protocol, sensors, drive systems, weapons and life-support systems, zero-G operations and space medicine. After completing these courses, each cadet spends between one and six months aboard a Com Guard vessel, where he learns the ins and outs of shipboard life and begins putting his theoretical knowledge into practice. By the end of this first tour, the cadet will have qualified as an acolyte or been expelled from the service.

Some crew members remain in operational service at the junior level of acolyte, while others receive additional training to prepare them for senior staff or officer positions in the Com Guard navy. Such personnel receive the provisional rank of adept, conditional on their passing a series of exams—most notably the engineering exam. Failure to pass the engineering exam results in the officer-cadet returning to acolyte status or, more usually, being expelled from the service.

Officer cadets must attend one of several specialist schools to progress through the ranks. These cadets may select JumpShip- and DropShip-operations programs, which both include navigation, engineering, weaponry and command courses. Alternatively, cadets may select the WarShip-operations program, which consists of elements from both the JumpShip and DropShip programs.

Navigation and engineering courses each take two years, while the weaponry course takes only one year. The engineering course appropriate to the vessel class is the minimum qualification for any officer post, and every adept must take the

course to maintain his or her rank. Any adept who wishes to serve as a senior engineer (not chief engineer, which is a command post), must also pass the weapons exam. Members of bridge crews must also pass the engineering course but cannot qualify for a bridge position until they have also completed the navigation course. Many also take the weaponry program, though it is not required for bridge crew.

Officer cadets taking the command course must first pass a series of application interviews. Then, the officer-cadet attends the Com Guard academies at Sandhurst, Annapolis or Mars, where he undertakes a dedicated, twelve-month officer-training course designed to build on his interpersonal skills and integrate his technical knowledge and decision-making abilities. If the cadet passes this course, he qualifies for a junior command position. Usually, the new senior adept acts as section head, commanding a bridge or engineering watch aboard a Com Guard vessel.

After a few years of actual command experience, a Corps officer may attend Vessel Command School (VCS), a nine-month course of training exercises that prepare the officer to command a vessel through routine operations, combat situations and disasters. Graduates of the course are qualified for vessel command positions, though new graduates typically serve as first officers to experienced captains during their first service tours following graduation.

All rank promotions are largely determined by a crew member's results on his periodic performance assessments and exams. The standard ComStar years-in-post designation remains in effect for Corps crew members, but has little bearing on actual positions or responsibilities.

The Explorer Corps also uses crews trained elsewhere in the Inner Sphere, but such personnel must match the exacting knowledge and performance standards of those trained by Com Guard.

BASE CREWS

All of the various personnel groups that serve aboard Explorer Corp vessels also serve on the Corps' planetary and orbital bases. Additionally, base crews include construction engineers, maintenance staff, logistics personnel and medics. The crews of the smallest Corps bases may possess only a narrow range of specialties, while crews at the largest Corps bases, such as the Columbus facility, often comprise representatives of every ComStar service branch and may include hundreds or thousands of individuals. Details of various bases and their staffs are provided in **Bases and Facilities, p. 18.**

UNIT ORGANIZATION AND RANKS

Explorer Corps military personnel are arranged according to the standard Com Guard base-six unit-organization system, as shown in the Unit Organization Table. ComStar organization also includes Level IV and V forces, but the Explorer Corps has yet to deploy anything larger than a Level III force. All units consist of whatever combined arms best suits the mission parameters. DropShips, JumpShips and WarShips may be gathered into fleets on rare occasions, but generally these vessels are deployed independently as required.

Similarly, the Explorer Corps uses the ComStar rank system. In addition to a rank designation, every Corps member has a sub-rank or grade, which indicates how many years the individual has served, and a function designation, which indicates the individual's area of expertise. For example, the rank Adept III Theta indicates the individual is an adept with three years of service who belongs to the DropShip service. Acolytes form the bulk of Corp ground forces, DropShip and JumpShip crews, technicians and fighter pilots. Adepts may command Level I and Level II units and include the majority of personnel graduated from the Com Guard military academies. Typically, Demi-Precentors and Precentors are assigned command of DropShips, JumpShips and WarShips, based on their abilities and experience.

FUNCTION DESIGNATIONS

Function Designation	Area of Expertise
Alpha	HPG
Beta	Scientific Analysis
Gamma	Diplomacy
Epsilon	MechWarrior
Zeta	Technician
Theta	JumpShip
Iota	Marine
Kappa	Medical
Xi	DropShip
Pi	Aerospace
Omega	Research

VESSELS AND EQUIPMENT

The Explorer Corps uses a wide range of vessels and equipment from manufacturers across the Inner Sphere. Generally, mission personnel are given wide latitude to select whatever equipment they deem necessary for their missions, though they must observe budgetary constraints.

JUMPSHIPS AND DROPSHIPS

The most common JumpShip employed by the Corps is the *Invader*. *Invader* class vessels comprise nearly 60 percent of the Explorer Corps fleet, while *Scout* and *Merchant* Class vessels account for 25 percent of the total fleet. The remaining fleet consists of a wide range of other designs, including the purpose-built *Magellan*, specifically designed to execute long-range missions. The Corps fields no *Star Lord, Leviathan* or *Monolith* class vessels.

A few of the Corps' JumpShips carry lithium-fusion batteries. These large, expensive systems enable a ship to store two charges for its Kearney-Fuchida drive, though the use of all lithium-fusion battery systems involves certain dangers (see **Hyperspace Procedures and Primciples,** p. 39).

The Corps fleet contains relatively few attack or carrier DropShips. *Union* and *Leopard* class ships are common, as is the *Rose* class design, a cargo hauler designed and manufactured by the Draconis Combine exclusively for the Explorer Corps. The number of *Rose* class vessels in service has increased dramatically in the past two years. Nineteen *Rose* class vessels operate under the aegis of the Explorer Corps, while seven of the vessels serve in the Draconis Combine Admiralty.

Most maintenance on JumpShips and DropShips is carried out in the field. The Corps' only dry-dock facility in the Deep Periphery is located at the Columbus base, though the *Faslane* class support ships now beginning to arrive in the various operations areas will enable Corps technicians to perform repairs in the field that were previously possible only at stationary repair facilities. Major repair work and upgrades also have been performed at shipyards in the Draconis Combine and Com Guard facilities in the Terra system, but the recent battles with Word of Blake in that system have closed access to the latter yards.

FIGHTERS AND SMALL CRAFT

The Explorer Corps uses several dozen fighter designs, nearly all common Successor State designs, in an effort to reduce the chances of jeopardizing the cover story of a disguised Corps vessel. Corps leaders also take special care to ensure that Corps ships officially on non-military missions carry only fighters that can be plausibly explained as defensive forces. The Free Worlds League's *F-94 Stingray* is one of the most common of these designs (though ComStar's strained relations with House Marik forces the Corps to acquire such fighters through various middlemen). Additionally, the Corps has used recovered technology to upgrade many of its Successor State-designed fighters.

The Corps does deploy cutting-edge fighters and technologically advanced small craft, including captured Clan OmniFighters, but only on specific military missions, at base facilities or in other circumstances in which the Corps need not conceal its true nature.

The *ST-46* and *KR-61* shuttle designs dominate the Corps' small-craft contingent. The *ST-46* provides excellent cargo capacity, while the *KR-61* is prized for its superior range. Nearly every Corps vessel also carries several *Egrets* for use in situations when no prepared landing strips are available. A Corps-designed variant of the *Mark VII* landing craft, the *Egret* features a 10-ton fuel load capacity, which reduces the design's cargo capacity but greatly improves its versatility. (The standard *Mark VII* lacks an integral fuel load, which restricts the design to transporting goods between close orbit and planetary surfaces.)

VEHICLES AND BATTLEMECHS

Most Explorer Corps DropShips carry a few ground vehicles for reconnaissance purposes, usually a hovercraft or wheeled off-road design such as the Packrat. Some DropShips carry VTOLs as well, though most rely on their shuttlecraft for atmospheric transportation. DropShips may also carry BattleMechs or converted CargoMechs, particularly if the ships' team is likely to operate in hostile environments.

Corps vessels rarely carry combat vehicles, but such vehicles are used at Corps planetary bases and facilities. Though tanks and armored personnel carriers are bulky and expensive to transport, they provide a cheap means to build up a garrison force, which later can be strengthened with the addition of BattleMechs. For this reason, the Corps makes use of a wide range of tanks and APCs, including many designs built especially for Com Guard or the Corps, such as the Chevalier. However, the logistical difficulties of providing maintenance and repair equipment for a wide range of vehicles and 'Mechs means that relatively few Corps facilities receive large vehicle or 'Mech garrisons.

PERSONAL GEAR

Most Corps bases and planetary facilities stock an unusually wide range of personal gear and equipment, though the selection narrows dramatically toward the far reaches of known space. Corps personnel are free to requisition whatever personal equipment they might desire for their duties. Almost any item of military or scientific equipment in use within the Inner Sphere can be found somewhere within the Corps or can be acquired on short notice. However, security considerations necessitate some restrictions on equipment carried on board vessels.

Generally, the Corps only issues equipment appropriate to the mission or cover story, though individual commanders may permit their teams and crews to bring additional equipment that can be easily concealed. On vessels whose missions create a high risk of being stopped and searched—primarily those ships traveling in or near Clan-held territory—commanders are more likely to make no exceptions and restrict their personnel to the minimum equipment. On vessels operating away from Clan operations areas, ships' personnel possess a much wider range of equipment.

BASES AND FACILITIES

The Explorer Corps and the DCMS operate a number of facilities throughout the Deep Periphery, ranging from small communications sites and scientific outposts to massive military port facilities such as Columbus. Many of these facilities were originally constructed by the Star League or other organizations and later occupied by ComStar, while others have been built by the Corps itself. All Corps and DCMS facilities fall into the basic classifications of orbital or planetary.

Orbital facilities are generally more flexible than planetary facilities, because they can be relocated if necessary. However, concealing orbital bases is more difficult than concealing plane-

tary ones—particularly the larger and busier orbital sites, which constantly emit radio signals. Typically, the Corps hides such facilities by positioning them behind the electro-magnetic fields of nearby planets, planetoids and other celestial bodies. The electro-magnetic "noise" created by such fields effectively camouflages the emissions of the facility. Orbital facilities that serve as observation platforms and others with similar missions do not produce electro-magnetic emissions at all, so they are almost impossible to detect except by visual means.

Generally, planetary facilities are concealed more easily than orbital facilities. Small surface facilities have the advantage of being hard to detect across the vast surface of a planet. Most planetary facilities are constructed underground, however, which makes radar and thermal detection equally difficult as visual detection. The weather systems and environment of a planet may also help conceal a facility by effectively blocking sensors through natural atmospheric conditions, though manmade terrain features, such as road systems and runways, can actually make a facility *more* visible from orbit. Even where weather systems conceal the planetary surface and obstruct visual detection, the base must still mask its activities and radio emissions.

FACILITY TYPES

The most common types of Corps facilities are listening/observation posts, communications facilities, garrison bases, supply bases and port facilities.

Listening/Observation Posts

Listening/observation posts may perform a wide range of roles, including eavesdropping on Clan (and other) communications, observing space traffic or surveying. Many listening/observation posts are automated facilities that record their observations for later retrieval or transmission. Facilities that serve as survey posts usually are manned for greater flexibility. Listening/observation posts may be stationed on a planet's surface or in orbit.

Communications Facilities

Most Corps communications facilities are automated HPG links in the Corps' DRUM (Direct/Reciprocal Unmanned Message) network. These automated facilities receive coded HPG messages from Corps vessels and bases. Every HPG message sent to a link in the DRUM network contains information that directs the automated link to transmit the message through a chain of links until the message reaches its final destination. Most DRUM sites are orbital facilities, often concealed within groups of minor planets. (For more information on the DRUM network, see **Communications,** p. 34 in **Life in Space.**)

Garrison Bases

Garrison bases form a large percentage of Corps facilities. Usually situated on a planetary surface, garrisons provide secure operational bases for survey teams, raiders and harassment forces. Usually, the garrison facility is combined with another function, often a supply depot or port, though some purely military facilities do exist.

Supply Bases

Also known as depot worlds, supply bases contain caches of equipment, arms and general supplies—all the material needed to operate in the Deep Periphery. Such bases free vessels from having to constantly journey back to Inner Sphere or Periphery port facilities. Supply worlds are either temporary or permanent. Temporary supply bases may be established for a single mission and often make use of caves or other natural terrain features to speed their construction. Once the supplies from such unmanned sites are depleted, they are rarely restocked.

Permanent supply bases usually serve as operations hubs for several different missions. Such facilities are usually custom-built by the Corps or DCMS, though a few are located in existing structures renovated by the Corps. Maintaining supply levels at permanent bases also serves as a challenging mission for some Explorer Corps teams, who are responsible for safely and unobtrusively delivering cargo vessels filled with replacement materials. Unlike temporary supply caches, permanent bases are manned, and the majority have some form of garrison detachment.

Port Facilities

Port facilities contain docking facilities, supply bases, and recreation facilities, and they provide a whole host of other major services. Only a handful of such facilities exist in the Deep Periphery. The largest and most famous Corps port is the Columbus facility.

FEATURES

The services and amenities of an Explorer Corps facility vary depending on the type and size of the base and its uses. As a result, no two facilities are exactly the same, though most contain at least a few of the following features.

Barracks

Accommodations for troops, scientists and other personnel range from purpose-built ferrocrete structures to tents or open-air bivouacs. When possible, pre-existing structures or caves are used to minimize the chance of detection by potentially hostile groups.

Storage Areas

Like barracks, temporary and long-term equipment storage areas may range from ferrocrete buildings to tents or makeshift structures that use local terrain features. However, Corps engineers usually construct extensive underground facilities for long-term supply caches.

Communications Uplinks

Communications uplinks are simply areas designated for communications equipment, such as wide-area radio transmitters, tight-beam laser-link systems and portable HPGs. On most sites, the comms facilities form a secondary part of the base, though some facilities exist solely to support portable HPG sites.

Epsilon Pegasus System

NSC L 3-1222, 903
Star: Epsilon Pegasus
Type: G2V
Distance from Terra: 786 light-years

Planetary systems: 6
Planet 1: Scorch
    Planet Type: Lifeless Rock (tide-locked)
    Diameter: 4,220 km
Planet 2: Persephone
    Planet Type: Lifeless Rock
    Diameter: 7,130 km
    Number of Satellites: 2 (Freedom, Liberty)
Planet 3: Kew
    Planet Type: Rock
    Diameter: 12,080 km
    Gravity: 1.1 G
    Atmospheric Pressure: 1,700 millibars
    Atmospheric Composition: Carbon dioxide, oxygen, nitrogen
    Native Life: Mammals
    Average Surface Temperature: 45°C
Planet 4: Columbus
    Planet Type: Rock
    Diameter: 11,200 km
    Gravity: 0.9 G
    Atmospheric Pressure: 800 millibars
    Atmospheric Composition: Nitrogen, oxygen
    Native Life: Mammals
    Average Surface Temperature: 13°C
    Number of Satellites: 1 (Amor)
Planet 5: Mallory
    Planet Type: Gas giant
    Diameter: 120,000 km
    Number of Satellites: 11, 2 rings
Planet 6: Ophelia
    Planet Type: Gas giant
    Diameter: 132,000 km
    Number of Satellites: 17, 1 ring

* *

CORPS DATA ANALYSTS (COLUMBUS)

Clans
Jade Falcon: Precentor Anis Elson
Steel Viper: Precentor Andrew Piri
Wolf: Precentor Ali Oke
Ghost Bear: Precentor Rei Mikkos
Smoke Jaguar: Precentor Mercedes Laurent
Nova Cat: Precentor Cain Drake
Diamond Shark: Demi-Precentor Garret Anderson
New Territories: Precentor Pila Gava, *Chu-i* Sou
    Namura, Demi-Precentor Ellis Kassen
Clan Culture Advisor: Precentor Anika Janssen

Landing Site

Landing sites vary widely, depending on the nature of the base. Covert sites make do with a clear area of ground suitable for VTOL landings and DropShip operations. Overt supply and garrison bases often contain ferrocrete landing pads or even runways.

Repair Facilities

Many bases contain repair facilities to perform regular repairs and maintenance work on Corps vehicles and 'Mechs. Many of these facilities are simply caves or simple buildings equipped with appropriate tools and mobile gantries. Others may be purpose-built structures or even grounded DropShips.

Sensor Arrays

Most sites maintain some form of sensors for defensive purposes. Sites dedicated to watching or surveying assigned planets or areas of space usually possess substantial sensor arrays. These arrays can range from meteorological or seismographic equipment to radio-interception systems.

Medical

Vehicles and 'Mechs are not the only things that need maintenance and repair—Corps personnel frequently do, too. Typically, several members of each Corps exploration team have first-aid medical skills. For more serious situations, the Corps maintains medical facilities at several bases, particularly those in or near the Combine's so-called Harasser Zone, along the border House Kurita shares with Clan Smoke Jaguar in the Periphery.

Defensive Systems

In addition to troops, 'Mechs and vehicles, many facilities maintain electronic and mechanical defensive systems. Typically, these consist of portable sensors and autonomous weapons systems, such as mines or remote guns. As has always been true throughout history, however, human troops remain the most effective defensive system.

COLUMBUS

The largest base operated by the Explorer Corps, the Columbus facility serves as home base for many Explorer Corps vessels operating in the Coreward Operations Area. Originally constructed in 2549, the facility began life as a small way station, situated in the center of a 25-kilometer meteorite crater on the planet Columbus in the Epsilon Pegasus system. Hegemony explorer ships used the facility as a supply base, taking on provisions there and allowing their crews liberty before heading farther into the Deep Periphery. Though the planet was in the grip of an ice age, locating the station near the planetary equator compensated for the generally cool climate.

After the creation of the Star League, a new wave of colonization began in the Periphery. Over the next fifty years, the base grew from a collection of warehouses to a small town. Runways for aerodyne DropShips and permanent garrison accommodations were built. Lodgings for visiting ship crews and barracks for permanent personnel, with spacious accommodation blocks and recreation facilities, sprouted around the core facilities.

But more important, Star League engineers completed dry-dock-equipped repair yards and a full-scale DropShip maintenance facility between 2620 and 2641. Similar facilities were constructed in orbit around the planet, featuring a JumpShip dry-dock located in the excavated interior of Columbus's small moon.

The Star League used the finished base extensively for the next one hundred thirty years, then finally abandoned the facility in 2780, shortly

before Kerensky's Exodus. The base apparently remained unused until the Explorer Corps vessel *Von Braun* rediscovered it in 3023.

STATION LAYOUT

Columbus's two 5,000-meter main runways are the base's most notable features. Cutting through the local scrub-woodland, the runways were the first features detected by the crew of the *Von Braun*. The runway and landing pads of the base have been cleared of undergrowth since ComStar claimed the Columbus, but the Corps left many of the buildings overgrown with vegetation to help conceal the base from the Clans and other hostile forces.

The base proper, along with a large ferrocrete landing area for spheroid Drop-Ships, lies at the junction of the two runways. Dozens of warehouses surround the landing pads, and low-loader trucks and CargoMechs constantly move equipment between Drop-Ships and these buildings. Several other structures contain emergency vehicles and equipment, including four so-called fire-tenders—weaponless 'Mechs equipped with large tanks of fire-retarding foam for extinguishing fires. Substantially more maneuverable and versatile than conventional fire-fighting vehicles, these converted BattleMechs have already proved worth the cost of creating the variants.

The port command complex is also situated along the edge of the landing apron area. The complex includes a traffic control tower, as well as offices for the Corps' administrative and analysis staffs (though Fort Cameron on Tukayyid contains the official headquarters of the Explorer Corps, the actual work of running the Corps is carried out here). The DES and his deputy occupy offices on the fourth floor of the main administrative/analysis building, a location that provides them with near-constant access to the analysis teams.

One of the outlying buildings in the command complex contains Columbus's communications and cryptography center.

The block building draws power from a dedicated fusion generator, which powers numerous radio and laser-link systems, along with the base's massive HPG transmitter. The HPG dish is situated some four kilometers west of the complex to minimize interference with DropShip navigation systems. While not part of the DRUM network, Columbus's HPG transmitter is within range of a primary repeater, from which it downloads communications on a regular basis.

The barracks and recreation facilities occupy much of the remainder of the site. Approximately 1,100 personnel are permanently stationed at the site, but the barracks facilities can accommodate another 17,000 individuals if necessary. The size and quality of rooms varies considerably. Typically, officers are assigned suites of rooms close to the command building, while ordinary crew members may find themselves assigned to small, poorly maintained billets up to two kilometers from the landing site.

Columbus's selection of on-site recreational facilities includes cinemas, sports bars, taverns and clubs. Base commanders strictly regulate all recreational facilities, which are constantly patrolled and monitored by Corps military police.

The scientific community at Columbus resides in its own enclave, situated about ten kilometers east of the primary site. The enclave contains a dozen optical and three radio telescopes. The radio telescopes can operate independently or may be linked with other radio telescopes on the planet and elsewhere in the system to create a VLBA (Very Long Baseline Array).

The base dry docks, situated to the north of the runways, are accessible via a series of taxi lanes and landing pads. Two huge mobile platforms can transport grounded DropShips of up to 20,000 tons between the landing facilities and the docks. Larger vessels must use Columbus's orbital repair facility.

Columbus's garrison forces are also situated north of the runways in a complex known as Fort Columbus. The aerospace

Fighter Shelters

Dry Docks

Fort Columbus

Warehouses

Communications Uplink

Port Building

1 km
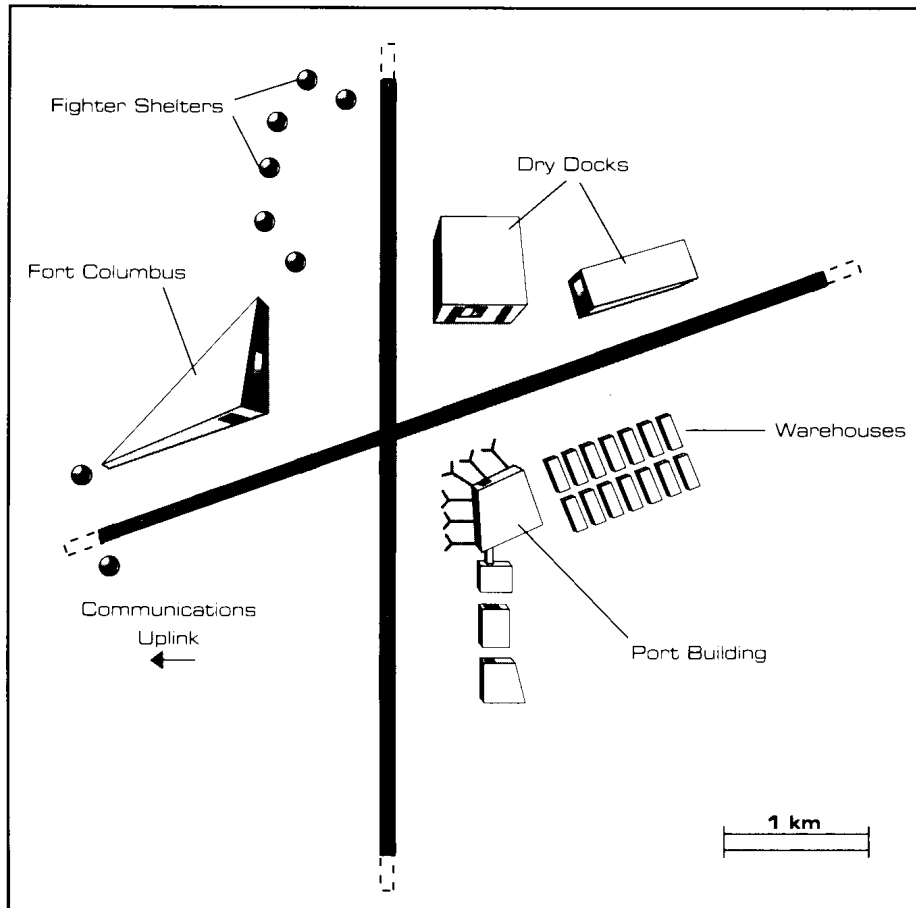
fighter wing, located in its own hardened shelters, has direct access to the base runways. The 'Mech, armor and infantry forces occupy a series of barracks and hangers closer to the main facility. Because it also has its own DropShip landing pads, the garrison complex is a port within a port.

The area to the south of the main base complex serves as an agricultural unit, providing the base with a limited supply of fresh foods. The fresh food is rationed among base personnel and vessels staging from the facility, and the balance of food-stuffs is imported.

GENERAL PROCEDURES

In 2960, to smooth relations between the large numbers of Corps personnel from a wide variety of backgrounds and to ensure that each team pursued its mission according to standard protocols, Sergei Gavilov developed a series of official procedures. These procedures have been refined and expanded during the Corps' years of operations to meet the changing conditions and situations of the Corps' various missions.

COMMAND

Though the mission commander makes all strategic decisions for his exploration team, vessel commanders retain absolute control over all personnel on their craft. The vessel commander may countermand any of the mission commander's orders if he or she feels the execution of those orders will place the vessel, crew and/or passengers at undue risk, but this option is not used lightly, as the DES reviews all such decisions and abuse of this power may result in censure.

Similarly, JumpShip commanders have authority over any DropShips docked to their JumpShips, as well as mission teams within such DropShips.

All vessel and mission commanders report to the commanders of the operations area and exploration theater in which their vessel is located.

CONTACT PROTOCOLS

Contact refers to any encounter or communication with another agency while in the Deep Periphery. These include encounters between vessels, stations, surface facilities or any combination thereof. Contacts fall into two groups—encounters with known powers, and encounters with unknown agencies.

During encounters with agents of known friendly powers, Corps personnel should immediately verify the identity of the encountered party. Often, this is accomplished via shared identification codes, though many methods are possible. If the party's identification is confirmed, the Corps commander may proceed as he or she sees fit. If the party's identity cannot be satisfactorily confirmed, Corps commanders should avoid contact with the party.

During encounters with known hostile parties, such as Clan forces, Corps commanders should attempt to avoid contact. If tactical or operational reasons make avoidance impractical, the mission commander should use the mission's pre-arranged cover story to deny any link to the Explorer Corps. If using a cover story is not feasible, the commander must, at all costs, avoid revealing the expansion of the Corps or its primary mis-

sion. Only if the team or mission are in grave danger and no other options remain should a commander attempt to engage hostile parties in combat. Protocols governing such encounters appear in **Conflict,** below.

During encounters with unknown parties, the Corps commander should attempt to identify the party and learn its abilities and procedures. This may be accomplished via observation or alternate methods such as direct contact. At no time should the mission commander reveal the origins and identity of the Explorer Corps team.

If the commander determines that the party is hostile, he should immediately break off any contact with the party and avoid additional contact. If the party appears benign, the commander should attempt to learn if the party has had contact with the Clans or unknown Periphery powers. Further exchanges may proceed as the commander sees fit, but any treaties or substantial technological exchanges must be approved by the First Circuit. in the case of DCA teams, the Coordinator must approve treaties or substantial technological exchanges.

TRAVEL

All Corps JumpShips must maintain plotted "escape jump" coordinates at all times. If the vessel carries a lithium-fusion battery, the crew should keep one charge in reserve to facilitate an emergency escape jump, though the vessel commander may authorize the use of this charge in non-emergency situations if tactical considerations warrant it.

To conserve fuel, JumpShips shall use their jump sails to gather power and recharge their drives whenever possible.

SECURING COMMUNICATIONS

Corps personnel should assume that all HPG and conventional radio communications are susceptible to interception by hostile parties. (The wavelengths used by HPG transmissions make interception difficult, but not impossible.) Therefore, HPG and radio transmissions should be encoded using the standard Corps dual-key cipher system whenever possible. Though this system does not conceal the origin point of HPG and radio messages, it forces any outside party that intercepts a message to perform the lengthy process of deciphering its contents.

Identifier and date sections must be left uncoded in messages sent over the DRUM network so that the network can pass such messages to their appropriate destinations, and the receiver can use the appropriate decoding algorithm. Obviously, the identifier and date sections of a message can be of considerable tactical value to hostile parties, so Corps personnel are advised to use the DRUM network with restraint.

CONFLICT

The Corps wishes to avoid conflict whenever possible, but accepts that direct action may be inevitable. If attacked, Corps teams may take any action the team leader deems necessary to defend the team against an aggressor. Similarly, Corps teams must make all efforts to preserve the security of their missions and the Explorer Corps itself, and any team may take pre-emptive action if the team leader deems it appropriate.

However, team leaders must ensure that their use of confrontational tactics preserves operational security, rather than compromises it. To this end, Corps teams are authorized to destroy enemy forces. If a team cannot achieve this objective, it should make every effort to disable the enemy's communication and escape capabilities. In all confrontations, Corps military forces should strike swiftly and decisively, using all available resources to ensure success.

Corps commanders recognize that preserving the security of the Explorer Corps may occasionally necessitate the destruction of Corps equipment and vessels. For this reason, all Corps vessels are equipped with demolition charges. These charges should be used only when the loss of sensitive information and equipment is imminent and no other recourse exists.

SURVEY PROCEDURES

Though locating the Clan homeworlds now stands as the Corp's primary mission, exploring and surveying star systems also remain an important part of the Corp's general mission. Exploring and mapping new systems provides valuable information about potential sites for new forward bases and may yield new sources of raw materials and lostech caches, as well as contact with new civilizations of potentially inestimable value. Therefore, even the most apparently innocuous worlds warrant careful surveying.

INITIAL SURVEY PROCEDURES

As soon as it arrives in a new system, an exploration team should perform a complete survey of the system and its star. Though a star's spectral type and luminosity (see the **Explorers' Lexicon,** p. 62) can be determined from a distance, certain information about a star—such as the star's temperature, composition and radiation levels—can be accurately collected only at close range. Such information enables an exploration team to determine the likelihood that the system contains habitable planets, as well as the probable locations of such worlds. Initial surveys can usually be completed in approximately two weeks.

During an initial system survey, the exploration team should also determine the location of planets, asteroid belts and other natural features of the system. The team should also actively look for any signs of human activity, such as radio transmissions or traces of orbital craft (e.g., transit-drive exhaust plumes).

PLANETARY SURVEY PROCEDURES

If the team detects no other vessels in the system during its initial survey, the team may deploy a DropShip with a smaller team to study habitable worlds in the system. The survey DropShip should first approach those planets most likely to sustain life, entering a polar orbit to provide the planetary-survey team with the best overall view of the planet.

The planetary-survey team should first perform a visual survey of a planet's atmosphere and surface to gain a rough overview of the planet's temperature, atmosphere and weather systems, surface water and vegetation. In many cases, a planet's atmosphere will prove too thick or thin to sustain life, or the
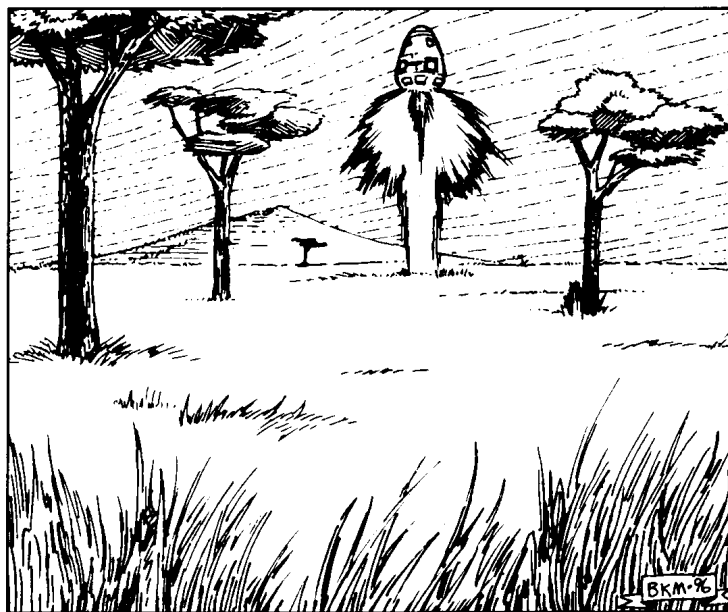
surface will be too warm or cold to support life. Depending on the exploration team's schedule, planets exhibiting such characteristics may be ignored or given cursory examinations.

Secondary Planetary Survey

If the planet's atmosphere, weather systems, and temperatures indicate conditions likely to support life, the planetary-survey team should map the planet's surface with visual systems and radar. If possible, topographical maps should be combined with maps of vegetation and drainage patterns. Depending on the sophistication of equipment available on the DropShip, these secondary surveys may take anywhere from five to twenty days, and the resolution of visual-survey systems (smallest object/feature visible) may be anywhere between 5 and $100m^2$. (Though satellite-imaging systems are capable of viewing much smaller objects, time, available storage space and the sophistication of such systems usually precludes their use.) All information gathered during secondary visual surveys is fed into the DropShip's computer, which runs pattern-matching programs that search for signs of human habitation, such as roads, buildings and farmland that may be visible. If the computer records any matches, a human operator may then direct more detailed scanning of a particular area. Note that computer systems may be unable to distinguish between natural and artificial structures at secondary visual-survey resolution levels.

The team should also perform a more detailed examination of the planet's atmosphere and weather systems at this time. Such examination should reveal the prevailing winds, climatic zones and the influence of terrain on the atmospheric system.

The secondary survey should also include studies of the planet's magnetic field. A very weak field indicates that high levels of cosmic radiation may be reaching the planet's surface, making it a poor candidate for advanced life.

Surface Examination

During the secondary planetary survey, more direct observations of planetary features and atmospheric composition can

be made via Remotely Piloted Vehicles (RPVs), controlled from the DropShip by radio and laser links. RPVs fall into two categories, flyers and landers. Flyers are often constructed from converted aerospace fighters and may weigh up to fifty tons. These vehicles can enter a planet's atmosphere, collect samples and take sensor readings before boosting back into space and returning to the survey ship.

Landers usually weigh less than ten tons and lack the equipment needed to return to orbit once they have landed on a planet's surface, though landers may be recovered by a DropShip at the completion of their mission. Such craft are used to collect and analyze soil and vegetation samples.

Only after all unmanned surface-examination procedures have been completed should any crew members set foot on a planet's surface. Even in this age of advanced technology, the flexibility and observational powers of human beings make manned surface surveys invaluable for closer examination of key sites. Initial landing teams must use environment suits to minimize the chance of contracting any local diseases or viral agents. Surface-survey teams should operate without suits only after thoroughly examining a planet's indigenous ecosystems.

Inhabited Sites

Explorer Corps teams should investigate any signs of human habitation on unexplored planets, but should do so using extreme caution. Abandoned sites may contain automated security systems or other hidden dangers. Inhabited sites pose their own unique dangers, because no team can precisely predict the reactions of the inhabitants. If the site is part of a technological culture, radio transmissions or other cultural artifacts may provide some advance knowledge of the native population before contact, but even this type of information may not enable a Corps team to accurately predict the reception it will receive.

Every Explorer Corps team must rely on its own discretion and judgment during contact situations. Some colonies may welcome visitors and treat them with deference or even reverence. Others may be hostile, though this attitude may not always be initially apparent. For this reason, all contact parties should carry sidearms and should include a contingent from the vessel's security detachment.

DCMS LIAISON

In addition to funding the Explorer Corps, Theodore Kurita has further directed elements of the Combine military to actively assist in the search for the Clan homeworlds, an effort dubbed Project Tsuikyuu. Vessels from the Draconis Combine Admiralty (DCA) operate alongside ComStar-owned vessels of the Explorer Corps, while Combine infantry and DEST teams operate with both the Coordinator's own mercenary troops and Com Guard forces.

Though the Coordinator's critics have done little to hinder the Combine's current operations to seek out the Clan homeworlds, Theodore's attempts to gather a multi-House task force to strike at the Clans' base of operations have met fierce opposition from certain factions in the Combine. Internal Security Force Director Ninyu Kerai-Indrahar, a former comrade-in-arms

of Theodore, is a known opponent of the plan. Only the failure of the Coordinator's efforts to assemble this task force has prevented a confrontation between the two parties.

Currently, however, ISF objections to his ambitious plans are the least of the Coordinator's problems. Certain factions in the Combine military would prefer that the DCMS's attentions be directed against more traditional enemies, such as the Federated Commonwealth and Lyran Alliance. These factions propose that the Combine annex those territories in the Lyons Thumb currently garrisoned by Combine peacekeepers on behalf of ComStar. Others have more personal agendas: the hot-headed Isoroku Kurita, Warlord of Dieron, repeatedly agitates for action against Field Marshall Richard Steiner—commander of the Ryde Theater and son of the famed Commonwealth hero Nondi Steiner—primarily in order to win glory for himself and further his military career. For these reasons, it seems unlikely that any multi-House military action will be launched against the Clans in the near future, despite the relatively friendly relations between the Coordinator and the leaders of neighboring realms.

PERSONNEL AND EQUIPMENT

More than forty Combine vessels operate in conjunction with the Explorer Corps, including all seven of the Draconis Combine Admiralty's Rose class DropShips, six Nagumo class troop transports, and two Okinawa class carriers. Invader class vessels dominate the Combine's JumpShip contingent, but the venerable Tramp and Merchant classes are represented as well, along with at least one Chimeisho and one Uma class vessel.

Vessel crews are all drawn from the Draconis Combine Admiralty, and some crews include Explorer Corps liaison officers. Crew member training is generally similar to that received by Com Guard/Explorer Corps crews. (Most DCA crews slated for assignment to the Explorer Corps missions receive training at the Combine's Aerospace and Interstellar Institute at Midway, which provides the most comprehensive naval and aerospace training outside ComStar.)

In the past, the DCA commandeered civilian vessels to ferry crews on the first leg of the journey into the Periphery, but has discontinued the practice since the loss of the merchant vessel Telendine, carrying a DEST unit and the mercenary Vost Lance, in 3056. However, the DCA continues to employ civilian transports extensively within the Inner Sphere to replace DCA vessels that have been assigned to military operations in the Periphery and elsewhere.

Many of the Combine vessels carry military troops, usually DEST teams or conventional infantry. No DCMS BattleMech forces have been assigned to the Deep Periphery, though many of the Kurita-hired mercenaries are equipped with 'Mechs. These mercenaries are generally used only as garrison forces for Corp and Combine facilities and are usually supervised by loyal Combine personnel.

Mercenary forces are still viewed with great suspicion by the majority of DCMS officers. In deference to the Coordinator's

wishes, officers forced to deal with the mercenary units make great efforts to keep such prejudices in check, but many still betray their true feelings in their attitudes and language. Generally, the Coordinator's staff warns mercenaries that they will likely encounter such prejudice and pays them well enough to compensate for such treatment, in addition to offering the hardship wages commonly paid to units assigned to work in the Deep Periphery. Because they receive such generous payment, mercenary units are expected to behave in a completely professional manner; those who fail to meet this expectation suffer harsh consequences.

Unfortunately, many of the mercenary units who accept contracts with the DCMS for the Explorer Corps missions do so because they are desperate for work—and their dire straits are usually a result of an arrogant attitude, a reputation for trouble-making, or inexperience. These troops require a steady guiding hand in order to maintain orderly conduct, but the current lack of available experienced Professional Soldiery Liaison officers forces the DCMS to use other methods to control undisciplined mercenaries.

The most successful method of controlling mercenary troops has proved to be the practice of posting a small mercenary force with a larger DEST contingent. The highly trained DEST troops are eminently capable of dealing with problematic mercenary forces, as illustrated by the events that occurred when the Seventh Cavalry, a two-lance mercenary unit, mutinied in a dispute over pay and conditions. Taking to their BattleMechs, the mercenaries attempted to pressure the local Kurita commander into returning them to the Inner Sphere. The commander responded by ordering his DEST team into action. The DEST team first captured the Cavalry's technical support team, then, using little more than conventional weaponry and a superb knowledge of BattleMech and infantry tactics, the twelve-man team disabled all eight of the mercenary 'Mechs, while losing only two of its own personnel. The surviving mercenaries suffered summary execution, and the DEST team appropriated their equipment to continue the mission.

Closer to home, the DCMS has enlisted the help of yakuza *kobun* to help supplement its regular forces. Less trouble than mercenaries because they are fanatically loyal to their oyabun and to the Dragon, these forces have proven particularly useful in smuggling information and equipment to and from operatives in the Clan Occupation Zone. The *kobun's* extensive network of contacts and intimate knowledge of smuggling routes has also helped numerous Combine vessels to avoid pirate bands and Clan patrols in the near Periphery.

EXPLORER CORPS LIAISON

To make interactions between Combine forces and the Corps more congenial, the Coordinator and Corps commanders have "cross-posted" a number of officers—assigning Combine officers to Corps vessels, and Corps officers to Combine vessels. Every liaison officer retains the rank of his native service but has minimal authority in operational matters, though crews generally respect advice from liaison officers.

One of the highest placed liaison officers is *Tai-sa* Haruka Otanashi, a DCA DropShip commander recently posted to the Columbus station. Unlike most liaison officers, Otanashi wields real power as deputy director of Coreward Operations. In effect, she is the deputy commander for the entire Corps exploration effort in the area.

Understandably, a certain amount of friction exists between the Corps and the Combine. Some liaison officers on both sides have attempted to misuse their positions by overstepping their authority, tactics that only serve to alienate them from their crews and foster suspicion between the organizations. The Combine is the greater offender in this, with ISF and old-guard officers proving particularly troublesome. Neither the Combine nor Corps leaders have found a way to successfully eliminate this problem.

In a further effort to coordinate the efforts between the two organizations, ComStar assigned Precentor XI-Gamma Malik Cochrane to Luthien to facilitate the flow of information from the Explorer Corps to the Combine administration. This experienced diplomat spent much of his youth in the Combine and thrives on the intrigues in the Coordinator's court, making him a particularly apt and effective choice to fill this position.

DRACONIS COMBINE FACILITIES

The Combine operates a number of Periphery facilities, both supply bases and raiding bases, established to support the Explorer Corps effort. While some of these operate as joint Combine–Corps facilities, most are staffed entirely by Combine personnel. The majority of these facilities are within 250 light-years of the Combine's borders, but some Deep Periphery bases lie as far as 300 light-years from the Draconis Combine's perimeter.

The majority of these facilities are supply bases, which serve as jumping-off points for Explorer Corps missions into the Periphery. Aside from their relationship to target areas of exploration, these bases also seem to have been chosen with Inner Sphere politics in mind. Clusters of facilities are located around potentially hostile sites such as the Federated Commonwealth's Farstar base in the Draconian Drift and the Word of Blake facility at Opotiki, rimward of Alfirk. While no hard evidence exists to indicate that these Combine bases will be used in pre-emptive strikes against enemy facilities, we do know that an unusually large quantity of materiel has been shipped to these facilities in recent months.

Farther into the Periphery and coreward of the Inner Sphere, the Combine has established a series of raiding bases. In a more subtle effort to gain intelligence on the location of the Clan homeworlds and an overt attempt at distracting the invaders from the Corps' activities, DCMS troops and mercenaries use these sites to launch harassment raids against Clan bases and convoys. Because these forces are generally disguised as pirates and corsairs to conceal their origins, it seems likely that these covert operations have contributed to the reported rise of pirate activity in the Deep Periphery. Even these raids, however, fail to completely account for the noticeable increase in pirate activity in recent months.

NOTABLE PERSONALITIES

(Wolfnet real-time communications mode:

I.Chandra: The following dossiers have been compiled by Wolfnet operatives to provide an overview of the most notable officers serving in the Explorer Corps. The listing is by no means complete, but Wolfnet personnel are continuing efforts to expand our knowledge of Corps command staff.)

PRECENTOR XVIII PADRAIG O BHAOIL

Rank/Position: Director, Explorer Service; Commander, Coreward Operations Area
Age: 56
Birthplace: Arc-Royal, Lyran Commonwealth

PHYSICAL DESCRIPTION

Age has begun to catch up with Padraig O Bhaoil, now in his mid-50s. His once-dark, thick hair is now completely gone, his goatee and mustache are a silvery gray, and his face has become increasingly lined and puffy from prolonged exposure to microgravity. Though physically fit, he often has difficulty walking under planetary gravity and displays a pronounced stoop—both conditions resulting from of his body's complete adaptation to microgravity.

BRIEF PROFILE

O Bhaoil was born on Arc Royal in January 3002 to a fairly successful merchant family. His father operated the JumpShip *Eala* on the trade routes between Tharkad and Tamar, and the young O Bhaoil was a regular passenger on those trips. O Bhaoil grew up with a love of spacecraft and fully expected to join his father's crew when he reached the age of eighteen.

A scant month before he was scheduled to join the ship, however, the *Eala* suffered a drive failure and was lost with all hands. Denied his long-time dream, the distressed young man sought to escape his disappointment and found his salvation in ComStar. His knowledge of JumpShip systems stood him in good stead in his new family, and O Bhaoil spent the first ten years of his ComStar career onboard various courier JumpShips.

When Kennedy Odumbe began an expansion program of the Explorer Corps in 3033, O Bhaoil transferred to the revitalized service and quickly rose to command of the *Free Spirit*, a *Magellan* Class exploration vessel. His depth of experience and amiable nature earned him the trust and affection of his crew, though he was quite capable of meting out discipline when required.

In 3048, O Bhaoil took the *Spirit* on an extended three-year mission spinward of the Inner Sphere, arriving back at Baligorra in the Outworlds Alliance shortly before the Battle of Luthien. Shocked by news of the Clans' arrival and conquests, he made all speed to Terra, arriving in late January. The *Spirit* was pressed into service transporting Com Guard units to Tukayyid, and the vessel's crew witnessed the battle from the nadir jump point.

Never a great believer in the mysticism practiced by ComStar, Precentor O Bhaoil chose to stay with the reformed organization. Because he was the most senior captain in the Corps, Primus Mori chose him to head the Service almost as soon as ComStar signed the contract with Kurita. He harbored mixed feelings about the promotion, as it would mean relinquishing command of the *Free Spirit*, but the carnage on Tukayyid convinced him that he must do everything in his power to end the Clan threat, and he accepted the position.

O Bhaoil is currently based at Columbus.

TAI-SA HARUKA OTANASHI

Rank/Position: Deputy Commander, Coreward Operations; Draconis Combine Liaison Officer
Age: 36
Birthplace: Kirchbach, Draconis Combine

PHYSICAL DESCRIPTION

A short, slight woman, Haruka Otanashi looks out of place in the male-dominated upper echelons of the DCMS. When in space, she wears her long hair in a utilitarian braid, but when planetside she wears a headband as her only concession to practicality. Her bright eyes and fine features appear identical to those of her twin sister Mio, a successful actress. Only the scar across Haruka's nose, the result of a training accident, enables most people to distinguish between the twins.

BRIEF PROFILE

Born in 3022 on Kirchbach in the Rasalhague District of the Draconis Combine, Otanashi grew up during the bloodshed of near-constant warfare. When Otanashi was only six years old, her father died while defending the city of Östersund against the Lyran Commonwealth's invasion of the planet during Operation Götterdämmerung. Shortly after the Ronin Wars, Otanashi's mother was killed in a traffic accident. With no other relatives on Kirchbach, thirteen-year-old twins Haruka and Mio were shipped off to an uncle on Luthien. A *chu-sa* in the Seventh Sword of Light, their uncle did not welcome the new additions to his family and quickly sent the sisters off to a boarding school for their final years of Middle School. After graduation, Otanashi applied to and was accepted by the Hachiman Technical Institute.

At the HTI, Otanashi specialized in DropShip systems, graduating second in her class in 3043. The Draconis Combine Admiralty approved her application the following year, and after three years of study she was recommended for officer training at the Aerospace and Interstellar Institute. Her outstanding record at the Institute earned her the naval rank of *chu-i* and her choice of assignments.

Otanashi joined the DCS *Nagoya*, a *Union* Class DropShip, in the spring of 3050, expecting a quiet few months to settle into her new position. Instead, both the DCA and DCMS were ordered to full military alert status in order to defend against an unknown enemy attacking from the Periphery. The Clans had arrived.

The *Nagoya* and her crew spent the next two years transporting troops to and from the front lines as quickly as their ship could travel, on four occasions encountering Clan naval craft. The punishing transport schedule put a great deal of stress on the DropShip, and only Otanashi's skills as chief engineer kept the vessel operational. Finally, during the evacuation of Port Arthur, the *Nagoya* sustained critical damage. It somehow managed to limp back to the waiting JumpShips, but suffered a total systems failure shortly after arriving at Braunton. The crew and passengers were evacuated to other vessels, and the derelict towed away for salvage.

Following a promotion to *dai-i*, Otanashi accepted a new assignment as a liaison officer to the Explorer Corps. She returned briefly to active DCA duty in 3055 as first officer on the *Okinawa* Class *Ashi-oto*, seeing action in raids against the Smoke Jaguars and Nova Cats. She returned to the Corps in mid-3056, where she compiled a technical briefing on Inner Sphere and Clan vessels for use by the DCA and the Corps.

Otanashi remained with the Corps on Terra until late 3057, when she was assigned to the *Hatakaze*, another *Okinawa* Class vessel. Otanashi's assignment was to oversee an upgrade to the vessel's weaponry at ComStar's Titan yards; work was only just completed when the Word of Blake attacked Terra in 3058. *Dai-i* Otanashi added the *Hatakaze* to the ComStar defense, and the vessel proved a pivotal factor in ComStar retaining control of the repair facility. The crew of the *Hatakaze* received a commendation from ComStar Precentor Martial Anastasius Focht, and Otanashi received the Bushido Blade and a double-promotion to *tai-sa*.

When he learned of the Combine officer who fought so effectively for ComStar on Terra, DES Padraig O Bhaoil requested Otanashi's immediate transfer to his staff, and Otanashi and her crew relocated to the Corps' Fort Columbus facility in September of 3058. Otanashi seems very comfortable in her new role, and her friendship with Precentor Anika Janssen bodes well for the future of the combined DCMS–Explorer Corps effort.
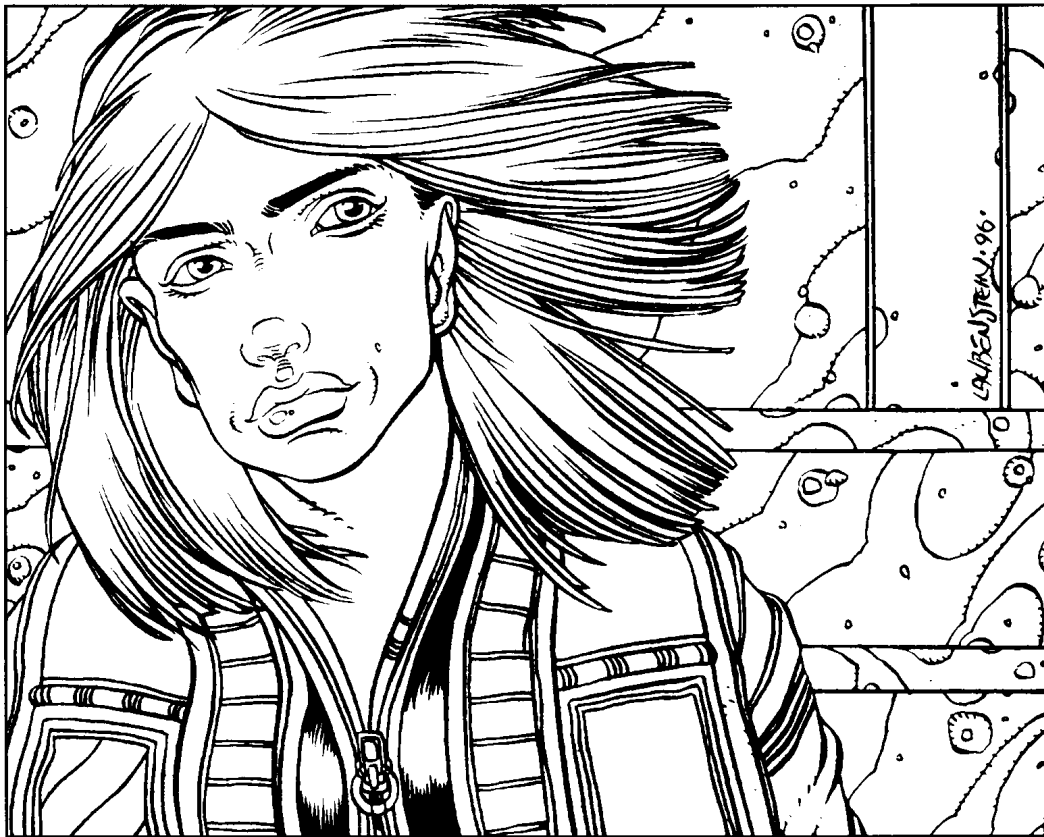
PRECENTOR I ANIKA JANSSEN

Rank/Position: Commander of Aerospace Forces, Fort
 Columbus
Age: 32
Birthplace: Gunzburg, Draconis Combine

PHYSICAL DESCRIPTION

Her delicate features and long blonde hair give Anika
Janssen the kind of beauty that attracts many admirers, but the
steely glint in her blue eyes warns away all but the most coura-
geous. She lost many friends to the recent warfare, both in the
Rasalhague Republic and the Clans, and has become increas-
ingly reluctant to make new ones. Other than the pilots under
her command, whom she treats like family, the only base per-
sonnel she associates with frequently are *Tai-sa* Otanashi and
Precentor O Bhaoil.

Though Janssen officially holds the rank of precentor in the
Com Guard, she prefers to wear a mix of her old Rasalhague
pilot's uniform and clothing from her tenure with Clan Wolf rather
than a Com Guard uniform. She attaches the precentor rank pins
to her collar as the only concession to her current position.

BRIEF PROFILE

Janssen was born on the Rasalhague world of Gunzburg in
3026, shortly before that planet's liberation from the Draconis
Combine. Janssen's family belonged to the Tyr independence
movement, and when Gunzburg won its freedom in 3034, her
father joined the Gunzburg Eagles. Anika followed suit as soon
as she was old enough.

During basic training Janssen met
Tyra Miraborg, daughter of Gunzburg's
Valdherre, Tor Miraborg. The two
became fast friends, and in 3045 both
went on active service with the Eagles.
Tyra was soon promoted to kapten,
commanding a squadron of aerospace
fighters, while Janssen achieved the
rank of löjtnant. Four years later, when
Miraborg announced her intention to
join the First Rasalhague Drakøns,
Janssen followed her friend.

The Drakøns soon found themselves
involved in several skirmishes with the
Clans, culminating in the Clan Wolf
attack on Rasalhague in July of 3050.
Assigned to escort Elected Prince
Magnusson away from the Republic's
embattled capital world, the Drakøns
succeeded in fighting off Clan aero-
space until the Elected Prince's ship
jumped out of the Rasalhague system.
Months later, near the end of their jour-
ney to the provincial capital of
Radstadt, the Drakøns jumped into that
system and into the middle of a Clan
flotilla. The Flying Drakøns immediately
engaged the defending Clans, buying Haakon Magnusson time
to jump away from the invaders. In the end, Miraborg launched
her fighter directly at the bridge of the Clan Wolf flagship, the
Dire Wolf, in a heroic suicide attack that killed many senior Clan
officers, including ilKhan Leo Showers. Their ilKhan's death
prompted a temporary halt in Clan operations, giving the entire
Inner Sphere a brief breathing space.

The new year saw Janssen transferred to the Third
Drakøns, with whom she saw action against the Clans on
Memmingen, Satalice and Skandia. The unit was destroyed on
Skandia and the survivors, Janssen included, became bonds-
men of Clan Wolf. Clan Wolf eventually accepted Janssen as a
warrior, and during the War of Refusal against Clan Jade
Falcon she accompanied Wolf Khan Phelan Ward's force into
exile on Morges, where it joined with the Kell Hounds to defeat
the Jade Falcon Peregrine Galaxy.

In the days that followed, great changes occurred within
the Wolf Clan, and Khan Phelan Kell offered to release from
Clan Wolf those members unwilling to suffer Exile. Janssen
took advantage of the offer and soon landed a position in the
Com Guard, assigned to defend the Free Rasalhague Republic.

In 3058, however, ComStar Precentor Martial Anastasius
Focht transferred Janssen to the Explorer Corps, where her
knowledge of the Clans would prove invaluable. She arrived at
Fort Columbus in April and began serving as the base aerospace
commander as well as an advisor to the Corps analysis staff.

Though Janssen's official rank is precentor, she prefers to
be addressed as kapten.

TAI-SA ALEX MCLAREN

Rank/Position: Commander, Draconis Combine Mustered
   Soldiery, Periphery Detachment
Age: 48
Birthplace: Kirei na Niwa, Draconis Combine

PHYSICAL DESCRIPTION

A wiry man in his late forties, Alex McLaren is a consummate soldier. He keeps his dark hair short in military style as is currently the style on Luthien. His square chin and sculpted cheekbones lend strength to his face, an impression contradicted by his solid eye ridges and drooping eye-lids, which give him a sleepy, disinterested look. Because McLaren often used his looks to his advantage in his work, he greatly resents the fact that his deteriorating eyesight now forces him to wear glasses.

BRIEF PROFILE

McLaren spent his youth among the lush forests and beautiful, flower-strewn meadows of the Combine world of Kirei Na Niwa. It seemed likely that he would grow up a contented farmer on one of the world's small holdings, a plan disrupted by the onset of the Fourth Succession War. Though Kirei Na Niwa hosted no battles in that conflict, the DCMS commandeered part of the planet's Minami continent for use as a processing and logistics center. Within weeks of the military's arrival, McLaren found himself drafted into the DCMS ranks, along with many other young men on the planet.

After a brief training period, McLaren's unit found itself in the thick of the action, providing replacement personnel for those units fighting Wolf's Dragoons on Glenmora, Wapakoneta and Harrow's Sun, where McLaren was severely wounded. Following his release from the hospital in 3030, McLaren transferred to the Oshika Tiger program, where he underwent additional training in small-unit tactics and irregular operations. His achievements in those programs resulted in his transfer to the Ryuken. Following the Ryuken's temporary disbandment in June 3031, McLaren spent three years as a squad and platoon commander in the Seventh Pesht Regulars, gaining valuable experience fighting pirate bands. When the Ryuken were reformed in response to the Ronin Wars in 3034, McLaren returned to the Ryuken-yon.

Assuming a company command position, he established the unit's special forces teams that proved so devastating in the Ronin Wars and later in the War of 3039. In 3040, McLaren's valor earned him a field commission to *chu-sa*, the rank he held during the brutal two years of war against the Clans. McLaren took command of Ryuken-yon's infantry regiment on Bangor when *Tai-sa* Akane Kurihara died in a raid against the Smoke Jaguar-held world, leading the unit in a successful withdrawal from the planet. After the Battle of Luthien, then-Kanrei Theodore Kurita confirmed McLaren's field promotion to *tai-sa*.

When Kanrei Theodore later became Coordinator of the Combine and began to plan his strategy against the Clans, he quickly identified McLaren as an ideal candidate to lead the new Combine anti-Clan contingent. As part of the strategy, the Coordinator wanted to increase pressure on the Clan invaders

by raiding their supply lines and forcing them to deploy a portion of their forces to guard their route home. *Tai-sa* McLaren, with his reputation for successful unorthodox tactics, seemed an ideal candidate to oversee the task.

Tai-sa McLaren immediately began to assemble his task force and headed out into the Periphery within months of receiving his assignment. He coordinates the actions of his numerous harasser teams from the JumpShip *Akagi*. Though not formally part of the Explorer Corps force, harasser units often cooperate with Corps teams, and McLaren himself meets regularly with Precentor O Bhaoil at Fort Columbus to coordinate troop movements and exchange operational intelligence.

LIFE IN SPACE

Life aboard any spacefaring vessel—be it a DropShip, station or WarShip—is quite different from life on a planetary surface. Even now, more than a thousand years since man first ventured into space, only a small group of people routinely travel between the stars. The vast majority of Inner Sphere denizens remain ignorant of the realities of interstellar travel.

The following section is designed to familiarize new personnel with the basics of life in space, providing factual information to replace the rumors, half-truths and inaccuracies that circulate outside the professional spacefaring community. Some of this information pertains only to Explorer Corps ships and procedures, but most of it holds true for all space travel.

COMBAT

Though Corps teams should avoid conflict whenever feasible, the potential for military confrontation remains a constant possibility during operations in the Deep Periphery. In order to most effectively serve their ship and fellow crew members, Explorer Corps personnel must possess intimate, nearly instinctive knowledge of all characteristics of space combat.

NAVAL WARFARE

The first battles in any system are likely to be fought at a jump point, during system transit or in orbit around a planet. Whatever the location, a few basic tactics apply in all naval combat situations.

Typically, naval engagements fall into two categories—fast passes and sustained close combat. Fast passes occur mainly during system transit, when one force is unable or unwilling to match velocity with its opponent. Sustained combat tends to occur at either a jump point or in planetary orbit. Either of these tactics may be used in a variety of ways, however—a vessel heading out of a system may be harried by pursuers, resulting in sustained combat during system transit.

Fast-pass attacks occur when the attacker and target are moving at radically different velocities. Such situations may be coincidental or a deliberate strategy on the part of one or the other vessel or group. In such attacks, the aggressor may only manage to fire its weapons once at a targeted vessel before the target passes out of range, and the target will likewise be forced to rush its return attack. The relative velocities of both the target and attacker essentially ensures that many shells and missiles will miss and prevents lasers and particle cannons from focusing on a viable target. Weapons relying on kinetic energy to inflict damage, such as gauss rifles, may gain a nominal increase in damage potential. On the whole, however, fast-pass attacks rarely cause major damage unless the attacker strikes with overwhelming force.

Sustained combat occurs between vessels of similar velocity and heading. These conditions enable each vessel to fire its weapon bays repeatedly and make multiple attack passes at its opponent. Generally, weapons fire is both more sustained and more accurate in such situations, which makes sustained combat engagements considerably more deadly for both opponents.

Fighter Operations

Though aerospace fighters are the smallest combatant vessels of a naval fleet, they are among the most versatile and deadly of all military units. They can successfully engage targets of any size in orbit, in atmosphere or on a planetary surface, and their speed makes them difficult to target. Though less well-armed and armored than DropShips, fighters are the weapon of choice for engaging enemy vessels.

Undefended ships are easy prey for a determined fighter unit, which will commonly use weak spots in a target's design to minimize return fire. Fighters can even be highly effective against combat WarShips, because the small size and agility of fighters prevents a WarShip's main weapons batteries from effectively tracking them. The grossly inferior secondary battery of a WarShip typically provides little protections against fighters, so commanders usually employ their own aerospace fighters to defend against them.

Despite their effectiveness, fighters display certain inherent weaknesses. Most important, their small size and relatively weak armor means that any attacks that do hit them stand a good chance of inflicting critical damage. Second, the weaponry on aerospace and conventional fighters poses certain tactical limitations. Primary weapons systems are typically mounted in the wings and fuselage of a fighter, pointing either forward or backward, and are usually capable of only minor movement for targeting purposes. Thus, aerospace fighters must make direct approaches against a target, passing close to or over it and engaging any anti-fighter defenses. Few fighters, if any, are capable of firing sideways, and most have only weak rear-firing weaponry. Because the movement of a fighter target makes side attacks fairly difficult, most counterattacks are directed against the rears of fighters.

To reduce their vulnerability to such counterattacks, most fighters engage in space-combat maneuvering (or air-combat maneuvering when performed in atmosphere), more commonly known as dog fighting. These names simply refer to rapid high-thrust maneuvers intended to prevent an enemy craft from accurately firing at the fighter from behind.

DropShip Operations

DropShips are considerably better armed and armored than aerospace fighters, but they lack the maneuverability and acceleration performance of fighter—which makes DropShips easier to hit. And as the primary cargo-carrying transports of modern space fleets, they present the primary targets of enemy fighters, WarShips and DropShips.

Fighters are the most common threat DropShips face, and so DropShip weapons arrays are designed to engage craft of all sizes. However, the design of every DropShip inevitably creates certain weak spots, where weapons cannot track or provide only minimal coverage. Enemy fighters attempt to take advantage of such weak spots, while the DropShip attempts to reduce its vulnerability in such areas by constantly maneuvering.

The size of DropShips also makes them ready targets for the large naval weaponry carried by WarShips. Though such weapons are unable to track light, agile fighters, they can freely

target the larger, slower-moving DropShips. The largest weapons in a WarShip's arsenal, the huge naval autocannons, can cripple or even destroy a DropShip with a single hit. Other than staying out of sight or out of range, DropShips can do very little to defend themselves against such weapons.

WarShip Operations

Though WarShips are the most heavily armed and armored modern naval vessels, they exhibit poor maneuverability—a weakness that smaller, more agile craft are quick to exploit. In fact, WarShips are particularly vulnerable to aerospace fighters, because most of the large weapons carried by a modern WarShip are unable to track such small craft. Many new WarShips, particularly those being constructed in the Inner Sphere, feature improved anti-fighter and point-defense systems, but the majority of WarShips in service remain ill-equipped to defend against fighters. As a result, most WarShips carry their own fighters to intercept attacking craft.

Perhaps the greatest strength of a modern WarShip is the range of its weapons. Typically, WarShip weapon systems possess effective ranges of up to 450 kilometers. In comparison, the most powerful long-range DropShip and fighter weapons possess effective ranges of 225 kilometers, though a few Clan DropShip weapon systems can fire up to 360 kilometers.

As a result of these characteristics, enemy DropShips mounting attacks on WarShips commonly launch fighters against their target, then attempt to remain outside the range of the WarShip's weapons. Meanwhile, the WarShip commander will attempt to close within range and use his vessel's powerful weapons against the DropShip. Frequently, a WarShip commander will attempt to bring his broadside weapons bays to bear against a target, because these bays contain a WarShip's most potent weapons. Usually, this is accomplished by "going inertial" (ceasing to accelerate) and using maneuvering thrusters to adjust the WarShip's attitude.

The new generation of ship-to-ship missiles, piloted remotely via laser links, represent the latest attempt to counter the range of WarShip weapons systems—particularly those of Clan WarShips. The main guns of a WarShip cannot track and engage these small missiles, leaving only the ship's secondary weapons, fighters and DropShips to stop them. Because the missiles have no onboard pilots, they can sustain G-forces that would crush a human and so can outmaneuver their opponents. Additionally, if a missile misses its target during its initial run, the remote-pilot system enables a human controller to direct the missile on repeated attack runs as long as its fuel supply lasts.

Space Station Operations

The fixed locations of space stations make such facilities tempting targets for all types of naval and aerospace attacks. Generally, stations fall into the two broad groups of non-military and military facilities. Non-military stations are by the far the most common type of station; most orbital stations fall into this category. Though non-military stations may maintain anti-pirate defenses, they are mostly unarmed and essentially defenseless against naval forces. Some non-military stations maintain forward forces to defend against attacks so that battle never reaches the station itself, but even these stations maintain no weapon bays. If an enemy force approaches a non-military station, the attacker traditionally offers the station's defenders several opportunities to surrender. If the defenders offer no overt resistance and accept the surrender, the attacking force will refrain from damaging the station and simply board it.

This practice reflects a recognition of the massive resources and time needed to construct a space station and a desire to avoid needlessly destroying these expensive, vital assets. In fact, such attitudes are codified in the Ares Convention, which classifies the destruction of non-military stations as a war crime. All the Great Houses and the vast majority of Periphery militaries accept this principle, though Clan forces apparently do not share this aversion to attacking non-military stations. Generally, Clan forces will not attack such facilities, but they have been known to destroy non-military stations that offer even symbolic resistance or fail to surrender unconditionally.

Military stations are designed for combat and employ massive weapons arrays and armor to offset their lack of maneuverability. The most modern military stations boast massive anti-ship weapons, and most maintain defensive fighter forces. Military stations are typically attacked directly with aerospace fighters and DropShips. Once these attacks have sufficiently weakened the station's defenses, the attacking force will attempt a boarding action. If a boarding action seems unlikely

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"Shooting down" fighters, "sinking" DropShips and WarShips, "blowing" stations—the euphemisms for the destruction of orbital assets may at first seem rather unusual.

The term "shooting down" fighters can be traced back to the early twentieth century, when damaged atmospheric fighters frequently plummeted to the ground. "Blowing" stations also makes sense, because pressurized stations can be literally blown to pieces by explosive decompression. (Typically, non-essential areas of modern military stations are de-pressurized if combat is imminent in order to avoid such catastrophes.)

The euphemism of "sinking" DropShips and WarShips was first used in connection with wet-naval craft on ancient Terra. The term was first applied to spacecraft in the early twenty-fourth century, when Admiral James McKenna, first Terran Hegemony Director-General and commander of the first true combat WarShip, the TAS *Dreadnought*, used the phrase in reference to the loss of two WarShips shortly before the foundation of the Hegemony.

"As we watch the *Wildcat* and *Yalu* sinking into the darkness below us, the memory of their crew who were prepared to give their lives to save their homeland lives on," McKenna said.

—Excerpted from *A Dictionary of Military Terms*, Lloyd Marik-Stanley Military Press, 3058

to succeed or the attacker cannot sufficiently weaken the station's defenses, an attacker may attempt to destroy the target station.

Detection

Detection is the key to modern naval warfare. If a vessel can be detected, then forces can be dispatched to attack it. And if a ship can prevent its enemies from detecting its own presence, it may seize the advantage of surprise. Consequently, modern militaries continue to expend considerable resources to improve existing sensors and develop new types of sensors and jamming devices. Though the technology of sensors and jamming devices changed very little after the fall of the Star League, the conflict with the Clans has spawned a renaissance in sensor and jammer technology in the Inner Sphere, the fruits of which are just beginning to appear.

Vessels of the Explorer Corps and DCA make use of several prototype devices to enhance or degrade sensor performance. Enhanced sensors increase the chance of detecting another vessel or the range at which detection occurs. Other devices conceal or disguise the signature of vessels, so that they are harder to detect or identify. One system developed in the Combine and tested by the Corps provides a means of temporarily blocking line of sight, allowing a craft to escape enemy fire.

The importance of detection also affects tactics in space combat. Cluttered areas, such as asteroid fields, help conceal vessels from detection, so ships commonly "hide" in such areas. Planetary magnetic fields and planets can also be used as cover against sensor detection, though natural obstacles that foil one type of sensor system may have little effect on another. Some sensor systems, such as neutrino detectors, are so sophisticated that no current countermeasures exist.

BOARDING ACTIONS

Boarding actions refer to any engagement in which one force attempts to capture a vessel or station using "ground" forces. Such forces usually comprise space-suited marines and infantry troops trained in zero-G operations and the peculiarities of boarding actions, though battle-armored troops and even 'Mechs occasionally participate in such actions.

The objective of any boarding action is to capture and control the target vessel. Seizing control of the target vessel's vital areas and prompting the defenders to surrender is the most efficient means of achieving this objective. If a boarding party fails to gain control of a ship's vital areas, the party may have to systematically subdue each area of the ship, including the crew attached to each area, though this level of fighting rarely succeeds.

The Assault

Landing the assaulting troops aboard the target is the first and most dangerous stage of any boarding action. Attackers may employ four main methods to land troops—forced docking, shuttle assault, free assault, or free 'Mech assault.

In a forced docking, an assault transport—such as a DropShip, shuttlecraft or even a WarShip—simply docks with the target. Once the assault vessel is docked, the assault troops can usually gain entry to the target quite easily and fight

the majority of the action within the target's passageways and rooms. Though this technique is ideal for attacking lightly defended and immobile targets, the time-consuming maneuvering required to dock can expose the assault force to close-range weapons fire from the target vessel. Additionally, a target capable of movement may maneuver in an erratic manner, forcing any vessel attempting to dock to risk a collision. Even a fixed station can perform evasive tactics using its station-keeping drive and attitude-control structures. Fixed targets in planetary orbits usually do not attempt evasive maneuvers, however, because by doing so they risk falling out of orbit.

The shuttle-assault method employs dedicated assault shuttles to land troops. These small, highly maneuverable craft approach the target swiftly using erratic movement patterns known as "styling." As they draw near, they match their headings and velocities to the target's. On closing to within 100 meters of the target, the assault shuttles fire magnetic grapples at the target. After attaching these grapples, the shuttles use winches pull themselves toward the target. This system enables the assault vessels to safely approach the target much more quickly than a docking vessel. In some cases the assault troops can then gain immediate entry via airlocks on the target, but more usually they will have to make their way across the hull before gaining entry.

In a free assault, the boarding troops use maneuvering packs or jump-equipped power-armor suits to propel themselves toward the target (Clan Elemental suits, the DCMS Raiden and Kage suits and the ComStar PA(L) suits are suitable for such operations). Once the troops reach the target's hull, they can enter it via an airlock or even breach the vessel's hull with weapons fire or explosives. In many cases, the mere threat of a hull breach, especially by troops situated outside a vital area like the bridge, is enough to prompt surrender.

The fourth and rarest type of boarding method is the free 'Mech assault. In this method, jump-capable 'Mechs are used to attack the target vessel (non-jump-capable 'Mechs can be fitted with jump packs for this purpose, as well). Considerable skill is required to maneuver a 'Mech in space, however, because BattleMech jump jets and packs provide a much lower degree of control than the maneuvering thrusters found on space vessels. A MechWarrior must largely control his 'Mech's flight by twisting its body this way and that to carefully position its center of mass and the direction of its jump jets.

As soon as the BattleMech nears the target's hull, it has closed to inside the target's firing range and is no longer in danger from the ship's weapons. The 'Mech can use magnetic grippers built into its feet to walk across the target, and can use its weapons to fire pointblank at the target or threaten to cause a hull breach, again, often prompting swift surrender.

Rather than simply threatening the hull integrity, the 'Mech can gain entry into the target, either through the hull or an appropriately sized airlock. The use of 'Mech weapons inside a ship or station could easily trigger explosions, however, that would ultimately destroy the 'Mech along with the target.

Onboard Engagement

Once onboard the target, the assault unit must first deal with the defenders. The initial engagement is often at the airlock, where defenders commonly attempt to contain the invaders before they can spread through the ship or station. Most airlocks can accommodate only a handful of individuals at a time, which makes them natural choke-points where defenders can easily gain local numerical superiority. Defense tactics include securing access points, over-pressurizing the airlock or erecting barricades, but quite often simply shooting the attackers as they leave the airlock is most effective means of repelling a boarding action. Assault troops with the advantage of battle armor can usually withstand considerable defensive fire and gain a foothold in the target.

Once the initial assault team has cleared all defenders out of the immediate area around the airlock, the main assault force can enter. Generally, defenders will withdraw to key strong points at this time, often those points easiest to defend or sites of key significance. As with most battles, the defender's knowledge of the battlefield provides an advantage. During a boarding engagement, defenders will usually know the target's layout better than the attackers and will be better able to use the physical features of the target's interior to minimize casualties. The actual onboard engagement may last anywhere from a few minutes to several hours, with the speed and eventual outcome dependent more on the skill of both parties than technology or numbers.

As with all close-quarters fighting, the key is hitting the enemy, and doing so where it does the most damage. Thus, a small, highly trained team is capable of defeating a larger force by the simple fact of hitting more often and in more vital locations. Additionally, most boarding engagements take place in microgravity conditions, which make even routine tasks challenging and further enhances the advantages provided by troop skills. For these reasons, troops expected to perform boarding actions usually receive special training for fighting in zero-G environments and while wearing space suits.

The choice of weapons for onboard engagements is important as well, because rounds or shots from many common hand weapons can easily damage the vessel and even cause hull breaches in the event of missed, scattered or over-penetrating shots that pass through human targets. No assault force even considers the use of area-effect weapons. Low-recoil weapons are the most common choices, with needlers being perhaps the most popular weapons for onboard engagements, though their low damage potential and lack of effectiveness against armor limits their usefulness against well-equipped opponents. Lasers are the next most common weapons. Their users prize them for their lack of recoil and high stopping power, but missed laser shots can easily damage bulkheads and weaken the structural integrity of the boarding target.

Specialist rounds enable boarding teams to safely use slug-throwers as well. These rounds combine high stopping power with "bulkhead-friendly" properties. Polymer and metal "frangible" specialist rounds possess a high damage potential against unarmored targets but break up on contact with solid

surfaces such as bulkheads. However, such rounds also shatter on contact with ballistic plate armor. Another type of specialist round, the Accelerated Energy Transfer (AET) round, features a sophisticated design that provides good armor penetration with relatively low recoil and low risk of ricochet. The design also prevents the round from over-penetrating a human target or piercing a solid bulkhead.

Grenades can also prove effective during onboard engagements. The blasts produced by stun grenades can be used to debilitate opponents while causing only minor collateral damage to the vessel, and smoke grenades can be employed to produce tactical cover for boarding troops. Even gas grenades may be useful, though they will have no effect against opponents wearing environmentally sealed spacesuits.

Occasionally, onboard engagements come down to hand-to-hand combat, with melee weapons or unarmed combat skills deciding the outcome. However, the majority of boarding actions are resolved long before opponents reach this stage.

PLANETARY COMBAT OPERATIONS

Though largely the same as combat on the worlds of the Inner Sphere, planetary combat in the Deep Periphery can pose several unique hazards, stemming primarily from the fact that a combat force is likely to possess little, if any, previous knowledge of planetary battlefields in these areas.

Because most of the worlds in the Inner Sphere have been fought over numerous times, the details of their terrain, weather and other natural hazards are well known. Similarly, political situations and probable troop strengths are known or can be determined through espionage. No such information is available for the worlds of the Deep Periphery. Troops may have rough maps and guide-chips for their electronic compasses if a planetary survey is completed before landing or was made sometime in the past, but a landing party will likely possess no other information.

The range of terrain found on such worlds may range from broad, open plains and moors to the close quarters terrain of lava fields and forests. Typically, most worlds lack man-made improvements—for example, forests will not have been logged, and thus may be much denser than those normally found in the Inner Sphere. Such "ultra-heavy woods" pose a major problem for movement, often proving impassable even to BattleMechs. Additionally, troops must navigate terrain without the assistance of navigational satellites such as those present throughout much of the Inner Sphere.

Unknown environmental threats pose another hazard. Many Deep Periphery worlds are home to hostile organisms ranging from viruses to predatory creatures. Of the two, predatory creatures are perhaps the easiest to deal with—so far, exploration teams have been able to detect most unknown predators with sensors and repel such creatures with sidearms. Some worlds contain massive, less manageable creatures, such as the megasaurs of Birchwood, which are capable of damaging even BattleMechs.

Virus and microbiological agents pose a more insidious threat. Even worlds that appear benign may harbor organisms lethal to humans. In fact, many fledgling colonies, along with numerous military teams, have succumbed to such agents. Only the use of environmental suits provides a reliable defense against these types of hazards.

COMMUNICATIONS

Communications in space are divided into two categories: internal communications, or communications within a ship; and external communications, or communications sent outside a ship. Within these two categories, messages may be sent via fiber-optic, radio, laser-link and HPG systems.

INTERNAL COMMUNICATIONS

Communication within space vessels is generally accomplished through the use of fiber-optic lines, which prevent any outside parties from eavesdropping on vessels' internal communications. Speakers and intercom panels situated in each compartment and corridor of a vessel allow passengers to send messages to the entire vessel or to selected areas.

Personal communication units, either clipped to a belt or wrist or worn as a headset, allow key personnel to remain in constant contact with each other and the bridge. These communications units are actually low-power radio transmitters, which send and receive signals from repeater boxes contained in a ship's intercom system. The armored hull of each vessel prevents these low-powered signals from propagating out into space and secures communications sent over the system.

EXTERNAL COMMUNICATIONS

External ship communications are accomplished via radio, laser-link and HPG systems. Radio communications are generally used for hailing other vessels or for nonsecure communication. Because radio transmissions propagate out from the point of origin and broadcast in every direction, they are ideal for communicating with large groups. However, this general broadcast pattern also means they are susceptible to interception by any party within listening range. Additionally, radio transmissions enable hostile vessels to triangulate the location of the ship sending the transmissions.

In non-combat situations, a ship's radio system also transmits the vessel's IFF (Identify Friend or Foe) signal. The IFF signals of most spacefaring vessels are registered with ComStar's Terran Registry of Spacecraft and most ships carry a copy of the registry database. This allows vessels to cross-reference the registry number of a vessel, transmitted as part of the IFF signal, with the information in the database and identify the vessel. Despite security features in the IFF identification codes, however, it remains possible to alter a vessel's IFF transmissions to disguise its identity. Therefore, most ships use additional information (visual identification or neutrino emission patterns) to verify the identity of an unknown vessel.

Direct laser-link systems are the preferred means of conducting secure communications. In laser-link systems, the sending ship uses a narrow, low-power laser beam to transmit its message to appropriate sensors on the receiving ship. Unless another vessel happens to intersect the laser beam,

only the intended receiver can receive a laser-link message. Therefore, any break in the beam immediately alerts both parties to the presence of a large object or vessel between them. Though laser-link messages are far more secure than radio transmissions, laser-link systems are less versatile than radio systems. The number of laser-transmitters aboard the sending ship limits the number of receiving vessels it may send messages to simultaneously, and both sending and receiving vessels must have a clear line of sight to one another to communicate in this manner. For these reasons, laser-link systems are impractical for most fleet-wide communications.

Despite these limitations, DropShips generally carry one or two communication lasers, and JumpShips usually carry a comm laser for each DropShip it carries, as well as four or five additional lasers. WarShips often carry dozens of transmitters to provide secure communications with other WarShips, DropShips and fighters in combat conditions. The exact number varies widely, but is often sufficient to enable the WarShip to communicate with its entire complement of fighters, DropShips and small craft.

HPG Networks

A few vessels, mainly WarShips and JumpShips, also carry HPG transmitters. Until the Clan invasion, only ComStar JumpShips were known to carry such devices, which can instantaneously transmit messages over a distance of up to 50 light-years. It is now known that Clan naval vessels also carry HPG transmitters, and rumors place HPG equipment on some of the new Inner Sphere WarShips, though these rumors have yet to be confirmed.

To receive an HPG message, the recipient must be within approximately 600 million kilometers (approximately 4 AU) of the signal. Beyond that distance, the radio element of the HPG signal may be absorbed or swamped by background noise. Once an HPG pulse arrives at its destination, it propagates in a similar manner to radio waves and can thus be detected with appropriate equipment. Contrary to popular misconception and accepted practice, such receiving equipment need not be situated at an HPG facility. For this reason, HPG communications are routinely compressed and heavily encrypted in order to secure them, often with dual-key systems.

To facilitate HPG communications between vessels, a sender may include information on his location in his HPG message. These reciprocal coordinates enable the receiver to reply by sending an HPG message back to the original sender. Because reciprocal coordinates precisely plot a vessel's location, however, in the interest of operational security such information is very rarely transmitted.

In response to these limitations, vessels typically use networks for HPG communications, rather than attempting ship-to-ship or other direct-to-destination transmissions. The Clans, for example, maintain a network of automated message caches. These devices, situated in orbit or on a planetary surface, provide fixed receiving stations for HPG transmissions. Any passing vessel can retrieve messages stored in a cache by transmitting the correct interrogation and reciprocal coordinates. Once

the cache receives the interrogation signal, it transmits its data to the vessel, using the supplied reciprocal coordinates to aim the HPG transmission.

Several message cache sites have been discovered by the Explorer Corps, and Corps leaders initially believed the HPG network might lead to the Clan homeworlds. However, each cache apparently operates independently, so a single cache reveals no information about the location of any other cache. Furthermore, each cache sends and receives messages only within a 50-light-year radius.

The Explorer Corps' DRUM (Direct/Reciprocal Unmanned Message) network, known by Corps personnel as the Grapevine, operates in a similar fashion. The DRUM network consists of a large number of cache sites, each placed within 50 light years of at least two other caches. Together, these caches form an extensive network across the Deep Periphery. At pre-set times, usually once per day, each cache transmits a copy of its contents to each cache site within range, the coordinates of which are stored in the on-board computers. This allows messages to propagate up and down the network. In addition, appropriately coded priority messages can prompt a cache site to forward a message immediately, allowing swift communications across long distances.

Even if it carries no waiting messages, each cache transmits a "ready" signal to its neighbors once a day to indicate its operational status. The failure of any cache to send this signal enables Corps technicians to immediately detect any possible malfunctions or sabotage. The DRUM network allows an HPG-equipped vessel to transmit messages from virtually any point in the explored regions of the Periphery to any other point. Security is not as tight as on the Clan system, but the system is of more practical value. The main limiting factor of the DRUM network is the amount of time, money and manpower required to build and deploy new sites and upgrade and repair existing ones.

On certain important occasions—such as council sessions held to elect khans—HPG-equipped Clan vessels also form communication "chains" between the Inner Sphere and the Clan homeworlds. Each vessel acts as both transmitter and receiver, passing data both directions along the line, while receiving data from both neighbors. Though simple in theory, arranging the vessels in the appropriate locations presents a major technological challenge. Additionally, each vessel must receive and process data and transmit it to two sources simultaneously. Surprisingly, the transmission is the quickest part of the operation, as the HPG can transmit to one site, reconfigure, transmit to the second site and then back to the first site in a matter of seconds. The process requires a high speed, sophisticated and well-maintained communications array, however, along with a phenomenal amount of power.

Receiving signals is more of a problem, because time-lag constraints require that the target of each HPG burst be within 1,000 meters of the receiving vessel. Furthermore, HPG transmissions generate electromagnetic pulses at their emergence points. Each second, a receiving vessel is subjected to several of these pulses, which temporarily blind all of the vessel's sensor and fire-control systems. These effects, combined with the

massive power drain required by the HPG transmissions, leaves the vessel vulnerable to enemy attack. These debilitating effects continue after the message is terminated—often up to five minutes for each minute of communication.

DAILY ROUTINE

Though the daily routines of all military installations, whether planetary or spacefaring, share many similarities, Explorer Corps personnel should review the following specific information before embarking on long-term missions.

WATCH CYCLE AND DRILLS

The naval command long ago adopted the Terran Standard Time system (based on the Greenwich Mean Time standard employed for centuries on Terra) as its time-keeping standard, but the daily routine on most ships follows an eighteen-hour rotating watch cycle. Under this system, every crew member spends a six-hour watch "on-duty" manning his appointed station and performing any regularly assigned duties. A four-hour shift of study, secondary duties and training follows, then an eight-hour period of "down time" for sleep, recreation and meals. Crew members' duty watches are constantly rotated in an erratic fashion to prevent the crew from settling into rigid activity cycles and to prevent enemy forces from predicting shift changes on the vessel.

All spacefaring crews regularly perform drills to hone their responses to a range of emergencies including fires, hull breaches and enemy attacks. These emergency-response exercises keep the crew up to speed on necessary skills and help relieve the tedium of long-term missions. A perennially popular drill with vessel crews is the boarding action drill, in which one of the off-duty crews takes on the role of aggressor and "invades" the ship. Both sides are supplied with low-powered laser weaponry and sensor harnesses to register "wounds," and the various teams commonly keep score of the past losses and victories of such drills.

FOOD

Unlike naval vessels of bygone eras, modern spacefaring vessels commonly offer diverse and abundant selections of food. A combination of refrigeration, irradiation and chemical treatments ensures that even after a year in space a vessel will possess plenty of "fresh" food. Though food is nominally rationed, most crew members may choose from a wide selection of food at each meal.

Foodstuffs break down into two basic categories: G-foods and zero-G foods. G-foods are consumed in standard gravitational environments and are much the same as foods found on any planetary surface. Zero-G foods are designed to be consumed in microgravity conditions. These items are usually tubes of pastes or liquids.

Unlike vessels operating within the Inner Sphere, Explorer Corps ships must often remain away from base for years at a time. As a result, the range and supply of foodstuffs on Corps vessels is somewhat more limited. Some vessels with large, unallocated cargo capacity can afford to carry additional food-

stuffs and luxury goods, but generally the cuisine on Corps' vessels is meager, monotonous and tightly rationed.

RECREATION AND EXERCISE

To counteract the potentially harmful physiological and psychological effects of long-term space travel, most JumpShips and WarShips provide extensive recreation facilities. Such areas are usually the most popular onboard facilities among crew members, though off-duty personnel often jog around the outer accessways on the crew decks. Such regular exercise helps counteract the effects of prolonged exposure to microgravity and helps maintain individual morale.

In addition to physical recreational facilities, most vessels carry extensive computer libraries that contain thousands of books, holovids and musical recordings. Crew and passengers may access such libraries though numerous computer terminals located throughout their ship, or through downloads onto portable "readers."

QUARTERS

The design and use of crew and passenger quarters varies considerably from ship to ship. While most vessels have sufficient quarters to house their entire crew and passenger complement, occasionally a ship may lack sufficient bunks to accommodate everyone aboard. In these circumstances, the ship's passengers must take turns sleeping in the existing bunks. This so-called hot bunking can have serious impact on morale, however, so most captains avoid issuing such orders whenever possible.

DOCKING

Docking maneuvers are among the most hazardous maneuvers performed by space craft, yet they are a routine part of life in space. Though docking vessels normally operate at extremely slow speeds of acceleration, their close proximity exposes both ships to considerable risk in the event of a collision. Generally, when two vessels dock, the larger craft remains in a fixed attitude and the smaller vessel maneuvers, though these roles may be reversed.

SMALLER CRAFT MANEUVERING

Whenever possible, the larger of the two docking vessels adopts a fixed position in space, known as station-keeping. JumpShips spend the majority of their existence at station keeping, changing status only to maneuver or jump. For this reason, most JumpShips carry special station-keeping thrusters, which provide low-powered thrust to counteract any force that might push the ship out of its fixed position. DropShips and other small craft use their transit drives and maneuvering thrusters to cancel the effect of outside forces when station keeping.

Only after the larger craft has achieved a stable, fixed position does the smaller craft begin its docking maneuvers. If the smaller craft is a DropShip docking with a JumpShip or station, the DropShip will use its transit drive to slowly maneuver to within 1,000 meters of the target vessel. Then the craft will shut off its transit drive and use its maneuvering thrusters to align its

stern toward a docking collar on the target vessel. Then the DropShip slowly backs toward the target. If the DropShip is an aerodyne design, its docking collar will usually be located along its underside, so it must align its underside toward the target before approaching it.

Most JumpShips and stations have observation posts alongside each docking collar so that an observer can help direct the alignment and approach of a docking vessel. Additionally, many stations maintain specially trained docking pilots on their crews who transfer aboard the incoming craft and help guide its approach.

Once the docking collars of the DropShip and JumpShip have been locked into place, the DropShip switches to docked status. The docking collars of modern vessels typically contain all necessary umbilical and transfer conduits, an arrangement that speeds and simplifies the docking process.

LARGER CRAFT MANEUVERING

On some occasions, such as a JumpShip docking with a space station, the larger vessel must maneuver. Fortunately, such docking maneuvers do not require the pinpoint accuracy needed to match the docking collars of two mobile vessels. Instead, the docking vessel uses its maneuvering thrusters to approach the target, then magnetic arms extend from the target to steady and hold the docking vessel in place. The station then extends sealed walkways to the maneuvering vessel's docking ports.

RENDEZVOUS

Occasionally two similarly sized vessels will dock with each other. In such cases, the two vessel captains simply decide which vessel will remain stationary and which will maneuver. Then the designated target adopts a station-keeping attitude, and the second vessel uses its maneuvering thrusters to align itself and approach the target vessel.

The approach and positions of the vessels vary, depending on the vessels involved. Two spheroid DropShips will likely use their nose-mounted secondary docking collars to facilitate an easier approach. Aerodyne DropShips and JumpShips typically maneuver alongside the target vessel, then both ships extend their docking walkways.

UNDOCKING

Undocking is a much simpler maneuver than docking, but also carries certain and very real risks. Most DropShips departing a transport JumpShip simply use their maneuvering thrusters to separate from the host vessel once both vessels' docking collars have been released. Some DropShip captains use main transit drives for this maneuver, though the practice is not popular among JumpShip pilots as a DropShip drive plume might damage a JumpShip at such close range.

DropShips undock from stations in much the same manner, but larger craft or nose-docked DropShips must first back away from the station before turning 180 degrees and engaging their main drives. Such maneuvers are usually carried out using a few tenths of a G of thrust, but during emergency undocking procedures vessels may use full power to quickly gain distance from the host station.

EMERGENCY EVACUATION SYSTEMS

On rare occasions, the passengers and crew of a ship may have to abandon the vessel. Depending on the reason for the evacuation, crews may perform the action in a number of ways.

Perhaps the simplest method is to transfer the crew and passengers to another craft docked to the distressed vessel. While this method is ideal for JumpShips or WarShips carrying DropShips, it is less practical when the distressed craft is not already docked with another ship. If the situation on the craft is serious enough to warrant abandoning ship, it will almost certainly endanger any other vessels in the immediate vicinity. Consequently, most ship captains will not willingly dock their vessels with a distressed craft.

Life boats and escape pods are the next option. Most large craft carry some of these small craft, which can accommodate between six to twelve passengers apiece. Life boats feature small thrusters, which enable them to maneuver in space, and para-sails for terrestrial landings. Escape pods contain no maneuvering or drive systems. Both designs carry small food supplies.

A few vessels carry Personal Re-entry Units (PRUs), ablative cocoons that allow unassisted re-entry into a planet's atmosphere. Users must carry their own life-support systems, either in the form of a pressure suit or a hand-held unit. PRUs possess no integral landing systems, so the user must also possess a parachute or jump pack.

The most dangerous evacuation option is a technique known as unassisted evacuation. In simple terms, unassisted evacuation involves putting on a pressure suit and possibly a maneuvering pack, and jumping into space via an airlock. The life-support systems in a typical pressure suit fail after eight hours, but all suits contain manually triggered omni-directional location beacons. These beacons send out distress signals that enable vessels to locate a pressure suit in space.

GRAVITATIONAL EFFECTS

The effects of gravity in non-terrestrial environments represent the most ubiquitous and potentially disconcerting feature of space travel. Generally, these effects fall into two classifications: microgravity and high gravity.

MICROGRAVITY

Microgravity, or "zero gravity," as it is more popularly known, simply denotes the effects of gravity in a field well-removed from any large gravitational bodies. In microgravity environments, the lack of strong gravitational forces makes people and objects "float" as if suspended in water. Ship crews spend much of each duty tour in microgravity conditions.

Effects and Countereffects

Long-term exposure to microgravity conditions causes numerous adverse health effects. The decalcification and weakening of bones are the best known effects, but studies have also flagged a frequent occurrence of electrolyte imbalance and a cessation of natural hormone production. Prolonged periods of exposure to microgravity may make these changes irre-

G·FORCE COMPENSATION

Figure A

Thrust Axis
(Direction of Flight)
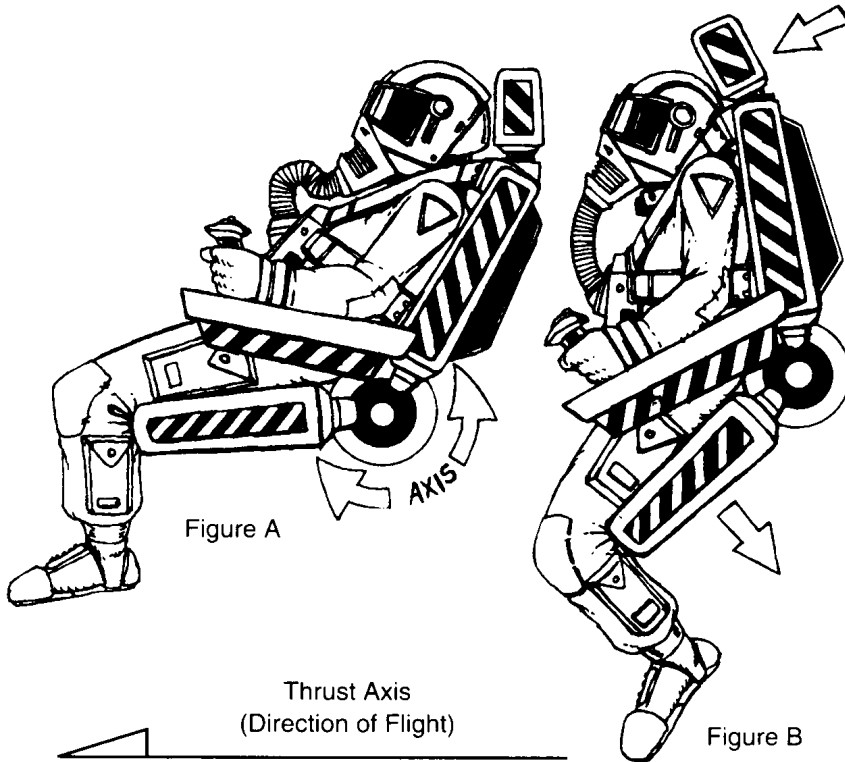
Figure B

Under normal flight conditions a pilot is seated in a relaxed horizontal position (see figure A). During high-G maneuvers, however, the pilot's seating position becomes perpendicular to the thrust axis (see figure B). This minimizes the effects of G-force on the pilot.

versible, and may prevent an individual from living in standard terrestrial-gravity environments. In extreme cases, these conditions may even cause death.

Long-term exposure to microgravity environments also reduces much of the physical stress normally placed on a body, resulting in loss of muscle tone. To counteract this effect, most space vessels provide exercise facilities for their crews. The lack of physical stimuli provided by physical stress can also cause gradual degradation of synaptic pathways, leading to potential neurological disorders.

In addition to regular exercise, the use of so-called artificial gravity can also help combat these debilitating effects. Typically, vessels mimic the effects of terrestrial gravity with the use of grav decks and ship acceleration. Grav decks are simply large rooms that spin at a steady rate, generating centrifugal force to imitate terrestrial gravity conditions. Crewmen and passengers use the grav-deck facilities according to an established rotation to ensure that all ship inhabitants benefit from "G-time." On the largest space stations, the grav decks contain permanent habitation areas.

DropShips, WarShips and other mobile craft commonly use acceleration to provide a respite from microgravity conditions. Because such maneuvers require a considerable amount of

fuel, however, ships usually try to coordinate scheduled periods of artificial gravity with system transit. Unlike grav decks, the "artificial gravity" generated by an accelerating spacecraft affects the entire vessel, not just a select area. This enables the entire ship's complement to benefit from the effects simultaneously, but actually may cause problems for crew members unaccustomed to terrestrial gravitational levels, such as JumpShip crews. Artificial gravity created by accelerating will also affect any vessels docked to the accelerating craft; docked ships must match their orientation to the JumpShip or WarShip to make use of the artificial gravity and avoid damage.

Movement Methods

Artificial gravity makes moving about a spacefaring vessel almost effortless, but movement in microgravity conditions poses some very specific challenges. Most craft contain several color-coded hand-lines that crew members and passengers can use to pull themselves up and down corridors. Red lines are reserved for travel toward the vessel's nose, while blue lines indicate travel toward the stern. Within each deck, green lines are used for anti-clockwise travel, while yellow lines are for clockwise movement. White lines allow passengers and crew to travel freely in any direction. Many hand-lines on main accessways are motorized and pull the traveler in the direction indicated. Most, however, are fixed lines along which crewmen and passengers must pull themselves.

A few acrobatic souls choose to "free float," gliding weightlessly along corridors. This barely controlled movement poses considerable risk of injury to other travelers from collisions, however, so many captains restrict free-floating to specific corridors or areas.

Magnetic slippers, cloth shoes that fit over normal footwear but whose soles contain magnetic fibers, offer another common movement mode for microgravity conditions. These enable a wearer to walk normally along the metal surfaces of the ship.

HIGH GRAVITY

Higher gravitational levels, whether on a planetary surface or caused by extreme acceleration, also pose serious health hazards. Increased gravity places additional strain on human musculature, especially the heart, and on the respiratory and circulatory systems. The amount of strain a human can withstand depends on numerous factors, but the two most important are the level of G-force and the duration of the exposure.

Relatively low G-forces can be endured for hours or days. Most humans can bear up to 1.5 Gs (1.5 times Terra's gravity), though overweight people and those who have heart defects or have experienced prolonged exposure to microgravity may experience noticeable discomfort at this level. A normal, healthy human can withstand G forces up to 5 Gs for short periods, such as during the lift-off of a DropShip. (Forces within launch-

ing spheroid vessels may reach 4 Gs, whereas aerodyne ships lifting off from runways rarely exceed 2 Gs.) Usually, higher G-forces are encountered only during battle maneuvers performed by DropShips or aerospace fighters. The Inner Sphere *Achilles* and the Clan *Noruff* class DropShips are both capable of performing 6-G maneuvers, for example, and the Star League-era *Swift* light aerospace fighter can reach a phenomenal 10.5 Gs of acceleration.

The main risk from enduring high G-forces comes from gravity's effects on the human circulatory system. In a DropShip, where acceleration pulls occupants toward the floor, high G-forces cause the body's blood to pool in the lower limbs and trunk. This deprives the brain of oxygen and almost invariably causes unconsciousness. This condition is known as blackout, because the affected person's vision darkens as unconsciousness approaches. Provided that normal blood flow is restored within a minute, little permanent damage results from blackout.

The condition known as redout occurs when G-forces pull the subject from above. The body's blood pools in the upper torso and head, causing the brain to shut down and numerous blood vessels to burst. (The increased levels of blood in the eyes colors the person's vision pinkish-red, hence the name.) Victims of redout may remain unconscious for several minutes, and his or her vision will be impaired for several weeks. In the worst cases, the damage to blood vessels in the brain may result in impaired mental functioning or death. Fortunately, situations that force the blood to pool in the upper torso rarely occur.

Without any sort of special equipment, a human may experience up to 6 Gs before suffering blackout and falling unconscious, though redout can occur at levels as low as 2 Gs, given the appropriate circumstances. G-suits, which inhibit the circulatory system as G-forces increase, enable humans to withstand up to 9 Gs and remain conscious. Such suits dramatically reduce mobility, however, and the reduced circulation they are designed to create may actually harm the wearer if maintained for more than a minute.

To mitigate the effects of high G-forces on aerospace pilots, the cockpits of newer aerospace fighters are sometimes configured with adjustable seats and controls so that a pilot may lie perpendicular to the thrust axis of his fighter during maneuvers in space. One example of such a design is the

Federated Commonwealth's BSE-X2 *Banshee*. This arrangement prevents a pilot's blood from pooling in his head or legs when the pilot is subjected to the high G-forces created by the fighter's acceleration. A pilot wearing a G-suit in such a craft can withstand up to 11 Gs before falling unconscious.

HYPERSPACE PROCEDURES AND PRINCIPLES

Kearny-Fuchida hyperdrive systems (commonly known as K-F drives) enable JumpShips to instantaneously travel distances of up to 30 light years. Drive malfunctions or improperly executed jumps can result in disastrous consequences, making it imperative that all personnel possess a working knowledge of jump procedures and principles.

BASIC JUMP PROCEDURE

The first step in performing a jump is charging the K-F drive (see **Drive Charging**, p. 42). Next, the JumpShip navigator enters the destination's jump point coordinates into the vessel's navigation computer, which calculates the field parameters needed to move the JumpShip and any connected DropShips from their current location to the destination. Because gravitational forces affect the K-F fields produced by K-F drives, JumpShips travel between predetermined points in space that feature insignificant gravitational forces. The most stable and commonly used jump points (also known as proximity points), are situated directly above and below the gravitational poles of the destination system's star. At these points, the gravitational forces of the star and any planetary bodies in the system are in a state of virtual equilibrium. Other points of arrival exist away from these zenith and nadir points, but these non-standard jump points are difficult to calculate and may prove hazardous to use (see **Non-standard Jump Points,** p. 41).

As soon as the navigational calculations are complete, the ship's jump officer (the designated officer in command during the jump) alerts the crew to secure all fittings, and then initiates the jump program with a single command. Initiating the program triggers warning klaxons and beacons, which alert the ship's crew and passengers to the upcoming jump. The K-F drive requires several minutes to reach ready status. Ten seconds after ready status is achieved, the drive-generated K-F field expands and the vessel makes the hyperspace transition known as a jump.

Adverse Health Affects of Hyperspace Jumps

Most people suffer no more than mild physical and psychological discomfort and disorientation during hyperspace travel. Some individuals, however, may experience more extreme reactions.

Most commonly, such reactions consist of extreme nausea and dizziness caused by the disturbance of the inner ear during hyperspace travel.

Less frequently, hyperspace travel triggers hallucinations. Travelers suffering from this form of jump sickness claim to see atomic structures, become convinced that planetary systems have been reduced to the scale of atoms, or see personal demons from their subconscious minds. Usually, these effects last only as long as the jump, but occasionally such hallucinations result in catatonia.

In very rare cases, a hyperspace jump may trigger physical shock. Passengers who suffer such extreme reactions must receive immediate medical attention or they will likely die. For this and other reasons, all JumpShip and DropShip crews are trained to provide first aid, and all vessels position medical kits at key points throughout the ship.

Current medicine offers no reliable method of predicting whether an individual is susceptible to any of these more dramatic effects.

L4

L3   ● L1 X ● X L2
   (STAR)   ORBITING
      ✳ L5   BODY
                  (Planet)
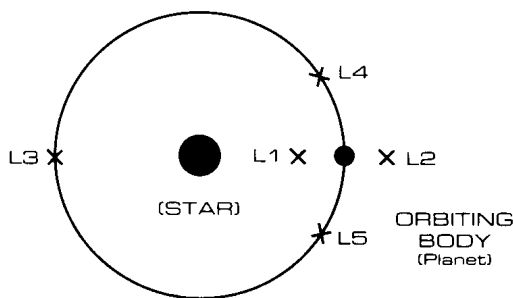
Lagrange Points

Whenever a star system includes two or more astronomical bodies, the interaction of those bodies' gravitational effects generate a number of points of relative stability or gravitational equilibrium. These points are known as Lagrange points, so-called for the eighteenth-century French mathematician who predicted their existence.

In a simple two-body system, five points of gravitational equilibrium exist. The primary point lies between the two bodies, on a line between the centers of mass, at the point where the gravitational pull of each body is balanced. This is known as the L1 (Lagrange 1) point. The L2 point lies behind the smaller body, again aligned with both bodies' centers of mass, while the L3 point is situated behind the larger body. These three points are considered pseudo-stable points, because objects at such points fall toward one body or the other.

Points L4 and L5 occupy positions in the orbit of the smaller body, located 60 degrees ahead of and behind the smaller center of mass. These are true stable points. Though the positions of objects in these points will oscillate, the objects will not fall toward either body unless external force is applied.

Single body or multi-body systems do not follow this model. Single body systems lack Lagrange points, while multi-body systems contain multiple points, some of which are constantly shifting, appearing and disappearing.

Daring captains with powerful computers and accurate system models may use these transient stable points to jump into or out of a system, shortening their journey times and achieving tactical surprise.

—Excerpted from *Principals of Navigation*, Star League Press, 2762

The jump itself "blinds" the vessel's sensors, which recover approximately 30 seconds after the vessel arrives at its destination, and causes mental disorientation among crew and passengers. The extent of this disorientation varies, generally ranging from a few seconds to fifteen minutes or more. (In rare cases, a hyperspace jump can even trigger hallucinations, psychosis and physical shock.) As a precaution against hostile attack during this inevitable period of disorientation, many military JumpShip crews go to Code Red/battle stations status before jumping.

To verify its location after the jump, the vessel's optical sensors triangulate the ship's position in relation to charted stars and compares its data to the planned destination. Most JumpShips arrive within 5,000 meters of their planned destinations, and some modern military JumpShips are capable of arriving with 500 meters of their intended destinations.

Unfortunately, not all jumps are completely successful. Drive problems, navigational errors or natural phenomena may cause a JumpShip to arrive at an unplanned destination, commonly termed a misjump. On some occasions, the ship arrives only a short distance off course and the vessel can maneuver to the correct position. On other occasions, a vessel may end up somewhat further afield and need to make a second jump to reach its objective.

A severe misjump may damage a vessel's drive core, forcing the ship to perform emergency repairs in order to return home. Most vessels that experience severe misjumps end up stranded in space, however, unable to return to their ports of origin. Salvage ships recover a percentage of these drifting hulks over years and decades, some discovered by chance and some after their emergency transmissions reach nearby star systems, but the vast majority simply disappear from known space.

DOUBLE JUMPING

Some JumpShips are equipped with lithium-fusion battery systems. These systems store extra charges for a ship's K-F drive, enabling a vessel to make a second jump within a relatively short time period. (The complex power-distribution requirements of lithium-fusion battery systems prevents JumpShips from realizing any benefit by using more than one battery system. Efforts to fit ships with multiple battery systems to achieve multiple-jump capability have resulted only in major losses of drive efficiency and increased recharge times.) Certain operational limitations govern double-jumping, however, and the process also exacerbates the hazards inherent in hyperspace travel.

The main operational limitation concerns the minimum time between jumps. Two factors influence this time—the period required to bring a ship's navigational array back online after its first jump, and the period required for the first K-F field to contract. Normally, a vessel's navigational sensors recover within 30 seconds after a jump. An operational navigational array is a primary requisite for a controlled jump, and so 30 seconds is the absolute minimum time a ship must wait before performing a second jump.

The contraction period of a ship's K-F field depends on two factors—the distance traveled on the first jump, and the JumpShip's DropShip load. The K-F field of a small JumpShip traveling a short distance may contract completely before the ship's navigational sensors come back online, but ships making longer jumps and larger vessels may have to wait for their K-F fields to collapse before making a second jump. On the largest WarShips, the K-F field may require up to six minutes for complete collapse.

Though the operational limitations of double jumping appear relatively minor, the process can dramatically increase the hazards of jumping. Double jumping basically doubles the stresses inherent in a single jump and does not provide a JumpShip crew with adequate time to inspect their vessel for jump-related damage.

The accumulation of static electricity during double jumps presents the most dangerous hazard. Normally, static charges dissipate naturally following a jump, and JumpShips routinely undergo de-gaussing when in port to disperse any residual charge. Double jumping provides little time between jumps for static charges to dissipate, however, so such charges may build to dangerous levels. Though JumpShip

systems are shielded against electromagnetic radiation from external sources, the K-F field-expansion process prevents the ship's interior systems from receiving similar protection. A discharge of static electricity during the second jump may disrupt operating systems in the vessel and disrupt the jump process—with potentially lethal consequences. Though static charge buildup presents a very real risk, static charge accidents remain quite rare.

Micro-fractures and drive-core helium leakage are much more common hazards. Stress micro-fractures along a ship's drive core do not immediately threaten a ship. But if not repaired, these fractures may cause minor problems with the K-F field, lower the core's capacity to store energy, and generally degrade the drive's operational integrity. All jump conditions place stress on the integrity of drive-core helium seals; seal failure requires major repair work and replacing the lost helium. Double jumping considerably increases the likelihood of seal failures.

Double jumping also exacerbates the strain of hyperspace travel on a ship's crew by increasing the severity and duration of the disorientation suffered during a jump. Even experienced crews are more likely to suffer intense psychological trauma during a second jump as their brains try to recover from the trauma of the first jump.

To minimize the strain on ship and crew, most JumpShips wait several hours or even days between jumps, except when the risks of delay outweigh these potential hazards. In fact, many vessels equipped with lithium-fusion batteries jump no more than once every three days, alternately powering their jumps with their batteries and jump sails.

NON-STANDARD JUMP POINTS

To effect a successful jump, a JumpShip's K-F drive must expand and maintain a stable K-F field to encompass the vessel as it passes between its origin and destination points. Gravitational forces seriously affect the parameters of the field—in fact, the forces in a gravity well may cause a K-F field to collapse, with potentially catastrophic results for the vessel involved. To avoid such a collapse, the field—and therefore, the jump—must originate and terminate at points where gravitational forces are in equilibrium.

The Crazy Jane Maneuver

The so-called Crazy Jane maneuver is a highly dangerous tactic that exploits the characteristics of multiple K-F-field interaction. The maneuver was invented by Captain Jane Hargreaves of the Terran Hegemony *Aegis* Class heavy cruiser *Spark*. During the battles for Kentares in 2431, the *Spark* was assigned to a task force ordered to harass Federated Suns supply lines. Not wishing to violate the newly created Ares Conventions, which prohibited attacks on civilian targets, Hargreaves set about accomplishing her mission with a minimum of bloodshed.

Using the *Spark*'s sophisticated navigational array, Hargreaves would plot an intra-system jump, moving her vessel only a fraction of a light-year but arriving within a few kilometers of her target. In the minute or two it would take the merchant vessel to react and begin escape procedures, the *Spark* could recover from the jump and close to within a few hundred meters of its target.

Unable to jump because of the proximity of the *Spark*'s drive core, the lightly armed merchant vessel would have little choice but to surrender. Of course, the *Spark* always ran the risk that one day a panicked JumpShip captain would try to escape and destroy both vessels in the process.

—Excerpted from *WarShip Tactics of the Terran Hegemony,* Aerospace and Interstellar Institute Press, 3058

The most common type of jump points, called standard jump points, are located above the two gravitational poles of a star (see **Basic Jump Procedure,** p. 39). Because these points do not shift, they represent by far the safest type of jump point.

Non-standard jump points, commonly called pirate points, include any points of gravitational equilibrium within a star system other than the system's standard zenith and nadir points. (The most commonly used type of non-standard points are Lagrange points.) Unlike standard jump points, however, non-standard jump points do not have fixed locations. The complex gravitational interaction of the system's stars, planets and other astronomical bodies means that non-standard points are constantly moving, appearing and disappearing at irregular intervals. This characteristic makes calculating such points extremely difficult even with powerful computer systems and accurate astronomical data. Additionally, vessels using non-standard points stand far less chance of being rescued in the event of a malfunction than those using standard points. For this reason, non-standard points are generally used only in emergencies or by JumpShip crews seeking to conceal their arrivals in star systems (such as pirate vessels).

OBJECTS WITHIN A K-F FIELD

Any object within a JumpShip's K-F field (a vessel's K-F field normally extends up to 1,000 meters from the vessel) is exposed to considerable gravitational and electromagnetic stresses and is likely to sustain damage. An object within a ship's field produces opposing effects, but generally these are too weak to affect the arriving or departing JumpShip—unless that object is another JumpShip.

In such cases, the drive coil of the second vessel will distort the jumping ship's K-F field, with serious consequences for both vessels. Typically, the initiating vessel's drive controller will automatically abort a jump in such a situation, losing the drive's charge but saving both craft. If the controller is malfunctioning or the vessel's crew overrides the controller, however, the vessel may misjump and suffer extensive damage. Most such vessels are lost.

Consequently, JumpShips commonly observe strict protocols when operating in the vicinity of other vessels. Usually, a fleet commander designates an entry/exit zone, which all departing and arriving vessels use. All recharging or waiting vessels take up stations well away from this designated zone.

This protocol, observed even in the Deep Periphery, safeguards these expensive interstellar craft from damage.

The field-interaction problems of multiple JumpShips also prevents JumpShips from transporting disabled jump-capable vessels, forcing crews to repair damaged JumpShips in the field. Vessels that cannot be adequately repaired to ensure safe travel must be abandoned. Typically, such vessels are placed in "parking" orbit so they later can be recovered and repaired if possible. On rare occasions, however, strategic or security requirements may necessitate the destruction of a disabled vessel. A crew may accomplish this task by sending the vessel on a trajectory toward the system's primary star or by planting and detonating demolition charges within the vessel.

DRIVE CHARGING

All JumpShips must recharge their Kearny-Fuchida hyperdrives and/or lithium-fusion batteries before they can perform a jump. Most JumpShip crews prefer to remain near a jump point and perform such recharge operations immediately after completing a jump, so that they can later initiate a jump on short notice if necessary. K-F drives and batteries may be recharged with a vessel's jump sail or power plant. If a JumpShip contains a lithium-fusion battery, the crew normally will use both the sail and the power plant to charge the vessel's battery and drive core simultaneously. Crews rarely use either the jump sail or power plant to simultaneously charge drive cores and battery systems, because this practice causes a drastic reduction in the recharge rate and places a severe strain on the vessel's power system.

To perform solar-sail recharging, the JumpShip's crew must first align the vessel's nose to the system's star. Normally, the alignment operation takes only a few minutes, during which the entire vessel crew is placed on maneuver alert. Once the ship is properly aligned, the vessel crew begins to deploy the ship's jump sail, an operation that may take up to 90 minutes.

Once the sail is deployed, the recharge operation can begin, though the pressure on the sail caused by the light energy from the star, the so-called stellar wind, immediately begins to slowly push the JumpShip away from the star. To counteract this force, the vessel's station-keeping thrusters are fired through the hole in the center of the sail.

The base charging time for both drive-core and lithium-fusion systems is 150 hours. (Using a vessel's reactor for recharge operations will lower these base time, but this practice may damage the ship's drive system and the vessel itself.) If using a jump sail to recharge a system, the charging time may range from 151 to more than 200 hours, depending on the class of star in the system. However, jump-sail charging conserves fuel and minimizes the risk of damage to a ship's drive.

Drive cores and battery systems may be charged more quickly, but faster charging rates place considerable stress on these systems. The level of stress, and consequently the chance of damage or failure, are inversely proportional to the time taken to charge the system. At the base charging rate of 150 hours, the chance of damage is negligible. A rate of 100 hours produces a 16-percent chance of failure and damage. A 75-hour rate increases the chance of failure to 27 percent, and a 24-hour rate yields a 50-percent chance of damage. The potential for system failure increases considerably below this rate, and any attempt to charge the drive in less than 16 hours inevitably results in severe damage.

Drive damage or failure ranges from the simple loss of a stored charge, through various component failures, to complete destruction of the drive. Such failures may strand a vessel in space, but they will not affect the vessels' life-support systems. Fast-charging a lithium-fusion battery may have far more dire consequences, however. Fast-charging such batteries generates large quantities of heat, which may cause a battery system to explode and severely damage a JumpShip.

INTERNAL ATMOSPHERE/ENVIRONMENT

All spacefaring vessels carry an integral means of generating and/or purifying air to sustain their crew and passengers. Most vessels contain numerous "scrubbing" systems on each deck that use mechanical and chemical methods to remove carbon dioxide and other potentially harmful gasses and compounds from the air. The physiological processes of the ship's crew and the routine functioning of its operating systems produce these harmful elements, and so without such scrubbers these elements would rapidly accumulate and render a vessel uninhabitable. Human accessways and dedicated atmospheric ducting provides the means of circulating scrubbed air throughout a ship.

To further guard against atmospheric contamination and the ever-present chance of catastrophic pressure loss caused by a hull breach, all modern ships are arranged into compartments separated by hybrid doors and bulkheads controlled both manually and by computer. In the event of a localized contaminant leak or hull breach, the sensors in the affected compartment detect the emergency and the ship's computer system automatically seals the compartment from the rest of the ship. Manual controls allow the crew members on the bridge or the engineering section to override the computer if necessary; understandably, access to such life-support systems is highly restricted.

As an additional precaution against atmospheric contamination or pressure loss, all vessels carry emergency pressure suits located in every ship's compartment and along all accessways. Only slightly more bulky than ordinary crew jumpsuits, these pressure suits include integral boots and gloves, as well as wrist and neck seals. The gloves may be detached from the suit and stored in a pocket on the right thigh. The suit's "helmet" consists of a faceplate and oxygen mask that covers the mouth, nose and eyes. The remainder of the helmet is formed of a tough material that stretches across the rest of the head and forms an airtight seal when connected with the suit's neck fastenings. These emergency suits contain enough oxygen to sustain an individual for approximately thirty minutes—theoretically enabling the wearer to reach a pressurized or untainted compartment of the ship.

Though most passengers and crew wear conventional clothing or uniforms while aboard spacefaring ships, some crew members, particularly engineers and technicians, normally wear light-

weight pressure suits. Unlike emergency suits, these pressure suits contain hookups for power and oxygen, as well as additional storage pouches for equipment. All ships also carry heavier engineering and full environmental suits, but these are used only in special circumstances.

A sufficient supply of pure water is a key concern on any long-term voyage because travelers require enough water each day for human consumption, food preparation and personal hygiene. For example, a typical JumpShip uses almost 25,000 gallons of water per day, though consumption on various classes of DropShips or WarShips may vary considerably from that figure. Clearly, without some sort of reprocessing system a vessel would quickly run out of water. For this purpose, vessels carry distillation plants to recycle water, which is then stored in tanks distributed throughout the ship.

Any waste material that cannot be reprocessed is either stored until the vessel returns to port or collected into plastic injection-molded receptacles manufactured aboard ship. These containers are then jettisoned from a hatch in the engineering section and incinerated by the vessel's drive plume.

PSYCHOLOGICAL EFFECTS

Long-term space travel offers the potential for numerous adverse psychological effects that can impact on personal and crew performance. Fortunately, most of these can be successfully reversed and/or prevented. The three most common psychological problems are isolation, claustrophobia/agoraphobia, and general psychological tensions.

ISOLATION/ROUTINE

Life in the closed environment of a spacefaring vessel lacks many of the most common stimulating factors of normal life. The lack of terrestrial gravity reduces the level of physical activity and sensory stimulation, the relative isolation of a long voyage deprives passengers of the myriad intellectual and social stimuli provided by terrestrial life, and the routine of shipboard life can create considerable tedium. These factors may lead to introversion and loss of identity among passengers. In extreme cases, sufferers may slip into their own fantasy worlds, believing that the real world is an illusion. The most effective method of preventing isolation and boredom from reaching a critical point is to encourage the use of all recreation facilities and varying the shipboard routine as much as possible.

PHOBIAS

The unique nature of space travel may also aggravate or trigger claustrophobia (fear of enclosed spaces) and agoraphobia (fear of open spaces) among passengers.

The enclosed nature of spacefaring vessels, together with the restrictive lifestyle, may prompt or exacerbate claustrophobia. Most crew members are pre-screened for claustrophobic tendencies before they join a vessel, but events during a mission may trigger the condition in otherwise unaffected persons.

In contrast, the vast emptiness of space (particularly in the Periphery and beyond) outside a vessel may trigger agoraphobia. Unlike claustrophobia, agoraphobia can be quite difficult to identify and may be triggered by events impossible to predict.

GENERAL TENSIONS

Extended time spent within the close confines of a space vessel often create or exacerbate existing tensions among crew members and passengers. Often, such tensions can build up until such innocuous matters as personal mannerisms, attitudes or minor arguments can trigger violent outbursts and physical confrontations between crew members. Little can be done to prevent such incidents once a voyage is underway, but commanders may lessen the potential for such problems by carefully selecting crew members for their compatibility and individual self-discipline. Additionally, commanders may grant their crews considerable freedom when in port to compensate for restrictions imposed on them while in space.

The extended isolation and close confines of a space vessel can also lead crew members and passengers to seek romantic relationships with one another. Though such developments are inevitable, romantic pairings frequently elicit jealousy among other crew members. Additionally, crew members in such relationships have a much harder time avoiding their former partners in the event their relationships end—a situation that can create additional tension. For these reasons, commanders and personnel must always take great care to ensure that such relationships do not endanger the overall performance of the entire crew.

SHIP STATUS

Standard terms and identifying codes are used to designate the status and readiness state of spacefaring vessels. These terms and codes indicate a craft's ability to respond to a situation. Typically, status-indicator lights appear directly above the numerous communications panels of a vessel.

SIGNATURES AND DETECTION

All spacecraft produce various signatures such as emergence waves, radar signatures, and HPG signatures that enable other vessels to detect their presence. All Corps personnel must thoroughly acquaint themselves with such signatures in order to better detect other vessels and conceal their own ships.

JUMPSHIP SIGNATURES

The most powerful signatures are the emergence waves produced by JumpShips when they jump into a system. An emergence wave is the electro-magnetic pulse produced by the collapse of the vessel's K-F field. The pulse radiates out from the arrival point at the speed of light and can be detected by any observer equipped with deep radar. Most military vessels and orbital facilities possess such radar, as do many military ground bases and civilian spaceports. Though an emergence wave may be detected at up to 15 astronomical units (2.25 billion kilometers) from its point of origin, the pulse becomes increasingly diffuse as it travels through space, and at such distances indicates only the general location of the JumpShip.

JumpShips arriving in-system also produce infrared (IR) signatures. Only craft in relatively close proximity to a JumpShip (approximately 50,000 km) can detect the JumpShip's IR signature, which becomes noticeable as the ship's K-F field begins to

STATUS AND CODE TABLE

Docked/Code Blue

The vessel is docked to a space station or another vessel. The vessel will not attempt any maneuvers, and hostilities are not expected within its vicinity. Unless undocking or other maneuvers are imminent, full crew levels need not be maintained during a Code Blue readiness state.

Stable/Code Green

The vessel is either holding position or is in constant acceleration. No maneuvers or hostilities are expected. Shift crews are expected to attend their posts, but full crew levels are not required.

Maneuvering/Code Amber

The vessel is maneuvering, changing acceleration or docking. All crew members should attend their posts, and passengers should remain in acceleration couches or berths.

Battle Stations/Code Red

Hostilities are imminent and the ship may maneuver without warning. All crew members should attend their posts and passengers should remain in acceleration couches or berths. All weapons systems are active and pressure doors are sealed.

Jump

An imminent jump is signaled by a klaxon sounding throughout the vessel and by the flashing of the maneuvering status lights.

Collision Alert

When a collision appears unavoidable, the maneuvering and battle-stations lights flash alternately and audible warnings are announced via the vessel's intercom system.

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form. Because the duration of the K-F field varies depending on distance jumped and the capacity of the JumpShip, the observing craft may have anywhere between a few seconds and several minutes to prepare for the vessel's arrival.

DROPSHIP SIGNATURES

The drive plume and motion of any vessel with an active transit drive—be it a DropShip, WarShip, aerospace fighter or small craft—produces plume and motion signatures that may be detected up to 3,500,000 kilometers away. Additionally, these signatures enable observers to easily track the movement of such a vessel.

RADAR SIGNATURES

Radar may be used to locate and track any object within 100,000 kilometers of a spacefaring vessel. However, any vessel using radar produces a radar signature that can be detected up to 150,000 kilometers away.

Despite the high risk of detection that active radar creates, any vessel transiting a system must use its radar to detect any obstacles in its path, as collision with an object of any size is invariably fatal to both ship and crew. For this reason, only stationary DropShips are likely to deactivate their radar systems.

RADIO AND HPG SIGNATURES

Any vessel sending a radio or HPG transmission renders itself vulnerable to detection. Unlike laser-link communications, both radio and HPG communications create signatures that radiate from the transmission point. In the case of a radio broadcast, the emission itself travels out into space. HPG transmissions generate electro-magnetic pulses similar to the emergence waves produced by arriving JumpShips.

In both cases, these signatures enable an observer to accurately triangulate the origin point of the emission or pulse, though a precise fix requires two observation vessels.

NEUTRINO SIGNATURES

Most Inner Sphere and Clan fusion power plants use hydrogen as fuel, which creates deuterium nuclei, free positrons and neutrinos when fused. Unlike positrons, neutrinos have only a weak interaction with matter and are almost impossible to conceal. However, this same property makes them extremely difficult to detect, though neutrino detector tanks can perform the task.

Because they are massive devices, neutrino-detection systems are generally found only on WarShips of heavy-cruiser size or larger. The crew must spend considerable time calibrating the detection system after each jump to eliminate from its calculations the background Solar Neutrino Unit (NS) count from the system and the neutrinos from the vessel's own drive, but once this is done, the system can be used to detect the fusion drives of any enemy vessels in the area, even those hiding behind planetary bodies.

At the present time, the Explorer Corps does not possess a working neutrino-detection system for its vessels, though the Clans are believed to use such detectors.

SYSTEM TRANSIT

Frequently, vessels must cross large distances within a planetary system. Such system-transit maneuvers are usually performed by DropShips, WarShips and small craft, but occasionally a JumpShip will need to move to the inner part of a planetary system for repairs.

Most commonly, a ship performing system transit accelerates toward its destination, usually at 1 G of thrust, for most of the first half of its trip. Shortly before reaching the half-way point, the vessel ceases acceleration and turns 180 degrees so that it is traveling stern first. Then it expends approximately 1 G of thrust to decelerate for the second half of the journey. Though this maneuver consumes relatively large amounts of fuel, it provides the fastest means of system transit and allows

EQUIPMENT DECK
DECK 1
DECK 2
DECK 3a
DECK 3
DECK 4
'MECH CUBICLE
DECK 5
RAMP
LANDING GEAR
DECK 6

FLIGHT CONTROL AND CREW QUARTER
UPPER BAY
LOWER 'MECH BAY
ENGINEERING
LOADING DOOR
FUEL TANKAGE
FUSION DRIVE
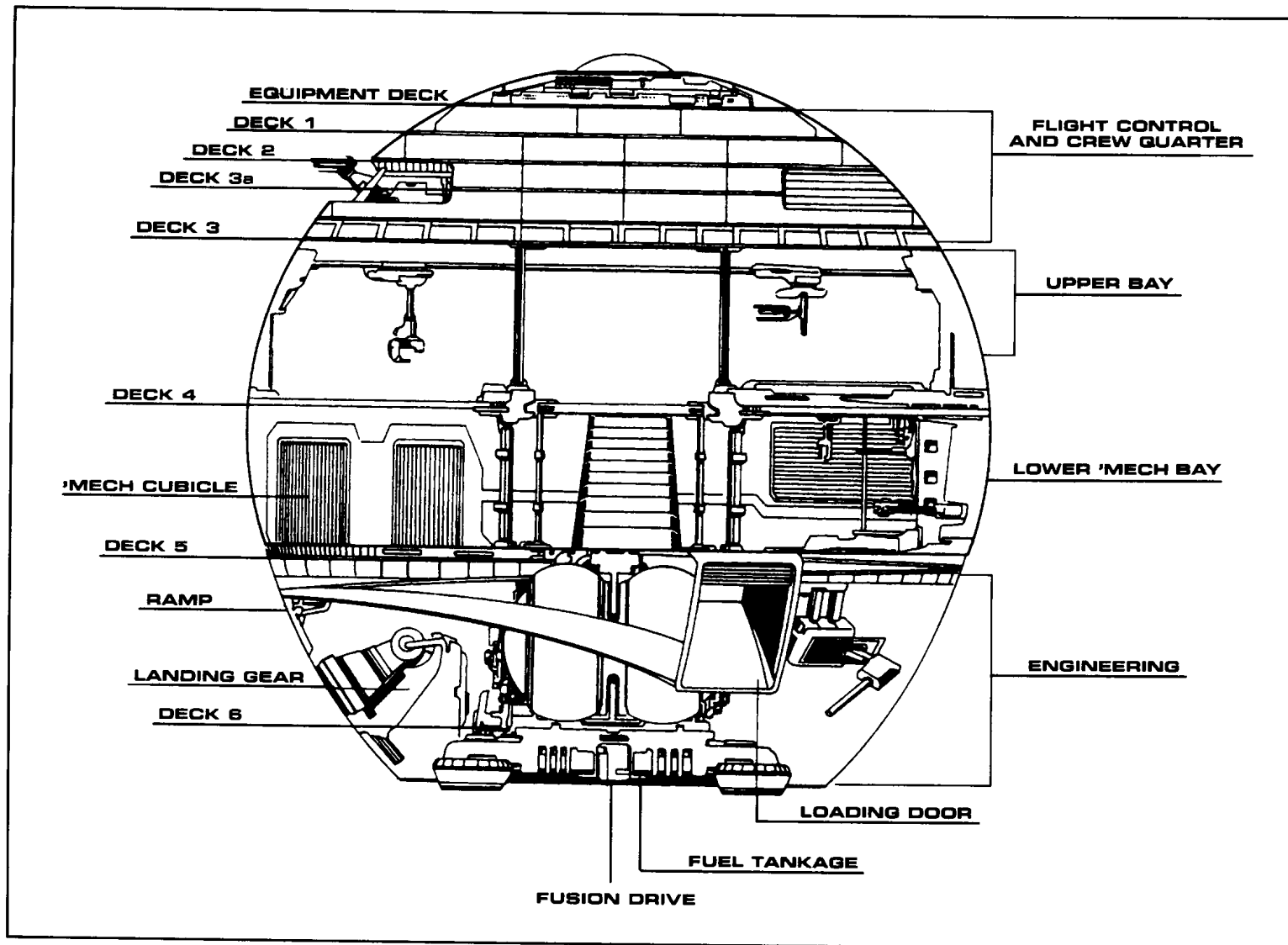
the crew to operate in the equivalent of Terran gravity for the majority of the voyage.

Vessels of relatively little reaction mass may expend a burst of thrust at the start of their journey, then "coast" most of the way to their destinations. This inertial-transfer method of transit consumes much less fuel than the conventional system-transit maneuver method, but the ship travels much more slowly. Additionally, inertial transfer does not provide artificial gravity.

JumpShips use similar system-transit procedures. This forces DropShips that are perpendicularly aligned to a JumpShip's thrust axis to take special precautions during system transit, because the artificial gravity produced by the JumpShip's acceleration may cause damage to personnel and objects within the DropShip or to the ship itself. To avoid such problems, some JumpShips feature adjustable docking collars so that docked DropShips may be properly aligned with the JumpShip's thrust axis. Few JumpShips offer this feature, however, and so docked DropShips are usually evacuated in these conditions. DropShips may also undock and travel through the system under their own power.

SHIP BRIEFS

The Explorer Corps and Draconis Combine Admiralty use a wide range of DropShips and JumpShips. The following guides for two of the most common vessels, the *Union* class DropShip and the *Invader* class JumpShip, describe features common to all DropShips and JumpShips.

UNION CLASS DROPSHIP

The *Union* Class DropShip is perhaps the most common military spacecraft, with variants in service with all House militaries and numerous civilian concerns. First introduced in 2708, the design features six main decks.

Deck 6, the engineering deck, contains the vessel's primary engineering systems—drive systems and fuel tanks, along with landing gear and the aft and aft-quarter weapons systems. From this deck, closest to the "bottom" of the ship, two lift shafts provide access to the upper decks, while a spiral ramp leads from the four 'Mech exit drop-chutes on Deck 6 to the lower 'Mech bay on Deck 4. The 'Mech drop-chutes may be accessed only from the lower (Deck 5) and upper (Deck 4) 'Mech bays.

Deck 5, the lower 'Mech bay, contains traveling cubicles for a lance of BattleMechs, repair facilities and storage for parts and ammunition. Deck 5 also contains storage cubicles for the two aerospace fighters, which launch from between Decks 4 and 3. The floor of the bay provides access to the exit ramps, though these hatches can be sealed to create a larger work area. A pair of 'Mech elevators also provide access to the upper 'Mech bay on Deck 4, while two personnel elevators provide access to all other decks. Four hatches provide access to the 'Mech drop mechanism, though use of these hatches must be coordinated with the Deck 4.

Deck 4, the upper 'Mech bay, contains eight 'Mech traveling cubicles. A pair of steel doors in the deck's floor provide additional access to Deck 5, and Deck 4 also contains three large cranes for lifting and lowering equipment between the upper and lower 'Mech bays.

Deck 3a, located between Decks 4 and 3, contains launch mechanisms for the ship's aerospace fighters, along with the lift mechanism that raises the fighters from the storage bays. The rest of the deck contains avionics and the DropShip's side weapons bays.

Decks 3 and 2 offer identical arrangements of crew accommodations. The outer area of each deck contains fourteen crew cabins and three larger staterooms. Each crew member and MechWarrior has his own cabin, while the vessel's captain and first officer each have a stateroom. Each of the 'Mech company's five officers also occupy a stateroom, while the ship's two aerospace pilots share the sixth stateroom. The fourteen BattleMech and fighter technicians share the remaining double-occupancy cabins. Deck 3 also contains a large briefing room; the comparable area on Deck 2 contains a mess and recreation area.

Deck 1, the vessel's command deck, contains the bridge and forward-quarter weapon bays. Access to this deck is tightly controlled, with computer lockouts on the lifts to prevent unauthorized personnel from entering the command area.

Above Deck 1 lies an equipment deck that contains the forward weapon bays, sensors and navigation equipment. Some docking and cargo transfer equipment is located on this deck, though the main docking collar and K-F boom are situated on Deck 6.

The *Union* Class DropShip is typically manned by a fourteen-member crew. The captain and first officer comprise the senior staff, and the chief engineer occupies the third command position. Two crew members man the bridge at all times, while another three occupy the engine room. An additional six crew members carry out other duties and fill out the rotation of crew through the bridge and engineering positions.

INVADER CLASS JUMPSHIP

The *Invader* class JumpShip is the most common JumpShip in the Successor States and Clan occupation zones. First launched in 2631, the *Invader* has proved to be a durable and versatile workhorse.

The *Invader* is divided into fourteen primary decks, which are grouped into a command section, drive section and engineering section.

Decks 1 to 5, along with Subdecks A, B and C, comprise the command section. **Subdeck A** contains much of the vessel's avionics and communications equipment, as well as its navigation array and sensors. **Deck 1** contains the vessel's sophisticated bridge and is separated from the rest of the vessel by armored and reinforced bulkheads. The bridge contains communications consoles, electronic plotting boards, deep-space tracking displays and planetary map boards. This deck also features enough stations to accommodate up to twenty individuals. Access to the bridge is provided by an elevator shaft that runs the length of the vessel, parallel to the K-F drive core. Crawlways terminating in Deck 1 provide access to Subdeck A and Deck 2.

Decks 2 and 3 contain a total of forty single-occupancy cabins specially designed for microgravity conditions. These accommodations allow each crew member to have a private cabin, with additional cabins available for visitors. Each crew deck also features a kitchen, mess hall and recreation areas. Deck 3 also contains a medical facility with space for five patients.

Decks 4 and 5 each contain a single small-craft bay, one per deck. The typical small-craft complement consists of two *ST-46* class shuttlecraft, but many *Invaders* carry other aerospace craft in these bays. Decks 4 and 5 also contain much of the vessel's cargo space.

Subdeck B contains life-support systems and the mechanical systems for extending the vessel's two hydroponics decks, which produce both food and oxygen for the crew. On most *Invaders*, these gardens are automated, but nearly 30 percent eventually suffer malfunctions and thereafter require human gardeners. The decks also provide recreation space for the crew; the deck's transparent domes provide superb views of space and, when the booms are extended, the *Invader* itself. The hydroponics units also contain the vessel's meteor-defense systems—a pair of large lasers or PPCs.

Decks 6 through 12, the drive section, form the long needle-like midsection of the *Invader*. **Deck 6** is a 65-meter-diameter gravity deck that can accommodate up to forty individuals at a time. The deck is divided into two lounge areas and a small mess area. Because the *Invader* is capable of only 0.1G of acceleration, the grav deck is the only means for the crew to experience artificial gravity. Entry to the grav deck is provided by an accessway that runs parallel to the vessel's K-F drive core.

Deck 7 contains the vessel's secondary power systems and much of the K-F-drive control electronics. The remaining drive section comprises docking collars and storage bays, which can be reached via the *Invader*'s core elevator and spinal accessway.

Decks 8, 10 and 12 provide spare-parts storage bays. Each equipment storage bay is isolated from the rest of the ship by an airlock and may be de-pressurized. Two huge doors provide access to the outside of the vessel for maintenance work and loading.

Decks 9 and 11 house the vessel's three docking collars (two and one, respectively). The docking collars employ a universal docking system, first pioneered more than one thousand
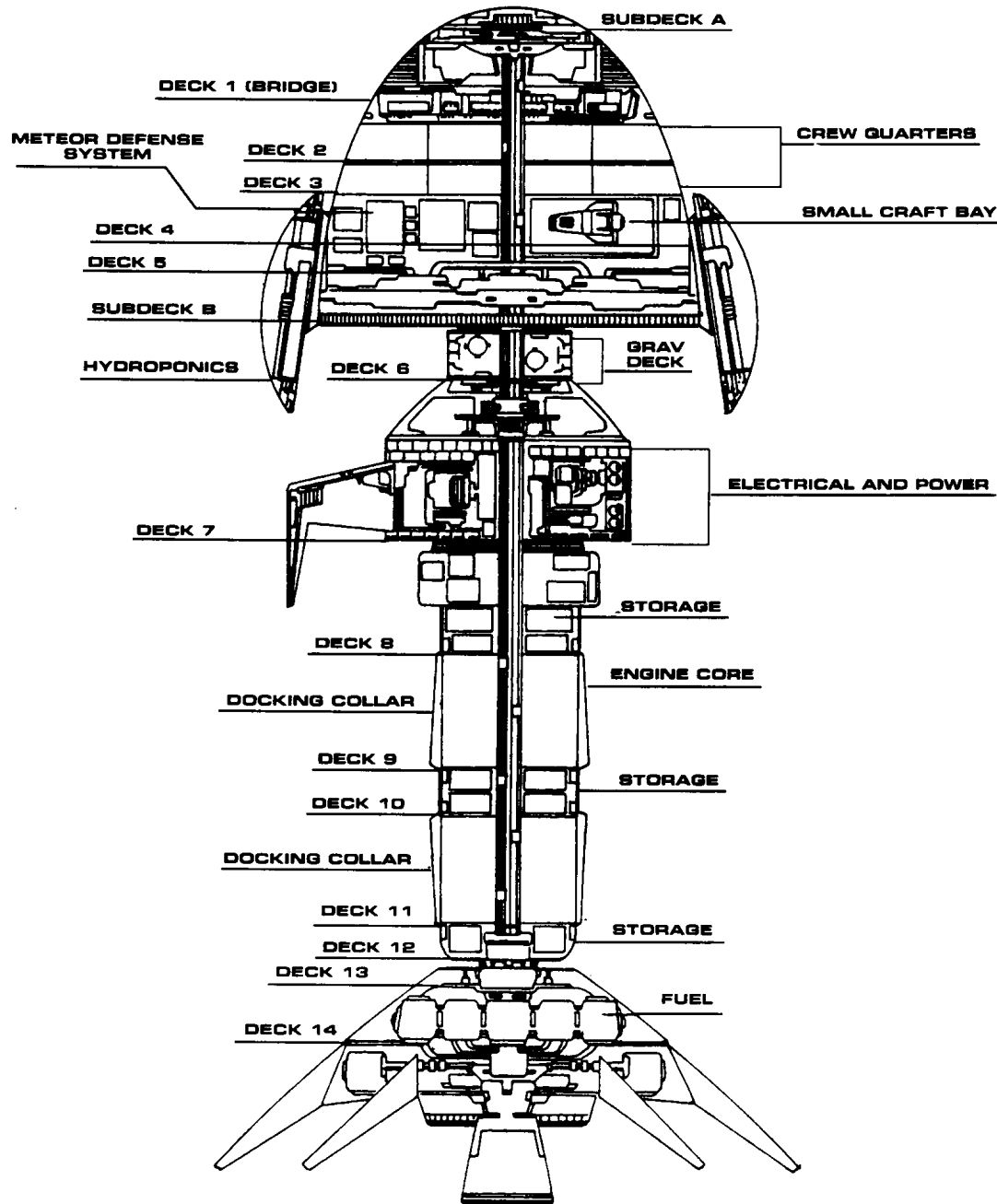
years ago. This "drogue" system allows any vessel equipped with the system to dock with any other similarly equipped vessel. Each collar assembly contains a number of transfer conduits that allow cargo, passengers and fuel to move between vessels. The assemblies carried by JumpShips also contain additional connections for a DropShip's K-F boom, the device that allows the JumpShip to expand its K-F field around each transported DropShip.

Decks 13 and 14 form the *Invader's* engineering section. **Deck 13** contains the K-F drive-control area, which contains the field initiator, drive controllers and a small control room that provides access to the drive core and enables engineers to monitor the drive. Several levels of physical and electronic security secure the entire drive-control area.

Deck 14 contains the vessel's drive-charging apparatus, station-keeping drive, fusion reactor, fuel tanks, and six jump-sail booms. If the vessel possesses a lithium-fusion battery system, it will also be situated on Deck 14.

The *Invader's* jump sail is slightly more than 1,000 meters in diameter.

An *Invader* class JumpShip is typically manned by a twenty-four-member crew. The captain and first officer form the senior staff, and the chief engineer occupies the third command position. The crew normally includes two aerospace pilots to operate the vessel's small craft complement, though other crew members may also be qualified to operate the smaller craft. Two crew members man the bridge, while another three occupy the engine room. The remaining fourteen crew members carry out other duties and facilitate the rotation of crew members through the bridge and engineering positions.

PERIPHERY MAP (COREWARD SECTOR)

NUEVA CASTILE

GHENT ●

80 PARSECS OR 260.8 LIGHT YEARS
Map Compiled by COMSTAR
From information provided by the COMSTAR EXPLORER CORPS
and the STAR LEAGUE ARCHIVES on Terra.
© 3058 COMSTAR CARTOGRAPHIC CORPS

ST. JEAN ●

CTESIPHON ●

RAMSEY ●   P9 ●

ATTENBROOKS ●   SALONIKA ●

SUDA BAY ●

SANTIAGO ●   TRELLEBORG ●

HANSEATIC
LEAGUE

P3 ●

KINBRACE ●   NOUVEAUX ●
PARIS

HARRIS ●   GWITHIAN ●

TRINITY ●   BAZAAR ●

WARK ●

WOLF 82 ●   TF4 ●

CAMBRIDGE ●

TJ239H2 ●   COLUMBUS ●

CHAINELANE
ISLES

JÄRNFÖLK

RIM COLLECTION

OUTWORLDS
ALLIANCE

INNER SPHERE

DENIZENS OF THE DEEP PERIPHERY

At present, the Explorer Corps has identified seven Clans operating in the Deep Periphery. Corps personnel have also gathered information on Inner Sphere missions in the Deep Periphery, as well as several small groups and proto-states in the area. All personnel should note, however, that the vast reaches of unexplored space undoubtedly contain numerous other groups that we have yet to discover.

THE CLANS

Contact with Clan forces—a given in the Coreward Operations Area—represents one of the greatest dangers to a Corps vessel, but also the most promising means of locating the Clan homeworlds. Ever since the Clans' defeat on Tukayyid, their JumpShips have plied the coreward spacelanes, re-organizing and beefing up the invaders' stores of materiel—

ferrying supplies, troops and the spoils of war between the Clan occupation zones in the Inner Sphere, other Clan vessels, Clan facilities in the Deep Periphery and the Clan homeworlds. In general, JumpShips operated by the Clan warrior caste carry only military supplies, while those operated by the merchant caste carry a wider range of goods. With persistent effort, the Explorer Corps may yet succeed in tracking a homeworld-bound Clan vessel to its destination.

Even without direct access to the Clan homeworlds, we have established certain facts as true. Currently, we know the names of the Clan worlds, their climates, their politics and governments—almost everything, in fact, except their precise locations. We know that two distinct groups of homeworlds exist—the five original colonies known as the Pentagon Worlds, and the worlds of the so-called Kerensky Cluster around Strana Mechty. The Kerensky Cluster is believed to contain approximately 30 worlds, spread over a sphere 200 light-years in diameter. According to Clan legends, a massive nebula called Kerensky's Cloak shields the homeworlds from the Inner Sphere.

The Homeworlds

Various sources provide information on the Clan home-worlds. Currently, we know the names of the worlds, their climates, their politics and governments—almost everything, in fact, except their precise locations. We know that two distinct groups of homeworlds exist—the five original colonies known as the Pentagon Worlds, and the worlds of the so-called Kerensky Cluster around Strana Mechty. Kerensky's Cluster is believed to contain approximately 30 worlds, spread over a sphere 200 light-years in diameter. According to Clan legends, a massive nebula called Kerensky's Cloak shields the homeworlds from the Inner Sphere.

—Report 1330291G, by Loren Eisler, Adept IX Beta

(Wolfnet real-time communications mode:

I.Chandra: It's true, the Inner Sphere possesses a lot of solid information on the Clan worlds, but they have yet to make the necessary connections between their astronomical data and the rumors coming from the Clans.

B.Cameron: Such as?

I.Chandra: Kerensky's Cloak is actually marked on Inner Sphere star charts, as the Caliban Nebula.

J.Wolf: Ah, yes. And Pivot.

B.Cameron: Pivot?

J.Wolf: A long story best not trusted to this form of communication.)

BASES

The Clans operate a number of bases scattered throughout a sizable portion of the Deep Periphery. The reason for the often great distances between them is not readily apparent, though some analysts have speculated that it reflects conflicts between the various Clans. Initially, Corps analysts hoped that the base locations might enable us to trace the location of the homeworlds, but their wide dispersal has effectively stymied such efforts. The Clan bases are a mixture of surface and orbital sites, divided into four main types: fleet bases, garrisons, supply bases and message caches.

Fleet bases and garrisons form the bulk of the Clan presence, providing secure facilities where Clan vessels and personnel can rest and repair. Most garrison sites are on the surface of planets, either occupied colonies or bases built expressly to house garrison troops. Most garrisons contain an exercise or training area where Clan warriors can practice their skills after long periods in space. Occasionally, front-line troops are temporarily stationed at such facilities, but garrisons are primar-ily manned by Provisional Garrison Clusters (PGCs) and solah-ma units. (Front-line units prefer duty in the Inner Sphere occupation zones or the homeworlds, where opportunities for honorable combat are more abundant.) Non-warriors are frequently also stationed at garrison sites that serve other functions as well.

Unlike garrison facilities, almost all Clan fleet bases are orbital. Apparently, these bases are constructed at yards in the Kerensky Cluster and transported in sections for assembly at their destinations. The orbital stations provide refueling and repair facilities for all manner of Clan vessels and are usually heavily defended. Unlike surface garrisons, orbital facilities are defended by front-line troops—aerospace fighters, DropShips and WarShips, together with specially trained Elementals and conventional infantry. Considering the value of such sites—many of which took years to complete—and their comparative fragility, it is not surprising that each Clan takes no chances in defending them.

Clan supply bases serve as way stations for the trans-shipment of goods. Unlike similar Explorer Corps and DCA supply bases, all Clan supply depots are located in garrison and fleet facilities for protection. Most personnel at such sites are members of the laborer and merchant castes. With the exception of Clan Diamond Shark, Clan warriors look down on these people and often deliberately cause problems for their "coin-harvesting" kin.

Clan message caches relay HPG messages between vessels operating in the Deep Periphery. A few of these sites are manned, but most rely on automated systems. For addiitonal information, see **HPG Networks**, p. 35.

CLAN NAVAL ORGANIZATION

Unit	Component Units
Point	2 aerospace fighters, or 1 DropShip, JumpShip or WarShip
Star	5 Points (JumpShip and WarShip Stars contain an additional command vessel)
Binary	2 Stars
Trinary	3 Stars

OPERATIONS

The Clans perform a vast number of military operations in the Deep Periphery, including escort duty for supply and transport missions, patrol operations and search-and-destroy missions.

Initially, few military personnel participated in Clan supply and transport missions. Most cargo JumpShips traveled alone or in small groups, relying on their own systems or those of their DropShips for defense. Following the capture of a Jade Falcon supply transport coreward of the Lyran Alliance in late 3057, however, most Clans operating in the Deep Periphery have been grouping their cargo vessels into convoys and providing them with escorts of WarShips and other military craft.
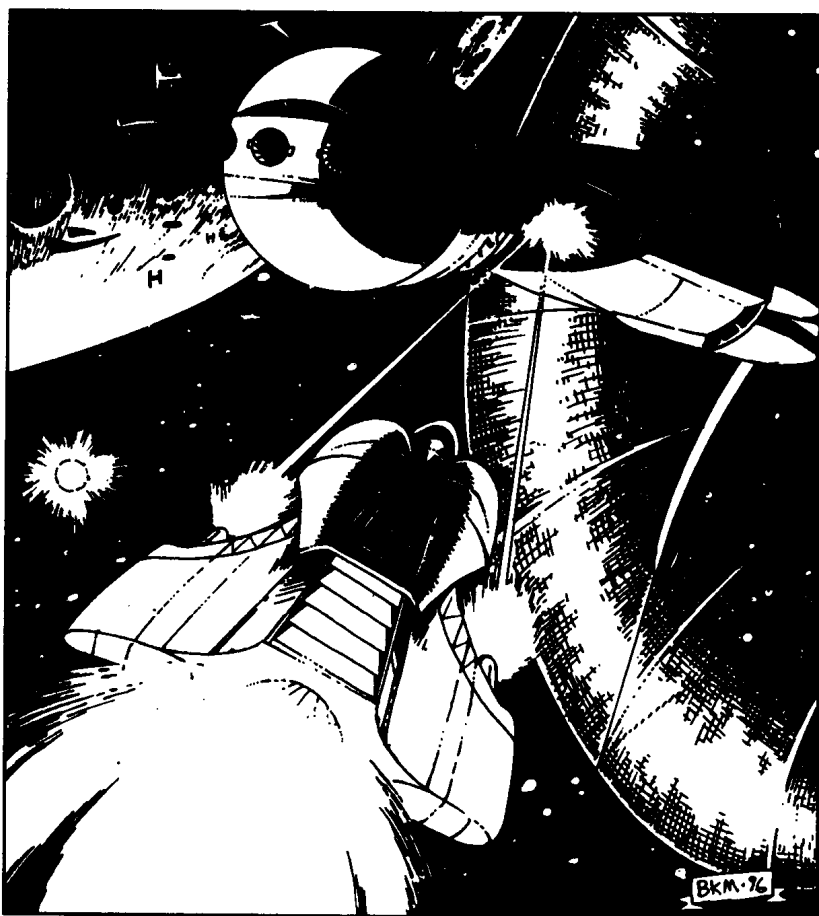
MATTLOV'S PRIDE

Ever since the first appearance of Clan forces in the Inner Sphere, the Explorer Corps has sought to capture an intact Clan JumpShip and examine its navigational database for clues to the location of the Clan homeworlds. In late 3056, Samuel Reynes, the leader of a Corps exploration team masquerading as Deep Periphery privateers, proposed a daring plan to accomplish this goal. Reynes suggested that his team attack and board a Clan vessel, counting on their pirate disguise to divert the retaliation that an overt ComStar or Inner Sphere attack would inevitably produce.

Corps leaders approved the plan, and Reynes spent the next eleven months forging alliances between various pirate bands—most of them genuine privateers, but several of them disguised Explorer Corps units. The allied force attacked the Jade Falcon transport *Mattlov's Pride* on 15 November 3057, and swiftly dispatched the *Pride*'s small fighter escort. Reynes himself led the boarding action, successfully seizing control of the JumpShip's key sites. Within twenty minutes, the attackers had defeated the stunned Clan transport crew.

The various pirate bands divided the *Pride*'s cargo among themselves. As the temporary leader of the group, Reynes claimed the *Mattlov's Pride* for his own team. Though some of his bandit allies contested his claim, the attack force contained enough disguised Corps personnel to ensure that these challenges failed. Reynes renamed the vessel *Budgie's Bane* and set off toward a Corps facility anti-spinward of the Rim Collection.

Unfortunately, the journey did not go smoothly. From the outset, Clan security measures interfered with the vessel's operation. Reynes' crew immediately discovered that *Pride*'s navigational data was encrypted. The Corps team recovered an optical chip that contained one of the two keys required to decode the data, but they also needed a security password known only to the *Pride*'s navigators. Not surprisingly, the navigators refused to cooperate. In the end, Reynes's own navigator had to manually enter jump coordinates from his charts into the Clan navigation system, a laborious process. Subsequently, the *Pride*'s navigation system was removed from the vessel so that Corps technicians could study it. The Clan encryption code remains unbroken, and the complexity of the navigation system—which is noticeably different from those used by the Inner Sphere—has stymied all efforts at analysis.

Corps leaders hope that the captured system may still yield its secrets, but many fear that similar security measures are routinely employed on all Clan JumpShips and WarShips. Such a practice would effectively dash all hopes of locating the homeworlds via Clan navigational data.

—File Report 13402111L, by Maire ni Dhomnaill, Adept X Beta

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THE REFUSAL WAR

In 3057, political tensions within the Clans erupted in the Refusal War, a bloody conflict that severely crippled the Jade Falcon and Wolf Clans.

The chain of events that led to warfare began when the Jade Falcons and a faction of Wolf Clan renegades moved to dismiss Ulric Kerensky from his position as ilKhan in order to replace him with a leader who would resume the Inner Sphere invasion before the deadline set in the Tukayyid agreement. The plotters attempted Ulric's overthrow by charging him with high treason, claiming that his acceptance of the Tukayyid truce amounted to "genocide" against several generations of young Clan warriors. When the Clan Grand Council found him guilty and stripped him of the ilKhanship, Ulric claimed his right to a Trial of Refusal, pitting the entire Wolf Clan against the Jade Falcons.

The ensuing war raged across ten worlds and exacted huge losses from both opponents, nearly destroying each Clan. The Wolf Clan lost two of its senior leaders, Khans Ulric and Natasha Kerensky, and narrowly escaped absorption into the Jade Falcon Clan. In the end, one surviving Wolf faction led by saKhan Phelan Ward fled to sanctuary in Lyran territory, where it remains today. A second faction, under the command of Khan Vladimir Ward, remained in the Clan fold and retained control of Clan Wolf's Inner Sphere occupation zone. The Jade Falcons fared little better—the Refusal War cost them Khan Elias Critchell, saKhan Vandervahn Chistu, and more than two full Galaxies of troops.

—File Report 1352492E, by Marc Fowler, Acolyte III Beta

Clan Ghost Bear's convoys appear to be the most heavily protected. The typical Ghost Bear convoy is accompanied by a formidable battle group based on a battleship, heavy cruiser, or WarShip-sized carrier. Hazards in the Deep Periphery do not seem to justify such unprecedented levels of security, however, which has led some Corps analysts to conclude that the Ghost Bears are moving large quantities of personnel and equipment into their occupation zone—possibly in preparation for resuming the war against the Inner Sphere.

Patrols are the most common missions performed by Clan naval and aerospace forces in the Deep Periphery. Military craft patrol the star systems between Clan facilities, searching for pirates and other hostile forces that might threaten Clan bases and operations. Most Clan patrols appear to be assigned to fixed patrol zones, usually spherical areas within two jumps (sixty light-years) of the patrol's home base. Sixty light-years may seem small, but even such a small area might contain several hundred star systems. Most of these systems will not contain planets, but may still serve as operational bases for pirate bands.

When a Clan patrol locates a pirate base, the Clan sends out additional troops to destroy it. Dedicated "bandit-hunting" teams—combined ground and naval task forces composed of solahma or other disgraced units—carry out these search-and-destroy missions, joined occasionally by warrior-cadets practicing their skills. Few targeted bandits survive such attacks; Clan 'Mech, infantry and aerospace forces are usually sufficient to handle any planet- or station-based resistance, and Clan naval vessels can usually prevent any targets from escaping. The Clans will not hesitate to attack and even destroy JumpShips under certain circumstances—for example, to intimidate other vessels in the vicinity. Some of the invaders have even employed this tactic against other Clans, or other castes within their own Clans.

Merchant-caste vessels have been the most frequent targets of attacking Clan forces. The Clans' expansion into the Deep Periphery and Inner Sphere have provided the merchant castes with new opportunities for trade, and most have mounted increasing numbers of trade missions in recent years. These have brought the merchants into increasing contact with Clan military units and civilian governments in the occupation zones, and even Successor-State traders. Many Clan warriors apparently view these developments with hostility, and are willing to take extreme measures to curb the merchant castes' "unClanlike" tendencies. Most observers believe the warrior castes' opposition to such trading ventures springs from fear that the Inner Sphere's dynamic economy and relatively high standard of living will eventually persuade most of their brethren to abandon traditional Clan ways, thereby spelling the end of Clan society.

Despite the open antagonism from the warrior castes, Clan merchants continue to trade vigorously with various colonies and petty states in the Deep Periphery. Corp intelligence reports indicate that many of these small trading partners are simply fronts by which Inner Sphere free-traders and Clan mer-chants conceal their links from the declared enemies of their respective societies. Such arrangements provide an ideal means for covert Explorer Corps operatives to interact with the Clans.

CLAN NAVAL AND AEROSPACE RANKS

Rank	Unit
Pilot	Trueborn pilots operate OmniFighters; freeborn and solah-ma pilots operate conventional aerospace fighters equipped with Star League technology
Point Commander*	Commands 2-man aerospace Point
Star Commander	Commands 10-fighter Star; on DropShips and JumpShips, Star Commanders usually serve as department heads
Star Captain	Commands a 30-fighter Trinary or a DropShip; on WarShips, Star Captains serve as senior officers, such as chief engineers, first officers and so on
Star Commodore**	Commands a single JumpShip or WarShip, or a Star of DropShips or JumpShips
Star Admiral	Commands a Star of WarShips, answers directly to his Khan

*In some Clans, the Point-Commander rank denotes the commander of a team of non-warriors (such as technicians). In these Clans, an aerospace Point leader is designated as Star Commander, Junior Grade.

**Some Clans use the equivalent rank of Naval Star Colonel.

THE INVADING CLANS

Initially, most Inner Sphere observers viewed the Clans as a unified enemy. Subsequent events have revealed, however, that each of the seven invading Clans possesses unique attitudes, strengths and weaknesses, and procedures. Fierce internal political feuds divide the seven Clans from each other and even pit faction against faction within Clans. These political divisions run deep enough to have spawned open warfare between Clans, as in the so-called Refusal War. Corps commanders should therefore take special care when attempting to predict Clan behavior, strategy and tactics, and should strive to expect the unexpected whenever dealing with these dangerous, increasingly unpredictable opponents.

Clan Jade Falcon

Following the Refusal War, saKhan Marthe Pryde became the new leader of the Jade Falcons and set about rebuilding her Clan's occupation-zone defenses to prevent the other Clans from exploiting the Falcons' weakness. Throughout the early months of 3058, a steady stream of Falcon transports and merchant vessels carried shipments of materiel and troops from the homeworlds across the great void. Much of the materiel the Falcons lost during the war has now been replaced, and supply transports continue to ferry additional supplies and equipment for the twelve Falcon Galaxies stationed in the Inner Sphere and Deep Periphery.

To speed the transfer of goods, the Falcons operate a JumpShip "chain." Each ship in the chain transports supplies along one leg of the journey between the homeworlds and the Falcon occupation zone. Several worlds in the Deep Periphery serve as transfer points for these vessels, and are guarded by solahma and PGC units drawn from the occupation zone and homeworlds. In response to the loss of *Mattlov's Pride*, the Clan maintains tight security around these transport points. Typically, WarShips and assault DropShips escort each orbiting transport vessel, while other military vessels perform search-and-destroy missions in the general area of the ships' routes to further discourage attacks by pirates and other Clans.

Currently, Falcon leaders view their fellow Clans as the greatest threat to their forces. Clan Steel Viper has already tested Falcon defenses in the Jade Falcon occupation zone and the Deep Periphery, staging several Trials of Possession for Falcon worlds. The Falcons repelled these offensives, but not without casualties. Consequently, the Falcons have aggresively defended their holdings, destroying any vessels they consider a potential threat and seizing or destroying any unauthorized forces they encounter on a planetary surface. Omicron Galaxy, currently serving as the Falcons' bandit hunters, has been particularly aggressive patrolling the Falcons' presumed corridor to the homeworlds, as well as much of the area anti-spinward of the occupation zones and coreward of the Lyran Alliance.

For these reasons, Explorer Corps teams are advised to avoid the Jade Falcon area of operations until further notice.

Clan Wolf

Under the leadership of Khan Vladimir Ward, the remnants of the Wolf Clan that survived the Refusal War have managed to retain control of the Clan Wolf occupation zone. They have recently launched a series of raids against Clan Smoke Jaguar

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KNOWN JADE FALCON FACILITIES

TRINITY
Days to Jump Point: 8
Star Type (Recharge Time): G4V (Primary), M0Ib and B9VII (Distant Companions) (185 hours)
Facility: Surface garrison and cargo storage
Defending Forces: Trinity Solahma Trinary
(CO: Star Captain Maurice)
(Regular, 15 BattleMechs)

CAMBRIDGE PERIMETER DEFENSE STATION
Days to Jump Point: 0 (Nadir jump point)
Star Type (Recharge Time): F3V (174 hours)
Facility: Orbital fleet base
Defending Forces: Falcon Stoop Naval Assault Star
(CO: Star Commodore Marc Thastus)
(WarShip Star: 2 *Whirlwind* Class destroyers, 1 *York* Class destroyer/carrier, 1 *Aegis* Class heavy cruiser, 1 *Liberator* Class cruiser, 1 *Carrack* Class transport)

SANTIAGO IV
Days to Jump Point: 9
Star Type (Recharge Time): G2VI (183 hours)
Facility: Garrison
Defending Forces: 22nd Provisional Garrison Cluster
(CO: Star Colonel Misha Helmer)
(Green, 45 BattleMechs, 15 Elemental Points, 10 Fighters)

TRANSFER J239H2
Days to Jump Point: 4
Star Type (Recharge Time): K7V (198 hours)
Facility: Orbital cargo transfer
Defending Forces: *Aegis* Class cruiser *Gold Talon*
(CO: Star Captain Li Binetti)

ST. JEAN
Days to Jump Point: 5
Star Type (Recharge Time): K1V (192 hours)
Facility: Surface cargo storage/occupied colony of Franciscan monks
Defending Forces: Raptor Battle Cluster
(CO: Star Colonel Amado Roshak)
(Veteran, 45 OmniMechs, 15 Elemental Points, 30 OmniFighters)

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holdings, apparently to demonstrate their Clan's strength to any would-be opponents among their fellows.

Like the Jade Falcons, the Wolves began bringing up troops and supplies from the homeworlds to bolster their Inner Sphere forces as soon as the Refusal War ended. However, the uncertainty of the Clan's status following the war led to delays in starting the shipments. The first transport vessels did

KNOWN WOLF FACILITIES

WOLF ORBITAL 82
Days to Jump Point: 0 (Zenith jump point)
Star Type (Recharge Time): G6IV (187 hours)
Facility: Orbital fleet base
Defending Forces: Various WarShips, *Lupus* fighter wing
    (CO: Star Captain Marta Mehta)
        (Elite, 10 OmniFighters)

TRANSFER STATION P3
Days to Jump Point: 0 (Zenith jump point)
Star Type (Recharge Time): K2V and A1VI (Close Companion) (162 hours)
Facility: Orbital cargo way station
Defending Forces: *Carrier* Class DropShip *Loper*
    (CO: Star Captain Polly Meredith)

TRANSFER STATION P9
Days to Jump Point: 8.5
Star Type (Recharge Time): G3II (184 hours)
Facility: Orbital cargo way station/fleet base
Defending Forces: *Lola III* Class Destroyer *Okami*
    (CO: Star Captain Jo Carns)

HARRIS
Days to Jump Point: 7.5
Star Type (Recharge Time): G5IV (186 hours)
Facility: Surface garrison
Defending Forces: Chi Garrison Cluster
    (CO: Star Colonel Bren)
        (Regular, 30 BattleMechs, 10 Fighters)

not arrive in the Inner Sphere until September of 3058, almost exactly a year after the war's outbreak.

Traditionally, Clan Wolf has maintained a smaller fleet than its fellow invading Clans, and so does not escort its transport vessels for the whole of their journeys through the Deep Periphery. Instead, the Wolves rely on general patrols and escorts through key areas for protection. This arrangement increases both the vulnerability of their JumpShips and the likelihood of encountering Wolf Clan forces away from normal transport routes.

In addition to its transport way stations, Clan Wolf maintains approximately a dozen military bases scattered across the Coreward Operations Area. These facilities serve as headquarters for the Clan's patrol groups, which regularly engage pirates and hostile Clan forces. Corps analysts believe that many Wolf operations against their fellow Clans are merely posturing, designed by Khan Vlad Ward to make his Clan appear more powerful and threatening than it is.

Lack of intelligence prevents Corps analysts from accurately estimating the Wolf Clan's current strength, but so far the

Wolves have successfully repelled numerous raids on their bases by other Clans.

Clan Steel Viper

Clan Steel Viper wrested nine worlds from their traditional Jade Falcon rivals following the Battle of Tukayyid, but has acquired no new territories since the fall of Bensinger in April of 3055. In the aftermath of the Refusal War, the Vipers have exploited Clan Jade Falcon's relative weakness by harassing Falcon supply lines and attempting to capture several Falcon-held worlds.

On the Falcon-held Periphery world of Trinity, the Vipers' 94th Battle Cluster, led by Star Colonel Ivan Sinclair, inflicted severe damage on the Falcon solahma Cluster garrisoning the planet. The Vipers were forced to withdraw, however, when two Falcon front-line Clusters arrived in-system en route from the homeworlds. The Viper force failed to capture Trinity, and similar Viper attacks on other Falcon worlds have failed—but these offensives have further weakened the battered Falcon military and prompted the Falcons to expand their convoy escort forces.

The Steel Vipers generally seem to tolerate other travelers in the Deep Periphery, as long as they present no obvious threat to the Vipers' security. Like the other Clans, however, the Vipers will engage bandits on sight. They also appear more likely to attack non-Clan forces encountered further in the Deep Periphery, presumably to safeguard the Clan homeworlds. At

KNOWN STEEL VIPER FACILITIES

WARK
Days to Jump Point: 10.5
Star Type (Recharge Time): G0V (181 hours)
Facility: Garrison
Defending Forces: 233rd Battle Cluster
    (CO: Star Colonel Jen Ahmed)
        (Veteran, 30 OmniMechs, 15 Elemental Points, 30 OmniFighters)

KINBRACE
Days to Jump Point: 4.5
Star Type (Recharge Time): K3III (194 hours)
Facility Type: Surface cargo station
Defending Forces: Kinbrace Defense Trinary
    (CO: Star Captain Josh)
        (Regular, 5 BattleMechs, 10 Elemental Points)

RAMSEY
Days to Jump Point: 6
Star Type (Recharge Time): G8V (198 hours)
Facility: Surface cargo station/garrison
Defending Forces: 9th Viper Guards
    (CO Star Colonel Kathryn Hartford)

KNOWN GHOST BEAR FACILITIES

TRELLEBORG
Days to Jump Point: 0 (Nadir jump point)
Star Type (Recharge Time): A9II (170 hours)
Facility: Fleet base
Defending Forces: Bear's Claws Attack Squadron
   (CO: Star Admiral Lev Gilmour)
      (WarShip Star: 1 *York* Class destroyer, 2 *Essex*
      Class destroyers, 2 *Lola III* Class destroyers, 1
      Congress Class frigate, 1 *Volga* Class transport,
      1 *Cameron* Class battlecruiser)

distances of more than 1,000 light-years from Terra, the Steel Vipers act much like any other Clan, attacking and boarding any vessels they meet. Within this zone, they even appear to cooperate with the Jade Falcons.

Clan Ghost Bear

Perhaps the most powerful Clan in the Inner Sphere, the Ghost Bears hold a seemingly unassailable position. Following the Battle of Tukayyid, the Bears began rotating their troops between the homeworlds and the Clan's occupation zone, resulting in a constant stream of Ghost Bear traffic. Until recently almost a third of all Clan vessels encountered in the Deep Periphery belonged to Clan Ghost Bear. Massive naval task forces guarded all this traffic, providing an almost impenetrable defense against other Clans, Inner Sphere powers and pirates.

During the past few months, however, Corps teams have reported a marked reduction in Ghost Bear ship traffic. The Clan has also apparently abandoned many worlds and dismantled many of its stations. The reason remains unknown, but Corps analysts have suggested that the Bears may be attempting to minimize their exposure to predation by other Clans now that they have begun to coexist peacefully with Inner Sphere nations.

The few Ghost Bear vessels recently encountered in the Deep Periphery travel under heavy military escort, and Corps teams have been unable to determine the cargoes carried aboard these transports. Tracking these ships has also become increasingly difficult; Ghost Bear transports do not follow fixed routes, and the Clan does not employ the supply relay system used by the Falcons and other Clans.

Clan Nova Cat

Unlike most Clans, the Nova Cats treat their merchant and warrior castes with equal reverence. In fact, only the Diamond Sharks appear to place more emphasis on trading and merchant pursuits than the Nova Cats. Nova Cat merchant vessels are a common sight in the Deep Periphery, most often traveling alone. When passing through particularly dangerous areas, however, they have been observed in convoys.

KNOWN NOVA CAT FACILITIES

GWITHIAN
Days to Jump Point: 4
Star Type (Recharge Time): K6IV (197 hours)
Facility: Garrison/occupied colony
Defending Forces: First Battle Trinary, 6th Nova Cat Guards
   (CO: Star Colonel Shauna Rosse)
      (Veteran, 10 OmniMechs, 10 OmniFighters,
      5 Elemental Points)

SALONIKA
Days to Jump Point: 0 (Nadir jump point)
Star Type (Recharge Time): A4V (165 hours)
Facility: Fleet base
Defending Forces: 9th Pursuit Squadron
   (CO: Star Commodore Fatima Devalis)
      (2 *Vincent* Class corvettes, 2 *Fredasa* Class
      corvette/raiders)

CTESIPHON
Days to Jump Point: 3
Star Type (Recharge Time): M2III (203 hours)
Facility: Surface cargo way station
Defending Forces: 19th Provisional Garrison Cluster
   (CO: Star Colonel Charlotte Nostra)
      (Regular, 45 BattleMechs, 10 Fighters)

Though they frequently travel without military escort, Nova Cat merchant vessels are hardly easy marks for raiders or pirates. Even Clan civilian JumpShips are more heavily armed and armored than their Inner Sphere equivalents. In fact, some observers believe that Nova Cat and Diamond Shark merchants operate Star League-era *Carrack* Class transports. Originally designed for military use, such vessels are essentially WarShips reconfigured to carry cargo.

The Nova Cats have proved no less aggressive defenders of their territory than the other Clans, though they have shown a certain reluctance to attack DCMS and DCA vessels and DCMS bases in the Periphery. Given the Nova Cats' general character, this may spring from some prophecy widely believed within the Clan; however, the existence of as-yet-undeciphered communications between the Draconis Combine and the Nova Cats may hint at some other reason.

Clan Smoke Jaguar

Though neither the most powerful nor the most traditional Clan, the Smoke Jaguars have grown increasingly bold in their efforts to reclaim their role as the leading Clan. The Jaguars' current efforts to expand their political influence reflects the

KNOWN SMOKE JAGUAR FACILITIES

TRANSFER FACILITY 4
Days to Jump Point: 2.5
Star Type (Recharge Time): M4II (205 hours)
Facility: Surface cargo way station
Defending Forces: Puma Garrison Trinary
    (CO: Star Captain Galina Perez)
      (Green, 15 BattleMechs)

SUDA BAY
Days to Jump Point: 0 (Nadir jump point)
Star Type (Recharge Time): F21a (173 hours)
Facility: Fleet base
Defending Forces: *Lynx* Pouncer Star
    (CO: Star Commodore Matius Chrisholm)
      (2 *Fredasa* Class corvette/raiders, 1 *York* Class
      destroyer/carrier, 1 *Congress* Class frigate)

GHENT
Days to Jump Point: 8.5
Star Type (Recharge Time): G2III (183 hours)
Facility: Garrison
Defending Forces: 11th Provisional Garrison Cluster
    (CO: Star Colonel Jon Howell)
      (Regular, 30 BattleMechs, 15 Elemental Points,
      10 Fighters)

NOUVEAUX PARIS
Days to Jump Point: 6
Star Type (Recharge Time): G9IV (190 hours)
Facility: Occupied colony
Defending Forces: 304th Battle Cluster
    (CO: Star Colonel Jenny Showers)
      (Regular, 45 BattleMechs, 15 Elemental Points,
      30 Fighters)

Clans, as well as rebellions on many Jaguar-occupied worlds, have effectively prevented most of these supplies from reaching their destination. (DCMS harassment raids have been restricted to the area within 200 light-years of the Combine/Periphery border to avoid drawing the Jaguars' attention to Explorer Corps operations.)

Clan Nova Cat, a long-time foe of the Jaguars, has proved especially hostile to Khan Osis's ambitions. In the Inner Sphere occupation zones, the Nova Cats have consistently goaded the Jaguars into moving against them rather than risking opprobrium by striking first. In the Periphery, however, the Nova Cats have exploited their rivals' current weakness by openly harassing Jaguar transports and raiding bases. Most recently, the Cats destroyed an entire Jaguar Galaxy, assembled specifically to attack that Clan, after being lured to the Jaguar supply base Wayside V by Stirling's Fusiliers.

So far, Clan Smoke Jaguar's occupation-zone forces remain in rough parity with those of Clan Nova Cat. The efforts of the Nova Cats and other Clans opposed to the Jaguars have stymied that Clan's efforts to rebuild its military strength and left Jaguar garrisons in the Deep Periphery among the smallest, least well-trained, and most poorly equipped of all Clan facilities.

KNOWN DIAMOND SHARK FACILITIES

BAZAAR
Days to Jump Point: 9
Star Type (Recharge Time): G2VI (183 hours)
Facility: Surface trading post
Defending Forces: Bazaar Security Trinary
    (CO: Star Captain Alice Sennet)
      (Veteran, 10 OmniMechs, 10 OmniFighters,
      5 Elemental Points)

ATTENBROOKS
Days to Jump Point: 10
Star Type (Recharge Time): G1III (182 hours)
Facility: Orbital trading post/fleet base
Defending Forces: *Essex* Class destroyers *Sharon* and *Tracy*
    (CO: Star Commodore Leon Faulk)

Clan Diamond Shark

After taking a fearful beating on Tukayyid and losing their single occupied Inner Sphere world to the Ghost Bears, the Diamond Shark military virtually withdrew from the Inner Sphere. However, Clan Diamond Shark's merchant caste quickly moved to exploit the trading opportunities that the Inner Sphere presented.

days just before the Clan invasion, when Jaguar Khan Leo Showers skillfully used his Clan's capture of the Corps vessel *Outbound Light* (see **Overview**, p. 9) to persuade the Clans to invade the Inner Sphere. By winning the coveted rank of ilKhan, he established the Jaguars as the pre-eminent Clan. Soon afterward, however, Showers's death, political infighting and several defeats—most notably at Luthien and Tukayyid—crippled the military strength of the Jaguars' invading force and severely weakened their political standing among the Clans.

Currently, Jaguar Khan Lincoln Osis is directing a massive effort to rebuild his Clan's military while mounting a focused political campaign to win the ilKhanship. The Smoke Jaguars have been shipping large quantities of materiel across the Deep Periphery in recent months, but near-constant raids on Jaguar transports and bases by Draconis Combine forces and other

Unlike most of the other invading Clans, the Diamond Sharks do not disdain mercantile pursuits, which has enabled Diamond Shark merchants to become the Clans' main economic representatives in the Inner Sphere. Diamond Shark merchants act as independent shippers for the other six invading Clans, transporting supplies and equipment. They also trade non-military goods with civilians on Clan-occupied worlds. Unsupported claims contend that Diamond Shark merchants have sold small arms and ammunition to anti-Clan rebels on several planets, most notably those held by the Smoke Jaguars and Jade Falcons. Such sales are allegedly Clan Diamond Shark's revenge for attempts by the affected Clans to control the merchant caste during the invasion.

Clan Diamond Shark's economic ventures have greatly increased the power of that Clan's merchant caste. Recently, Shark Khan Hawker has relinquished de facto command of the Clan to Angus Labov, head of the Clan's merchant council, in exchange for the resources needed to rebuild his military forces. Whether Labov can retain his newfound authority seems unclear, but for the moment he decides Diamond Shark policy.

Though the Diamond Shark military is not officially active in the Inner Sphere, Labov has "requested" that Diamond Shark naval and aerospace forces escort Shark trading vessels through the Deep Periphery, and that Shark ground forces provide security at trading posts along trade routes. According to unsubstantiated rumors, Diamond Shark WarShips have also been instructed to harry the merchant shipping of other Clans.

Of all Clan units operating in the Deep Periphery, Diamond Shark vessels present the least threat to Corps teams. So far, the Sharks have been more likely to trade than fight with any foreign vessel not obviously a military or pirate ship. However, Diamond Shark forces do not hesitate to attack any vessel that interferes with their trade.

OTHER CLANS

Most Clan vessels operating in the Deep Periphery belong to the invading Clans, but Corps teams have occasionally encountered vessels from the other Clans. The majority of these are trading ships, plus a few military vessels along the farthest edges of the search area. Corps analysts believe the military vessels may constitute part of a multi-Clan security force protecting the homeworlds, or may simply be patrols intended to observe or harass the forces of the invading Clans.

WarShips and transports belonging to Clan Snow Raven, the most aerospace-minded of all the Clans, have been observed much closer to the Inner Sphere. Some observers have even reported Snow Raven merchantmen operating within the Inner Sphere's borders. Corps analysts believe these Snow Raven vessels provide transport or escort services for other Clans, as well as conducting independent trade.

THE BANDIT CASTE

The so-called bandit caste is made up of individuals and small groups of warriors who have deserted Clan society. Some of these outcasts have joined existing pirate and smuggling bands operating in the Deep Periphery, while others have formed their own groups. Little is known about the bandit caste, but a Clan memory core obtained from Luzern in 3057 contains references to the destruction of a bandit-caste vessel at a pirate point in the Clan sphere of influence. This information suggests that some Clan bandit groups have achieved a previously unsuspected level of organization and sophistication.

Clearly, bandit-caste groups present a potentially invaluable source of information about the Clan homeworlds. Presumably, such groups possess extensive knowledge of Clan space and the surrounding areas, and might prove less reluctant than their former brethren to reveal such information. So far, however, such scenarios remain mere speculation. No bandit-caste groups have revealed themselves to Explorer Corps teams, and all Corps teams are advised that members of the bandit caste may prove hostile.

ERRANTS

The so-called Errants are lone MechWarriors and aerospace pilots living on the marginal worlds of the Periphery and Deep Periphery, often employed to guard small colonies against attack. Most Errants encountered so far pose little or no threat to Corps teams. Many have proved willing to share what little information they have in exchange for news outside their restricted spheres of operation, but such information has thus far proved of little use in the search for the Clan homeworlds.

INNER SPHERE POWERS

Three Inner Sphere powers—the Word of Blake, the Federated Commonwealth and the Lyran Alliance—are active in the Deep Periphery. Of these, the Word of Blake is the only one actively opposed to Explorer Corps operations; the two Successor States remain ignorant of the Corps' mission, and are unlikely to threaten Corps operations if appropriate precautions are taken.

THE WORD OF BLAKE

The Word of Blake maintains a presence at several captured ComStar facilities. Little or no intelligence exists regarding the uses of these facilities, but many of them—such as the Opotiki base located spinward of the Draconis Combine—formerly served as boot camps for troop training. Corps analysts believe that the Word of Blake is using some facilities for similar purposes, which may help explain ComStar's failure to accurately estimate the size of the Word of Blake Guard before the Blakist invasion of Terra in 3058. Other observers suggest that the Word of Blake maintains bases in the Outer Rim simply to annoy ComStar and, to a lesser extent, the Draconis Combine. By maintaining these facilities, the Word of Blake forces ComStar and the Combine to devote greater resources to defending their operations in the area.

So far, the Explorer Corps has detected no Word of Blake attempts to disrupt Corps operations, but it seems likely that

Word of Blake agents have infiltrated the Corps. Whether these agents simply report back to their superiors or attempt to actively sabotage Corps operations remains unknown.

FEDERATED COMMONWEALTH

The Federated Commonwealth's Department of Military Intelligence (DMI) has long devoted attention to external threats such as the Capellan Confederation and the Clans, and it maintains efforts to gather intelligence on Clan operations and homeworlds. To these ends, DMI agents operate covertly throughout the Clan occupation zone and the Periphery. Additionally, several Federated Commonwealth exploratory vessels have made short journeys into the Periphery over the years. Since the loss of the Lyran worlds and the start of joint Explorer Corps-Combine operations, however, only a handful of Commonwealth vessels have ventured into the Periphery.

Though the Federated Commonwealth is nominally allied with ComStar and the Draconis Combine against the Clans, very few individuals within the Federated Commonwealth military and intelligence services know of the Corps' mission. For this reason, Corps teams are advised to maintain operational security during contact with Federated Commonwealth vessels. However, Corps command has not officially sanctioned the use of force against Federated Commonwealth craft.

LYRAN ALLIANCE

In response to the Jade Falcon invasion of the Lyran Alliance, Archon Katherine Steiner-Davion has authorized regular reconnaissance patrols into the near Periphery. Journeying no more than 100 light-years from the Alliance's borders, these short-term missions are designed to determine the level of Clan activity immediately coreward of the Alliance.

The Archon is openly hiring mercenary forces for these operations, keeping loyal units at home to counterbalance the threat posed by forces loyal to Archon Prince Victor Steiner-Davion of the Federated Commonwealth. According to recent rumors, the Archon is planning to establish a series of observation posts in the region as well, but Corps operatives have been unable to confirm these rumors.

PROTO-STATES

The Deep Periphery is home to numerous petty kingdoms and proto-states, such as the Chainelaine Isles, the Hanseatic League and New Castile. Some of these small realms are collections of even smaller states, while others are multi-world nations.

CHAINELANE ISLES

Occupying an area less than 100 light-years in diameter, the Chainelane Isles are a collection of warring states, similar in many ways to the Inner Sphere. The Isles lie in the path of the Clan invasion, but the Clans seem to have had little impact on the Chainelane worlds.

Though Corps teams have detected no Clan presence in the Isles, many analysts speculate that the Duchy of Vendôme may have fallen victim to the Clan offensive. This petty kingdom collapsed shortly before the Clan invasion, its military vanishing virtually overnight. According to the theory, the Clans chose to test their forces' effectiveness against the Chainelane warriors and selected the duchy as a suitable test case. Composed almost entirely of infantry and conventional forces, the duchy's army could scarcely have resisted even a small Clan force. This theory offers a possible explanation for the Clans' otherwise inexplicable failure to take over the Chainelane Isles; they may have been so disgusted by their opponents' weak resistance that conquering the Isles hardly seemed worth the bother.

Several Chainelane warlords have reported contacts with an advanced society, which may well be the Clans. Apparently, these warlords attempted to negotiate with the visitors for trade and equipment, but were ignored. Since that time, the Isles have reported no further contacts with the mysterious visitors, and Clan vessels appear to avoid the area.

HANSEATIC LEAGUE

Founded in the late twenty-ninth century on the world of Bremen, the Hanseatic League is a merchant alliance that dominates trade in the anti-spinward regions of the Deep Periphery. Ruled by a loosely organized council, the league controls the availability and price of goods, thereby effectively controlling the economies of more than two dozen Periphery worlds and several minor states.

The Hanseatic League's extensive fleet of JumpShips and DropShips, which act as couriers and traders, form the only communication links between many worlds in the league's territory. Combined with the league's economic clout, this communications monopoly enables Hanseatic merchants to act as absolute overlords of their territory. League merchants are also active far beyond the region the league claims for itself, and may be found as far afield as the Chainelane Isles or Nueva Castile.

Trading vessels make up the bulk of the league's fleet, but it also contains a small military force to ensure that league merchants obey official regulations. The Hanseatic military also controls outsiders' access to league-claimed space. Currently, only three league worlds are officially accessible to foreigners—the trade worlds of Lübeck, Bergen and Bruges. However, official league territory is an irregular area some 300 light-years in diameter, and the Hanseatic military cannot effectively control all traffic into and out of that region.

Clan and Inner Sphere merchants exchange goods and information on the Hanseatic trade worlds, a practice that has led to the birth of a new industry: espionage. Though most espionage takes place on Bergen, numerous intelligence operatives from the Explorer Corps, other Inner Sphere powers and the Clan Watch work on all three Hanseatic trade worlds. Agents from Nueva Castile, which seeks allies in its struggle against the Umayyads, also operate on these planets, as do agents from other Periphery worlds.

Though the Hanseatic League officially supports free trade in the Deep Periphery, such support ends at the league's bor-

ders. Hanseatic traders resent the presence of Diamond Shark and Nova Cat merchants in the region because the Clan trading fleets are virtually immune to the threat of force by which the Hanseatic military intimidates other merchant powers. Several years ago, the Hanseatic fleet commander threatened a Diamond Shark merchant vessel, prompting a Shark WarShip to obliterate two Hanseatic ships in reply. Since that time, all Hanseatic vessels have sought to avoid contact with the Clans by shifting their operations rimward and anti-spinward of their former trading zones.

(Wolfnet real-time communications mode:

M.Wolf: Any idea as to their military strength?

M.Noketsuna: Not much. Estimates range from 5 to 6 'Mech regiments and 25 conventional units, spread throughout the entire Hanseatic sphere of influence. The threat that these units represent is generally enough to keep trading partners in line, though ocasionally the Hanseatic leaders resort to assassinations and political intrigue.

M.Wolf: What level of technology do they have?

M. Noketsuna: About the same as the Inner Sphere when the Dragoons arrived.)

NUEVA CASTILE

Nueva Castile is a cluster of nine worlds, situated roughly 150 light-years coreward of the Hanseatic League and 200 light-years anti-spinward of the Falcon-occupied monastic colony of St. Jean. Founded by Terran colonists from Iberia in the late twenty-fourth century, Nueva Castile's worlds never knew of the founding of the Star League or its subsequent fall. They lived in isolation, farming and occasionally fighting minor wars over territory or resources.

In 2830, an unidentified JumpShip appeared in the Granada system and attacked the planet, swiftly seizing control of the world. These attackers used weapons alien to the colonists—armored giants that spat fire and annihilated Castilian armies. From descriptions of eyewitnesses to this invasion, the "armored giants" are clearly BattleMechs. The invaders, whom the Castilians dubbed *Umayyads* after an ancient Iberian foe, had conquered all of Nueva Castile's worlds except for Asturias by 2855.

At that point, the tide of war began to shift. The Umayyads began to fight among themselves, and in the confusion the Asturians were able to capture and reverse-engineer a BattleMech. The Asturians secretly constructed their own 'Mechs, and within a few months 'Mech-equipped Asturian armies led by Ferdinand Rodriguez recaptured the worlds of León and Castile before the Umayyads could mount an effective counterattack.

Warfare has reigned in the confederation for the past 200 years. At present, Castilian forces control seven worlds: Asturias, León, Castile, Aragon, Navarre, Valencia and Galicia. The Umayyads retain control of Córdoba and Granada. The technological levels of the two opposing forces appear roughly equal, and it seems likely that the Castilians' numerical superiority will eventually enable them to eject the Umayyads from the remaining worlds.

The origin of the Umayyads remains a mystery, even to their modern-day descendants. Umayyad legends contain a few references to an exodus from their own war-torn homeworlds, but the location of these worlds remains unknown. Some historians believe the modern Umayyads are descended from the remnants of an Inner Sphere unit that fled deep into the Periphery during the First or Second Succession War. Others believe the group descends from refugees who fled from some yet-to-be-discovered Periphery state. Still others contend that the Umayyads most likely descend from Clan exiles who fled the Pentagon civil war or a later inter-Clan conflict, or that they are remnants of Clan Wolverine.

Whatever the case, both the Castilians and the Umayyads welcome outsiders, apparently in the hope that foreigners might provide them with some military advantage. Of the two, the Umayyads possess the more sophisticated culture, operating on democratic principles and with established arts and sciences.

The techno-barbarian Castilians possess a feudal culture, with an elected king who acts as overlord and mediates between the separate factions. This king, usually their greatest warrior, rules absolutely until his death. Though originally agrarian colonists, the Castilians have since dedicated themselves to the art of war, with no goal but the liberation of their worlds from the Umayyad invaders. Their internal politics have become more convoluted over the years, and assassination has become a standard tool to further political goals. In fact, the squabbling within the Castilian ruling classes is probably the one factor that allows the Umayyads to maintain control of Córdoba and Granada.

(Wolfnet real-time communications mode:

M.Wolf: Same question as before. What is their military strength?

M.Noketsuna: We estimate approximately 20 armor regiments for the Castilians, bolstered by approximately two regiments of BattleMechs operating in battalion-sized groups. The Umayyads may have as few as seven regiments split between two worlds, including approximately two 'Mech battalions.

I.Chandra: The Corps has missed one major group— the JärnFòlk. Given their proximity to Columbus, within 300 light-years of it, this seems a major oversight. I'll give you a quick summary from our databases:

JàrnFòlk

The *JàrnFòlk* (literally, *Iron Folk*) are colonists of Scandinavian descent who occupy four worlds more than 250 light-years spinward of the Columbus facility. Neither warriors nor traders, the JàrnFòlk view themselves as simple colonists and explorers.

The JàrnFòlk comprise nine major family groups. A loose council of representatives from each family group meets to discuss major issues facing the nation, and stands in judgment over what passes for JàrnFòlk law. However, the council has no real power; each family group effectively rules itself. Many feuds exist between the families, and every member of JàrnFòlk society traditionally carries a personal sidearm. Though feud-related killings are an accepted part of JàrnFòlk life, casualties remain fairly low because JàrnFòlk law forbids killing outside of blood feuds. Those who perpetrate such rare crimes are hunted down without mercy.

Despite the JàrnFòlk's fierce traditions, they do not maintain a standing military or use large-scale weapons of warfare such as BattleMechs or tanks. However, the tradition of blood feuds and the practice of carrying sidearms have led JàrnFòlk craftsmen to produce some of the most sophisticated handguns in existence. Such weapons are rarely surrendered, as doing so indicates complete submission by the former bearer.

Each JàrnFòlk family possesses its own JumpShip and fleet of DropShips, and the families keep their vessels in mint condition. The JumpShips in particular are often highly decorated in the curvilinear *Urnes* style favored by the colonists' Norse forefathers. Most young men and women of the JàrnFòlk spend part of their time on these vessels, exploring nearby space. One such craft may have visited the Columbus facility shortly before the Star League abandoned it, and apparently the Clans captured another JàrnFòlk JumpShip in the late thirtieth century.

[End of file]]

EX-CLAN FORCES

In addition to the Deep Periphery's various inhabitants, two ex-Clan forces operating in the Inner Sphere are potential sources of information on the Deep Periphery and (presumably) the Clan homeworlds: the renowned Wolf's Dragoons and the so-called Wolf Clan in Exile. The mercenary unit Snord's Irregulars, though partly of Clan origin, is less likely to know where the Clan homeworlds may be found; however, they may know quite a bit about the Deep Periphery in general.

WOLF'S DRAGOONS

Wolf's Dragoons are perhaps the most famous ex-Clan force in the Inner Sphere. For more than forty-five years, only select members of this mercenary unit knew of its true origins. When the Clans invaded the Inner Sphere, however, Dragoon commander Jaime Wolf revealed his unit's Clan origins to the leaders of the Great Houses and offered to train them in the tactics of the mysterious invaders.

Originally, the Clans sent the Dragoons into the Inner Sphere on a long-term mission to monitor the political situation and the strengths of various Inner Sphere militaries in preparation for an eventual Clan invasion. Later, a change in Clan leadership led to a new Dragoon mission—helping the Inner Sphere powers develop the capacity to successfully resist the Clan juggernaut.

The Dragoons' recovery of vessels from the Bristol cache clearly demonstrates that the mercenaries possess navigational information beyond that currently available in the Inner Sphere. Additionally, Corp analysts believe that the Dragoons made periodic supply runs during their first few years in the Inner Sphere. If so, they must have extensive knowledge of the Deep Periphery, as well as the location of the Clan homeworlds.

Though the Dragoons provided invaluable aid in the defense of the Inner Sphere during the Clan invasion—including information on Clan history and tactics—the mercenaries have never revealed or even hinted at the location of the homeworlds. Corps analysts believe that the Dragoons are unwilling to contribute toward assaults on the planets that remain their home in spirit, if not in fact.

(Wolfnet real-time communications mode:

J.Wolf: Surprisingly insightful for ComStar. Wrong, but insightful.

I.Chandra: Perhaps you should qualify that statement?

J.Wolf: Partially wrong. They do not know the exact details of the orders given by Khan Kerlin Ward, just the summarized version that eventually reached Focht.

B.Cameron: I do not understand.

I.Chandra: It is said that when Cortez reached the New World, he ordered his ships burned to eliminate the option of failure and retreat for his men.

B.Cameron: But we retained our JumpShips and WarShips when we came to the Inner Sphere.

I.Chandra: Yes, but Khan Kerlin ordered that all vessels delete from their computers the navigational data needed to return home. In that sense, we burned our ships.

J.Wolf: Even had we retained the knowledge, we would not have given it to them—in that much, the ComStar analysis is correct.

B.Cameron: But if we "burned our ships," how did Natasha Kerensky rejoin the Wolf Clan? The Clan was already in deep space, quiaff?

I.Chandra: Aff. Our navigational databases still surpass those of Inner Sphere vessels—they retain all data known at the time of the fall of the Star League. They simply do not contain any information about the routes to the Pentagon and associated worlds. Natasha rendezvoused with Clan Wolf at a point within the area known to us.

B.Cameron: If we have Star League data, could we not reconstruct the route to the Pentagon Worlds? The Great Father knew where he was going.

I.Chandra: There is some debate over whether General Kerensky did know where he was going. And reconstructing the data is possible, but only a few of us possess the historical and practical knowledge required to do so. Also, the task would take months, if not years to complete.)

WOLF CLAN IN EXILE

The Wolf Clan in Exile definitely knows the location of the homeworlds, but is unlikely to provide that information to any Inner Sphere power. The exiled Clan now works with the Lyran Alliance—specifically, the Arc Royal Defense Cordon—but their cooperation with the Inner Sphere has definite limits. Former ilKhan Ulric Kerensky directed the exiled Wolves to protect the Inner Sphere, but few Clansmen would interpret this directive to include aiding an Inner Sphere attack on the Clan homeworlds. Though many exiled Wolves are strongly loyal to Khan Phelan Kell, even he could not persuade his warriors to supply such information to their former enemy.

Our analysts believe that the mere knowledge of the Corps' search for the Clan homeworlds would cause problems within the Wolf Clan in Exile. Almost all of the exiled Wolves were born in Clan space, and they undoubtedly hope to eventually reconcile with their former brethren. If the exiled Wolves aid or abet an Inner Sphere assault on the Clan homeworlds, this goal becomes impossible. Consequently, Corps leaders have decided not to request this information from the exiled Wolves, though ComStar will aid their operations in the Arc Royal Defense Cordon.

SNORD'S IRREGULARS

The origins of Snord's Irregulars were revealed following the Clan invasion. Created as part of a plan hatched by Cranston Snord and Wolf's Dragoons commander Jaime Wolf, the Irregulars consist largely of Inner Sphere warriors and a handful of Clan-born personnel. Apparently, all of the original unit's equipment came from the Inner Sphere, obtained through normal means or discovered in Star League facilities.

Though the Clan technology later obtained by the Irregulars at Camelot Command included several DropShips,

none of the unit's JumpShips are of Clan origin, and the Irregulars seem unlikely to know the Clan homeworlds' location.

(Wolfnet real-time communications mode:

M.Noketsuna: That's it. Any comments?

J.Wolf: It is inaccurate in places and a little dry, but it contains a few gems. We gained some insight into the Com Guards, and now have solid information on the Corps and its mission—which ComStar and the Combine took great pains to conceal from us.

I.Chandra: I found the omissions the most interesting part of the document. It contains very little specific information about Corps operations, or which systems the Corps has explored. The document is quite open about the direction of those explorations—generally coreward of the Inner Sphere—which is more or less correct (wonders will never cease). But the document contains little information on the distance that Corps exploration teams have traveled. I presume they have not approached within 270 light-years of the Pentagon, because the document makes no mention of the Voice.

J.Wolf: Ah yes—the Voice of Kerensky, the Great Father's broadcast announcement of our existence and proclamation of a new era of peace.

M.Wolf: Oh well, only another 500 or so years to go.

M.Noketsuna: Assuming you mean to the Periphery edge of the Inner Sphere, the signal will not reach Terra for at least 1,000 years.

I.Chandra: This is not a laughing matter. If the Explorer Corps detects the Voice, it will lead them to the homeworlds like a beacon. If that happens, a military venture will surely follow.

M.Wolf: And there lies the crux of the matter. Should we aid the Inner Sphere against the Clans in this?

J.Wolf: I am 78 years old, and would dearly love to see the homeworlds again before I die. However, I have no wish to do so as part of an invasion fleet.

I.Chandra: I too was born there, and although I no longer regard them as home, I do not wish war to come to them. The remaining original Dragoons and the Luthien adoptees would say the same. If we side with the Inner Sphere, the dissent in the

unit would make Elson's Challenge look like a tea party. I doubt I could stop a second challenge.

M.Wolf: Then do we hinder the Corps?

J.Wolf: No. Despite our size and abilities, even we lack the resources needed to interdict the Corps' operations. We could strike at key Corps bases, but any attack would surely leave at least a few survivors who would report our involvement. We would then be outcasts from both the Inner Sphere and the Clans, and the Great Houses would undoubtedly unite to destroy us.

B.Cameron: What about warning the Clans?

J Wolf: Again, no. If Ulric or Natasha still lived, I would consider such a course of action. Natasha remained a friend to us even after she returned to the Clans, and I communicated with her several times. She and Ulric would have used such knowledge judiciously to avert bloodshed on both sides. But I do not trust the Wolf Clan's current leaders. I feel certain they would use the information to lure the Corps or a ComStar–Combine invasion force into an ambush, and then use that attack as an excuse to resume the invasion of the Inner Sphere.

M. Noketsuna: Then we do nothing. We are damned if we do, and damned if we don't.

J.Wolf: That is not what I meant. We aid neither the Corps nor the Clans. Instead, we balance the interests of both sides. In effect, we must become wardens of the Inner Sphere and Clan worlds, seeking to preserve both rather than let them destroy one another. If fighting is inevitable, so be it. The Dragoons have never fled from a fight. But we must attempt to limit the scope of the cataclysm. People will die and armies, perhaps even entire states, will perish—but we must ensure that both Clan and Inner Sphere civilizations survive.

B.Cameron: "Dulce et decorum est pro patria mori." It is sweet and fitting to die for one's country.

M.Wolf: I am not sure about the sweet and fitting bit...

I.Chandra: So it is agreed. We leave the Corps to its own devices and will discuss the other matters at a later date.

J.Wolf: Seyla.)

EXPLORERS' LEXICON

The following glossary provides precise, often technical explanations of the terms used in this text to describe various concepts and operations.

Acceleration: The rate of change in velocity with respect to time. Acceleration may be expressed with the following formula:

$$\text{acceleration} = \text{distance} \times \text{time}^2$$

Acceleration of gravity: The acceleration of freely falling bodies under the influence of Terrestrial gravity, equal to 980.665 cm/sec^2 or approximately 32 ft/sec^2 at sea level.

Albedo: The fraction of light reflected by a planetary surface. Albedo is expressed as a numerical value ranging from 0 (no reflection, perfectly black) to 1 (a perfect reflector).

Apogee: The point farthest from a planet or other non-stellar body in the orbit of a satellite. *Aphelion* refers to the most distant point in an orbit around a stellar body.

Astronomical unit (AU): A unit of length equal to the mean distance between Terra and Sol, approximately 149.5 million kilometers.

Burn: Colloquial term for the use of a vessel's interplanetary or maneuvering drive to change velocity or heading.

Burn-day: The amount of fuel consumed by a vessel if accelerating at 1 G for 1 day.

DropShip: Any interplanetary craft of more than 200 tons incapable of independent interstellar travel.

Equatorial orbit: An orbit parallel to the equator of a planetary body.

Flight path: The path followed by a space vessel or celestial body.

Free fall: The fall of an object in a gravitational field when no thrust or means of braking are applied.

Free flight: Movement of a vessel outside a gravitational field when no thrust is applied. Also known as *inertial flight*.

Geosynchronous orbit: An equatorial orbit in which the satellite travels at a speed matching that of the planet's rotation, maintaining a constant relation to points on the planet's surface. Also known as *geostationary orbit*.

Instrument Landing System (ILS): A system of beacons and automatic controls that guide a DropShip or small craft to a landing site and provide information on the vessel's direction and rate of descent.

Inertia: The tendency of a body to resist acceleration, as the tendency of a body at rest to remain at rest or of a body in motion to stay in motion in a straight line unless disturbed by an external force. A space vessel that ceases to accelerate and coasts through space is said to *go inertial*.

Jump point: A point of gravitational equilibrium from which a JumpShip may enter or leave hyperspace.

Jump sail: A JumpShip's energy-collection sail. Jump sails are constructed from superconducting materials that release electrons when bombarded by photons. Thus, a jump sail converts cosmic electromagnetic radiation into electrical current for the vessel. All JumpShips may jettison their jump sails with explosive bolts. Some WarShips detach their jump sails while maneuvering.

JumpShip: Any vessel capable of traveling through hyperspace by means of a Kearny-Fuchida drive.

Lagrange point: A point of gravitational equilibrium other than the zenith and nadir points of a star. The number and stability of Lagrange points in a star system depends on the number of astronomical bodies in the system.

Life zone: The area around a star in which water may exist in a liquid state on planetary surfaces, providing the basic conditions for life. Also known as *habitable zone*.

Light-year: The distance light travels in a vacuum in a period of one year (approximately 9.45 trillion kilometers).

Momentum: The product of a body's mass and linear velocity. Momentum may be calculated with the following formula:

$$momentum = mass \times distance \times time$$

The amount of force required to change a vessel's heading or velocity depends on its momentum and can be calculated with the following formula:

$$force = mass \times distance \times time^2$$

Orbit: The path of a celestial body or manmade satellite as it revolves around another body.

Orbital decay: Decrease in orbit. A satellite experiencing orbital decay will travel increasingly closer to the body it is orbiting until it eventually lands or crashes.

Parsec: A unit of astronomical length based on the distance from Terra at which stellar parallax is one second of arc and equal to 3.2616 light-years, or 3.086×10^{13} kilometers.

Perigee: The point nearest a planet or other non-stellar body in the orbit of a satellite. *Perihelion* refers to the point of least distance in an orbit around a stellar body.

Pirate point: Any jump point other than the zenith or nadir points of a star. Also known as non-standard jump points.

Planets: Planets are simply nonluminous celestial bodies illuminated by light from the star around which they revolve. Since the first detection of extrasolar planets in early 1996, these bodies have fascinated mankind. G- and K-class stars have the highest probability of containing planets capable of sustaining human life. Some F- and M-class stars also possess habitable worlds, but often have harsher atmospheric and environmental conditions.

Polar orbit: An orbit that passes through a planet's polar axis. Given sufficient time, a satellite in a polar orbit will pass over all points of a planet's surface as a result of the planet's rotation.

Satellite: Any body, natural or manmade, orbiting a larger body. This term most commonly refers to unmanned orbital constructs.

Singularity: A black hole in which time and space are infinitely distorted. Singularities are invisible, but material falling into them forms a visible accretion disc.

Small craft: Any interplanetary or orbital craft capable of movement but massing under 200 tons.

Star catalogues: Mankind has spent more than a thousand years cataloguing stars, and many navigational charts in use today were developed from these original catalogues. Many uninhabited systems retain the names they received during this early phase of cataloguing—e.g. *L789-6* comes from the Luyten catalogue, while *BD+43° 44* comes from the Bonner Durchmusterung. By the time humanity first traveled between the stars, we had already catalogued more than a million stars, and added to this number during the next millennium.

Star types and classes: All stars are classified by their *spectral type* and *luminosity class*. The spectral type indicates the color and temperature of the star. The seven major spectral types comprise 99 percent of all known stars. (Spectral subgroups are denoted with Arabic numerals).

SPECTRAL TYPES

Class	Color	Temperature (Kelvin)
O	Blue-white	33,000
B	Blue-white	22,000
A	White	9,000
F	Yellow-white	6,600
G	Yellow	5,500
K	Orange	4,000
M	Red	2,700

Stars of each spectral type may possess widely differing luminosities, which are denoted by nine luminosity classes. Most stars fall within the Ia, Ib, II, III, IV and V luminosity classes.

LUMINOSITY CLASSES

Class	Description
0	Extremely luminous supergiant
Ia	Luminous supergiant
Ib	Supergiant
II	Bright giant
III	Ordinary giant
IV	Subgiant
V	Main sequence (dwarf)
VI	Subdwarf
VII	White dwarf

For example, Sol, the Terran sun, is a G2V star. This indicates that Sol is a main-sequence yellow star (Subclass 2) with a surface temperature of around 10,000° K.

Station: Any orbital construct incapable of independent movement that is crewed or capable of docking with space craft.

Trajectory: The path of a moving body or particle.

Velocity: Velocity is the term used to represent the distance an object travels in a given time. It may be calculated with the following formula:

$$velocity = distance \times time$$

Void jumper: A JumpShip, and by extension its crew, that jumps into the uncharted space between stars.

RULES

The following rules are designed to enhance **BattleTech**, **BattleSpace**, and **MechWarrior** games featuring the Explorer Corps. Many of these rules will work for any type of game, but most are specifically designed for space travel and planetary exploration scenarios. All rules in this section are optional, so players and gamemasters should feel free to use only those that best fit their games.

For the purposes of official **BattleTech** play, all of the rules in this book are considered Level 3 (not for use in most tournaments).

ADVANCED TERRAIN AND WEATHER RULES

Deep Periphery missions can place players on unexplored worlds where they may encounter a staggering variety of terrain, as well as harsh and unpredictable weather. The following rules, which expand the terrain rules in the **BattleTech Compendium: The Rules of Warfare (BTC:RoW)**, are designed to simulate these unusual conditions.

The Expanded Movement Cost and Terrain Table on p. 65 summarizes the Movement costs, Piloting Skill Roll modifiers and to-hit modifiers of each new terrain type and weather condition. When applying these modifiers, consider all artillery weapons, autocannons, flamers, Gauss rifles, machine guns, missile launchers and Narc pods as ballistic weapons. All lasers and PPCs are considered energy weapons.

The table also lists the types of units prohibited from entering certain kinds of terrain or functioning under certain weather conditions. 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. Note that the presence of a modifier does not necessarily mean a Piloting Skill Roll must be made upon entering the terrain.

EXPANDED MOVEMENT COST AND TERRAIN TABLE

Base Terrain	MP Cost per hex	To-Hit Modifier	Piloting Modifier	Prohibited Units
Building, Light	2B*	0	0	Naval
Building, Medium	3B*	0	0	Naval
Building, Heavy	4B*	0	0	Naval
Building, Hardened	5B*	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	2F**	0	+4**	All except VTOLs and BattleMechs
Paved	1G	0	0	Naval
Tundra	1F	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	2A*	0*	0*	Infantry, GroundD
Water, Depth 2	4A*	0	0*	Infantry, GroundD
Water, Depth 3+	4A*	0	0*	Infantry, GroundD
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 Conditions	MP Cost per hex	To-Hit Modifier	Piloting Modifier	Prohibited Units
Deep Snow	+1FI	+0	+1	Wheeled
Geyser	+1**	+2**	+1**	Wheeled, Infantry**
Ice	+1GIJ*	0	+4*	—*
Mud	+1FI	+0	+1	—
RapidsI	+1	+0	+2	—
Road/Bridge*	1CG	+0	+0	—
Rubble	+1A	+0	+0	Wheeled
Swamp	+1FI*	+0	+0	—

Weather Conditions	MP Cost per hex	To-Hit Modifier	Piloting Modifier
Blizzard	+0	+2 ballistic weapons, +1 all other weapons	+1K**
Blowing Sand	+0	+1 ballistic weapons, +2 all other weapons	+0
Dusk	+0	+1	+0
Earthquake	+0	**	**
FireH	+0	+0	+0
Fog	+2J	+1 energy weapons	—K
Gravity	*	*	*
Night	+0	+2	+0
Rainfall, Light	+0	+1	+0
Rainfall, Heavy	+0	+1	+1
SmokeH	+0	+2	+0
Snowfall	+0	+1	+1
Winds, Moderate	+0	+1 ballistic weapons**	0**
Winds, High	+0	+2 ballistic weapons**	+2**

Table Key on p. 66

EXPANDED MOVEMENT COST AND TERRAIN TABLE KEY

Notes

*See special rules in **BTC:RoW**.

** See special rules below.

A Piloting Skill Roll required to prevent falling.

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

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

D Hovercraft may enter all water hexes.

E No cost for infantry.

F Units entering this terrain may get stuck. See **Bog Down**, p. 67.

G Skidding rules apply (see p. 23, **BTC:RoW**).

H See also **Fire** (pp. 84–86, **BTC:RoW**).

I These terrain modifiers do not apply to hovercraft.

J 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. 67).

K Poor visibility. Units jumping into woods hexes must make a Piloting Skill Roll. 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.

BASE TERRAIN

Base terrain is the underlying terrain found in each hex. Every hex on every map will consist of one of the base terrain types (Buildings, Clear, Paved, Rough, Water, Light Woods or Heavy Woods). Rules for using these terrain types appear on pages 11–13 and 35–36, **BTC:RoW**.

The following paragraphs describe the new terrain types provided in the Expanded Movement Cost and Terrain Table.

Jungle

Jungle hexes are covered in trees and other dense vegetation. Hanging vines and thick undergrowth combine with the tree cover to make travel through these areas extremely slow and difficult. Treat jungle hexes as woods hexes of the appropriate type (Light, Heavy or Ultra-heavy), but apply the modifiers shown on the Expanded Movement Cost and Terrain Table.

When using the Clearing Woods special-case rule (p. 81, **BTC:RoW**), one successful clearing attack converts Ultra-heavy jungle to Heavy jungle, and a second reduces it to Light jungle. Clearing Light jungle converts it to Rough terrain.

Magma

Volcanic activity can send molten rock, or magma, flowing across a planetary surface to form burning rivers and lakes. As the magma cools, its surface solidifies, allowing units to cross.

Such magma crusts remain intensely hot, however, preventing infantry or wheeled vehicles from entering such terrain. Magma crusts are assumed to be capable of bearing the weight of all units allowed to enter them, unless those units are jumping or crashing into the Magma Crust hex.

The Expanded Movement Cost and Terrain Table includes basic information on the effects of movement across cooled and liquid magma. Any BattleMech unit jumping into or crashing onto a Magma Crust hex may bog down, and so the player controlling that unit must make a Piloting Skill Roll. If the roll fails, the unit has fallen through the crust into the molten magma beneath. In addition, players must roll 1D6 each time any unit except for a VTOL or hovercraft enters a Magma Crust hex. On a result of 6, the crust breaks and the unit falls through. All units that fall into molten magma, *except for* BattleMechs, are automatically destroyed.

BattleMechs that start their movement in or pass through molten magma during a Movement Phase take 2D6 points of damage to each exposed location upon entering the magma. Exposed locations are the 'Mech's legs if it is moving normally, and all locations if it is falling. Roll the amount of damage separately for each location that suffers damage. A unit that starts *and* ends the Movement Phase in a Liquid Magma hex takes an additional 2D6 points of damage to exposed locations.

Magma hexes also increase the heat level of a BattleMech moving into or crossing them. During the Heat Phase, a 'Mech occupying a Magma Crust hex generates an additional 5 Heat Points; one occupying a Liquid Magma hex generates an additional 10 Heat Points. A BattleMech also generates 2 Heat Points for each Magma Crust hex and 5 Heat Points for each Liquid Magma hex that it moved out of during the Movement Phase (see **Heat Scale Modifiers**, p. 70).

Ultra-heavy Woods

Ultra-heavy woods are covered with huge trees that grow very close together, like the massive old-growth forests found on Terra in the pre-industrial age. In **BattleTech** game terms, Ultra-heavy woods is a new type of terrain even heavier than Heavy woods. 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 between an attacking unit and its prospective target will block line of sight. Attacks against a target that occupies an Ultra-heavy woods hex receive a +3 to-hit modifier.

When using the Clearing Woods special-case rule, a single successful clearing attack converts Ultra-heavy woods to Heavy woods, meaning that the treetops rise only 2 levels above the underlying terrain.

Pilots ejecting (p. 83, **BTC:RoW**) into Ultra-heavy woods apply a +4 modifier to the required Piloting Skill Roll.

Tundra

Tundra consists of black, mucky soil over permafrost (per-

manently frozen subsoil). Hardy grasses and lichens grow profusely over tundra, giving it the appearance of a grassy glade. Tundra can be slippery and treacherous, and so units entering Tundra hexes may bog down (see **Bog Down** rules, p. 69). Modifiers that apply to tundra also apply to moorlands, bogs and quicksand.

Sand

This terrain represents the deep, shifting sands common to deserts and beaches throughout known space. Because it is difficult to maintain steady footing on sand, all Piloting Skill Rolls made in such terrain receive a +1 modifier. The Expanded Movement Cost and Terrain Table lists two MP costs for sand. The first (1 MP) applies to all units except wheeled vehicles and infantry, the second (2 MP) to wheeled vehicles and infantry units. Jump infantry use Jumping MP, and can therefore avoid the increased MP cost. Also, wheeled vehicles can be modified to move in sand at the normal rate (see **Dune Buggies**, p. 80).

TERRAIN CONDITIONS

Terrain conditions represent changes to a given hex's terrain caused by weather, specific geological conditions, or human intervention. Modifiers and unit prohibitions imposed by these conditions apply in addition to those for the underlying terrain. For example, a Heavy Woods hex that is also Muddy imposes an MP cost of 4 per hex (3 for Heavy woods + 1 for mud). The to-hit modifier for shooting into or through the hex is +2 (standard for Heavy woods), and a +1 modifier applies to all Piloting Skill Rolls made by units in the hex (standard for Muddy conditions). The presence of mud also means that units may bog down. Ground and naval units may not enter the hex.

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

Road/Bridge, Rubble and Swamp represent terrain conditions. Rules for using these terrain types appear on pp. 11–13 and 35–36, **BTC:RoW**. Rules for additional terrain conditions are given below.

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; in addition, units entering deep snow may get stuck. See **Bog Down,** p. 69.

Treat hard-packed snow as either ice or Clear terrain, depending on how slippery it is. The gamemaster makes this choice unless the terrain is specified in the scenario being played.

Geyser

Geological activity common on some planets can create geysers and mud spouts that erupt without warning. Often, the only clues to a geyser's presence are small holes or cracks in the ground, easily overlooked by troops in combat. Sometimes a geyser can be recognized by a characteristic mound in the earth. 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 known locations; if a gamemaster or referee is playing, the geysers' location can be kept secret. Until a geyser erupts, it has no effect on the underlying terrain. During the End Phase of each turn, the gamemaster should roll 1D6 for each geyser on the map. On a result of 1, the geyser erupts, creating the effect listed on the Expanded Movement Cost and Terrain Table, p. 65. For purposes of determining line of sight for attacks, treat the erupting geyser as Heavy woods.

These effects last for a variable number of turns, which the gamemaster or referee should keep secret from the players. To determine the number of turns that the geyser continues to erupt, roll 1D6.

Geyser rules can also apply to small eruptions of magma on volcanically active planets. In this case, any unit that enters or stands in a hex where such a geyser is erupting suffers the same effects as if it had fallen into liquid magma (see **Magma,** p. 66). After the eruption, treat the hex as Liquid Magma for the remainder of the game. A volcanic geyser can erupt again in a subsequent turn.

Ice

Standard rules for ice appear on page 89, **BTC:RoW.** Under these optional expanded rules, the modifier for Piloting Skill Rolls made on ice increases to +4. Also, a unit must spend extra MP when moving across ice or else risk falling (see **Careful Movement,** p. 69).

Mud

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

Moving into or through muddy terrain imposes a +1 MP cost per hex and a +1 modifier to all Piloting Skill Rolls. If the mud is deep enough, a unit may bog down in it (see **Bog Down** rules, p. 69).

Rapids

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

WEATHER CONDITIONS

This category includes weather and other environmental and atmospheric conditions such as light and smoke. Weather conditions may prevail across the entire playing area, though particular scenarios usually note whether the condition applies to the entire map or only certain hexes.

Fire, high and low gravity, and night are examples of weather conditions in the standard **BattleTech** rules. Rules for using these conditions appear on pages 13 and 84–86 (fire), 90–91 (gravity) and 94 (night) of **BTC:RoW.** The Expanded Movement Cost and Terrain Table, p. 65, lists changes to the

standard rules for some of these conditions; otherwise, standard rules apply. Optional rules for additional weather conditions are given below.

Blizzard

Heavy snowfall combined with high winds creates blizzard conditions, making accurate weapons fire extremely difficult. Blizzard conditions impose a +2 to-hit modifier to ballistic weapons, and a +1 to-hit modifier to all others. In addition, 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. 69). Hovercraft are subject to skidding in all types of terrain during a blizzard.

Blowing Sand

In windy conditions, airborne sand or dust can obscure vision and make accurate weapons fire difficult. Sand and dust particles also tend to diffuse energy-weapons fire, making these weapons ineffective. Blowing sand imposes a +1 to-hit modifier to ballistic weapons and a +2 to-hit modifier to all others.

Dusk/Dawn

The brief half-light of dusk and dawn creates a penalty similar to that for night, though less severe; the to-hit modifier is +1 rather than +2. However, units cannot use searchlights to counter this penalty.

Earthquake

Many planets in the **BattleTech** universe are tectonically unstable, subject to frequent earthquakes that can affect combat. Seismic activity may hinder the mobility of BattleMechs and will cause targeting difficulties for all units.

When using 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 fire that takes place during the same turn as the tremor. In addition, players must make a Piloting Skill Roll for each standing BattleMech they control at the start of each Movement Phase during which a tremor occurs, modified by the strength of the tremor. A 'Mech whose roll fails will fall, taking damage per standard rules.

The improved stability afforded by two extra legs means that four-legged 'Mechs suffer half the penalty (round up) when making Piloting Skill Rolls during an earthquake. Combine this penalty with the −2 modifier that applies to four-legged 'Mechs under standard rules (p. 87, **BTC:RoW**).

Fog

Thick fog reduces visibility on the battlefield to such an extent that units must move carefully through the terrain to avoid crashing. 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.**

Heavy Snowfall

Falling snow normally 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 buildup, as shown on the Expanded Heat Point Table (p. 70). Heavy snowfall combined with high winds creates blizzard conditions (see **Blizzard**, p. 68, for applicable rules).

Rainfall

Rain obscures vision and makes weapons fire less accurate. Whether light or heavy, rainfall imposes a +1 to-hit modifier to all weapons fire. In addition, heavy rainfall makes the ground wet and slippery, imposing a +1 modifier to all Piloting Skill Rolls. Rainfall can also reduce the heat generated by a BattleMech, as shown in the Expanded Heat Point Table (p. 70).

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; for high winds, the modifier rises to +2. High winds also impose a +2 modifier to all Piloting Skill Rolls. When rolling on the Missile Hits Table, subtract 2 from the die roll for moderate winds, 4 for 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**, p. 23, **BTC:RoW**).

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. 91, **BTC:RoW**), with the following modifications.

Liquid Magma hexes follow standard Swamp rules for getting stuck.

Tundra and Magma Crust hexes, deep snow and mud are all less likely than swampy ground to trap a unit. To reflect this, apply a −1 modifier to the Piloting Skill Roll made 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.

The −1 modifier replaces the standard +1 modifier for Piloting Skill Rolls in these types of terrain.

Jump-capable units that enter tundra, magma crust, deep snow or mud using Walking or Running movement may get stuck, but can free themselves in subsequent Movement Phases by 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 under such conditions. Units can cross such dangerous terrain without mishap by paying the increased Movement cost, or can trust to their pilots' skill and luck to move through it at full speed. A player attempting this feat must announce his intention before moving his unit. After the unit moves 1 hex, the player makes a Piloting Skill Roll.

If the unit is a BattleMech and the roll fails, the 'Mech immediately falls. It 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 additional Piloting Skill Rolls for each non-Clear hex or elevation change through which the unit passes.

Vehicles moving through thick fog or ice must also make Piloting Skill Rolls after their first hex of movement. If a roll fails in icy terrain, the vehicle skids (see **Skidding**, p. 23, **BTC:RoW**). If the roll fails in thick fog, the vehicle crashes unless it is in Clear terrain. In Clear terrain, the vehicle hits a hole or other minor obstruction that costs the unit an additional 1 MP. In all other terrain, the crash ends the vehicle's movement, and the vehicle sustains damage to its Front facing as if it had charged.

If thick fog and ice are both 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 (p. 89, **BTC:RoW**).

GRAVITY

Gravity can play a major part in **BattleTech** combat and movement, especially when Explorer Corps teams must fight on moons or asteroids with little or no gravity. Most scenarios assume Earth-normal gravity, but battles that occur in other environments require modified game rules. The following weapon-calibration rule supplements the standard rules for gravity on pp. 90–91, **BTC:RoW**.

Weapon Calibration

Gravity influences the trajectory of all ballistic weapons, causing shells or missiles to fall short of or fly past their intended target. Rather than forcing pilots to adapt to constantly shifting weapon ranges, the targeting systems of such weapons are calibrated to take gravity into account. On high-gravity worlds, the weapon may actually be aimed at a point considerably above the target, so that shots will fall to intersect the target at

the appropriate range. Zero-gravity requires no calibration; the flight path of the projectile automatically matches the one the pilot intended. Energy weapons are not influenced by gravity, and therefore do not require calibration.

Usually such modifications are set up by technicians before a battle. However, sometimes weapons are not calibrated when they should be, or are mis-calibrated. A pilot with above-average gunnery skills can compensate for such problems, but firing a mis-calibrated weapon imposes a +2 modifier to the to-hit number. (The calibration of weapons is up to the gamemaster if not specified in the scenario being played.)

HEAT-SCALE MODIFIERS

In addition to speed of movement, number of heat sinks, and other conditions allowed for in the standard **BattleTech** rules, various terrain and weather conditions may influence a BattleMech's heat scale. The following table lists the applicable modifiers for various conditions that affect a 'Mech's heat, including terrain and weather.

INTENTIONAL FIRES

Many weapons can be fired into Woods or Building hexes to intentionally start fires (p. 85, **BTC:RoW**). Rain, thick fog, falling snow and blizzard conditions, however, make it more difficult to start fires. To reflect this, apply a +2 modifier to any fire-starting dice roll made under such weather conditions. These conditions also lessen the chance that a fire will spread, so apply a +1 modifier to all rolls made to determine the spread of a fire.

High winds hasten the spread of fires; under such windy conditions, apply a –1 modifier to fire-starting dice rolls. High winds also cause fires to spread to downwind flammable hexes at a rate of 2 hexes per turn.

SHIPBOARD COMBAT

Several factors distinguish shipboard combat from routine **MechWarrior** combat, the most obvious being changes in gravity. Combat in zero-G offers tactical possibilities that ordinary gravity does not, but also poses several problems. Rules for

simulating the effects of zero-G and artificial gravity appear on page 62 of the **MechWarrior Companion**. The following paragraphs expand on those rules, offering guidelines for missed shots, bulkheads and objects, and specialty ammunition for use aboard ships.

MISSED SHOTS

In an enclosed space there is no such thing as a complete miss. A shot either hits its target or misses its target and hits something else instead, such as another person, a bulkhead, or a door. The following rules, while designed with boarding actions in mind, may apply to any fight in an enclosed space.

Whenever a shot misses its intended target, the gamemaster must determine what the shot eventually hits. In general, any ballistic weapon that misses its intended target will hit another target or ricochet among targets until its kinetic energy is spent. Energy weapons cause damage to the first target they strike; they do not ricochet. The gamemaster should use common sense in selecting targets. For example, a missed shot is extremely unlikely to hit the firer or anyone standing directly behind him. If a shot may hit multiple targets, select any victims randomly. As always, a gamemaster may fudge dice rolls or simply select a dramatically appropriate (or inappropriate) target.

Gamemasters who prefer hard-and-fast rules should follow the two steps below to determine the target of a missed shot.

Step 1. Establish the shot's margin of failure by subtracting the dice roll result from the to-hit number. For example, if the to-hit number is 8 and the dice roll result is 6, the margin of failure is 2.

Step 2. Have the firer make a second to-hit roll against the same target number as the previous roll. A success indicates that a character within a number of meters equal to the margin of failure has been hit. If no living targets happen to be standing in the indicated area, the shot hits a bulkhead. The shot also hits a bulkhead if the roll fails.

EXPANDED HEAT POINT TABLE

Activity/Condition	Modifier
Walking	+1/turn
Running	+2/turn
Jumping	+1/hex (minimum of 3/turn)
Standing Up	+1 per attempt
Weapons Fire	Per Weapons and Equipment Table (pp. 104–6, **BTC:RoW**)
Heat Sinks	–1/operational heat sink
	–1 additional per heat sink under water (6 HP maximum)
Double Heat Sinks	–2/operational double heat sink
	–2 additional per double heat sink under water (6 HP maximum)
First Engine Hit	+5/turn
Second Engine Hit	+10 (total)/turn
Low Temperature	–1/turn per 10°C below -30°C
High Temperature	+1/turn per 10°C above 50°C
Snowfall/Rainfall, Light	–1/turn
Blizzard/Rainfall, Heavy	–2/turn
Deep Snow	–1/turn if 'Mech has at least one operational heat sink mounted in a leg
Fire/Magma, Crust	+5 if occupied during Heat Phase
	+2/each hex exited during Movement Phase
Magma, Liquid	+10 if occupied during Heat Phase
	+5/each hex exited during Movement Phase

MechWarrior Richard fires at two Liao crewmen approaching him in a DropShip corridor. He targets the one on the left, who is armed with a pistol, and rolls 2D6 against a To-Hit Number of 8. Richard rolls a 5. This gives him 3 as a margin of failure (8 – 5 = 3). He makes a second to-hit roll against the same to-hit number, and this time rolls a 9. This result, a success, means that the missed shot hits a character within 3 meters of the targeted character. The second Liao crewman happens to be within 3 meters of his compatriot, and so Richard's shot hits him.

Step 3. If a shot hits a bulkhead, consult the **Bulkheads and Objects** rules below to see if the shot ricochets. If it does, return to Step 1, but treat the bulkhead as the origin of the shot. The firer now becomes a valid target.

BULKHEADS AND OBJECTS

Bulkheads and other surfaces or objects may be attacked deliberately or hit accidentally. Every bulkhead, door or object aboard a ship has two values assigned to it. The first is its damage capacity—the amount of damage it can take before being destroyed. The second is its threshold—the amount of damage needed to pierce the bulkhead or cause an object or surface measurable harm. Values for various surfaces and objects appear on the Damage Capacities and Thresholds Table. Though these rules were written for shipboard combat, the damage capacities and thresholds may be used in any setting.

To allocate damage to a bulkhead or object:

Step 1. Roll the appropriate number of dice to determine the amount of damage caused by the weapon. (See listings for individual weapons, beginning on p. 91, **MWII.**)

Step 2. Reduce the damage by the armor rating of the surface. Assume ballistic and energy armor ratings of 1/2 unless otherwise noted (see **MWC,** p. 89, for rules regarding armor). The resulting number is the amount of damage actually inflicted. Subtract the damage inflicted from the object's or surface's damage capacity. (This damage is cumulative, so repeated shots may cause a critical hit.)

Step 3. Compare the damage inflicted to the object's or surface's threshold to determine whether or not the damage was sufficient to pierce or harm it. If the damage inflicted exceeds the threshold, the bulkhead has been pierced or the object harmed.

Step 4. Determine the consequences of excess damage points (those that exceed the threshold). Excess damage points either ricochet or, if they pierce a bulkhead, cause critical internal damage (see **Critical Hits**). Only slug throwers or needlers ricochet; with energy weapons and those relying on contact explosives, such as gyrojets and missiles, the initial target absorbs the shot's full impact.

On those rare occasions when a shot destroys a door or bulkhead, excess damage may strike a character standing on the other side. Treat such shots as ricochets against a To-Hit Number of 8; no range or attacker modifiers apply.

Ricochets

Excess damage from slug-thrower or needler weapons may ricochet and strike other targets. To determine if a ricochet occurs, roll 1D6 (2D6 for needlers) and subtract the result from the amount of excess damage. If the net result is positive, the shot ricochets.

Resolve the ricochet as a weapon attack against a randomly determined character. The To-Hit Number for this attack is 8; no range or attacker modifiers apply. Treat a missed ricochet as hitting a bulkhead or door and repeat Steps 1–3 of **Bulkheads and Objects.**

MechWarrior Richard's shot misses both Liao crewmen and instead hits a door. Richard was using a standard slug-throwing pistol, so he rolls 2D6 + 3 to determine the amount of damage done. He gets a 6 and a 4, for a total of 13 (6 + 4 + 3 = 13). He reduces the damage (13) by the door's armor rating (1/2), for a result of 6.5, which he rounds down to 6. He compares this to the door's threshold of 4, and finds that his shot caused 2 points of excess damage.

The slug-thrower is a ballistic weapon, and so Richard must check for ricochets. He rolls 1D6 and gets a 1. Subtracting this from the excess damage gives him a total of 1 (2 – 1 = 1), a positive number. The shot ricochets, and does 1 point of damage.

DAMAGE CAPACITIES AND THRESHOLDS TABLE

Shipboard Object/Surface	Damage Capacity	Damage Threshold
Internal bulkhead (minor)	50/section	5
Internal bulkhead (major)	100/section	10
External bulkhead	200/section	20
Observation port	50	3
Door	50	4
Pressure door	100	8
Computer console	10	2
Other Objects/Surfaces		
Brick wall	20	4
Ferrocrete wall	75	7
Wood door	10	1
Wood wall	15	2
Sheet metal wall	15	6

Critical Hits

Damage to bulkheads may result in critical hits. Critical hits reflect events that automatically happen or that may happen as a result of the damage done.

Shots that penetrate an exterior bulkhead, or a bulkhead between two areas that are pressurized differently, automatically cause decompression. The speed of the decompression varies depending on the amount of damage caused, but in general the pressure will decrease by 10,000 Pascals (10 percent of Earth-standard atmosphere) per round for each point of damage that penetrates. If no preventive action is taken, compartmental bulkheads will close automatically when the pressure falls to 50,000 Pascals (500 millibars).

If explosive decompression occurs (loss of more than 50,000 Pascals of pressure in 1 turn), each character present in the affected area must make a Build Saving Roll. A failed roll means the character dies from the sudden pressure drop or from being sucked into space.

Most penetrating shots have less predictable consequences. Shots that penetrate an internal bulkhead may damage various systems contained within it. Roll 2D6 and add the amount of excess damage to the result. A total of 8–10 indicates 1 critical hit; a total of 11+ indicates 2 critical hits. To determine the specific effect of the critical hit, roll 1D6 and consult the table at right.

> *This time, Richard's shot hits a minor internal bulkhead. He rolls 2D6 + 3 to determine the amount of damage done. He gets a 6 and a 5, for a total of 14 (6 + 5 + 3 = 14). He divides 14 by the bulkhead's armor rating (1/2), for a result of 7. He compares this to the bulkhead's threshold of 5, and finds that his shot caused 2 points of excess damage.*
>
> *The shot pierced an internal bulkhead, so Richard must check for critical damage to systems behind the bulkhead. Richard rolls 2D6 and gets a 3 and a 5. Adding the 2 points of excess damage gives him a grand total of 10—a critical hit. Now he rolls 1D6 and gets a 3. His shot damaged an emergency-equipment locker behind the bulkhead.*

Over-Penetration

When a shot hits a character, the amount of damage allocated to the part of the character's body struck may exceed that part's damage threshold (see the Character Record Sheet). This effect, called over-penetration, means that the shot passes through the target character's body and may hit other characters or bulkheads.

If players choose to use this optional rule, apply the damage from the attack to the target character's Condition Monitor according to the standard rules. To determine the amount of damage that over-penetrates, subtract the value of any armor worn on the struck part of the body from any damage in excess of the character's damage threshold for the body part struck and treat the resulting points as a ricochet. Needlers and contact explosives (gyrojets, missiles and so on) do not over-penetrate.

> *Richard's shot hits a Liao crewman, and he follows the standard MechWarrior hit location procedure. The shot struck the crewman's left arm, and the*

1D6 Result	Minor Bulkhead	Major Bulkhead
1	Power line	Power line
2	Comm panel	Hydraulics line
3	Emergency equipment	Fuel line
4	Lights	Emergency equipment
5	Cable mechanism	Lights
6	No effect	Communications lines

Notes

Power Line: A damaged power line may be a minor line serving the part of the vessel near where the shot hit, or a major line that channels power elsewhere in the ship. Damaged power lines cease functioning until repaired. If the power line is in a major bulkhead, damage to it affects the ship's fusion plant, reducing the vessel's Power Points by 1 (p. 24, **BattleSpace**).

Comm Panel: Damage to the comm panel means that the panel and repeater may not be used.

Emergency Equipment: The emergency equipment locker and its contents may not be used.

Lights: Critical damage affects the lighting in the compartment or corridor where the shot hit. Apply partial darkness modifiers in all subsequent rounds.

Cable Mechanism: The cable hand-line in the part of the ship where the shot hit is damaged and may not be used.

Hydraulics Line: A damaged hydraulics line sprays fluid into the compartment or corridor where the shot hit. Apply a +1 modifier for reduced visibility. In addition, the vessel suffers control problems. Add a +1 modifier to all Control Rolls (p. 12, **BattleSpace**).

Fuel Line: A damaged fuel line sprays fuel into the compartment or corridor where the shot hit. Apply a +1 modifier for reduced visibility. Also, any additional weapons fire in the affected area risks igniting the fuel and causing an explosion. If this occurs, the blast inflicts 1D6 points of damage per point of fuel leaked (1 point per turn for each fuel-line critical hit).

Firing a flamer or gyrojet automatically causes an explosion; firing a primitive weapon such as a bow and arrow, which produces no spark or heat, does not. For all other weapons, roll 2D6. On a result of 8+, the leaking fuel ignites.

Communications Lines: Comm lines fail in the area of the ship where the shot hit. This failure in turn affects the comm panels and repeaters in adjacent areas.

No Effect: No critical systems are damaged; at most, there are few worrying noises and possibly a puff of smoke.

> *crewman is wearing no armor. The shot does 2D6 + 3 damage (the damage listed for the weapon used), and so Richard rolls 2D6. He gets a 6 and a 3, for a total of 12 (6 + 3 + 3 = 12). The crewman has BLD 3, and so the damage threshold for his arm is 9 (BLD (3) x 3 = 9). 12 – 9 = 3, so there are 3 points of damage remaining. These 3 points of damage over-penetrate and may strike other characters or objects nearby.*

SPECIALTY AMMUNITION

Two bullets have been developed especially for slug-throwers that reduce the chance of shots penetrating bulkheads, causing ricochets or over-penetrating. Both types of specialty

rounds are Tech Level 3, Availability C and Legality B. They are readily available to characters working for the Explorer Corps, but cost twice as much as standard ammunition.

Frangible Rounds

These metal and polymer compound rounds are designed to work effectively against unarmored targets (doing the full damage listed for the weapon type) but to break up when they hit a solid surface (other than flesh). Consequently, frangible rounds do not ricochet, penetrate bulkheads or over-penetrate. However, they also cannot penetrate ballistic plate armor or battle-armor.

AET Rounds

Accelerated Energy Transfer rounds are effective against all types of armor, but their concave tips prevent over-penetration and reduce the chance of a ricochet. When using these rounds, reduce the excess damage of a shot by 2D6 rather than 1D6. When checking for damage against bulkheads, reduce the damage potential of the round by 50 percent. For example, if the required dice roll indicates 12 points of damage, reduce that damage to 6 points.

CARGO AND SUPPLIES

Most spacefaring craft are designed to operate away from a home base for extended periods of time, and thus are equipped with numerous large cargo bays. These bays may contain any of the hundreds of things the vessel needs for its day-to-day operations, but the following paragraphs give players some idea as to what is likely to be taking up cargo space. These guidelines can also help a gamemaster determine the probable contents of a captured enemy ship's holds.

FOOD

One ton of cargo space can contain sufficient food for 200 people for 1 day. Ships on short patrols close to a base can carry relatively small amounts of food. However, a Clan vessel traveling from the homeworlds to the Inner Sphere or an Explorer Corps vessel searching for the Clan homeworlds will need to carry sufficient food supplies for many months—possibly even years.

A McKenna-class WarShip, with 578 crewmen and 296 passengers, needs at least 4.25 tons of food to feed its inhabitants each day. Such a vessel on a short, 30-day patrol would need 127.5 tons of food (4.25 x 30). By comparison, a Union-class DropShip, with 14 crewmen and 28 passengers, would need only .25 tons of food per day, or 7.5 tons for the same 30-day patrol.

SPARE PARTS

Every spacefaring vessel constantly undergoes maintenance and repairs, which means that a certain amount of spare parts must be kept on hand. Generally, a ship should carry a number of tons of spare parts equal to approximately 1 percent of the vessel's mass, though for long trips that number may increase to 5 percent.

AMMUNITION

Though the magazine of each weapons bay is usually fully stocked when an armed vessel leaves port, a battle may swiftly consume these supplies. Therefore, many ships carry additional ammunition in their cargo bays. The quantity and type of these stores varies greatly from ship class to ship class. Players designing a vessel should use their own judgment when determining the tons of extra ammunition carried.

FUEL

Most vessels carry sufficient fuel to remain fully operational for several weeks. For a craft that will spend a lot of time landed, docked or at station-keeping (meaning that it uses 0.1Gs of thrust and consumes only 10 percent of each burn-day of fuel), this "operational" period can be stretched to several months. However, unexpected circumstances—for example, use of the fusion plant to recharge a K-F drive or a lithium fusion battery—may consume fuel faster. The cargo bays of some vessels may be lined with polymer fuel cells that act as additional tank space. Such additional fuel is generally consumed first, thus freeing up the cargo bays to be used for other purposes. Every ton of cargo space given over to additional tank space allows 0.9 tons of fuel to be stored.

CREATING STAR SYSTEMS

For gamemasters who wish to create their own star systems for Explorer Corps missions, the following steps offer a useful method of generating random star systems and planets. The gamemaster may override random dice rolls as he or she sees fit.

STAR TYPE

The main factor in designing a planetary system is the star (or stars) at the system's center. The tables below assume a single-star system; optional rules allow for binary- or trinary-star systems.

Choose the star's spectral class and luminosity from the tables below, or roll 1D6 to determine these features. The random die rolls exclude certain spectral classes and luminosities to maximize the likelihood of designing a habitable star system. (For example, carbon stars, which are spectral class C, are cool red giants with an overabundance of carbon. Zirconium stars, which are spectral class S, are similar to Class M red giants, but show zirconium rather than titanium in their spectra. Black holes and X-ray binaries may also have planets orbiting them. However, all these star types are relatively rare or are unlikely to support habitable planets.)

As an example, the Terran sun (Sol) is a G2V star. "G" refers to its spectral class, and indicates that it is a yellow star. "V" refers to its luminosity, and indicates that it is a main-sequence star. The numeral 2 refers to its subtype.

Each star also has a subtype, from 0 to 9 (see Distance to Zenith/Nadir Jump Point Table). This subtype, though not used in the process of creating a star system, serves as a valuable point of reference because it determines the distance from a jump point to planetary orbit and the recharge time for Kearny-Fuchida drives when using a jump sail. The table assumes 1G acceleration and a mid-point turnover. To determine a star's subgroup, roll 1D6 twice on the Star Subgroup Tables.

SPECTRAL CLASS TABLE

Die Roll	Class	Color	Planets	Habitability Rating
	O	Blue-White	1D6 – 4	–5
1	B	Blue-White	1D6 – 3	–2
2	A	White	1D6 – 2	0
3	F	Yellow-White	1D6 – 1	+3
4	G	Yellow	2D6 – 2	+5
5	K	Orange	2D6 – 2	+4
6	M	Red	2D6 – 2	+2

LUMINOSITY TABLE

Die Roll	Class	Type	Planet Modifier	Planets In Life Zone	Habitability Modifier
0		Ext. bright supergiants	–2	1D6 – 5	(–5)
1	Ia	Bright supergiants	–2	1D6 – 5	(–4)
	Ib	Supergiants	–1	1D6 ÷ 3	(–3)
2	II	Bright giants	–1	1D6 ÷ 3	(–2)
3	III	Ordinary giants	0	1D6 ÷ 3	(–1)
4	IV	Subgiants	0	1D6 ÷ 2	—
5	V	Main sequence (Dwarfs)	0	1D6 ÷ 2	—
6	VI	Subdwarfs	–1	1D6 ÷ 3	(–2)
	VII	White Dwarfs	–2	1D6	—

TOTAL NUMBER OF PLANETS

To determine the number of planets in each system, roll the number of dice indicated in the Planets column of the Spectral Class Table. From the result, subtract the number given after the dice roll in the formula. Then apply the appropriate planet modifier from the Luminosity Table. If the final total is 0 or less, the star system has no planets.

Richard is determining the number of planets in a G2II system. According to the Planets column of the Spectral Class Table, a Class G star requires a dice roll of 2D6. He rolls a 3 and a 4 for a result of 7 and then subtracts 2, leaving him with 5.

The Luminosity Table lists a planet modifier of –1 for a luminosity-II star, so Richard subtracts an additional 1 from the modified dice roll result. This leaves him with 4 (5 – 1 = 4). Richard's star system has four planets.

NUMBER OF PLANETS IN THE LIFE ZONE

Assuming the system has planets, and so offers something more than an opportunity to recharge the K-F drive, the next step is to see if any of the planets fall in the star's life zone. The life zone is the region in which liquid water may exist, thus allowing life to spring up.

The Planets in Life Zone column of the Luminosity Table shows the dice roll and modifiers required to determine the number of planets in the life zone. Round all fractions down.

Richard wants to determine how many of the four planets in his system are in the life zone. The Luminosity Table lists 1D6 ÷ 3 planets in the life zone of a luminosity-II

DISTANCE TO ZENITH/NADIR JUMP POINT TABLE
(Travel time in days)

Spectral Class	Star Subtype									
	0	1	2	3	4	5	6	7	8	9
B	137.91	124.19	112.00	101.15	91.48	82.86	75.15	68.25	62.07	56.53
A	51.54	47.06	43.02	39.38	36.09	33.12	32.76	27.98	25.77	23.75
F	21.94	20.26	18.75	17.36	16.10	14.94	13.87	12.89	12.01	11.19
G	10.43	9.75	9.12	8.53	7.96	7.47	7.01	6.57	6.19	5.82
K	5.48	5.18	4.85	4.62	4.31	4.12	3.91	3.70	3.47	3.31
M	3.14	2.96	2.86	2.67	2.56	2.45	2.34	2.22	2.09	1.96

Note: For spectral classes not shown on the table, use the spectral class B row. A previous version of this table appeared in **BattleSpace** and gave distances from jump points to planetary orbit. This version gives the number of days of travel to planetary orbit (assuming 1G acceleration and a mid-point turnover) for each star's spectral class and subtype.

STAR SUBGROUP TABLES

First D6 Roll	Second D6 Roll	Subgroup
1-3	1	0
	2	1
	3	2
	4	3
	5	4
	6	Roll both dice again
4-6	1	5
	2	6
	3	7
	4	8
	5	9
	6	Roll both dice again

star. Richard rolls a 5. Dividing this by 3 gives him a result of 1.66, which he rounds down to 1. The system has one planet in the life zone.

POSITION/CHARACTERISTICS OF HABITABLE PLANETS

To determine the position of potentially habitable planets in a system, re-roll the number of dice indicated in the Planets column of the Spectral Class Table and complete the formula. The dice roll result indicates the orbital position of the first, or primary, habitable planet in the system. The second habitable planet is one orbit closer than the primary to the star; the third, one orbit farther from the star; and so on. If there is only one planet in the life zone, it lies in the orbit indicated by the dice roll result.

Note that the dice roll result cannot be less than 1, nor can it exceed the total number of planets in the system. If the dice roll and modifier produce either of these results, roll again.

Bryan has created a Terra-like star system, with a Class G star, luminosity V, and 9 planets, of which 3 are potentially habitable (within the life zone). To determine the orbits of the 3 planets in the life zone, he rolls 2D6 and subtracts 2 from the result (2D6 − 2 for a Class G star, no planet modifier for luminosity V). He rolls a 3 and a 2, for a net result of 3 (3 + 2 = 5, 5 − 2 = 3). This means that the primary habitable planet lies in the third orbit from the star (Terra's orbit). The second planet lies in the second orbit, the third planet in the fourth orbit.

To determine the characteristics of each planet in the life zone, add together the habitability rating and modifier from the Spectral Class and Luminosity tables. Then roll 1D6 for each characteristic described below and add the total habitability modifier to the die roll result. Finally, cross-reference the resulting numbers with each column on the Planetary Characteristics table.

If a system has multiple habitable planets, apply an additional −2 modifier to the characteristic formula results of all but the primary habitable planet.

Surface Water

This characteristic refers to the percentage of the planet's surface that is covered by water or ice.

Atmospheric Pressure

This characteristic refers to the density of the atmosphere. Ideal atmospheric pressures for humans are labeled Standard; with the right mix of oxygen and other gasses, however, humans can breathe atmospheres of lower and higher pressures.

Atmospheric Composition

This characteristic refers to the suitability of the atmosphere for human breathing. Toxic atmospheres are harmful to humans; to survive in them requires artificial oxygen supplies. Tainted atmospheres have too much or not enough of gasses or other particles, such as carbon dioxide, that make them difficult or impossible to breathe without artificial aid. Unlike toxic atmospheres, however, tainted atmospheres are breathable with a simple filter mask or portable respirator. Breathable atmospheres require no external aids or oxygen supplies; humans can breathe these as easily as ordinary air on Terra.

PLANETARY ORBITS DIAGRAM

| STAR | ORBIT 1 | ORBIT 2 | ORBIT 3 | ORBIT 4 | ORBIT 5 | ORBIT 6 |
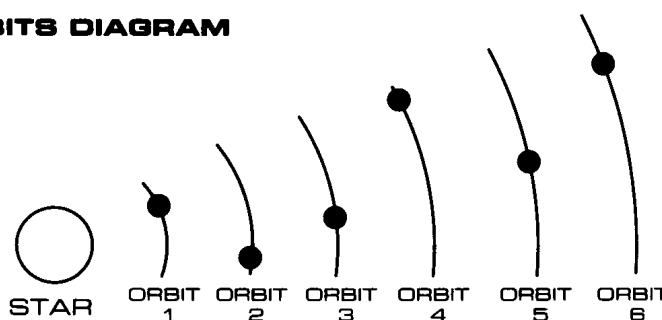
A tainted or toxic atmosphere indicates that the planet's surface water is similarly contaminated, and must be purified or filtered before drinking.

Temperature

This characteristic refers to the planet's base temperature range, which is used in determining climate (see **Determining Climate**, p. 76).

PLANETARY CHARACTERISTICS TABLE

Modified Die Roll	Percent Surface Water	Atm. Pressure	Atm. Composition	Temperature	Highest Life Form
<0	0	Trace	Toxic	Low	Microbes
0	5	Low	Toxic	Low	Microbes
1	10	Low	Toxic	Low	Plants
2	20	Low	Tainted	Medium	Plants
3	30	Standard	Tainted	Medium	Fish
4	40	Standard	Tainted	Medium	Fish
5	40	Standard	Tainted	Medium	Amphibians
6	50	Standard	Tainted	Medium	Amphibians
7	50	Standard	Breathable	High	Reptiles
8	60	Standard	Breathable	High	Reptiles
9	70	Standard	Breathable	High	Birds
10	80	High	Breathable	High	Birds
11	90	High	Breathable	Very High	Mammals
12+	100	High	Breathable	Very High	Mammals

Highest Life Form

This characteristic indicates the planet's evolutionary development and diversity, with mammalian species assumed to be the most advanced life forms possible in **BattleTech**. Though the Explorer Corps has not discounted the possibility of non-human sentient species, humans have met none in the 1,000 years since beginning to colonize the stars.

All life forms listed on the Planetary Characteristics Table are assumed to be non-sentient.

Richard's G2II star has a Habitability Rating of +5 for its spectral class (G) and a Habitability Modifier of –2 for its luminosity (II). The total habitability modifier for the single habitable planet in Richard's system is therefore +3 (5 – 2 = 3). Now Richard rolls 1D6 for each of the characteristics listed on the Planetary Characteristics Table. He rolls a 3 for surface water, a 6 for atmospheric pressure, a 1 for atmospheric composition, a 3 for temperature and a 6 for highest life form. Adding the total habitability modifier to these results gives the planet the following characteristics:

Surface water: 6 (3 + 3), meaning that 50 percent of the surface is water-covered.

Atmospheric pressure: 9 (6 + 3), putting it in the standard range.

Atmospheric composition: 4 (1 + 3), Tainted.

Temperature: 6 (3 + 3), or Medium (a bit warm).

Highest life form: 9 (6 + 3), meaning that birds are the most sophisticated life form native to the planet.

With the exception of the tainted atmosphere, this planet is ideal for humans. Richard decides that the taint is a surplus of carbon dioxide (CO_2) in the atmosphere, easily rectified with filter masks or respirators.

To determine special features of each habitable planet (if any), roll 2D6 and add the total habitability modifier to the result. Then consult the Special Features Table to determine which special features are present. Many features are left deliberately vague so that the gamemaster can add appropriate details as he or she wishes. On a result of "Roll again," repeat the 2D6 + habitability modifier roll as indicated. A "Roll again" result gives the planet under construction multiple special features.

Determining Climate

The final characteristic to be determined is the planet's climate, which falls into several different zones based on the climate at the equator. To determine the equatorial climate zone, roll 1D6; then add together the result and a modifier of the gamemaster's choice for the planet's base temperature. The modifiers are 0 for low temperature, +2 for medium, +3 for high and +4 for very high.

Next, compare the modified result to the Climate Zones Table. Each planet has six climate zones, with Zone 1 representing the polar regions and Zone 6 the equator. The other zones represent all the bands in between. Each zone represents approximately 15 degrees of latitude.

For each zone away from the equator, reduce the modified die roll result by 1. For example, if the equatorial climate is 6, Zone 5 (the zone nearest the equator) would have an arid climate (5). Zone 4, one zone further from the equator, would have a warm-temperate climate (4), and so on to the polar zone (Zone 1).

Treat any climate levels greater than 6 as tropical and any less than 2 as arctic. Write down the specific levels for those zones, however; these will allow you to determine the temperatures in those and adjacent zones. The base temperature in each climate zone is approximately 5 degrees centigrade per

SPECIAL FEATURES TABLE

Modified Dice Roll	Feature
-8	Star League observation facility (abandoned)
-7	Tide-locked (one side of the planet bakes, the other freezes)
-6	Roll again 3 times
-5	Natural disaster (i.e., asteroid strike)
-4	Erratic orbit (planet has unusual seasonal cycle or days, and so on)
-3	Incompatible biochemistry (for humans)
-2	Roll again 2 times
-1	Intense volcanic activity
0	Hostile life form
1	Seismic activity
2	Roll again 2 times (choose only 1 result)
3	Native disease/virus
4-5	Severe weather/storms common
6-8	No special features
9	Unidentified ruins
10	Lost colony (abandoned)
11	Star League facility (abandoned)
12	Roll again 2 times (choose only 1 result)
13	Lost colony (inhabited)*
14	Habitable satellite
15	Roll again 2 times
16	Roll again 3 times
17	Star League facility (occupied)*

*Roll 1D6 and consult the Occupancy Table.

OCCUPANCY TABLE

Die Roll Result	Occupants
1	Colonists who settled before the founding of the Star League
2	Colonists arrived during the Star League's heyday
3	Colonists who fled the Succession Wars
4	Recently established colony/occupation force from the Periphery
5	Recently established colony/occupation force from the Inner Sphere
6	Recently established colony/occupation force from the Clans

CLIMATE ZONES TABLE

Modified Result	Climate Level/Type	Terran Equivalent
<2	1 or less/Arctic	Ice caps
2	2/Boreal	Tundra
3	3/Cool-Temperate	Europe
4	4/Warm-Temperate	Mediterranean region
5	5/Arid	Desert
6+	6 or more/Tropical	Jungle

climate level—for example, a tropical climate (6) has a base temperature of 30 degrees centigrade (5 x 6 = 30). However, local conditions can vary quite a bit.

Richard's habitable planet is a medium-temperature world, giving it a modifier of +2. He rolls 1D6 and gets a result of 1, so the modified die roll result is 3 (1 + 2 = 3). This number indicates a cool-temperate climate at the equator. The planet therefore has the following climate zones and temperatures:

Zone 1 (Poles)
Level -2/Arctic   Base temperature = -10
Zone 2
Level -1/Arctic   Base temperature = -5
Zone 3
Level 0/Arctic   Base temperature = 0
Zone 4
Level 1/Arctic   Base temperature = 5
Zone 5
Level 2/Boreal   Base temperature = 10
Zone 6 (Equator)
Level 3/Cool-Temperate   Base temperature = 15

Had the modified die roll result been as high as 10, the equatorial climate level would also have been 10, meaning a tropical climate (Level 6 or greater). The planet's climate zones and temperatures would have been as follows:
Zone 1 (Poles)
Level 5/Arid   Base temperature = 25
Zone 2
Level 6/Tropical   Base temperature = 30
Zone 3
Level 7/Tropical   Base temperature = 35
Zone 4
Level 8/Tropical   Base temperature = 40
Zone 5
Level 9/Tropical   Base temperature = 45
Zone 6 (Equator)
Level 10/Tropical Base temperature = 50

CHARACTERISTICS OF OTHER PLANETS IN THE SYSTEM

The next step is to determine the characteristics of uninhabitable planets in the system. Treat all planets between the star and the life zone as lifeless rock; for planets beyond the life zone, roll 1D6. A result of 1 means an asteroid belt or collection of minor planetoids; a result of 2 or 3 means a rocky, lifeless world; and a result of 4 to 6 means a gas giant.

The single habitable world in Richard's star system is also the first planet in it. Therefore, the remaining 3 planets all lie beyond the life zone (rather than between the life zone and the star). Richard rolls 1D6 to determine the characteristics of each of these planets. He rolls a 1 for the second planet, a 3 for the third planet, and a 5 for the fourth planet. So Planet #2 is an asteroid belt, Planet #3 is a lifeless rock, and Planet #4 is a gas giant.

PLANETARY SIZE, GRAVITY AND SATELLITES

Determine the size of each planet in a system (not including gas giants) by rolling 1D6 and consulting the following table.

Die Roll Result	Planet Size
1–2	Small (<10,000 km in diameter)
3–4	Medium (10–14,000 km in diameter)
5–6	Large (>14,000 km in diameter)

To determine the gravity on each planet in a system (not including gas giants), roll 1D6 and consult the following table, choosing a column according to the results of the die roll to determine planet size (above). These values indicate planetary gravity relative to Terran gravity.

Die Roll Result	Planet Size		
	Small	Medium	Large
1	.6	.7	.8
2	.7	.8	1
3	.8	.9	1.5
4	.9	1	2
5	1	1.2	2.5
6	1.1	1.3	3

Use the following formulas to determine the number of natural satellites orbiting a planet (not including asteroid belts). Rock worlds: 1D6 – 1 satellites; gas giants: 3D6 satellites and 3D6 – 3 rings.

Richard's star system contains two rock worlds and one gas giant. He determines the size and gravity of the two rock worlds, and the number of satellites for all three uninhabitable planets.

For Planet #2, a rock world, he rolls a 2 for size

and a 4 for gravity. This means Planet #2 is Small, with 0.9 gravity relative to Terra. For the number of satellites, he rolls 1D6 and gets a 2, then subtracts 1 for a final result of 1. This means Planet #2 has 1 satellite.

For Planet #3, also a rock world, he rolls a 4 for size and a 1 for gravity. Planet #3 is Medium-sized, with 0.7 gravity. For number of satellites, he rolls a 1, then subtracts 1, and so Planet #3 has no satellites.

For Planet #4, a gas giant, Richard does not need to determine size or gravity. He rolls 3D6 to determine its satellites and gets a result of 10 (ten satellites). Then he determines the number of rings by rolling 3D6 again and subtracting 3 from the result. He gets an 8 on this roll; 8 – 3 = 5, so the gas giant has five rings.

MULTIPLE-STAR SYSTEMS

A large number of multiple-star systems exist in the known universe. The most common of these are binary or trinary systems, with smaller companion stars orbiting the larger (primary) star or several stars of similar size orbiting a common point.

The stars in a multiple-star system fall into two groups. Distant stars orbit a long way from each other, and should be treated as separate stars for system generation. Close stars orbit near each other, and so creating these star systems requires a few modifications.

In a binary or trinary system, a single group of planets may orbit the two or three close stars. Therefore, the classes of all the stars influence the entire system. When creating the system, use the lowest applicable values from the Spectral Class and Luminosity tables, subtracting an additional –1 from the number of planets and an additional –2 from the habitability modifier for each companion star.

A B2VI star is in close orbit with a K4V star. The applicable values for creating this binary system come from the two stars' spectral classes (B and K) and luminosities (VI and V). The die roll to determine the number of planets in the system is 1D6 – 5: the lowest applicable Planets value (1D6 – 3 for a Class B star), minus the lowest planet modifier (–1 for luminosity VI), minus an additional –1 for a single companion star. The habitability modifier is –6 (–2 for a Class B star, –2 for luminosity VI, and –2 for the companion star). The number of planets in the life zone is 1D6 ÷ 3 (luminosity VI). This system has only a 1 in 6 chance of possessing a planet, and a 1 in 6 chance of that planet being in the life zone.

LOW-TECH '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
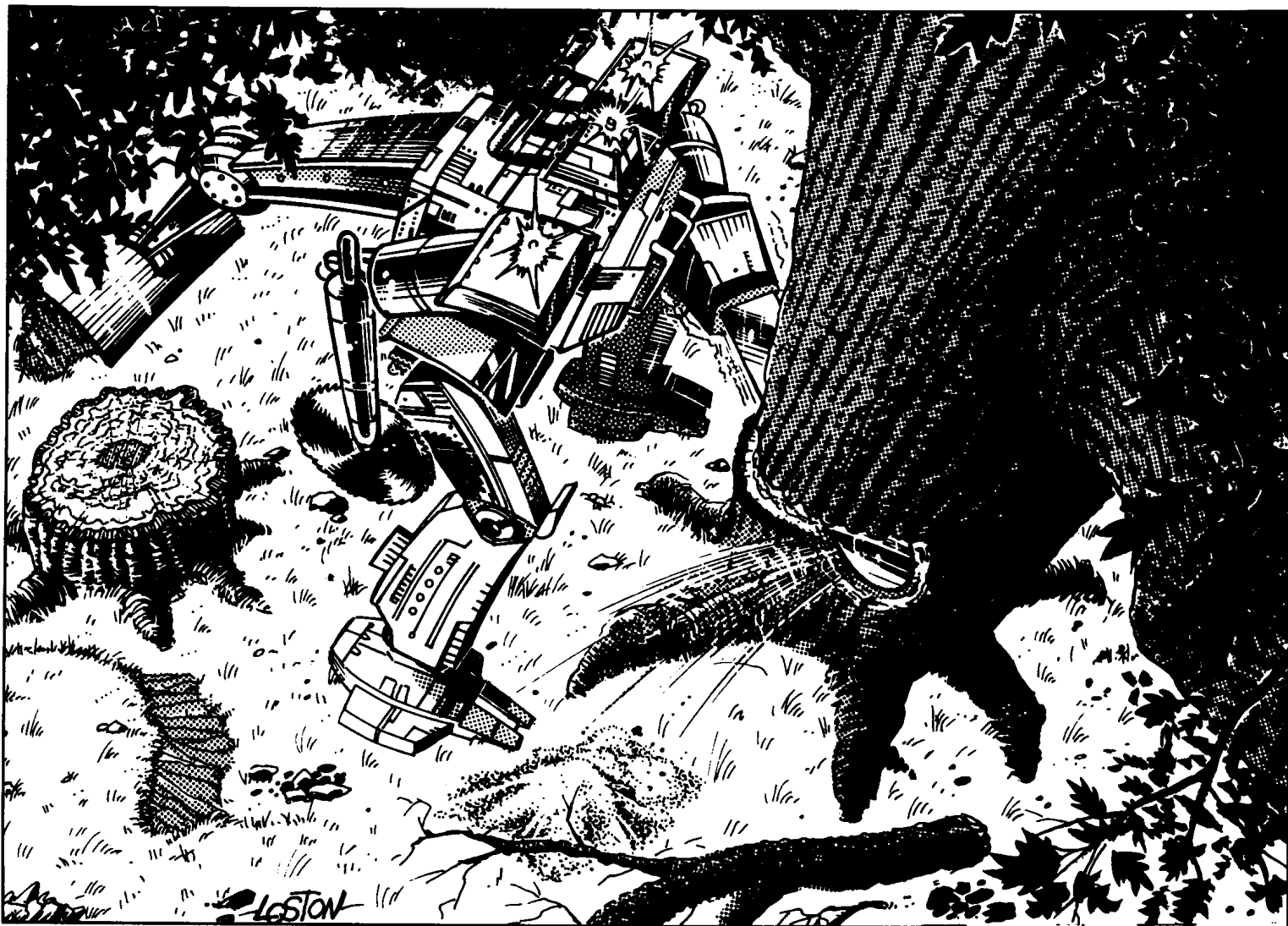
Succession Wars raged on, the technology needed to build and repair 'Mechs declined, and the Successor States concentrated their dwindling technological resources on the BattleMechs they needed to continue fighting. Utility 'Mechs became a luxury, and soon a rare sight in the Inner Sphere.

The following rules allow gamemasters and players to create the rare utility 'Mechs such as AgroMechs, LoggerMechs, CargoMechs and so on. 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. The primary advantage of creating these types of 'Mechs is to place the technology that **BattleTech** players want on planets that could not be expected to support any type of 'Mech manufacturing capabilities. It provides a reasonable explanation for finding 'Mechs and parts across all of known space and even in areas forgotten since the Star League, which gives players greater options for using BattleMechs in the Periphery and beyond. These rules also offer players and gamemasters a few more alternatives for building 'Mechs that are more precisely tailored to the type of

game they want to play.

Utility 'Mechs are built using standard BattleMech construction rules (pp. 99–106, **BTC:RoW**) with a few minor changes, described below. 'Mechs created with these rules are Level 3 units, and so not appropriate for tournament play.

CHOOSE TECHNOLOGY BASE

Though utility 'Mechs may be built according to 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.

DETERMINE ENGINE RATING

Determine the engine rating as for standard BattleMechs. Utility 'Mechs and low-tech BattleMechs may make use of internal combustion engines, which weigh twice as much as fusion engines with the same rating. Internal combustion engines are cheaper and more readily available, though not available in XL versions. See the Vehicle Costs Table, p. 124, **BTC:RoW.**

If a BattleMech equipped with an internal combustion engine will be carrying energy weapons, it must also carry power

System	Tonnage	Criticals	Notes
Cargo bays*	Special	1 per ton	Enclosed cargo as per p. 81, **BTC:RoW**
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 slow for use as a weapon.

*Cargo bays may only be mounted in utility 'Mechs. BattleMechs with ICE engines may not have cargo bays.

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 0.1 ton).

Engine hits against ICE-equipped 'Mechs do not generate additional heat. Instead, the player checks to see if the engine explodes. At the end of the phase in which the unit's engine was hit, the 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.

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 100 of **BTC:RoW**.

DETERMINE JUMP CAPABILITY

'Mechs fitted with internal combustion engines may not use jump jets.

ADD EXTRA HEAT SINKS

Add extra heat sinks per standard rules. Unlike fusion engines, internal combustion engines do not come equipped with heat sinks.

ADD WEAPONS, AMMUNITION AND OTHER EQUIPMENT

Add weapons, ammunition and equipment as for BattleMechs. The following additional equipment is also available.

COMPLETE CRITICAL HIT TABLE

Complete the Critical Hit table as for BattleMechs. 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.

SPECIAL VEHICLES

The wide variety of environments on planets in the Deep Periphery often require special vehicles to traverse irregular terrain. Amphibious vehicles and dune buggies are two examples of such special vehicles.

AMPHIBIOUS VEHICLES

Water is one of the most common obstacles to thirty-first-century fighting forces, as it restricts the movement of conventional vehicles and BattleMechs. Many vehicles built in earlier eras, however, such as twentieth-century tanks, were capable of limited amphibious operations. They could cross rivers or land from transport craft to form a beachhead. The increasing sophistication of warfare and the resulting specialization of vehicles 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 the capacity for amphibious operations. 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 tonnage, and may only be fitted to tracked or wheeled vehicles. This equipment allows the 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—will disable this capability.

As an amphibious unit is partially submerged, the hull breaching rules (p. 98, **BTC:RoW**) apply to amphibious vehicles. 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 automatically flooded (except for the turret).

Amphibious equipment costs 10,000 C-bills per ton and has a Combat Value equal to the vehicle's tonnage.

DUNE BUGGIES

Normally, moving over sand slows down wheeled vehicles considerably. However, the wheels and suspension of any wheeled vehicle can be modified to make it more suitable for desert use. Larger wheels and high-riding suspension allow the vehicle to move through sand at a cost of 1 MP per hex. However, these modifications affect the vehicle's overall performance, reducing its Cruising MP by 1. As a vehicle's Flank MP is one and a half 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 costing a number of C-bills equal to the vehicle's tonnage squared, times 10. The conversion takes a number of days equal to the vehicle's tonnage divided by 10, which may be further divided by the number of techs working on the conversion. It takes a minimum of one day (16 hours) of work to convert any vehicle, regardless of its size or the number of techs assigned to the job.

EXPLORER MECHWARRIOR

The vast, uncharted reaches of the Deep Periphery beckon to a special breed of MechWarrior—the Explorer MechWarrior, who has honed his skills through years of traveling the space lanes and fighting on countless battlefields. Few would call the Explorer an ace 'Mech pilot, but he has several useful secondary skills and enough unusual equipment collected on his travels to make him an ideal choice for an Explorer Corps team. Armed with his own scout 'Mech, the Explorer MechWarrior rarely waits long between contracts.

Attributes

BLD	4	(8+)
REF	5	(7+)
INT	5	(7+)
LRN	5	(7+)
CHA	3	(9+)

Characteristics

Athletic	(9+)
Physical	(8+)
Mental	(8+)
Social	(10+)

Advantages
Well-Equipped (2 pt)

Skills
MechWarrior Package

Communications/ Conventional	1	(7+)
Gunnery/BattleMech	3	(5+)
Leadership	1	(9+)
Medtech	1	(7+)
Perception	1	(7+)
Piloting/BattleMech	2	(6+)
Security Systems	1	(7+)
Small Arms	2	(6+)
Survival	2	(6+)
Technician/BattleMech	1	(7+)
Tracking	1	(7+)
Unarmed Combat	2	(7+)
Zero-G Operations	1	(7+)

Edge: 1   **Assets: 500 C-bills**

BattleMech: Light

Other Equipment
Climbing Gear
Environment Suit, Light
Field Kit, Deluxe
Lock-Pick Kit, Mechanical
2 Medkits
Noteputer
Personal Communicator, Long-Range
3 Power Packs, High Capacity
Rangefinder Binoculars
Recharger, Solar
Respirator
Satchel Battery, High Capacity
Security Bypass Kit, Advanced
Tool Kit, Deluxe

Weapons and Armor
Bayonet
Body Suit, Flak
Helmet
Imperator SMG w/10 reloads
Needler Pistol w/10 reloads
Pump Shotgun w/10 reloads
Sonic Stunner
Vest, Plate
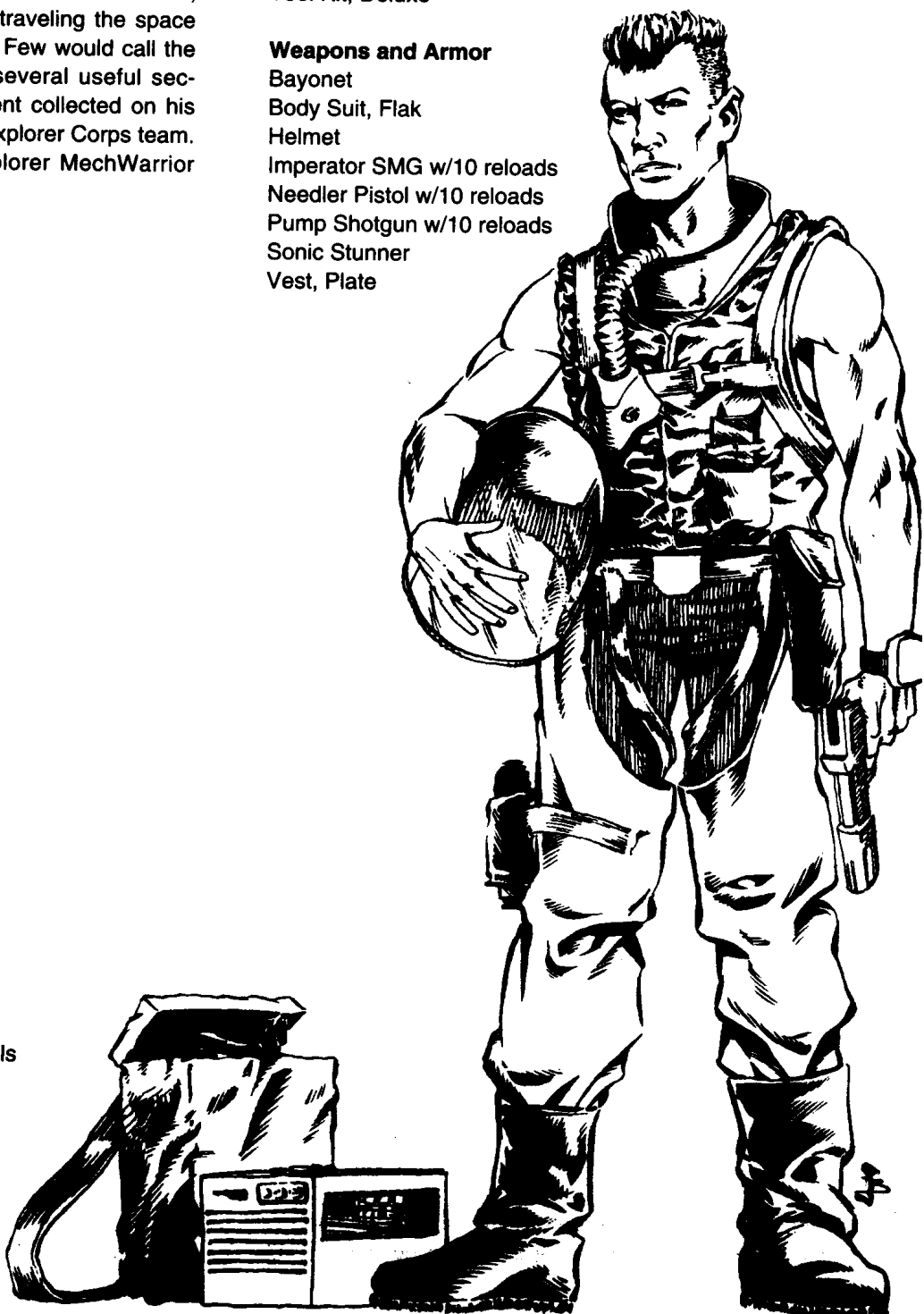
OPTIONAL BATTLESPACE RULES

During long-term space missions, Explorer Corps teams will inevitably find themselves engaged in space combat. The following optional **BattleSpace** rules expansions are designed to expand players' options when waging and resolving battles. These rules are appropriate for any type of **BattleSpace** game, but are particularly suited to Explorer Corps-related campaigns and games that combine **BattleSpace** and **MechWarrior.**

RAMMING

She chose to die
and sent her fighter like a spear
through the *Dire Wolf,* claiming as isorla
our mighty ilKhan's life.
—*The Remembrance, passage 294, verse 8, lines 28-31*

Generally, ramming tactics have little use in naval combat. But on rare occasions, a warrior may see no other way to achieve an objective and, like the legendary Tyra Miraborg, may deliberately crash her vessel into an opposing craft. The following rules provide a system for incorporating such ramming attacks—as well as accidental collisions—into **BattleSpace.**

ACCIDENTAL COLLISIONS

Any time a space vessel becomes Out-of-Control, it runs the risk of colliding with other nearby vessels (see **Control Rolls,** p. 12, **BattleSpace** rulebook). To reflect this risk, a player must roll 2D6 any time a large ship (DropShip, JumpShip or WarShip) under his command enters a hex occupied by another large vessel or space station. On a result of 10 or greater, the Out-of-Control vessel collides with the "target."

To determine damage from a collision, roll 1D6. On a result of 1–5, both craft are destroyed. A result of 6 produces a glancing collision—each vessel takes 1D6 x 1D6 Damage Points. The Out-of-Control vessel takes this damage on its nose. If using the Advanced Movement rules (p. 30, **BattleSpace**), the Out-of-Control vessel takes the damage on the facing that was "forward" at the time of the collision. The target takes the damage in the location facing the hexside from which the Out-of-Control vessel entered the hex.

A player must also make a 2D6 roll any time an Out-of-Control fighter unit under his command enters a hex occupied by a large ship. (No roll is required if the Out-of-Control fighter unit enters a hex containing another fighter unit—the small size of such craft make the chance of accidental collisions insignificant.) On a result of 10 or greater, the fighter unit collides with the "target."

In this case, make a second 2D6 roll and consult the Fighter Hits Table (p. 19, **BattleSpace**). The number of "hits" achieved represents the number of fighters that collide with the

target. Every colliding fighter is destroyed (remove 1 Armor row from the unit's record sheet). Additionally, each colliding fighter causes the target an amount of damage equal to the fighter's velocity. The target takes the damage in the location facing the hexside through which the Out-of-Control fighter unit entered the hex.

DELIBERATE ATTACKS

To make a ramming attack, a vessel first must end its movement in the same hex as the target. The vessel or fighter-unit commander must then convince his crew or pilots that a ramming attack is the only option left to them. To do so, the player makes a 2D6 roll. If the result is 11 or higher, the unit may attempt to ram the target. If the result is less than 11, the commander has failed to convince his crew or pilots to attempt the attack and the unit may not ram.

If **MechWarrior** rules are being used, the commander must make a Leadership Skill Roll to convince his crew or pilots to try the attack. The roll receives a +4 Target Modifier. If player characters are aboard the attacking vessel or are members of the attacking fighter unit, the gamemaster may apply additional target modifiers to the roll, based on roleplaying and the specific circumstances.

If circumstances are particularly dire and the crew or pilots are especially loyal to their commander, the gamemaster may allow the unit to make the attack without a dice roll.

To determine the success or failure of the ramming attempt, the attacking player makes another 2D6 roll and consults the Ramming Attacks Table. Damage from a successful attack is resolved in the same way as for accidental collisions.

RAMMING ATTACKS TABLE

Target	Base To-Hit Number
WarShip	7*
JumpShip	6
Station	5
DropShip	8*

*Reduce the to-hit number by 2 if the target cannot accelerate for any reason.

SENSOR RULES

The following rules expand and clarify those presented on pages 48–49 of **BattleSpace.** These rules assume that any military craft operating in combat conditions will not be emitting an identifying IFF signal and will be operating under EMCON (EMission CONtrol or "radio-silence") orders. Any unit broadcasting an IFF signal is automatically detected.

INFRARED SIGNATURE

The infra-red (IR) signature of any JumpShip or WarShip arriving in-system will enable any other units within 50,000 kilo-

meters of the vessel to detect the incoming ship with no Detection Roll.

A jumping vessel's IR signature appears before the vessel shows up in-system. The period between the signature's and the vessel's appearance equals the vessel's jump duration, multiplied by 2. Therefore, the IR detection period can be calculated using the following formula:

Light-years traveled x DropShip capacity

If a JumpShip carries no DropShips, simply multiply the number of light-years traveled by 1. The product equals the IR detection period in seconds.

The Garibaldi, *a Scout* class JumpShip that can carry 1 DropShip, makes a jump of 10 light-years. Consequently, the Garibaldi's IR signature will appear 10 seconds before it makes its 5-second jump.

Meanwhile, the Valley Forge, *a Potemkin* class WarShip capable of carrying 25 DropShips, makes a jump of 30 light-years. The means the Valley Forge's IR signature appears 12.5 minutes (30 x 25 = 750 seconds, or 12.5 minutes) before it makes its jump of 6 minutes and 15 seconds [(30 x 25) ÷ 2 = 375 seconds, or 6 minutes and 15 seconds].

INFRARED-SIGNATURE DETECTION

Jump Duration = (Light-years traveled x DropShip capacity) ÷ 2

Detection Period = Light-years traveled x DropShip capacity

EMERGENCE WAVE

An incoming vessel's emergence wave can be detected at a greater distance than its IR signature, but identifying the emergence wave is more difficult.

Only large military craft within 15 AU of an incoming vessel can detect its emergence wave. To do so, the player controlling the large craft makes a 2D6 Detection Roll against the incoming vessel's emergence-wave target number, determined according to the formulas below (round all fractions up).

EMERGENCE-WAVE TARGET NUMBER

Base Target Number = (Distance from incoming vessel ÷ 2) + 7

Target Modifier* = (Incoming craft's K-F Drive integrity + Number of DropShips carried) ÷ 10

*Round fractions up and subtract target modifier from base target number.

A craft may make only one Detection Roll against the target unit. The maximum detection range is 15 AU, regardless of the target number.

Emergence waves travel at the speed of light (314,000 km per second), so they take approximately 8 minutes to travel 1 AU.

The DropShip John Wayne *is 3 AU from the arrival point of the* Waterloo, *an* Invader class JumpShip *with K-F Drive Integrity 4 and 3 DropShip capacity. Therefore, if the* John Wayne's *controlling player makes a successful Detection Roll against a Target Number 8, the* Wayne *will detect the* Waterloo's *emergence wave 24 minutes after it arrives in-system.*
Base Target Number
(3 ÷ 2) + 7 = 8.5, rounded up to 9
Target Modifier
(4 + 3) ÷ 10 = 0.7, rounded up to 1
Final Emergence-Wave Target Number
9 – 1 = 8

ACTIVE RADAR

Any large craft with an active-radar system may attempt Detection Rolls against any objects within 100,000 kilometers of it. The active-radar systems of fighters and small craft are less powerful and can only detect craft within a 1,000-kilometer range.

Military DropShips, WarShips and JumpShips make 2D6 Detection Rolls against a Target Number 4. All other vessels make the roll against a Target Number 6. Increase the target number by 1 for each box of Radar Critical Hit damage the detecting vessel has taken.

Any object detected with active radar remains detected as long as it stays within the range of the detecting craft. Vessels can make only one active-radar Detection Roll against a target per hour.

Note that any craft using active radar emits a radar signature that can be easily detected by other vessels (see **ESM/Passive Radar**).

ESM/PASSIVE RADAR

All military craft (excluding fighters and small craft) carry electronic-support measures (ESM) systems that enable them to detect the radar signature of any vessel using an active-radar system within 150,000 kilometers. No roll is needed to detect vessels in this manner.

DRIVE PLUMES

The drive of any accelerating vessel emits a visible drive plume. Any other craft that makes a successful Detection Roll against a Target Number 5 can see the drive plume. Add a +1 Target Modifier for every 500,000 kilometers (or fraction thereof) that separates the two vessels. A vessel may make one such Detection Roll against a target craft per hour.

A craft that observes a target's drive plume can extrapolate the heading and velocity of the target vessel, as well as the distance to the vessel.

RADIO TRIANGULATION

A target's radio and HPG communications may be detected by appropriately equipped units. Civilian craft may detect radio transmissions within 500,000 kilometers. ESM-equipped military craft may detect transmissions within 1 million kilometers.

The K-F fields created by HPG transmissions create electromagnetic pulses when they collapse—pulses similar to the emergence waves created by a jumping ship. Therefore, HPG transmissions can be detected with the emergence-wave detection rules, with the following modifications: use only the base target number, but double the distance between the signal source and detecting vessel when calculating the target number.

NEUTRINO DETECTORS

A neutrino detector can detect any fusion reactor within 4 AU of the vessel carrying it. However, neutrino detectors are fragile, complex instruments that require careful calibration. In fact, any time a neutrino detector is used, it must first be calibrated for a period of 2D6 hours. Every hour thereafter, make a 2D6 roll for every other vessel in the system. On a result of 9 or higher, the neutrino detector detects the vessel.

The neutrino emissions of every vessel are unique, with variations resulting from class and age. After successfully tracking a vessel for 6 hours without interruption, a neutrino detector-equipped vessel will have a neutrino profile of the craft that identifies the vessel class. After 12 hours of uninterrupted tracking, the neutrino profile will be sufficiently detailed to allow positive identification of that specific vessel in later encounters.

GROUND UNITS IN BATTLESPACE

BattleMechs and battle armor units can be used in space operations because they are environmentally sealed machines. However, both types of units are designed for planetary use. Consequently, they are ill-suited to and ineffective for most space combat, though circumstances may occasionally prompt a commander to use them anyway.

The following sections provide rules for using BattleMechs and battle armor units in **BattleSpace** play.

CONVERTING BATTLETECH UNITS

To convert BattleMech and battle-armor **BattleTech** statistics to **BattleSpace**, use the rules for **Converting AeroTech Craft** (p. 78, **BattleSpace**), with the changes given below. Round fractions to the nearest whole number (round up on .5).

BattleMechs

Use a fighter record sheet for a single 'Mech, but fill in 1 Armor row only. Other unique 'Mech conversions are listed in the 'Mech Conversion Table.

Consult the Master Weapons Tables (pp. 69–70, **BattleSpace**) to convert **BattleTech** weapons. Use the following 'Mech Weapon Conversions Table to assign weapons to the appropriate firing arcs. Do not include melee weapons such as

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'MECH CONVERSION TABLE

BattleSpace		BattleTech
Armor Value	=	Armor Factor ÷ 40
Safe Thrust Value	=	Jumping MP ÷ 3
Fuel Points	=	Jumping MP x 2

Note: BattleMechs have no Maximum Thrust value.

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hatchets and swords. BattleMechs and battle-armor units may only attack targets within the same hex, and so may only fire at short range.

'MECH WEAPON CONVERSIONS

BattleTech Location	BattleSpace Arc
Torso, leg and head	Nose
Left arm	Left Wing
Right arm	Right Wing
Rear weapons	Aft

For example, a VTR-9K *Victor* BattleMech would have the following **BattleSpace** statistics:

VTR-9K Victor

Tech: Star League			Fuel: (8)	
Armor Value: 5			Safe Thrust: 1	
Heat Sinks: 15				

Weapons			Range Value	
Arc	Type	Heat	S	Mounts
Nose	SRM	3	1	1
LW	Pulse	8	1	2
RW	AC	1	2	1

Battle Armor

Anywhere between 1 and 10 battle-armor troopers may be assigned to a unit. Use a fighter record sheet for a single unit; each row on the sheet represents a unit member.

Consult the Master Weapons Tables (pp. 69–70, **BattleSpace**) to convert battle-armor weapons. Battle-armor SRM launchers have limited ammunition, so they are worth only 75 percent of their standard **BattleSpace** Fire Factor. Allocate all weapons to the nose arc.

For example, a standard Clan battle-armor trooper would have the following **BattleSpace** statistics:

Clan Battle Armor Trooper

Tech: Clan	Fuel: (6)
Armor Value: 1	Safe Thrust: 1
Heat Sinks: N/A	

Weapons			Range Value	
Arc	Type	Heat	S	Mounts
Nose	Mixed	N/A	1	2

BATTLE ARMOR CONVERSION TABLE

BattleSpace		BattleTech
Armor value	=	Armor Factor ÷ 10
Safe Thrust Value	=	Jumping MP ÷ 3
Fuel Points	=	Jumping MP x 2

Note: Battle-armor units have no Maximum Thrust value.

MOVEMENT, COMBAT AND BOARDING ACTIONS

The following rules provide additional **BattleSpace** movement, combat and boarding-action guidelines for BattleMechs and battle-armor troops.

Movement

BattleMechs and battle-armor troops move first in the movement sequence, before JumpShips. For movement purposes, treat 'Mechs and battle-armor units as fighter units unless stated otherwise.

A 'Mech or battle-armor unit that launches from a DropShip, JumpShip or WarShip has the same heading and velocity as the mother vessel. For example, a 'Mech that launches from a DropShip traveling north at a velocity of 10 will also be moving north at a velocity of 10.

'Mechs and battle-armor units do not have Maximum Thrust values. Whenever they expend thrust, they must make Control Rolls (Piloting Skill Rolls with a +2 modifier; use a Target Number 6 for battle-armor units). Note that BattleMechs without jump jets cannot expend thrust; therefore they cannot change heading, accelerate or decelerate.

Any time a BattleMech or battle-armor unit expends a Thrust Point, it also uses 1 Fuel Point. Generally, the propulsion systems of 'Mech and battle-armor units use plasma-heated air as reaction mass. Therefore, they must use their limited supplies of "reserve" reaction mass to propel themselves in space. BattleMechs and battle armor units cannot be fitted with additional reserve reaction-mass tanks.

'Mech or battle-armor units may "land" on a target vessel during a boarding action (see **Boarding Actions**) but may perform no other special actions in space. Battle-armor units always operate in loose formation during space maneuvers.
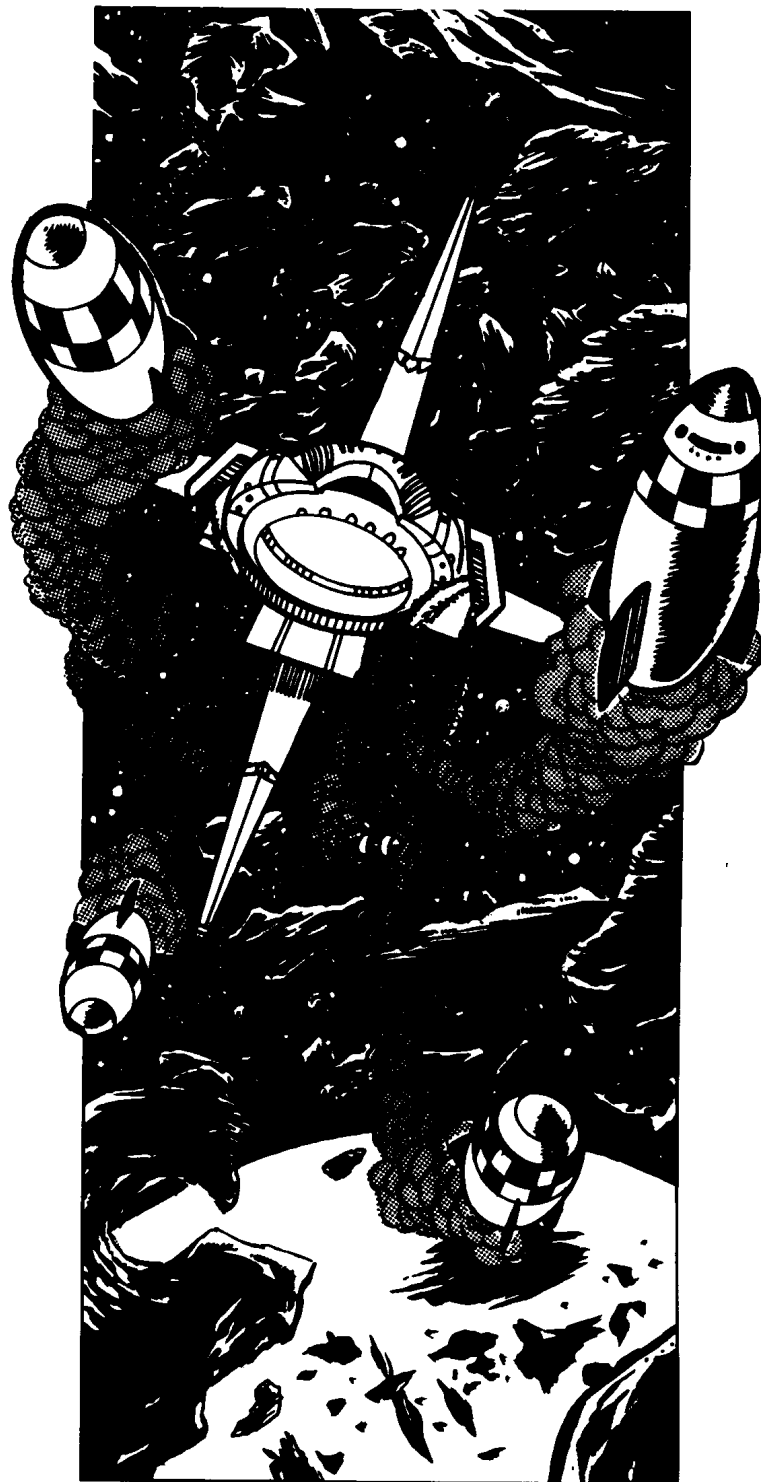
Any 'Mech or battle armor not equipped with an ablative re-entry pod or Personal Re-entry Unit (PRU) is destroyed on entering a space-atmosphere Interface hex.

Combat Restrictions

BattleMechs and battle-armor targeting and tracking systems are designed for ground combat at ranges of a few kilo-

meters or less. Consequently, they are ill-suited for space combat. For this reason, 'Mechs and battle-armor units can only engage units within the same hex. Additionally, they receive a +4 To-Hit Modifier for all weapons attacks (treat all firing as if at long-range).

'Mechs and battle-armor units have one advantage in space combat—their relatively small size prevents naval-grade weapons from effectively targeting them.

Boarding Actions

In space combat, BattleMechs and battle armor are most commonly used during boarding actions. Typically, such units will land on a target vessel's hull and attempt to neutralize weapon turrets and other opposition to the boarding party.

To attempt a landing on a target DropShip, WarShip or JumpShip, a 'Mech or battle-armor unit must start the turn within the same hex as the target. Next, the controlling player makes a 2D6 Control Roll (as described under **Movement,** p. 85). Any damage that would normally modify a Piloting Skill Roll according to standard **BattleTech** rules applies to this Control Roll. In addition, applicable modifiers for damaged leg actuators are doubled for a BattleMech with leg-mounted jump jets.

If the roll result equals or exceeds the target number, the unit lands successfully. If the roll fails, consult the Boarding Failure Table to determine the outcome.

Boarding units land on the location of the target vessel that corresponds to the hexside through which the boarding unit entered the hex. (A boarding unit that enters through the nose

BOARDING FAILURE TABLE

Margin of Failure	Effect
1	Hard landing. Unit takes 1 Damage Point.
2	Very hard landing. Unit takes 2 Damage Points.
3	Glancing collision. Unit bounces off the target's hull, takes 1 Damage Point and fails to land.
4	Collision. Unit bounces off the target's hull, takes 2 Damage Points and fails to land.
5	Hard collision. Unit bounces off the target's hull, takes 3 Damage Points and fails to land.
6+	Off target. Unit misses target craft and may not make any other movement for the remainder of the turn.

hexside lands on the target's nose.) Magnetic plates built into the soles of 'Mech and battle-armor feet enable a landed 'Mech or battle-armor unit to walk to an adjacent area (for example,

nose to fore-left or fore-right) as its movement during the Movement Phase.

A landed unit may attack any of the target vessel's weapon bays, doors, maneuvering thrusters or its transit drive in the location the landed unit occupies. Units in either side location may attack that side's maneuvering thrusters. Units in the target's aft location may attack the transit drive. Assume Bay 1 doors are fore-left, Bay 2 doors are fore-right and Bay 3 doors are on either aft side. Bay door attacks bypass the target vessel's armor and succeed automatically. Cross off 1 appropriate Critical Damage box for each unit attacking weapon bays, doors and thrusters, regardless of the damage the unit's weapons inflict under standard rules. (See pp. 22–29, **BattleSpace,** for more on the effects of these attacks.)

A landed unit may also attack the target vessel's hull in the location it has landed. Such attacks succeed automatically. Record damage by crossing out a number of Armor boxes in the location equal to the target vessel's combined nose and wing arcs. Landed units may also use melee weapons, such as hatchets and swords, to attack a target vessel's hull. Such attacks add an amount of damage equal to the weapon's normal damage divided by 10 (round fractions to the nearest whole number).

A target vessel can use four basic tactics to defend itself against landed units.

First, the target can make a high-thrust maneuver that requires a Control Roll. Any time a vessel makes a Control Roll (during high-thrust maneuvers or because of damage), any landed units on its hull must also make successful Control Rolls to remain in place.

Second, the target vessel may use point-defense weapons mounted in a location to fire on landed units within that location. However, the target vessel cannot fire at the landed unit with any other weapons.

Third, fighter units may be used to strike at landed units. Fighter units may attempt to attack landed units only if the fighter units occupy the same hex as the landed unit or an adjacent hex that faces the side of the vessel occupied by the landed units. If a fighter attack misses, it automatically hits the target vessel instead and inflicts damage on the location occupied by the target unit.

Fourth, a target vessel can deploy its own battle-armor units or 'Mechs to attack the landed units. The target vessel's 'Mech and battle-armor units may enter on the first turn after a successful landing by enemy troops. The vessel's forces may enter play on any desired location at the beginning of the turn. Battles between such "ground" units can be resolved with **BattleSpace** rules or with the **BattleTech** Hostile Environments rules (see p. 89, **BTC:RoW**). Vacuum conditions are in effect, but all units are magnetically affixed to the target's hull, so low-gravity rules do not apply. Furthermore, no units may use Running movement, and any units that use Jumping movement will leave the target's hull and float off into space. As with fighter attacks, any missed attacks directed against a landed 'Mech or battle-armor unit hit the target vessel instead.

If using **BattleTech** rules to resolve such combat, use the blank reverse side of a single **BattleTech** mapsheet to represent the surface of the target vessel. After the End Phase of each **BattleSpace** turn, play 6 consecutive **BattleTech** turns. Then, play another **BattleSpace** turn and so on, until the combat is resolved.

CONVERTING BATTLESPACE DAMAGE TO BATTLETECH

Converting **BattleSpace** damage to **BattleTech** damage is fairly straightforward. For each **BattleSpace** damage box crossed off, apply 10 Damage Points to a single location on the 'Mech (or eliminate a single Elemental in a battle-armor unit). Roll on the Front column of the BattleMech Hit Location Table to determine hit location for each 10-point group of Damage Points. However, if the resulting location would destroy a 'Mech still functional under **BattleSpace** rules (2 head hits, for example), re-roll that location.

DRIVE-SYSTEM MALFUNCTIONS

The **BattleSpace** rulebook describes the effects of combat damage and quick-charging on a JumpShip's K-F drive, but it provides little information on other drive-system malfunctions—which may certainly occur any time a JumpShip jumps in hyperspace. The following drive-system malfunction rules enable players to simulate the risks and dangers of drive-system malfunctions in **BattleSpace** or **MechWarrior** campaigns.

First, the controlling player of a jumping vessel makes a 2D6 Malfunction Roll to determine whether a drive malfunction occurs. Any appropriate modifiers from the Malfunction Roll Modifiers Table apply. The player makes the roll before the ship jumps (for roleplaying purposes, assume this roll occurs at the end of program initiation but before the ship actually jumps).

If the Malfunction Roll yields a result of 12 or higher, a mishap has occurred. In such cases, the player makes a 2D6 Effect Roll. On a result of 12, make a 1D6 roll and add 11 to the result. Add any appropriate Malfunction Roll modifiers to the final result and consult the Drive-System Malfunctions Table to determine the specific malfunction and its effects.

MALFUNCTION ROLL MODIFIERS TABLE

Ship Condition	Modifier
Jumped within past hour	+4
Jumped within past 1–6 hours	+3
Jumped within past 7–12 hours	+2
Jumped within past 13–36 hours	+1
K-F drive charged from reactor	+2

DRIVE-SYSTEM MALFUNCTIONS TABLE

Roll Result	Effect
2–8	No noticeable effect.
9–11	Micro-fractures develop in drive. Reduce K-F Drive Integrity by 1.*
12–13	Seal blows on the K-F drive's helium tank; all drive charge is lost and jump aborts. Cross off all helium tank boxes.
14–15	Static discharge causes drive failure. Jump aborts.
16–17	Static discharge causes drive-controller failure. Roll on Failed Jump Table (p. 46, **BattleSpace**).
18+	Static discharge causes catastrophic drive-controller failure. K-F field misformed, but jump continues. Vessel misjumps. Gamemaster determines fate of vessel.

*A vessel may not jump if its Drive Integrity falls to 0. Enemy ships attempting to detect the vessel still use the vessel's full (undamaged) K-F Drive Integrity value.

OVERBURN

To simplify bookkeeping in the **BattleSpace** game, all units have traditionally operated on the "zero-net heat principle"—the number of Heat Points a unit generates cannot exceed the number of heat sinks the unit possesses. Though this general principle works well for most of the larger and newer ship classes, it effectively prevents players from exploiting the full performance capabilities of certain fighter designs.

Under the Overburn rule, however, aerospace fighters may temporarily generate Heat Points that exceed their heat sink limits—a practice known as overburning. Any time a fighter overburns, however, the stress of the excess heat reduces the effectiveness of other systems on the fighter and may even destroy the craft.

To simulate this phenomenon, calculate the overburn of a fighter unit during the End Phase of each turn using the following formula:

Heat Points – Number of heat sinks = Overburn

Then consult the Overburn Effects Table. All overburn effects begin at the start of the following turn and remain in effect until the overburn level changes or is reduced to 0.

No fighter may overburn by more than 15 Heat Points. Additionally, any Heat Points that a fighter does not dissipate are carried forward to the next turn. As in **BattleTech**, unused heat-dissipation capacity cannot be carried forward into the next turn.

A Lightning (equipped with 12 heat sinks) generates 26 Heat Points during a turn. During the End

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OVERBURN EFFECTS TABLE

Overburn	Effect
1	None
2–4	+1 Target Modifier on Control and To-Hit Rolls.
5–7	+2 Target Modifier on Control and To-Hit Rolls.
8–10	+2 Target Modifier on Control and To-Hit Rolls. Roll 1D6; fighter unit shuts down on a result of 6.*
11–13	+3 Target Modifier on Control and To-Hit Rolls. Roll 1D6; fighter unit shuts down on a result of 5 or 6.*
14–15	+3 Target Modifier on Control and To-Hit Rolls. Roll 1D6; fighter shuts down on a result of 4 or 5. On a result of 6, 1 fighter is destroyed (cross off one Armor line on record sheet, determined randomly) and remaining fighters in unit shut down.*

*A "shut down" fighter unit may not fire weapons or expend Thrust Points (heat sinks continue to operate, however). The fighter unit remains shut down until its Overburn drops to 0.

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Phase of the turn, the gamemaster calculates its Overburn at 14. The Lightning suffers the appropriate penalties during the following turn (+3 Target Modifier on Control and To-Hit Rolls), but the fighter generates no additional Heat Points, and so its heat sinks reduce its Overburn to 2 during the End Phase of the second turn. During the third turn, the fighter receives a +1 Target Modifier on Control and To-Hit Rolls. By the fourth turn, the fighter's heat sinks have reduced its Overburn to 0, so it suffers no overburn effects.

NON-STANDARD JUMP POINTS

Non-standard, or "pirate," jump points are transient points of gravitational equilibrium that JumpShips can use to jump to a star system (see p. 41, **Non-standard Jump Points,** for a full description).

Using non-standard jump points involves three separate steps: plotting the non-standard point, the jump itself, and arrival. The following rules are additions to those provided on pp. 42–46, **BattleSpace.**

STEP 1: PLOTTING THE POINT

To plot the non-standard point, the jump officer overseeing the maneuver makes a Navigation Skill Roll (p. 19, **MechWarrior Companion**), adding a +4 Target Modifier. Additionally, plotting the point requires 2D6 x 30 minutes, whether the roll succeeds or fails.

If the roll fails, the jump officer has failed in his or her task. If the roll succeeds, he or she has correctly calculated the coordinates of a suitable non-standard point. Record the Margin of Success. Note that the coordinates are correct only for a specific, stated time (chosen by the captain or navigator, who decides when he or she wants the ship to jump, before the Navigation Skill and transit time rolls are made).

If the ship is jumping out of a gravity well, the officer must make an additional dice roll to determine the distance to the jump point (the transit time from the ship's location to the jump point may render the navigational information useless). If the ship is in "deep space," the distance is 3D6 – 3 million kilometers. If the vessel is near a planet with at least one moon the distance is 3D5 – 300,000 kilometers. (See **System Transit,** p. 52, **BattleSpace,** for instructions on calculating transit times.)

STEP 2: THE JUMP

Rules for the jump are provided on page 45 of **BattleSpace** and page 19 of the **MechWarrior Companion.**

STEP 3: ARRIVAL

When the vessel arrives in the new system, the jump officer makes another Navigation Skill Roll. Add the Margin of Success from Step 1 as a modifier for this roll.
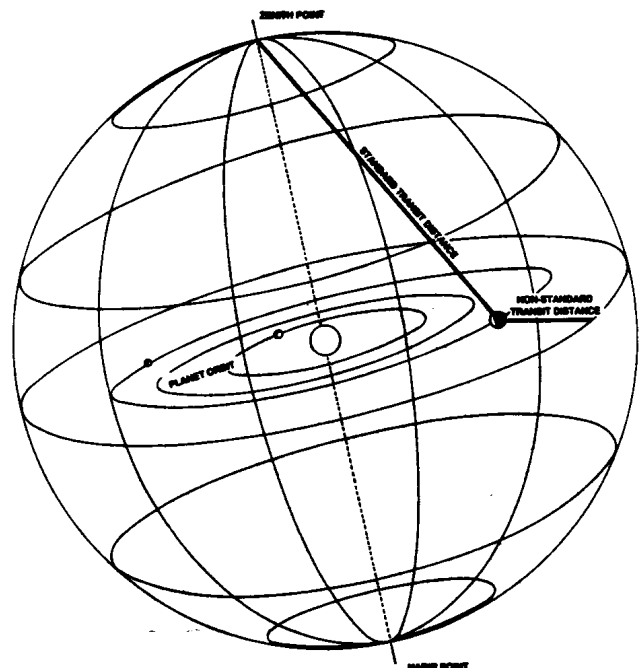
If the roll succeeds, the ship has made a "clean" jump. If the roll fails, the jump officer has miscalculated or based his or her computations on faulty data. Consequently, the jump may damage or even destroy the ship.

For each point in the Margin of Failure, apply 1D6 Damage boxes to each Armor facing of the JumpShip and any DropShips it is carrying. Reduce the JumpShip's K-F Drive Integrity by the Margin of Failure as well. If the Drive Integrity is reduced to 0 or lower, the K-F drive and the vessel are destroyed.

EFFECTS OF GRAVITATIONAL FORCES ON CHARACTERS

Though most aerospace fighters and spacecraft can withstand incredibly high gravitational (G) forces, such forces can impede the mental processes of human pilots and crew members or even cause them to black out. The following rules enable players to simulate these effects in **BattleSpace** and **AeroTech** games.

G-FORCE THRESHOLDS TABLE

Character Condition	Primary Threshold
With G-suit	6 Gs (12 Thrust Points per turn) for extended periods
	11 Gs (23 Thrust Points per turn) for short periods
No G-suit	6 Gs (12 Thrust Points per turn)
	Secondary Threshold
Aerospace pilots	6 Gs for 1 or more turns
DropShip, JumpShip and small-craft crews	3 Gs for 1 or more turns

G-FORCE THRESHOLDS

Any time a character is exposed to G-forces that exceed his primary G-force threshold, he blacks out and remains unconscious until the End Phase of the next game turn. While a character is unconscious, his craft will continue on the same heading and at the same velocity at which it was moving when the character blacked out.

Lower G-forces are unlikely to cause blackouts, but they do cause discomfort and fatigue. Any time a character exceeds his secondary threshold, apply a +1 penalty to all To-Hit and Piloting Skill Rolls made by the character during the remainder of the turn. If the character exceeds his secondary threshold for several consecutive turns, increase the penalty by 1 for each turn.

The G-Force Thresholds Table lists thresholds for crew members and passengers on aerospace craft and space vessels. Note that a G-suit enables a character to withstand additional G-forces before passing out. (Aerospace pilots nearly always wear G-suits; DropShip and JumpShip crews rarely wear them.)

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TACTICAL USE OF UNEXPECTED G-FORCES

G-forces have certain tactical uses as well. Most commonly, the crew of a vessel that has been boarded by enemy troops may suddenly accelerate rapidly or make a tight turn to generate sudden low-level shifts in the G-forces within the vessel. Anyone caught unaware by the maneuver will fall and may sustain serious injuries.

If using the **MechWarrior** rules, make a roll against the REF attribute of each unaware character to determine the results of such tactics. If the roll fails, the character receives 1D6 points of bruise damage per point of Thrust Point expended by the vessel.

If using the **BattleSpace** boarding-action system, shift the combat ratio 2 columns to the left (in the defender's favor) and subtract 2 from the dice roll result. The table does not allow for result of 1 or 0, so treat results of less than 2 as 2.

NEW EQUIPMENT

In recent years, most of the Successor States, as well as ComStar, have gradually resumed producing WarShips. The

NAVAL-GRADE MISSILE TYPES TABLE

Naval Weapon	Type	Heat	Fire Factor	Max Range	Fuel	Tons/ Shot	Tons	Cost	Ammo Cost	MPV
Killer Whale-T	Capital Missile	20	4	Extreme	30	50	160	165,000	17,000	1,100
White Shark-T	Capital Missile	15	3	Extreme	40	40	140	145,000	12,000	1,050
Barracuda-T*	Capital Missile	10	2	Extreme	30	30	100	100,000	7,000	600
Kraken-T**	Capital Missile	50	10	Extreme	25	100	220	500,000	55,000	210

*Tele-operated Barracuda missiles do not receive the –2 to-hit bonus.
**There is no "standard" version of the Kraken, only the tele-operated version.

reappearance of these powerful vessels has prompted the development of new equipment to supplement their firepower and also to fight against them. The following information describes some of these new items available to agents of the Explorer Corps.

TELE-OPERATED MISSILES

The sophisticated guidance computers used in naval missile systems have long limited the availability and battlefield effectiveness of such systems. Remotely piloted, or tele-operation, guidance systems represent the most significant alternative to computer guidance yet devised for naval missile systems. Currently, only the ComStar and Draconis Combine militaries possess such systems.

A tele-operation guidance system consists of a coded laser link that provides secure communication between the missile and its operator. Such a system enables an operator on a launching vessel to direct a missile toward a target, managing its fuel and correcting its course as necessary. Many existing naval missiles can be fitted with tele-operation systems, which also provide greater versatility than computer guidance systems.

For example, a computer guidance system typically directs a missile toward the pre-designated target at maximum acceleration. Consequently, the missile can make only a single pass at the target. A tele-operation system, however, enables an operator to control the missile's direction and velocity. This allows the operator to direct the missile to make multiple passes at a target, or even switch targets in mid-flight. If he wishes, the operator can re-direct the missile's path until it exhausts its fuel supply.

However, this advantage is somewhat offset by the inherent time lag created while the missile sends telemetry information to the operator and the operator sends commands to the missile. Consequently, control-response time may take up tenths of seconds or even whole seconds—which makes tele-operated missiles virtually useless against highly maneuverable craft such as fighters.

The following rules enable players to incorporate tele-operated missiles into **BattleSpace** games.

Missile Types

At present, four types of naval missiles have been fitted with tele-operation systems. These are described in the Naval-Grade Missile Types Table. (The "-T" suffix distinguishes tele-operated variants from the standard computer-guided versions of each missile type.) These missile systems are the only naval-grade weapons eligible for use on a DropShip or conventional JumpShip.

Movement

Tele-operated missiles move as if they were fighters or small craft, though they move immediately before such units in the turn sequence (after DropShips). They follow the standard rules for turning and acceleration, with the following exceptions.

Missiles are not subject to G-effects. Missiles may not decelerate, but unlike piloted vessels, tele-operated missiles do not have Maximum Thrust values. The only limit on thrust is the amount of fuel available. For example, a missile with 20 Fuel Points may expend up to 20 Thrust Points of thrust.

Only two factors limit the maneuverability of a tele-operated missile: the missile's fuel and the operator's line of sight (LOS) to the missile. For every Thrust Point a missile expends, whether for turning or acceleration, the missile loses 1 Fuel Point. If the missile expends all of its Fuel Points, it cannot maneuver or accelerate.

A clear line of sight must be maintained between the operator and missile to facilitate the transmission of data between the two. All objects that block LOS and inflict LOS-related to-hit penalties—such as asteroids, debris or screen launchers—prevent the operator's commands from reaching the missile. Consequently, the missile may not expend thrust—thus, it can-

not accelerate or turn. Once LOS is re-established, the missile can maneuver normally. A missile that loses contact with its operator will continue on the last heading and velocity it received, until it receives further instructions. Additionally, all tele-operated missiles contain small targeting computers that assume control of a missile once it enters the same hex as its target. Thus, a tele-operated missile lacking LOS to its operator may still strike its target if it ends the turn in the same hex as the target.
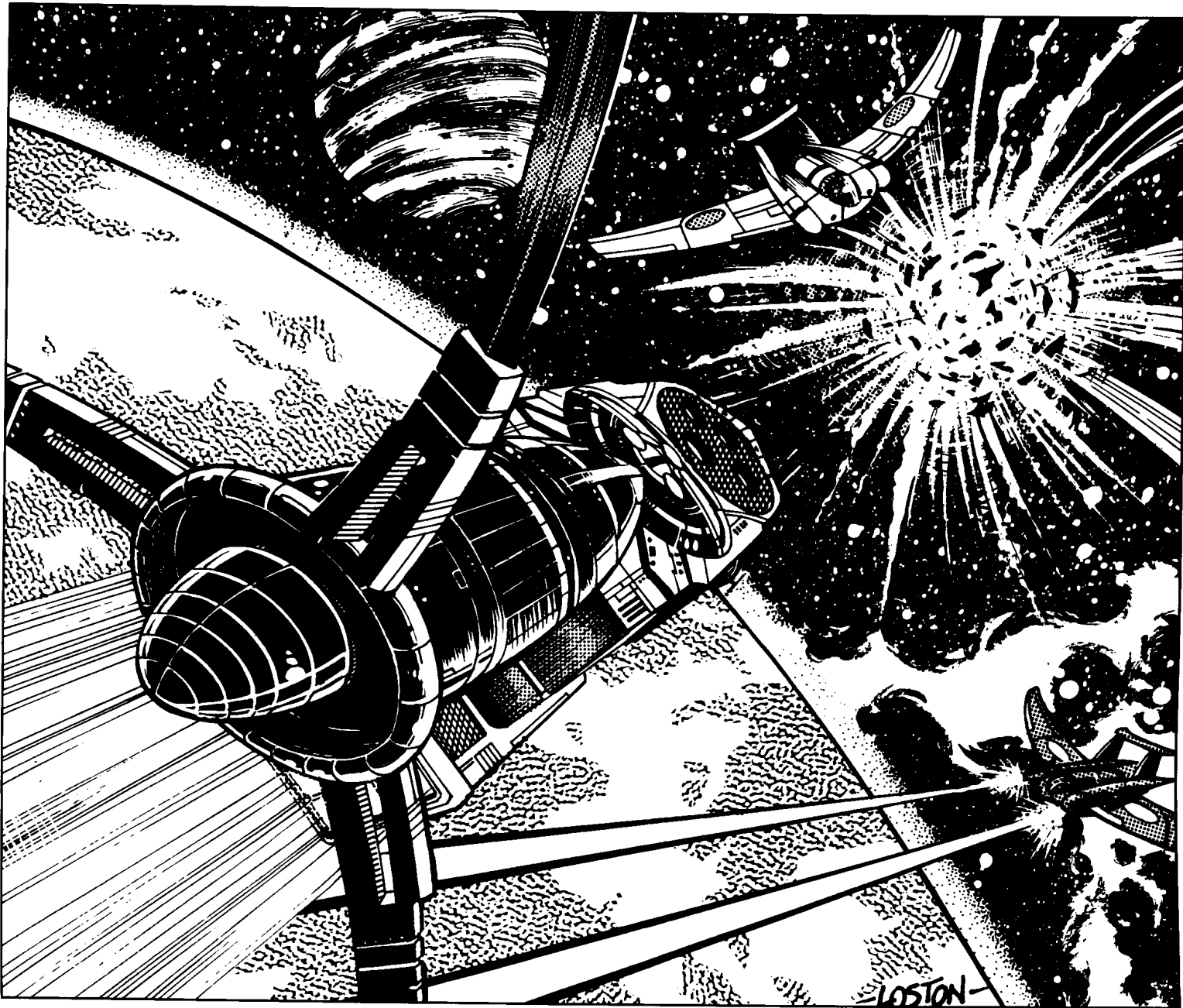
Whenever a tele-operated missile is launched, place a marker representing the missile in the firer's hex, with the same initial heading and velocity as the firing unit.

Combat

Tele-operated missiles are not "fighter capable" and may not attack fighters.

For the purposes of combat, however, treat tele-operated missiles as fighters or small craft in most other respects. They may be attacked by any weapon system capable of engaging fighters. The "Armor" value of a tele-operated missile equals the amount of damage the missile can inflict. For example, a Killer Whale has an Armor Value 4, while a Barracuda has an Armor Value 2. Missiles are not destroyed until all their armor is destroyed, though intermediate levels of damage will adversely affect their performance.

If a missile ends the Movement Phase in the same hex as an enemy unit, the missile's targeting computer assumes control of the missile and attempts to hit the "target" vessel. Consequently, Gunnery/Piloting Skill is not used for the To-Hit Roll. Instead, a tele-operated missile uses a Base To-Hit Number 2. Add a +1 Target Modifier for each Thrust Point used

during the turn and for each Armor box crossed out on the missile's record sheet. If the missile has no Fuel Points left, add a +6 To-Hit Modifier.

Tele-operated missile hits are resolved after all other weapons fire. Any missile destroyed by defensive fire does not hit its intended target. A missile that is not destroyed by defensive fire but misses its intended target remains in the target hex. The missile's operator may continue to maneuver the missile until it hits a target, is destroyed, expends all its fuel or leaves the mapsheet.

SCREEN LAUNCHERS

Faced with the overwhelming firepower of Clan WarShips, the Inner Sphere powers began searching for ways to neutralize the advantage the Clans' superior weaponry afforded them. The Inner Sphere militaries have explored several approaches, but so far only one system, produced by the Draconis Combine's Omodaka research facility, has seen service. That system is the XP1 Kamen "screen launcher."

The XP1 is an explosive obscurant, designed to detonate and block LOS between a firer and target. Commonly known as a screen launcher, the system consists of a short-range missile, or "canister," that detonates at a pre-designated point and scatters particle obscurants, chaff and wide-band radio noisemakers. These items effectively block LOS in the area immediately around the detonation point and provide a certain measure of concealment from enemy fire. However, the cover provided by the obscurant usually lasts only a few minutes.

The screen launcher has the following statistics:

Screen launchers can be installed like any other weapon system and may even be fitted on DropShips and conventional JumpShips. Like other weapons, a screen launcher must be allocated to a specific firing arc.

Each screen launcher may fire 1 canister per turn, and each canister may be targeted on any hex in the appropriate firing arc within 6 hexes (short range). No to-hit roll is needed to detonate a canister. Once a canister detonates, place a screen marker in the hex.

Screen-launcher canisters lack the targeting systems and explosive power needed to damage a DropShip or larger target, but may damage fighter units in the detonation hex. Roll 2D6 for each fighter unit in the hex. On a result of 9–11, each fighter in the unit takes 1 Damage Point. On a result of 12, each fighter takes 2 Damage Points. After the detonation, units may pass through the screen hex without taking damage.

A detonated canister creates a screen that blocks LOS through the target hex. Any units within the hex may fire out of it, but they receive a +2 To-Hit Modifier. Any unit that fires also enables units outside the hex to target it—however, these units also receive a +2 To-Hit Modifier.

During the End Phase of each turn, roll 2D6 for each screen on the mapsheet. On a result of 7 or greater, remove the screen marker. On any other result, the screen remains.

MOBILE YARDS

Mobile maintenance/construction/repair ship yards may be installed in any WarShip, but their size precludes their installation in DropShips and standard JumpShips. (Currently, the *Faslane*-class support vessels recently deployed in the Deep Periphery are the only space vessels equipped with maintenance/repair yards.)

Pressurized facilities may be built with 100,000-ton capacities, but nonpressurized facilities may be built even larger. However, no more than 10 percent of a vessel's mass may be dedicated to such facilities.

A maintenance/repair facility occupies Cargo Bays 1 and 2 on the vessel's Critical Damage chart. Any damage taken to such locations is applied in direct proportion to the bay and its contents. For example, if 10 percent of a cargo bay's boxes are crossed out, 10 percent of the bay and its contents are damaged. If all the boxes are crossed out, the bay and its contents are destroyed.

Any time a ship expends Thrust Points while another vessel occupies the repair bay, the repair bay sustains severe structural damage. In such cases, cross off 1 box of repair facility/cargo for each Thrust Point expended.

HYPERPULSE GENERATORS

Though some Star League-era mobile HPG systems weighed as little as 9 tons, the modern-day mobile HPG systems carried by certain DropShips, JumpShips and WarShips weigh 50 tons and require dedicated links to a ship's power plant.

To activate a ship-board HPG, a vessel must dedicate at least 4 Power Points to the HPG (these points cannot normally be allocated to weapons, life-support or drive systems). The HPG transmission, consisting of an electromagnetic pulse, temporarily "blinds" the vessel and all other craft within 1,000 meters of the transmitting vessel, and the vessel cannot fire on any other ship, and cannot be fired on by another ship within that range, during the turn that the transmission is taking place.

Ships that form part of an HPG chain operate under additional limitations. Such vessels are bombarded by the EMP effects of communications from neighboring vessels and cannot use their sensors, fire their weapons, maneuver or jump. Fortunately, any other vessel within 1,000 meters of the HPG emergence point experiences the same effects.

Recovering from EMP bombardment can be a lengthy process—the ship's crew must check and re-initialize every circuit on the vessel. This process takes approximately 5 minutes per minute of communications.

Note that "firing" an HPG at another vessel to blind its sensors is not possible. HPGs are designed to aim at very distant, relatively stationary targets. Aiming an HPG transmission at a target within the same star system, even a stationary target, accurately enough to "blind" the vessel is virtually impossible.

WORKING FOR THE CORPS

This section provides guidelines for gamemasters who want to involve their **MechWarrior** and **BattleTech** player groups in Explorer Corps and other Deep Periphery scenarios and campaigns.

Hiring Strategies provides general information about Explorer Corps hiring practices. **Payment** provides **MechWarrior** rules for negotiating fees, and **Contract Entries** explains the entries used in the supplied contracts. The contracts are divided into three groups: **Mercenary Contracts, Explorer Corps Contracts** and **Other Contracts**. The **Mercenary Contracts** provide examples of how the Explorer Corps secretly recruits units. Once a player group has established a working relationship with the Explorer Corps, the Corps may offer the group one of the **Explorer Corps Contracts.** **Other Contracts** are examples of contracts offered by other employers in the Deep Periphery.

Keep in mind that these contracts represent only a fraction of the gaming possibilities provided by the Explorer Corps and Deep Periphery material presented in this book. Gamemasters should feel free to alter the contracts to better suit their games, or create their own contracts. The Deep Periphery is a very big place, with enough uncharted areas to successfully contain any kind of adventures players and gamemasters can dream up!

HIRING STRATEGIES

The Explorer Corps and the Draconis Combine Mustered Soldiery (DCMS) recruit mercenaries, either directly or through "front" companies, for Explorer Corps operations.

ComStar has hired mercenaries since its inception and has developed a reputation for dealing fairly with them—a reputation that the Explorer Corps continues to foster through its treatment of hired units. The DCMS has only recently begun hiring mercenaries, ending the twenty-five-year moratorium on contracting professional troops that was instigated by Takashi Kurita's infamous "Death to mercenaries" order. As a result, ComStar has an easier time attracting high-quality mercenary groups than does the DCMS. In fact, ComStar can usually select units with Dragoon Ratings of A or B, while the DCMS must often accept units with Dragoon Ratings of C or even D to fill its mercenary needs.

Typically, ComStar and the DCMS initially hire mercenaries through "front" companies to preserve the secrecy surrounding

the Explorer Corps. For example, a merc unit may hire on to perform garrison duty for a mining company with operations in the Deep Periphery, not realizing that Explorer Corps officers are observing their performance. If Corps observers deem the hired unit competent and suitably trustworthy, the Corps may then reveal itself to the unit and hire the mercenaries for service more directly related to Corps operations.

Additionally, the Corps may hire mercenaries through the Com Guard. A unit might sign on to help defend ComStar stations along the edge of the Periphery or the Clan Occupation Zone, escort merchant craft or garrison a corporate facility. After Corps agents have ascertained the unit's loyalty, the Corps may offer the unit a supplementary contract.

The Corps recruits mercenary units through various markets, to better conceal its activities. A few units are hired through Wolf's Dragoons' Hiring Hall on Outreach, but the Corps also does considerable hiring on Galatea, Solaris and other worlds. Understandably, the Corps bypasses the Mercenary Review and Bonding Commission when doing the majority of its hiring.

CHARACTER BASE PAY (PER 2 WEEKS)

Character Type	Base Pay Rate (in C-bills)
MechWarrior/Aerospace Pilot	500
Armor/Artillery	300
Tech/Engineer/Medic/Specialist	320
Infantry	250
Scout	375
Mechanic	270
C³	240
Administration	640

PAYMENT

The fee for each contract depends on a number of factors—the unit's Dragoon Rating, the employer, the type of action called for in the contract, and the general pay rate specified.

To calculate a particular unit's fee for a contract, start by multiplying the base pay for each character in the unit by the appropriate Experience multiplier. Once you have calculated each character's base pay, add them together to determine the entire unit's base pay.

Next, consult the Unit Pay Multiplier Table and determine which multipliers apply. Then multiply the unit's base pay by all appropriate multipliers. When calculating the unit's total pay

CHARACTER EXPERIENCE MULTIPLIERS

Experience	Multiplier
Green	1
Regular	1.5
Veteran	2
Elite	3
Anti-'Mech Infantry (in addition to Experience modifier)	2

according to the number of weeks specified by the contract, remember that the unit's base pay represents a two-week pay period.

Billy's Barbarians, a 'Mech mercenary unit with a Dragoon Rating C, hires on with the Draconis Combine on a 12-week, garrison-duty, Average-pay contract. The Barbarians consist of 12 MechWarriors (2 Green, 8 Regular and 2 Veterans) and 12 Regular technicians. Their total pay would be calculated as follows:

Characters' Base Pay:

2 Green MechWarriors	*2 x (500 x 1) = 1,000*
8 Regular MechWarriors	*8 x (500 x 1.5) = 6,000*
2 Veteran MechWarriors	*2 x (500 x 2) = 2,000*
12 Regular Techs	*12 x (320 x 1.5) = 5,760*
Total:	*14,760*

Characters' base pay rates are for 2-week periods. Therefore, the Barbarians' base pay for the entire 12-week contract would be 88,560.

Unit Pay Multipliers:

Unit Dragoon Rating: C	*.8*
Employer: Draconis Combine	*1.6*
Type of Action: Garrison Duty	*.9*
Contract Pay Rate: Average	*.95*

Final Pay Calculation:
*88,560 x .8 x 1.6 x .9 x .95 = **96,920 C-bills***

DRAGOON RATING

Every mercenary unit registered with the Hiring Hall receives a rating that indicates the unit's character and experience. If using the **MechWarrior** payment system, a unit's Dragoon Rating also affects the final fee a unit receives for its services. The rating can also provide a groundwork for fee negotiations between the potential employer and the employee—highly rated units can command higher fees, while low-rated units may have to work for less money.

To determine the Dragoon Rating of a player-character unit, consult the Dragoon Rating Table (a more complicated system for determining Dragoon Ratings is provided on pp. 99–100, **Mercenary's Handbook: 3055**). The Dragoon Rating listed in each contract reflects the experience and character the employer seeks in a unit.

CONTRACT ENTRIES

All of the contracts contain numerous informational entries. Most of these entries are self-explanatory. The following section explains those entries whose meanings may not be immediately apparent. (For definitions of all contract entries, see p.

UNIT PAY MULTIPLIER TABLE

Dragoon Rating	Multiplier
A	1
B	.9
C	.8
D	.7

Employer

Draconis Combine (including "front" employers)	1.6
ComStar (including "front" employers)	2
Lyran Alliance	1.5
Others	1

Type of Action

Garrison	.9
Objective Raid	1.6
Offensive/Defensive Campaign	1.5
Reconnaissance	1.4
Relief Duty/Retainer	1.3
Any mission against Clans	2

Contract Pay Rate

Poor	.65
Fair	.85
Average	.95
Good	1.2
Excellent	1.5

DRAGOON RATING TABLE

Dragoon Rating	Unit Description
A	Successful, self-sufficient unit with Star League-era or Clan equipment.
B	Less successful, less self-sufficient or more poorly equipped unit.
C	Marginally successful unit, or unit operating at less than full strength.
D	New or very unsuccessful unit, or unit operating far below full strength.

Individual gamemasters may decide whether an employer will accept a unit whose specifications (Dragoon Rating, Unit Size, Unit Type and so on) do not match those requested in a contract.

TYPE OF ACTION

Type of Action identifies the contract's mission as one of the following mission types: Garrison Duty, Reconnaissance, Retainer, Objective Raid, Relief Duty or Offensive/Defensive Campaign.

Garrison Duty

A unit on garrison duty protects a planet or part of a planet against possible incursions by unfriendly forces. Depending on the planet's size and proximity to enemy borders, garrison duty may entail various amounts of combat.

Reconnaissance

Reconnaissance duty involves reconnoitering star systems and gathering information on the system's planets as well as military intelligence about any hostile forces operating within or near the system.

Typically, reconnaissance units engage in combat only when completely necessary or to test a potential enemy's strength and willingness to fight. Recon contracts normally provide good pay and plenty of autonomy for the hired unit, because most employers let the hired unit decide how to accomplish its assigned task.

Retainer

A unit on retainer performs various missions at the whim and expense of its employer for the duration of the retainer contract. Many such contracts include a clause stipulating an additional 10-percent combat fee.

Objective Raid

Objective raids most often involve attacking a specific target. Recovering stolen items or stealing items are other common objectives of such raids. Such assignments often entail attacks against strategic targets in enemy territory and can be quite hazardous. Consequently, these quick-and-dirty missions are among the riskiest and highest-paying contracts offered to mercenaries.

Relief Duty

Units hired to perform relief duty commonly reinforce larger defensive forces or relieve smaller forces.

Though relief duty assignments can pay well, they also pose various risks. For example, attackers often control all approaches to the besieged planet, making landing and deployment difficult for relief troops. Coordinating operations with local commanders can also be extremely difficult; by the time a relief force arrives on-planet, local forces are usually no longer in a position to offer much help.

Offensive/Defensive Campaign

Units hired for offensive-campaign assignments typically conduct offensive operations or serve with a larger attacking force. Conversely, units hired for defensive-campaign assignments typically conduct defensive operations or serve with a larger defending force. Defending mercenary units usually can choose the terrain they fight on, which greatly increases their chances of victory.

LENGTH OF CONTRACT

The specified contract length excludes travel time. For most Explorer Corps and other Deep Periphery contracts, travel time may add an additional year to the actual time a hired unit must spend to fulfill a contract.

UNIT TYPE

Unit type indicates the type of unit the employer seeks for the assignment. A player group need not restrict itself to contracts that call for the group's unit type—a desperate employer may be willing to accept any help. However, player-character units should take care not to accept missions beyond their capabilities. For example, an infantry unit that accepts a contract calling for a BattleMech force may find itself on a suicide mission.

UNIT SIZE

Unit size indicates the size of unit that the employer considers appropriate for the job. Player groups need not restrict themselves to contracts tailored to the size of their own units, but should carefully consider accepting any contract tailored to larger forces.

SUPPORT

Support represents the amount of money that the employer will provide to cover the unit's technical support and battle-damage costs. A unit listing under this heading represents any troop support the employer will provide for the hired unit.

Typically, the Explorer Corps and DCMS provide hired units with "straight" support. The unit receives an advance to purchase equipment before the start of the contract, or a credit account the unit can use to requisition equipment from Corps supply caches during its mission. In either case, the Corps and Combine provide support worth up to 70 percent of a hired unit's base pay. Neither the Corps nor the DCMS compensates hired units for battle losses.

TRANSPORT

Transport shows the portion of transportation costs the employer will cover to move the unit to and from its assignment.

Traditionally, compensation for units using their own transport is assessed at the full commercial rate of 50,000 C-bills per DropShip per jump. For Explorer Corps and Deep Periphery contracts, employers commonly provide vessels to transport hired units.

SALVAGE RIGHTS

The salvage rights entry indicates how much battlefield salvage the employer intends to share with the unit.

COMMAND

The command entry identifies who is in charge of the operation. "Independent" command means a hired unit is free to make its own battlefield decisions. "Integrated" command

means the hired unit's commanders will have to share command with a commander designated by the employer.

The Corps and the DCMS prefer to place a liaison officer with each mercenary unit, though some hired units may negotiate independent command rights.

BEHIND THE SCENES

The official contract alone doesn't always describe what a unit is really getting itself into when it signs on with an employer. The Behind the Scenes entry, intended for the gamemaster only, describes the real story behind a contract, as well as the opposition that the hired unit is likely to encounter.

MERCENARY CONTRACTS

CONTRACT 1: DC56607-001-7

Dragoon Rating: A–B
Employer: Dragon's Wings Mining
Location: Various
Type of Action: Garrison Duty
Length of Contract: 18 months
Unit Type: 'Mech
Unit Size: Company
Pay Rate: Excellent
Support: Full
Transport: Fully Covered
Salvage Rights: Negotiable
Command: Independent

Situation

Under the leadership of *Tai-sa* Mernon Provost, Dragon's Wing Mining (DWM) rose from obscurity to its present position as one of the Draconis Combine's largest corporations in record time. The firm is continuing to expand its operations at a phenomenal rate, and needs help to supplement its own security forces.

Objective

Hired units will garrison DWM holdings and defend the fim's property and personnel.

Contract

Hired units will garrison a DWM holding in the near Periphery for a period of 18 months. Hired units can expect to see action against pirates and Clan raiders. DWM will provide full transportation to garrison sites, full support and independent command rights to all hired units.

Terrain

Varies depending on garrison assignment.

Behind the Scenes

DWM is a legitimate company, but it also serves as a front company for the Draconis Combine. Units hired for DWM garrison duty will undergo a series of competency and loyalty "tests" monitored by Combine agents posing as DWM employees.

Hired units that pass these tests may be offered new assignments with the Explorer Corps (see **Explorer Corps Contracts,** p. 98). Units that prove incompetent or unsympathetic to the Combine and the goals of the Explorer Corps will simply remain as garrison forces on DWM's worlds, which actually form part of the Corps supply lines.

During the first "testing" stage of the contract, the hired garrison unit will face periods of intense boredom, punctuated by the excitement of pirate raids. At the gamemaster's discretion, raiders may be disguised Combine or Corps units or genuine pirates.

CONTRACT 2: IND 56530-001-2

Dragoon Rating: B
Employer: Bentley Explorers' Syndicate
Location: Various
Type of Action: Retainer
Length of Contract: 2 years
Unit Type: 'Mech, Aerospace, Infantry
Unit Size: Company or larger
Pay Rate: Average–Good
Support: Full
Transport: Fully Covered
Salvage Rights: Full
Command: Independent

Situation

The Bentley Explorers' Syndicate (BES) was launched shortly after the Fourth Succession War when Cleese Bentley, a retired LCAF kommandant, invested his savings in an old *Scout* class JumpShip and headed into the unknown. During his foray, he discovered a planet rich in germanium—a vital component in K-F drives—and returned a rich man.

The New Samarkand-based BES continues to mount exploratory expeditions and continues its tradition of hiring mercenary units to supplement its personnel.

Objective

Hired units will escort BES exploration vessels and help reconnoiter potentially hostile worlds.

Contract

BES offers competitive pay, full support, full salvage rights, independent command rights and full transportation to New Samarkand and mission sites for hired units.

Terrain

Terrain varies depending on the mission destination.

Behind the Scenes

The Explorer Corps has hired BES to trace the original route of Aleksandr Kerensky and survey worlds spinward of the Inner Sphere. BES also performs occasional exploratory missions for the DCMS or NAIS.

Units may encounter almost any type of opposition while on assignment. Gamemasters are encouraged to tailor encoun-

ters to suit the unit. If desired, hired units may encounter Explorer Corps teams and Corps officials may hire the unit directly (see **Explorer Corps Contracts,** p. 98).

CONTRACT 3: LA 42132-002-4

Dragoon Rating: A–C
Employer: Lyran Alliance
Location: Winter
Type of Action: Reconnaissance
Length of Contract: 3 months
Unit Type: BattleMech
Unit Size: Company or smaller
Pay Rate: Good
Support: Negotiable
Transport: Full
Salvage Rights: Negotiable
Command: Independent

Situation

As a result of the recent Jade Falcon incursions into Lyran territory, Archon Katherine Steiner-Davion wishes to increase her knowledge of the Periphery regions surrounding her realm. She hopes that better knowledge of the region will help Lyran forces to prevent further incursions.

Objective

Hired units will reconnoiter the regions immediately coreward and anti-spinward of the Lyran Alliance territories.

Contract

The Lyran Alliance will provide hired units with competitive compensation, full transport and independent command rights. Support and salvage rights are negotiable.

Terrain

Varies according to assignment.

Behind the Scenes

The Archon does not want the embarrassment of relying on her estranged brother, Archon-Prince Victor Steiner-Davion of the Federated Commonwealth, to defend Lyran worlds against Clan incursions. Though the Lyran Alliance possesses ample resources to reconnoiter nearby Periphery systems itself, the Archon does not want to use units potentially loyal to her brother or send loyal Lyran units into the Periphery.

Each hired unit will be assigned a sector of space. However, the Archon has allotted little time for units to accomplish their assignments—which may represent a deliberate ploy to force hired units to break their contracts, or a simple miscalculation based on her lack of military experience (the gamemaster decides).

The area immediately surrounding the Alliance is known for pirate activity, and the area immediately coreward has seen a major increase in Clan activity since the recent incursion. Tailor opposition and missions to the hired unit's capabilities.

EXPLORER CORPS CONTRACTS

CONTRACT 4: EC SUPPLEMENTARY J22

Dragoon Rating: A–B
Employer: Explorer Corps
Location: Siroc, Deep Periphery
Type of Action: Relief Duty
Length of Contract: 2 months +
Unit Type: BattleMech
Unit Size: Company
Pay Rate: Excellent
Support: Full
Transport: Full
Salvage Rights: Negotiable
Command: Integrated

Situation

Clan Steel Viper forces recently occupied the independent colony of Siroc and are beginning to prepare an operational base on the planet. Prior to the Vipers' arrival, the Explorer Corps had been using Siroc as a cargo way-station. Large quantities of Corps supplies remain hidden on the world, and a Corps defensive unit has successfully concealed its presence as it waits for an outside relief force.

Objective

The hired unit must rescue the Corps personnel and retrieve the Corps supply cache without arousing Clan suspicions about the Explorer Corps. As a secondary objective, the hired unit will destroy the Clan force on Siroc.

Contract

The unit must be BattleMech-equipped and be versed in independent operations with minimal support. Hired units will operate under integrated command and receive full transport to and from Siroc. Salvage rights are negotiable.

Terrain

Siroc is a verdant world, covered with extensive forests. Some of the woodlands located in the planet's tropical zones may be dense enough to severely impede the ground movement of BattleMechs.

Behind the Scenes

The Corps supply cache is located in a cave on the southern slopes of the Siroc's highest peak, Mount Lunda—which is surrounded by dense tropical forest. A series of cleared pathways beneath the forest canopy provide access to the cave. A small clearing roughly 10 kilometers from the cave serves as a landing site for spheroid DropShips.

The Steel Vipers do not expect any serious opposition on Siroc, and their planetary garrison consists of a second-line Trinary composed of a single BattleMech Star, a conventional infantry Star, and a reinforced Star of 5 'Mechs and 5 Elementals.

Neither the Viper garrison nor the Corps force on Siroc have had significant contact with the planet's inhabitants, the descendants of colonists who left the Terran Hegemony in 2550. A few years after settling the planet, a local virus devastated the population and forced the survivors into a subsistence-level way of life. Consequently, the Sirocans lost much of their knowledge of history and technology. Currently, they possess a level of technology comparable to that of late nineteenth-century Terran civilization.

In the center of Siroc's main city, Châlons, stands a massive temple dedicated to the founding colonists. Unknown to the Vipers and the Corps force, the building surrounds a *Vulture* class DropShip (a forerunner of the *Seeker*). The vessel is inoperable, but its computer system could be brought back on-line.

CONTRACT 5: EC SUPPLEMENTARY F11

Dragoon Rating: A
Employer: Explorer Corps
Location: Khwarazm Empire, Deep Periphery
Type of Action: Reconnaissance
Length of Contract: 1 month + travel time
Unit Type: Special Forces
Unit Size: 5 or more operatives
Pay Rate: Excellent
Support: Full
Transport: Full
Salvage Rights: Full
Command: Independent

Situation

The Khwarazm "empire" is a proto-state of four worlds that were forcibly occupied by Clan Jade Falcon in 3049. The Explorer Corps has recently decided to cultivate contacts with anti-Clan Khwarazm resistance groups but wants to employ mercenary units for the job to minimize the risk of revealing its operations to the Clans.

Objective

Hired units will make contact with the leaders of various rebel groups on the Khwarazm worlds and gain access to their knowledge of nearby star systems and Clan activities in the area.

Contract

The Explorer Corps seeks a small irregular-operations unit. The Corps will smuggle the hired unit onto the Khwarazm worlds, but the unit will be on its own from that point on. The hired unit must be skilled in diplomacy, espionage and guerrilla-warfare techniques. MechJocks and wannabes need not apply.

Terrain

The four Khwarazm worlds of Herat, Nishapur, Marv and Urgenj are all mountainous worlds covered with large desert areas. All are technologically under-developed by Inner Sphere standards and slightly warmer than Terra.

Behind the Scenes

With the exception of the Khwarazm ruling classes, most Khwarazmi hardly notice the Clan occupiers. The average Khwarazmi continues to survive on a subsistence diet, while the former merchant princes of the upper class still live in relative luxury in their palaces.

Jade Falcon Star Colonel Francis Helmer has placed strict restrictions on the movement of the merchant princes' JumpShips and their ability to conduct trade with neighboring systems. Consequently, anti-Clan sentiments are most strong among the Khwarazm merchant class.

Two Trinaries form the Jade Falcon garrison forces on the Khwarazm worlds. The garrison force contains one aerospace-fighter Star and two BattleMech Stars. A mix of Elemental and conventional infantry Stars constitute the remainder of the garrison force. The Khwarazmi have no standing military, and the few rebel groups possess only small, personal weapons.

CONTRACT 6: EC SUPPLEMENTARY K4

Dragoon Rating: A–B
Employer: Explorer Corps
Location: Deep Periphery
Type of Action: Reconnaissance
Length of Contract: 6 months
Unit Type: Any
Unit Size: Company or smaller
Pay Rate: Good
Support: Negotiable
Transport: Full
Salvage Rights: Negotiable
Command: Independent

Situation

The Explorer Corps vessel *Marco Polo* had been charting a pre-planned route coreward of Columbus when it failed to broadcast a scheduled report two months ago. Corps leaders fear that the *Marco Polo* has met with an accident, or worse, been captured.

Objective

The hired unit will retrace the *Marco Polo's* route and search for signs of the vessel and its crew. If possible, the unit will recover the *Marco Polo* and its personnel.

Contract

The hired unit must possess a wide range of skills and be prepared for any situation. The Explorer Corps offers full transport and independent command rights.

Terrain

Details are unavailable.

Behind the Scenes

Approximately 150 light-years coreward of the Corp base on Columbus, the *Marco Polo* encountered a JàrnFòlk explo-

ration ship. Despite the language barrier between the two crews (the JàrnFòlk speak a variant of Old Norse) the commanders of both vessels successfully conveyed their peaceful intentions toward one another.

After two weeks, linguists on both crews established rudimentary communications and the JàrnFòlk crew invited the *Marco Polo* back to the JàrnFòlk homeworlds, located 250 light-years spinward of Columbus. The Corp commander accepted the offer immediately, not wishing to squander an opportunity to establish relations with an advanced spacefaring people such as the JàrnFòlk.

Any vessel that retraces the *Polo's* path will find a communications buoy left by the Marco Polo before it jumped to the JàrnFòlk worlds. The buoy's contains a data file recounting the Corp crew's initial encounter with the JàrnFòlk and the coordinates of the *Marco Polo's* jump destination.

The hired unit may fulfill its contract by returning to Columbus with the information from the buoy, or the unit may journey to the four JàrnFòlk worlds—Hamar, Trondheim, Ålborg and Hofn—and become involved in the Machiavellian politics of the nine great JàrnFòlk families.

Numerous pirate bands—as well as Clan patrols—may hinder the player unit's search for the *Marco Polo*. The JàrnFòlk themselves pose little threat to the player characters unless the characters' unit insults or threatens them. Even then, the JàrnFòlk's traditions of low-intensity warfare virtually ensure that any conflicts with them won't destroy hired units. (See the **JàrnFòlk,** p. 59 in **Denizens of the Deep Periphery** for more information).

If desired, the gamemaster can also have a Clan patrol pick up the *Marco Polo's* buoy. In this case, the hired unit can earn the eternal gratitude of the Explorer Corps (as well as a hefty bonus) by recapturing the buoy before the patrol can notify Clan leaders of the suspicious activities of the Explorer Corps vessel.

CONTRACT 7/7A: DC SUPPLEMENTARY 21-J

Dragoon Rating: A–D
Employer: Draconis Combine
Location: Durham, various systems in the Deep Periphery
Type of Action: Garrison Duty/Objective Raid
Length of Contract: 6+ months
Unit Type: Any
Unit Size: Battalion or smaller
Pay Rate: Average
Support: Full
Transport: Full
Salvage Rights: Negotiable
Command: Integrated

Situation

Repeated pirate raids on the Combine cache-world of Durham have caused the loss of large quantities of supplies. The pirate band in question, known as Corazon's Cossacks,

uses BattleMechs decorated in Star League colors and appears to have a better-than-average grasp of 'Mech tactics. The location of the pirates' operational base is not known.

Objective

Hired units will help defend Durham against the Cossacks' raids and destroy the pirate band.

Contract

The DCMS is offering two contracts. The first contract is for a garrison force to reinforce the Combine defenders stationed on Durham. The second contract is for a unit to locate and destroy the pirate band.

The DCMS will provide full support and transport to units hired under both contracts.

Terrain

The world of Durham is slightly smaller than Terra but has similar weather patterns and climate. The DCMS supply base is situated on a large island off the northeastern coast of Durham's main continent, which is located in the planet's southern hemisphere.

Behind the Scenes

At present, Durham's defensive force comprises a single DCMS infantry company, which is no match for the Cossacks. The DCMS is desperate to eliminate the Cossack threat. If the raids continue, the DCMS may have to withdraw from Durham. Consequently, any hired unit that fails will become quite unpopular with the DCMS High Command.

The Cossacks are second-generation descendants of a mercenary unit lead by Corazon White, who fled to the Periphery in 3011 following a contract dispute with the Lyran Commonwealth. The unit obtained its Star League-era equipment from a crashed DropShip it discovered on a world some fifteen light-years coreward of Durham. (The vessel was clearly of Star League origin, but any identifying marks were destroyed in the crash.)

The Cossacks operate from Isfahan, a marginally habitable world approximately seven light-years from Durham. From Isfahan, the Cossacks raid worlds within a thirty light-year radius. A few farmers scratch out a living in the areas around Isfahan's two landlocked seas or at various oases. The planet contains only one major urban area—the town of Kerman, which serves as the Cossack base and as a slave market.

The Cossacks possess nineteen operational BattleMechs, all equipped with Star League-era technology. However, the pirate band includes only eleven pilots. Enterprising player characters might be able to infiltrate the Cossacks by posing as replacement pilots.

CONTRACT 8: DC SUPPLEMENTARY 22-A

Dragoon Rating: A–C
Employer: Draconis Combine
Location: Deep Periphery

Type of Action: Objective Raid
Length of Contract: 3 months
Unit Type: Any
Unit Size: Company
Pay Rate: Excellent
Support: Full
Transport: Full
Salvage Rights: Full
Command: Independent

Situation

The Combine has recently instituted a covert campaign to harass Clan forces in the Deep Periphery. The Combine has used mercenary groups disguised as pirate bands as the primary forces for this campaign. The Combine has made available supplementary contracts for these raiding missions, and will give participating units considerable support. *Tai-sa* McLaren, head of these harassment operations, hopes that constant pressure on the Clans in the Periphery will force them to deploy forces that would normally be sent to their occupation zones.

Objective

Hired units will harass Clan forces in the Deep Periphery by striking at various Clan targets.

Contract

The contract mission is extremely dangerous, but the DCMS offers excellent pay; full support, transport and salvage rights; and independent command rights to hired units.

Terrain

Varies by target.

Behind the Scenes

For more than three years, the Combine's harassment operations have been coordinated by *Tai-sa* McLaren, a former Ryuken officer. Unlike most Combine officers, McLaren is comfortable with mercenaries and irregular forces. He fully explains the risks of the contract mission to any unit considering a contract, and he does his best to ensure that hired units receive the full support promised (though the covert nature of the missions inherently limits how much help the Combine can provide).

McLaren matches mission targets to the types and sizes of hired units. Potential targets include Clan communication posts, fortified cache worlds and supply bases, transport ships, and even Clan orbital facilities.

Opposition will vary depending on the mission, but most Clans use second-line or solahma units to garrison planetary facilities. Most of these units possess second-line Clan BattleMechs, though nearly all officers use OmniMechs. Orbital facilities may be defended by combat DropShips or WarShips manned by trueborn Clan pilots.

All Clan forces display particular disdain for pirates and grant suspected bandits no quarter. In fact, most Clan forces view pirates as honorless vermin suitable only for annihilation.
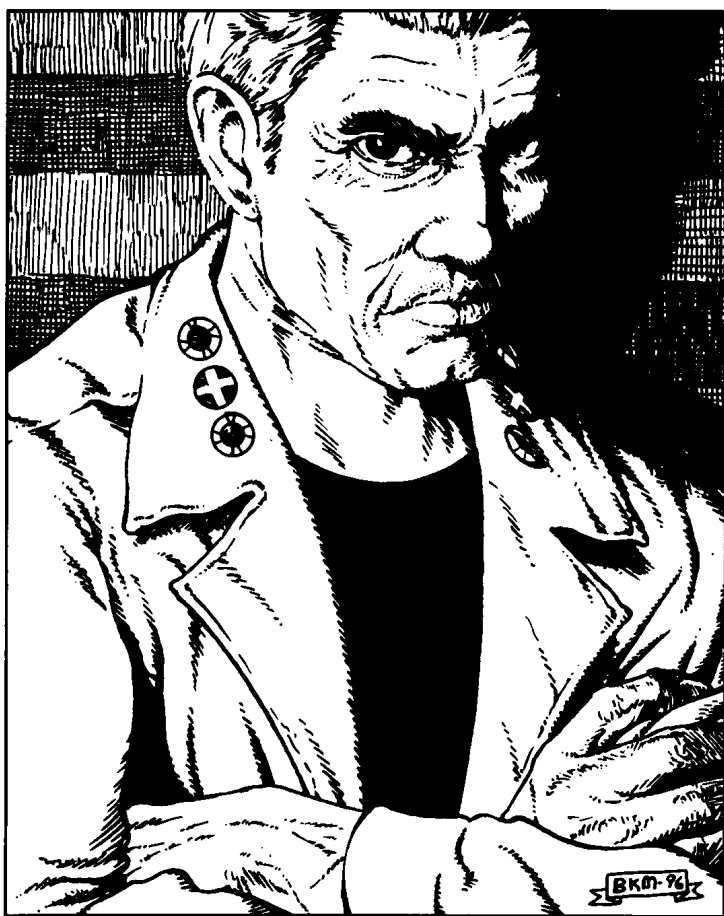
OTHER CONTRACTS

CONTRACTS 9/9A

Employer: Nueva Castile/Umayyad Caliphate
Location: Córdoba, Deep Periphery
Type of Action: Offensive/Defensive Campaign
Length of Contract: 3 months
Unit Type: BattleMech
Unit Size: Any
Pay Rate: Poor
Support: 25-percent compensation of all battle losses
Transport: Negotiable
Salvage Rights: None
Command: Integrated

Situation

The Castilians and the Umayyads have been battling over the cluster of worlds known as Nueva Castile for several hundred years. The Umayyads currently control two planets in the cluster, but the Castilians have recently launched an invasion of Córdoba. Both sides are seeking reinforcements and are offering contracts through the Hanseatic League.

(For further information, see **Nueva Castile**, p. 58 in **Denizens of the Deep Periphery**.)

Objective

Units hired by the Umayyad Caliphate will reinforce the Umayyad defensive forces on Córdoba. Units hired by Nueva Castile will reinforce the Castilian invasion force attacking the planet.

Contract

Neither side can afford to offer anything better than poor pay, and neither side offers salvage rights. However, the relatively unsophisticated technological levels of the Castilian and Umayyad troops virtually guarantee that most hired 'Mech units will face relatively low risks during their missions.

Additionally, hired units can earn the undying gratitude of the Castilian or Umayyad people by serving in the ongoing war.

Terrain

Córdoba is a warm world, with small polar caps and large seas. The planet contains four main land masses. The Castilians hold Escorial, the Umayyads control Vilafranca, while the continents of Vichada and Calatreva remain contested.

Escorial and Calatreva are both covered with scrub woodland, while the Sierra Morena dominate the Vichadan landscape. Vilafranca is split into three regions—a southern region of open plans; a mountainous middle region that contains the Umayyad HQ at Jebel Timur; and a northern region dominated by permafrost, scrubland and a polar ice cap.

Behind the Scenes

The Castilians and Umayyads hire mercenaries through the merchant Hanseatic League, but don't realize that the Hanseatic worlds have their own designs on the Nueva Castile cluster. In fact, the Hanseatic powers have been manipulating the Castilian/Umayyad conflict for centuries, carefully ensuring that the opposing armies remain balanced, in the hope that the Castilians and Umayyads will simply wear one another out and provide an opportunity for the Hanseatic powers to step in and assume control of the cluster. Additionally, the continued fighting has proved profitable for the Hanseatic powers, which supply both sides with materiel and credit. Consequently, the Hanseatic League is perfectly willing to betray mercenaries who prove too successful and threaten to tilt the balance of power between the Castilians and the Umayyads.

The Castilian force on Córdoba consists of approximately six combined-arms regiments, including one BattleMech battalion. The battalion's 'Mechs are home-grown designs (using 3025-level technology) and designs copied from the Umayyads' Star League-era machines.

The Umayyad force consists of three combined-arms regiments, each of which contain two BattleMech companies. The companies are equipped with Star League 'Mechs.

Scattered throughout the cluster, the Castilians' total forces comprise two dozen regiments, including four BattleMech battalions. In contrast, the Umayyads' cluster-wide forces comprise 11 regiments, including three BattleMech regiments.
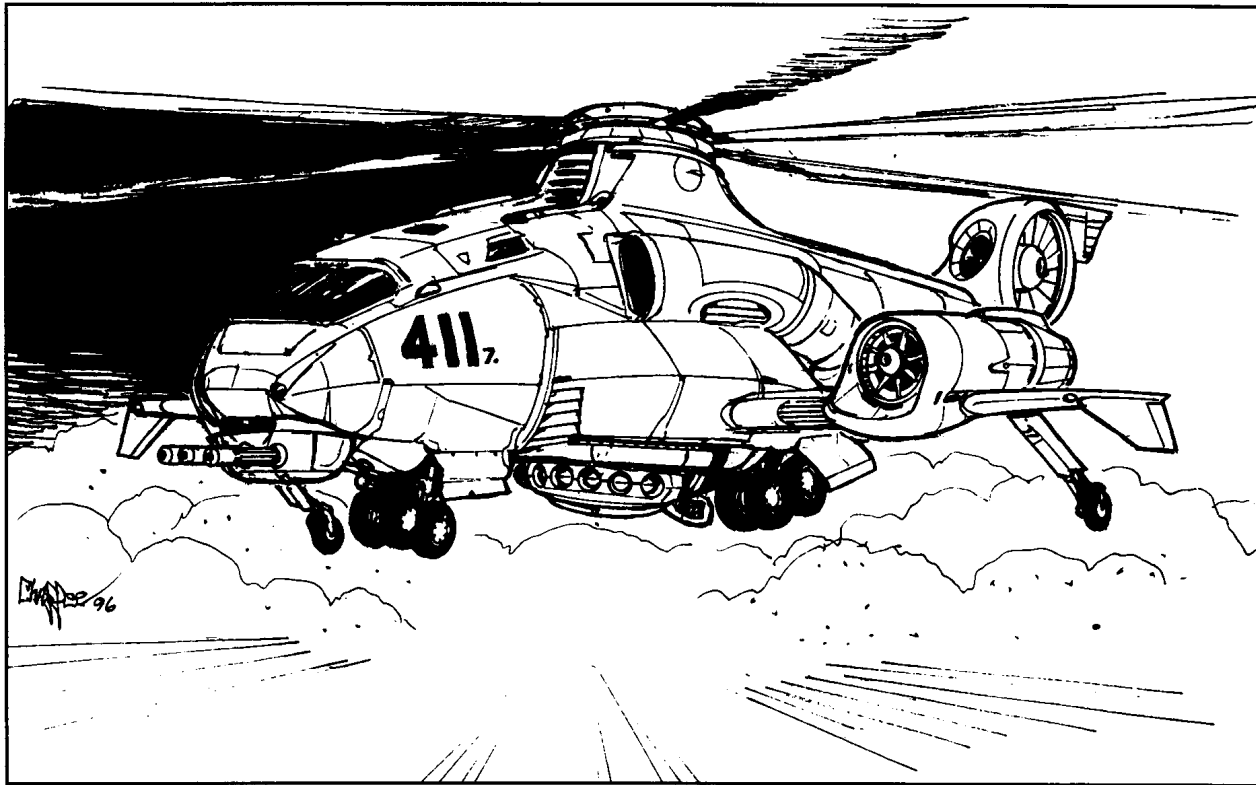
three Blankenburg Technologies medium lasers mounted in a chin turret located immediately forward of the cockpit, and a forward-firing, Artemis-equipped Magna LRM-5 system situated in a belly mount. The lasers provide the Pinto with excellent close-range firepower, while the missiles enable the Pinto to engage other units without exposing itself to medium- and short-range return fire.

A small cargo hold immediately behind the cockpit can accommodate up to five battle-armor troops. However, many Pintos use the cargo space to ferry squads of conventional infantry or additional electronics.

The Pinto can also be transported quite easily. The VTOL's rotors can be dismantled in less than five minutes, so that Pintos can be stored in conventional vehicle or cargo bays as well as in the dedicated aerospace bays required for fixed-wing aircraft and many VTOLs.

NEW VEHICLES AND VESSELS

PINTO ATTACK VTOL

Mass: 30 tons
Movement Type: VTOL
Power Plant: Robinson 160 Fuse-Pak
Cruising Speed: 108 kph
Maximum Speed: 162 kph
Armor: Krupp Draco-100 Ferro-Fibrous
Armament:
> 3 Blankenburg Technologies Medium Lasers
> 1 Magna Longbow-5 Long-Range Missile System with Artemis IV FCS

Manufacturer: Krupp Armament Works
> **Primary Factory:** Bochum, Terra

Communications System: Marshall Long-Talk
Targeting and Tracking System: GPT Multi-Track

OVERVIEW

Krupp Armament Works' Pinto first entered service in 3055 as an assault VTOL. Currently, both Com Guard and Explorer Corps forces use the swift, well-protected rotorblade craft as an attack VTOL.

CAPABILITIES

The Pinto is powered by a Robinson 160 Fuse-Pak power plant and features Krupp Armament's new Draco-100 ferrofibrous armor plating. The Pinto's striking power is provided by

DEPLOYMENT

Pintos are employed by several Com Guard divisions, most notably the 388th (White Banshees) and 82nd (Web Cutters). A number of Pintos were also deployed with the 201st Division on Terra, but these machines were destroyed along with the rest of the 201st during last year's fighting. The Explorer Corps makes extensive use of the Pinto, both as a gunship and as light utility transport.

Despite Com Guard attempts to sabotage Krupp's Bochum plant, our intelligence analysts believe that the Word of Blake is producing Pintos at the plant for its own use. In fact, several Pintos have been spotted serving with the Word of Blake Fourth Division (Blake's Boldest).

Type: **Pinto Attack VTOL**
Technology Base: Inner Sphere
Movement Type: VTOL
Tonnage: 30 tons

Equipment		Mass
Internal Structure:		3
Engine:	160	9
Type:	Fusion	
Cruising MP:	10	
Flank MP:	15	
Heat Sinks:	10	0
Control Equipment:		1.5
Lift Equipment:		3
Power Amplifier:		0
Armor Factor:	72	4
	Armor	
	Value	
Front	20	
R/L Side	18/18	
Rear	14	
Rotor	2	

Weapons and Ammo	Location	Tonnage
Medium Laser	Front	1
Medium Laser	Front	1
Medium Laser	Front	1
LRM 5	Front	2
Artemis IV FCS	Front	1
Ammo (LRM) 24	Body	1
Beagle Active Probe	Front	1.5
Cargo (Infantry)	Body	1

Cost: 2,150,000 C-bills
Combat Value: 1,261

PROWLER EXPLORER VEHICLE

Mass: 55 tons
Movement Type: Tracked (Amphibious)
Power Plant: Nissan 220
Cruising Speed: 43 kph
Maximum Speed: 65 kph
Armor: J-Seal Standard
Armament:
 2 Blankenburg Medium Pulse Lasers
 1 Snorri-10 Long-Range Missile System
 1 Guided Technologies SRM-2
Manufacturer: Mitchell Vehicles
 Primary Factory: Terra
Communications System: Wonder-Talk VI
Targeting and Tracking System: J-Peep Farsight

OVERVIEW

Predecessors of the Prowler multi-terrain vehicle first saw action in the mid-twenty-fourth century. The Prowler itself was unveiled in 2611 by Vitesse Vehicles. The popularity of the design led Vitesse to license the Prowler to other manufacturers, and today more than a dozen firms produce special-order versions of this versatile vehicle. Vitesse itself no longer produces the Prowler, preferring to concentrate on more conventional saloon cars. Consequently, Mitchell Vehicles is the only Terran firm that produces the Prowler.

CAPABILITIES

The Prowler is a sturdy, dependable design well suited for exploration. A Nissan 220 fusion plant provides the tracked Prowler with ample power to traverse rugged terrain and gives the vehicle a top speed of 65 kph. A duplex drive system and hermetically sealed hull enable the Prowler to cross rivers and swamps that would stop most conventional vehicles, but Mitchell Vehicles advises against using the Prowler on larger expanses of open water.

Though the Prowler is not designed for combat, it mounts an extensive array of weapons and ample armor for protection against natural and human threats. The Prowler's main weapon is a Snorri LRM-10 missile launcher mounted in a low turret. A pair of Blankenburg pulse lasers flank the Snorri system and lend the Prowler medium and short-range hitting power. A Guided Technologies SRM-2 launcher mounted above the driver's compartment completes the Prowler's weaponry. Additionally, four tons of J-Seal Standard armor plating virtually ensure that weapons fire and natural obstacles will do little damage to the Prowler.

Unlike most military vehicles, the Prowler does not carry a dedicated driver, gunner and commander. Instead, a suite of sophisticated sensors and automated systems enable a single driver, situated just forward of the hull turret, to control the vehicle. However, the Prowler's large cargo bay can accommodate a number of passengers and equipment and also includes a console that enables a passenger to aim and fire the vehicle's weapons.

DEPLOYMENT

Most of the Inner Sphere militaries maintain a handful of Prowlers for use in exotic terrain. However, ComStar's Explorer Corps maintains the largest fleet of Prowlers by far.

According to recent rumors, Word of Blake commanders on Terra have coerced Mitchell Vehicles into abandoning production of the Prowler in favor of several military designs for the Word of Blake forces.

Type: **Prowler Explorer Vehicle**
Technology Base: Inner Sphere
Movement Type: Tracked (Amphibious)
Tonnage: 55 tons

Equipment		Mass
Internal Structure:		5.5
Engine:	220	15
Type:	Fusion	
Cruising MP:	4	
Flank MP:	6	
Heat Sinks:	10	0
Control Equipment:		3
Amphibious Capability:		5.5
Power Amplifier:		0
Turret		1
Armor Factor:	112	7

	Armor Value
Front	25
R/L Side	23/23
Rear	18
Turret	23

Weapons and Ammo	Location	Tonnage
Medium Pulse Laser	Turret	2
Medium Pulse Laser	Turret	2
LRM 10	Turret	5
Ammo (LRM)12	Body	1
SRM 2	Front	1
Ammo (SRM) 50	Body	1
Beagle Active Probe	Body	1.5
Cargo	Body	4.5

Cost: 2,245,433 C-bills
Combat Value: 2,311

CHEVALIER LIGHT TANK

Mass: 35 tons
Movement Type: Wheeled
Power Plant: RT 190
Cruising Speed: 65 kph
Maximum Speed: 97 kph
Armor: Chobham Max-Tec
Armament:
  1 Blankenburg Extended-Range Large Laser
  2 Zone-Tone Streak-2 Short-Range Missile Launchers
Manufacturer: Millennium Industries
  Primary Factory: Azania, Terra
Communications System: Dec-10 Whisperer
Targeting and Tracking System: Blankenburg Trooper

OVERVIEW

The number of Star League-designed Chevaliers dwindled steadily during the Succession Wars. Cannibalized for their sophisticated weapons systems, Chevaliers became an increasingly rare sight on the battlefield. In fact, at the time of the Clan invasion, less than a dozen Chevaliers served among all the Successor State militaries.
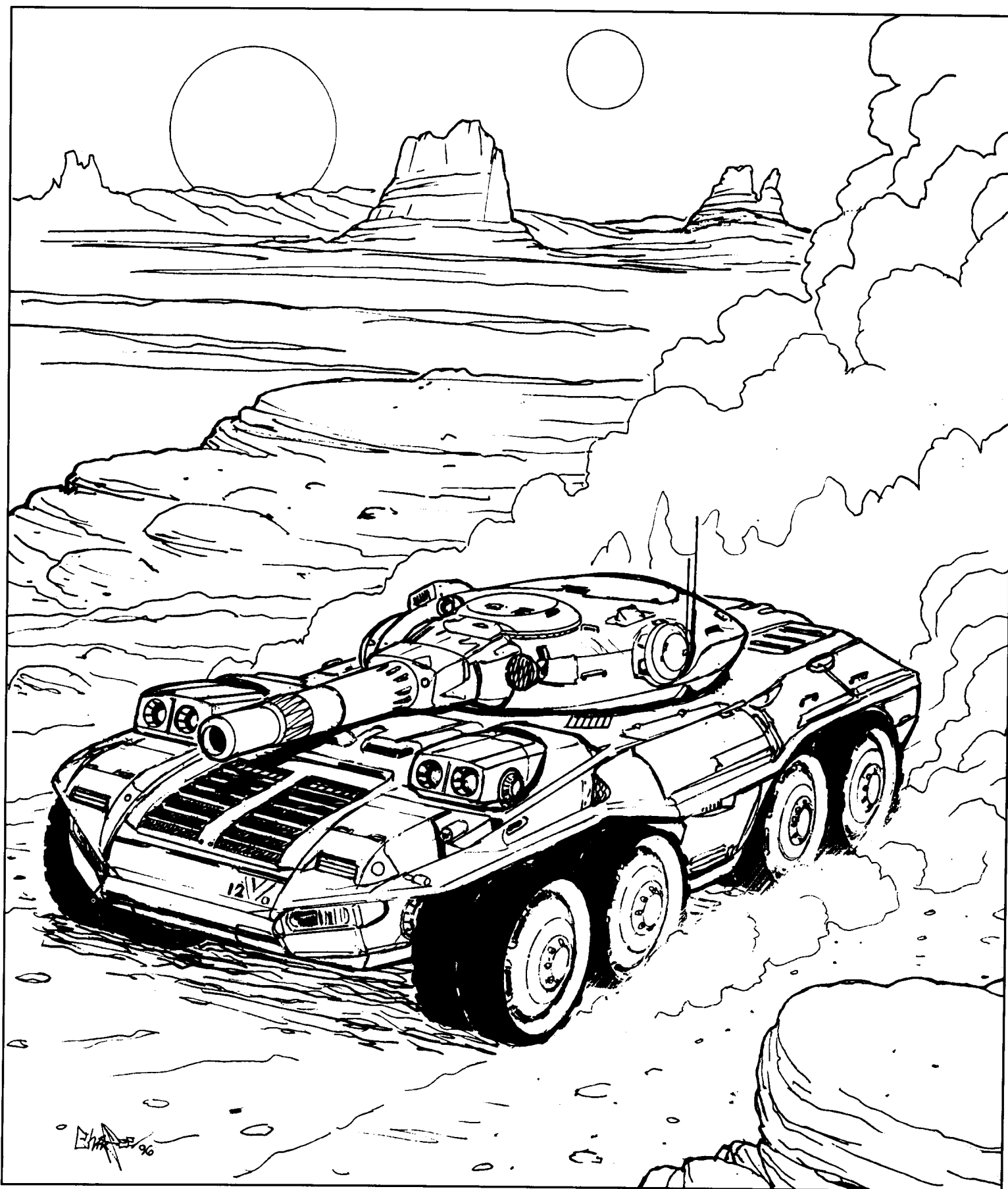
Thankfully, one manufacturer—Millennium Industries of Terra—continued to produce the Chevalier according to its original specifications. Though the armies of the Draconis Combine and Federated Commonwealth possess a few Chevaliers, most of Millennium's output was purchased by the Com Guards prior to the Word of Blake invasion of Terra.

CAPABILITIES

The Chevalier is a well-designed, versatile tank capable of performing for extended periods between maintenance and resupply stops.

The Chevalier's six and a half tons of Chobham Max-Tec armor provide it with remarkable protection for a light tank. A turret-mounted extended-range large laser serves as the tank's primary weapon, while a pair of forward-firing Streak-2 short-range missile launchers provide additional firepower within 300 meters. Though this weapon mix leaves the Chevalier with less firepower than many contemporary light-tank designs, the large laser enables the Chevalier to operate for long periods without stopping to replenish ammunition.

The Chevalier's laser and eight-wheeled locomotive system are powered by a massive RT 190 fusion plant that constitutes a third of the Chevalier's mass. The RT 190 enables the Chevalier to reach speeds of 96 kph—considerably slower than hovercraft of comparable mass, but quite respectable for a wheeled or tracked vehicle.

The main weakness in the Chevalier's design seems to be the tank's cramped crew quarters. This space contains barely enough room for the vehicle's three crew members, let alone food and other supplies.

DEPLOYMENT

Originally designed as a fast reconnaissance tank, the Chevalier has been superseded by a host of new vehicles armed with sophisticated electronics systems. However, the Com Guards continue to employ impressive numbers of Chevaliers for reconnaissance and among screening forces. Additionally, many serve with rear-echelon units, where they perform a wide variety of roles. Despite the inherent limitations of the tank's wheeled drive system, the Explorer Corps commonly uses Com Guard Chevaliers as planetary rovers and deploys them with garrison forces.

VARIANTS

A number of Chevalier variants serve with the Com Guards and Explorer Corps. Most of these versions feature less armor and increased speed or expanded weapon arrays. One variant, employed by the Com Guards' 31st Division (The Lost Boys) uses four and a half tons of armor and a single Streak launcher, and boasts a top speed of 119 kph. Another variant, used by many Explorer Corps units, carries four tons of armor, a Beagle active probe and a Sperry-Browning machine gun with half a ton of ammunition.

Type: **Chevalier Light Tank**
Technology Base: Inner Sphere
Movement Type: Wheeled
Tonnage: 35 tons

Equipment		Mass
Internal Structure:		3.5
Engine	190	11.5
Type	Fusion	
Cruising MP:	6	
Flank MP:	9	
Heat Sinks:	12	2
Control Equipment:		2
Power Amplifier:		0
Turret:		0.5
Armor Factor:	104	6.5
	Armor Value	
Front	26	
R/L Side	20/20	
Rear	16	
Turret	22	

Weapons and Ammo	Location	Tonnage
ER Large Laser	Turret	5
2 Streak SRM 2	Front	3
Ammo (Streak) 50	Body	1

Cost: 985,629 C-bills
Combat Value: 1,577

FASLANE CLASS YARD-SHIP

The *Faslane* class of yard-ships are basically JumpShips constructed around ship-repair yards. Though these vessels weigh only 550,000 tons, they reach almost three times the length of a Clan *Whirlwind* class destroyer.

Based on the Star League *Newgrange* class, six *Faslanes* were constructed by the Com Guards between 2882 and 2949. At least two of those vessels, the *Rosslare* and the *Glamorgan*, have been dispatched to the Periphery to aid Explorer Corps operations. The remaining *Faslanes* are docked at the Luyten 68-28 and Ross 248 holding facilities. One of these, the *Plymouth*, is believed to contain the *Manchester*, the second prototype of the *Suffren* class destroyer. The Com Guards take great care to protect these ships from marauding pirates and to conceal them from the Clans.

Though nominally non-combat vessels, *Faslanes* carry respectable arrays of weapons and defensive systems. Every *Faslane* features anti-fighter lasers and LRM launchers, medium naval PPCs and autocannons. Each *Faslane* also mounts 100 tons of ferro-aluminum armor, though this armor is primarily designed to protect the ships against accidental collisions rather than weapons fire.
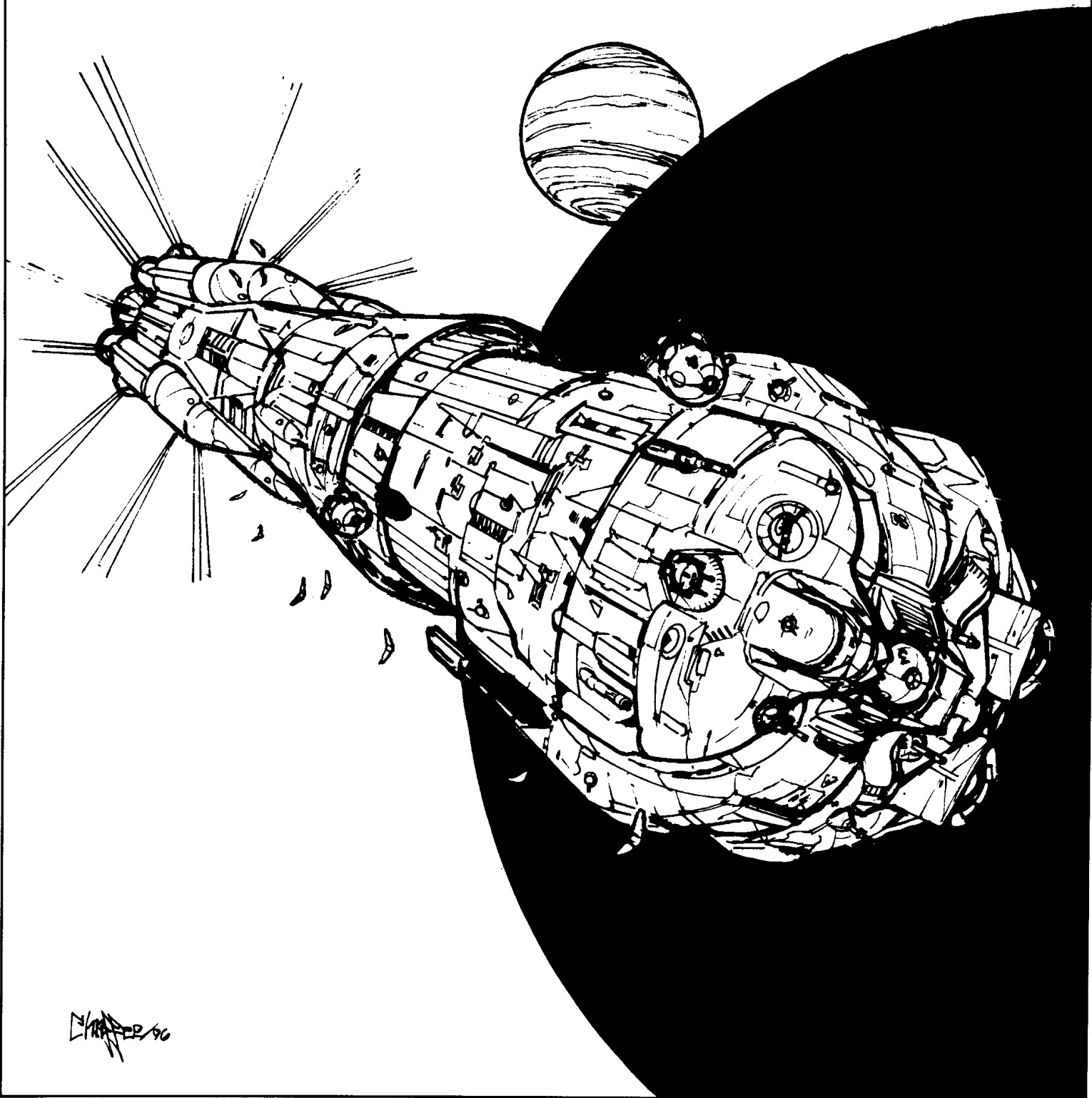
Tech: Star League
Introduced: 2882
Mass: 550,000 tons
Length: 1,810 meters
Sail Diameter: 920 meters
Fuel: 1,000 tons (500)
Tons/Burn Day: 39.52
Safe Thrust: 2
Maximum Thrust: 3
Sail Integrity: 4
K-F Drive Integrity: 12
Heat Sinks: 817
Structural Integrity: 30

Armor
> **Fore:** 16
> **Fore-Sides:** 12
> **Aft-Sides:** 9
> **Aft:** 8

Armament:
> 32 Extended-Range Large Lasers
> 16 LRM 20s with Artemis FCS
> 2 NAC/10s
> 2 NAC/20s
> 8 Medium NPPCs
> 32 tons LRM ammunition
> 40 tons NAC/10 ammunition
> 40 tons NAC/20 ammunition

Weapons			Range Values				
Arc	**Type**	**Heat**	**S**	**M**	**L**	**Extreme**	**FTR**
Nose	LRM	12	3	3	3	0	Y
Nose	Laser	48	3	3	3	0	Y
Nose	NPPC	135	9	9	9	9	
Nose	NAC	30	10	10	10	0	
FL	LRM	12	3	3	3	0	Y
FL	Laser	48	3	3	3	0	Y
FL	NPPC	135	9	9	9	9	
FR	LRM	12	3	3	3	0	Y
FR	Laser	48	3	3	3	0	Y
FR	NPPC	135	9	9	9	9	
LBS	LRM	12	3	3	3	0	Y
LBS	Laser	48	3	3	3	0	Y
LBS	NPPC	135	9	9	9	9	
LBS	NAC	60	20	20	20	0	
RBS	LRM	12	3	3	3	0	Y
RBS	Laser	48	3	3	3	0	Y
RBS	NPPC	135	9	9	9	9	
RBS	NAC	60	20	20	20	0	
AL	LRM	12	3	3	3	0	Y
AL	Laser	48	3	3	3	0	Y
AL	NPPC	135	9	9	9	9	
AR	LRM	12	3	3	3	0	Y
AR	Laser	48	3	3	3	0	Y
AR	NPPC	135	9	9	9	9	
Aft	LRM	12	3	3	3	0	Y
Aft	Laser	48	3	3	3	0	Y
Aft	NPPC	135	9	9	9	9	
Aft	NAC	30	10	10	10	0	

Cargo:
> Bay 1: 2 Small Craft — 2 Doors
> Bay 2: Cargo (137,405 tons) — 2 Doors
> Bay 3: Unpressurized Repair Bay
> (Capacity: 2,000,000 tons) — 1 Door

DropShip Capacity: 2
Grav Deck: 2 (both 110-meter)
Escape Pods: 10
Life Boats: 10
Crew: 132
Passengers: 100

Notes: The *Faslane* has ferro-aluminum armor, and a repair bay that masses 50,000 tons. See **Mobile Yards,** p. 92, for repair bay rules.

CARRACK CLASS TRANSPORT

Based on the Star League-era transport ship of the same name, the modern Clan *Carrack* military transport first entered service a little more than 100 years ago. However, ComStar analysts have been unable to determine how many of the *Carracks* currently in service are upgraded Star League vessels and how many are new Clan-built ships.

Carracks serve with all the Clans, but the merchant castes of Clans Diamond Shark and Nova Cat seem to possess the largest numbers of these vessels. These two Clans commonly use *Carracks* in their Deep Periphery and Occupation Zone trading operations, particularly in potentially troublesome areas such as the Hanseatic League. (Clan Ghost Bear's recent fleet movements also included that Clan's small fleet of *Carracks*, which implies that the Ghost Bear convoy was transporting cargo of considerable value. However, ComStar intelligence agents have been unable to determine the nature of that cargo.)

Based on information gathered after the Wayside V operation, ComStar analysts have concluded that the Clan *Carrack* differs little from the original Star League design. Unlike most Clan re-designed and upgraded jump vessels, the *Carrack* is not equipped with a lithium-fusion battery or advanced armor. However, the Clan *Carrack* does feature hull-sealant technology.

The *Carrack's* massive cargo hold occupies an area amidships. The cargo hold surrounds the vessel's compact K-F drive core and is flanked, in turn, by two small-craft bays. Most frequently, these bays house a pair of aerospace fighters and a pair of shuttlecraft, but the exact composition of the small-craft complement appears to depend on each individual vessel's captain.
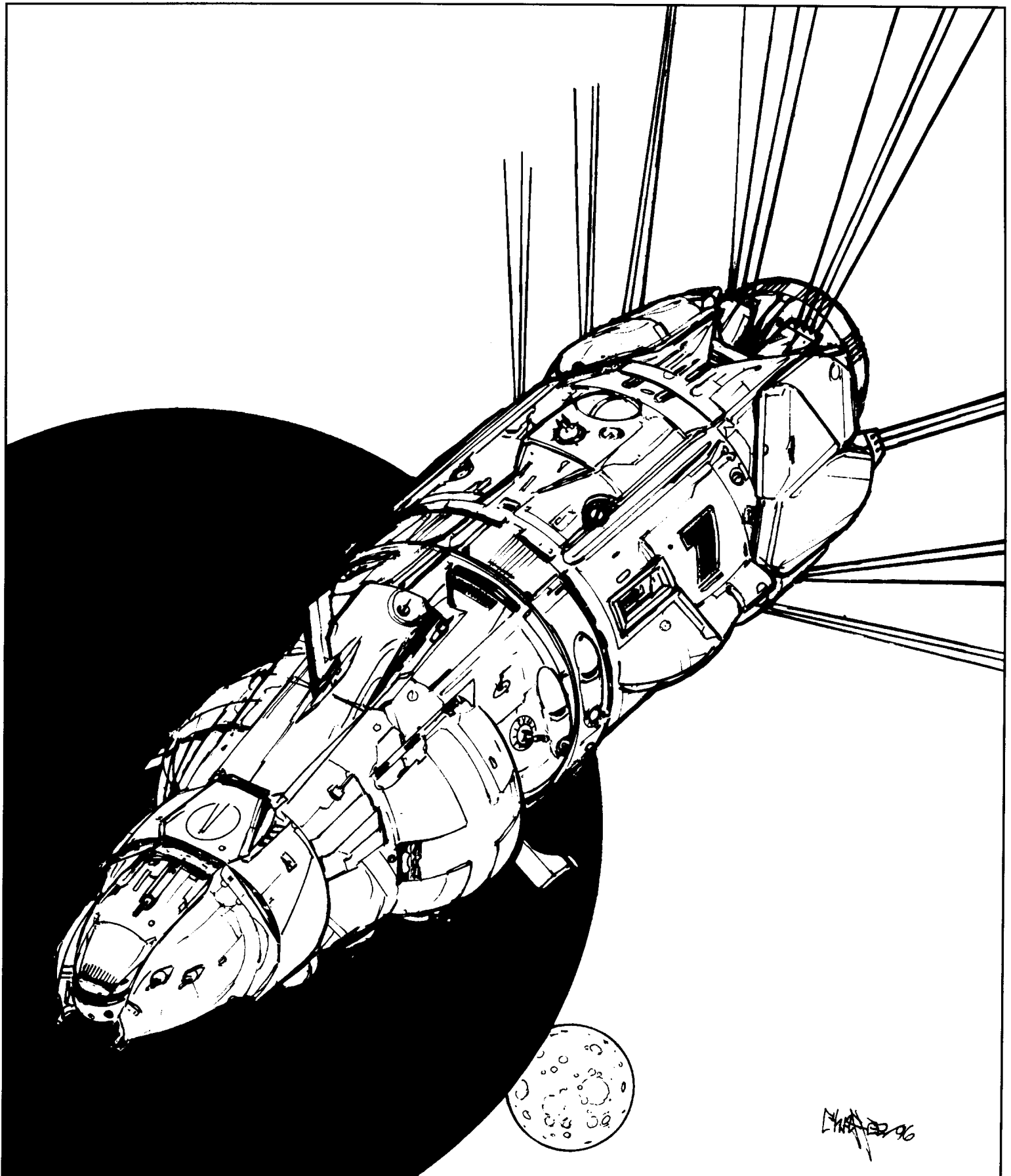
Tech: Clan
Introduced: 2950
Mass: 300,000 tons
Length: 830 meters
Sail Diameter: 880 meters
Fuel: 2,000 tons (1,000)
Tons/Burn Day: 39.52
Safe Thrust: 3
Maximum Thrust: 5
Sail Integrity: 3
KF Drive Integrity: 7
Heat Sinks: 747 (1,494)
Structural Integrity: 15

Armor
Fore: 10
Fore-Sides: 8
Aft-Sides: 6
Aft: 9

Armament:
32 Large Pulse Lasers
16 Extended-Range Large Lasers
32 Anti-Missile Systems
5 NAC/10s
2 NAC/20s
16 Naval Laser 35s
1,000 tons AMS ammunition
200 tons NAC/10 ammunition
200 tons NAC/20 ammunition

Weapons

Arc	Type	Heat	S	M	L	Extreme	FTR
Nose	Laser	24	2	2	2	2	Y
Nose	Point	4	2	0	0	0	Y
Nose	Pulse	40	4	4	4	0	Y
Nose	NLas	104	7	7	7	0	
Nose	NAC	60	20	20	20	0	
FL	Laser	24	2	2	2	2	Y
FL	Point	4	2	0	0	0	Y
FL	Pulse	40	4	4	4	0	Y
FL	NLas	104	7	7	7	0	
FL	NAC	30	10	10	10	0	
FR	Laser	24	2	2	2	2	Y
FR	Point	4	2	0	0	0	Y
FR	Pulse	40	4	4	4	0	Y
FR	NLas	104	7	7	7	0	
FR	NAC	30	10	10	10	0	
LBS	Laser	24	2	2	2	2	Y
LBS	Point	4	2	0	0	0	Y
LBS	Pulse	40	4	4	4	0	Y
LBS	NLas	104	7	7	7	0	
LBS	NAC	60	20	20	20	0	
RBS	Laser	24	2	2	2	2	Y
RBS	Point	4	2	0	0	0	Y
RBS	Pulse	40	4	4	4	0	Y
RBS	NLas	104	7	7	7	0	
RBS	NAC	60	20	20	20	0	
AL	Laser	24	2	2	2	2	Y
AL	Point	4	2	0	0	0	Y
AL	Pulse	40	4	4	4	0	Y
AL	NLas	104	7	7	7	0	
AL	NAC	30	10	10	10	0	
AR	Laser	24	2	2	2	2	Y
AR	Point	4	2	0	0	0	Y
AR	Pulse	40	4	4	4	0	Y
AR	NLas	104	7	7	7	0	
AR	NAC	30	10	10	10	0	
Aft	Laser	24	2	2	2	2	Y
Aft	Point	4	2	0	0	0	Y
Aft	Pulse	40	4	4	4	0	Y
Aft	NLas	104	7	7	7	0	
Aft	NAC	30	10	10	10	0	

Cargo:
Bay 1: 2 Small Craft — 2 Doors
Bay 2: Cargo (71,411 tons) — 10 Doors
Bay 3: 2 Small Craft — 2 Doors

DropShip Capacity: 2
Grav Deck: 1 (98-meter)
Escape Pods: 4
Life Boats: 4
Crew: 43

ADVENTURES BEYOND THE FRONTIER...

A hundred years ago, Primus Adrienne Sims of ComStar suffered nightmare visions of a dire threat to ComStar and the Successor States—hordes of strange monsters from beyond known space, invading the Inner Sphere to destroy it. These visions so troubled the Primus that she created the Explorer Corps, a division of ComStar dedicated to probing the Deep Periphery, to hunt down the threat she had foreseen.

A century later, the Clan invasion made the nightmare come true—and gave the Explorer Corps a vital role in the Inner Sphere's survival. With the backing of the Draconis Combine, the Explorer Corps has expanded its operations and embarked on a massive hunt for the Clan homeworlds. Small mercenary units from all over the Inner Sphere are joining the search, hired by the Explorer Corps for secret missions into the Deep Periphery—missions from which few return ...

The *Explorer Corps* sourcebook describes the Explorer Corps' history and structure, including key personalities, operational procedures, and the Corps' efforts to locate the Clan homeworlds before the Truce of Tukayyid expires. Also included is background material on life aboard a 31st-century spacecraft and descriptions of various colonies and Clan bases in the Deep Periphery and other inhabitants of that little-known region of space. Special game rules for *BattleTech*, *MechWarrior* and *BattleSpace* are designed to enhance campaigns involving space travel or planetary exploration; new material includes rules for creating new solar systems and planets to explore, as well as new types of vehicles and 'Mechs.

FOR USE WITH BATTLETECH BATTLESPACE & MECHWARRIOR

EQUIPMENT DECK

DECK 1

DECK 2

DECK 3a

DECK 3

DECK 4

'MECH CUBICLE

DECK 5

RAMP

LANDING GEAR

DECK 6

FLIGHT CONTROL
AND CREW QUARTER

UPPER BAY

LOWER 'MECH BAY

ENGINEERING

LOADING DOOR

FUEL TANKAGE

FUSION DRIVE

SUBDECK A

DECK 1 (BRIDGE)

CREW QUARTERS

METEOR DEFENSE
SYSTEM

DECK 2

DECK 3

SMALL CRAFT BAY

DECK 4

DECK 5

SUBDECK B

HYDROPONICS

DECK 6

GRAV
DECK

ELECTRICAL AND POWER

DECK 7

STORAGE

DECK 8

ENGINE CORE

DOCKING COLLAR

DECK 9

STORAGE

DECK 10

DOCKING COLLAR

DECK 11

STORAGE

DECK 12

DECK 13

FUEL

DECK 14

EQUIPMENT DECK

DECK 1

DECK 2

DECK 3a

DECK 3

FLIGHT CONTROL
AND CREW QUARTER

UPPER BAY

DECK 4

'MECH CUBICLE

LOWER 'MECH BAY

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DOCKING COLLAR

DECK 11

STORAGE

DECK 12

DECK 13

FUEL

DECK 14