35022

TECHNICAL™ READOUT:

VEHICLE

ANNEX

TABLE OF CONTENTS

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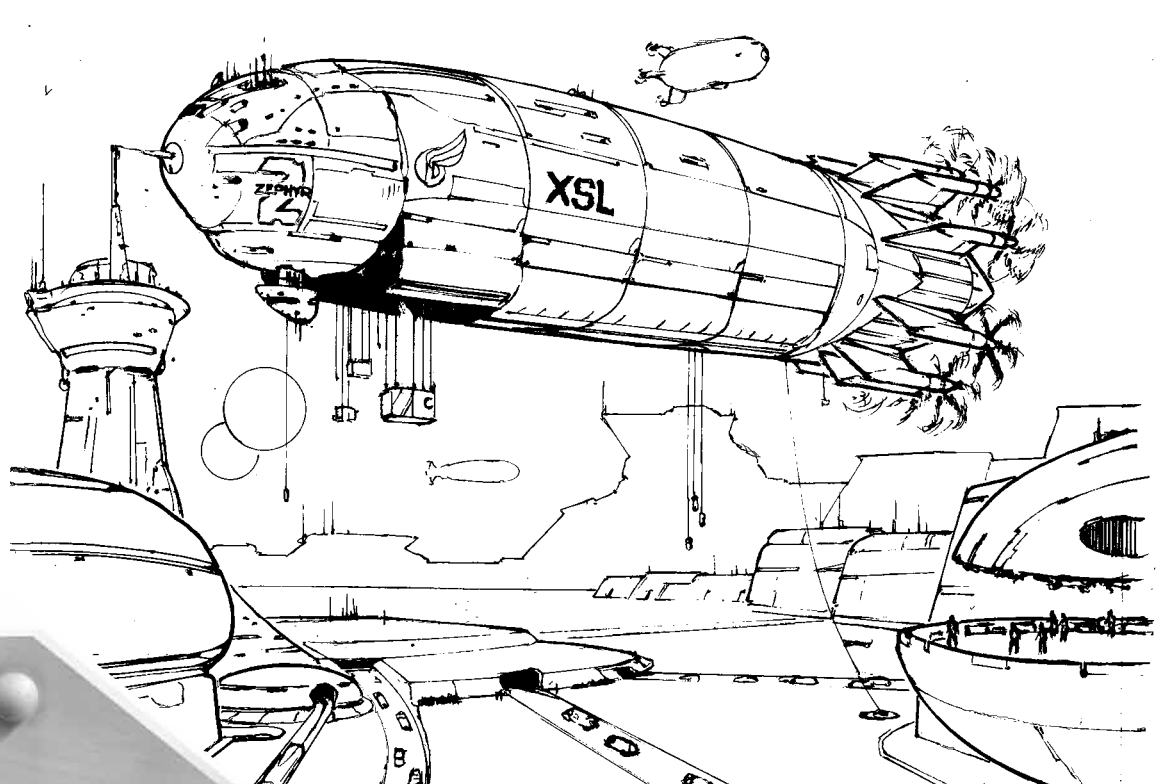

INTRODUCTION

INCOMING MESSAGE

SEND

SAVE

CANCEL

DELETE

IRTECH INTERNAL DOCUMENT
ATTENTION: CHRIS BLOCHER
DATE: 1 December 3070

The follow document has been prepared in accordance with the divisional reorganization and operations directive memorandum of 14 February 3070. Though the project originated under CEO Sigmund Hughes (I have left each section relatively in tact from those origins, providing you with some insight into your divisional heads), this painstakingly researched and compiled document will prove invaluable. As such, I felt it beneficial to use my prerogative to have the compiled electronic document printed for internal IrTech use only.

Per the directives, each section was originally compiled by the specific individuals named within the aforementioned memorandum. Additionally, instead of a synthesis of information regurgitated by a single hand (or committee of hands), each section has been drawn from a wide variety of sources. While slightly filtered, the information has generally been left in the original form in which it first appeared.

Each section attempts to cover as large a swath of exemplar, potentially profitable, merchandise/markets as possible. While IrTech is already operating within the sphere of influence of several of the types of craft noted within the document, many are completely outside the purview of IrTech or any of its subsidiaries, per the directives.

By its nature, this document covers a mere fraction of a fraction of the myriad craft operating throughout the Inner Sphere, Periphery and beyond. It does, however, present a holistic slice of various craft, providing our analysts with enough key information to initiate the critical plans as outlined in the directive memorandum.

If I can be of any further assistance during this continued transitional period, you have only to ask.

—Lucy Tsagarides
Chief Operating Officer
Irian Media Interstellar (Charybdis Publishing)

GAME RULES

The units within this *Technical Readout* were constructed using the Support Vehicle construction rules found either in *Classic BattleTech TechManual* and/or *Combat Equipment*.

INCOMING MESSAGE

SEND

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Mass

The Mass of various Support Vehicle is presented in kilograms (kg) or in metric tons. If the numerical values in a Mass column of an entry do not include a "kg" indicator, then the numbers represent weights measured in tons.

Equipment Rating

The Equipment Rating of a Support Vehicle is comprised of three different values: Tech Level, Availability, and Legality, as detailed below.

Tech Level: The Tech Level of a unit represents the basic level of technology and industry required to produce a vehicle. For Support Vehicles, this represents an extreme range, from pre-industrial bicycles to advanced technologies, such as satellites.

Availability: Availability represents supply and demand—how easy or difficult it is to acquire a particular Support Vehicle. To make this as useful as possible, regardless of which time period is used, Availability Ratings for three eras are provided: the first ranges from the Age of War to the fall of the first Star League (up to 2800), the second encompasses the Succession War period through the start of the Clan Invasion (2800 to 3050), and the final era covers the Clan Invasion through the present (3051 onwards).

The Clans always use the first (Star League era) Availability Rating unless this is X (Not Available), in which case they use the third Availability Rating.

Legality: Operating a vehicle can require more than just climbing behind the wheel. Operator and/or vehicle certification is often necessary. Safety regulations for the transport of passengers or sensitive materials can require special licenses. Private ownership of armed vehicles may be tightly controlled.

SUPPORT VEHICLE EQUIPMENT RATINGS TABLE

Letter Code	Tech Level	Availability	Legality
A	Primitive Technology	Very Common	Unrestricted
B	Low: Industrial Revolution	Common	Monitored: i.e. driving test required
C	Medium: Twenty-first to Twenty-second Century	Uncommon	Licensed: operating heavy goods vehicle or passenger transport
D	High: Age of War, Succession Wars	Rare	Controlled: fission powered
E	Advanced: Star League	Very Rare	Restricted: military equipment
F	Hyper-advanced: Clan	Unique	Highly Restricted
X	N/A	Not available	N/A

WHEELED SUPPORT VEHICLES

After an initial upswing in the market in the decade following the Truce of Tukayyid, the market for civilian vehicles has proven disappointingly soft. The problem is that all the major players spotted the opportunities a kilometer away and were quick to jump on the bandwagon. Let's face it, you don't exactly need the kind of infrastructure required to build BattleMechs in order to put together civilian ground vehicles. Some small operators have been able to differentiate their product lines by offering unique features or establish themselves in niche markets. But for us it is different. Amongst the big time operators, competition has been fierce and our margins have taken a real hammering as a result. Added to that, the current uncertain economic climate is making people more cautious. Cautious people don't go out and buy themselves a new roadster. Instead they start putting off their purchase until next year. . .maybe. All of which means that sales volumes are also down. Unless we can find a way to stimulate the market (perhaps something like the big promotional deal we ran at back in '64—see attached), we are going to have to find a way of cutting the ground out from under the competition.

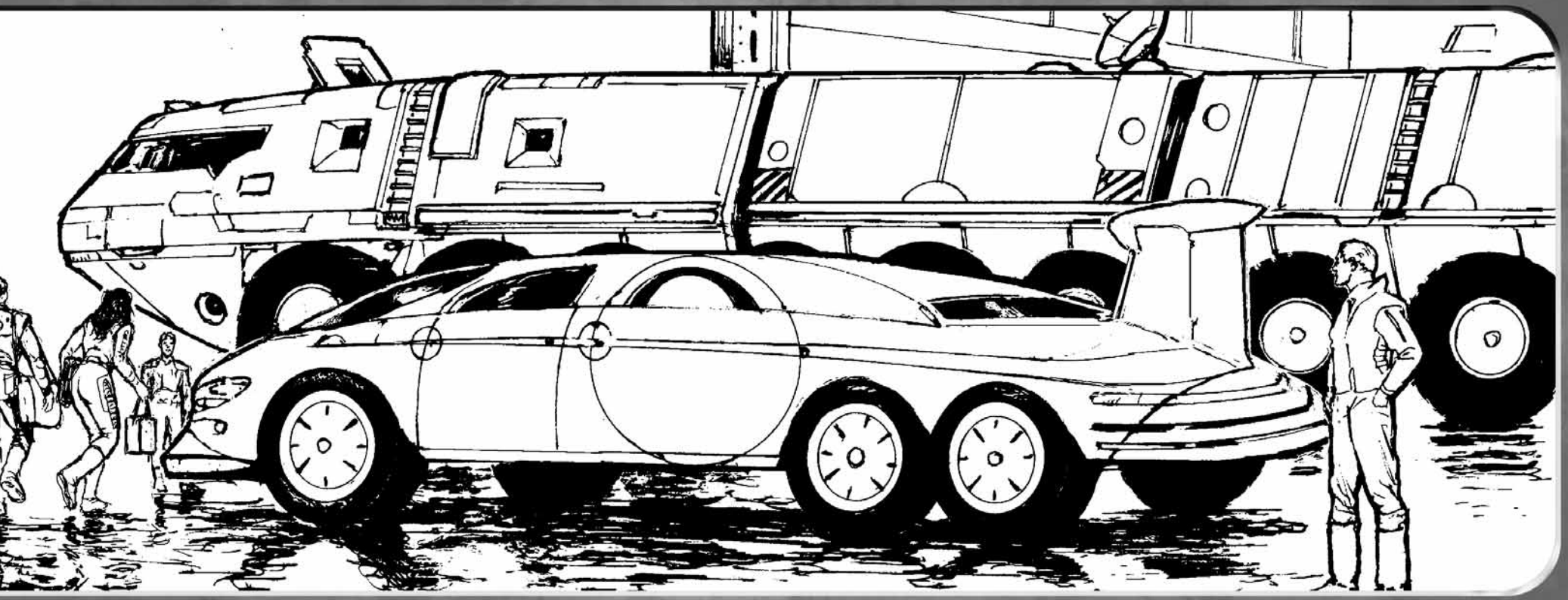
Of course, if the Blakists fortuitously just happened to target a few of our competitors, then all our troubles would be over.

—Marco Grossburger, CEO Earthwerks Inc. (Civilian Vehicle Division)

Welcome once again to the Atreus Motor Show! To coincide with the third Star League Conference on Marik, this year's show has a truly international flavor. Exhibitors from across the Inner Sphere have come to show off their latest designs. Whether you are after a flashy monobike, the latest in cool road cruisers, or just real heavy industrial equipment, you can find it all under one roof here at the Albert Marik Exhibition Center.

The Wheel! Probably the most important invention (excluding the perscomp) ever! United with the magic of the internal combustion engine, it created a new and exciting lifestyle for our ancestors! Today we can share that same revolutionary experience in the driver's seat of a sleek Scion-Nissaki Hyperion. Why not come see for yourself?

—Atreus Motor Show '64 Promotional Flyer



PRAIRIE SCHOONER LAND TRAIN

On many worlds without well-established rail or air networks, ground transportation of goods is the only practical option. While city- and road-bound vehicles often favor compactness, those designed for long-haul journeys, often thousands of kilometers, find that maximizing the load carried by a single vehicle is the easiest option. The concept of land trains is not a new one—the first small scale examples date back a thousand years or more—but in the last two decades new generations of such vehicles have come to market, driven by the scientific discoveries from the Helm memory core and its like.

The Prairie Schooner is one such land train, designed by Johnston Industries of New Syrtis and employing manufacturing techniques rediscovered by the NAIS. A standout feature of the ninety-ton tractor module is its massive fusion plant that not only provides power for the tractor but also the numerous thirty-ton trailer modules. The Prairie Schooner doesn't always operate with such secondary elements—it has a credible cargo hold in the main body alone—but the ability to add up to three trailers greatly increases the amount and type of cargo that can be carried. By default each of the modules is a "warm hold" for general goods, but refrigerated, liquid storage, animal, and even passenger variants are available.

Unlike similar designs such as the larger Hector, the Schooner's fusion plant gives it an effectively unlimited range, albeit at a significant cost premium. The heavy suspension and chunky tires allow the vehicle to travel over most terrains with ease, particularly important on worlds without an established road network. On-board quarters in the tractor allow the transportation of a second crew, allowing the vehicle to travel with minimal disruptions. Those Schooners that will be towing passenger modules often add a kitchen to the tractor module and carry the additional cooks and waitstaff needed to operate it.

Most Prairie Schooners are unarmed, but on worlds with significant predators (including those of the human variety) examples may feature weapon blisters, operated remotely from the cockpit and which contain SMGs and other light weapons. Even where such modifications have not been installed the land train is well protected against damage, whether it be from bumps and scrapes or some form of attack, with several tons of light armor composites. As part of its off-road configuration, the *Schooner* features proprietary self-righting technologies that allow the vehicle to regain its wheels in all but the most damaging of accidents.

The price tag of a complete land train—roughly half a million C-bills—puts the Prairie Schooner outside the price bracket of many haulage operators who instead opt for petrochemical-powered designs. Nonetheless, the Prairie Schooner has established itself as the workhorse of many worlds in the Capellan March, providing a never-ending link between widely scattered communities.

Type: **Prairie Schooner**
Chassis Type: Wheeled (Large)
Mass: 90 tons
Equipment Rating: E/X-X-D/C

Equipment			**Mass**
Chassis/Controls:			25
Engine/Trans:	Fusion		20.5
Cruise MP:	4		
Flank MP:	6		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 6):	184		6.5
	Internal Structure	*Armor Value*	
Front	9	34	
Front R/L Side	9	30/30	
Rear R/L Side	9	30/30	
Rear	9	30	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo:
17 tons standard — 1 Door (Rear)

Notes: Features Tractor and Off-road Chassis and Controls Modification, 3 crew quarters (21 tons)

Type: **Prairie Schooner Module**
Chassis Type: Wheeled (Medium)
Mass: 30 tons
Equipment Rating: E/X-X-D/C

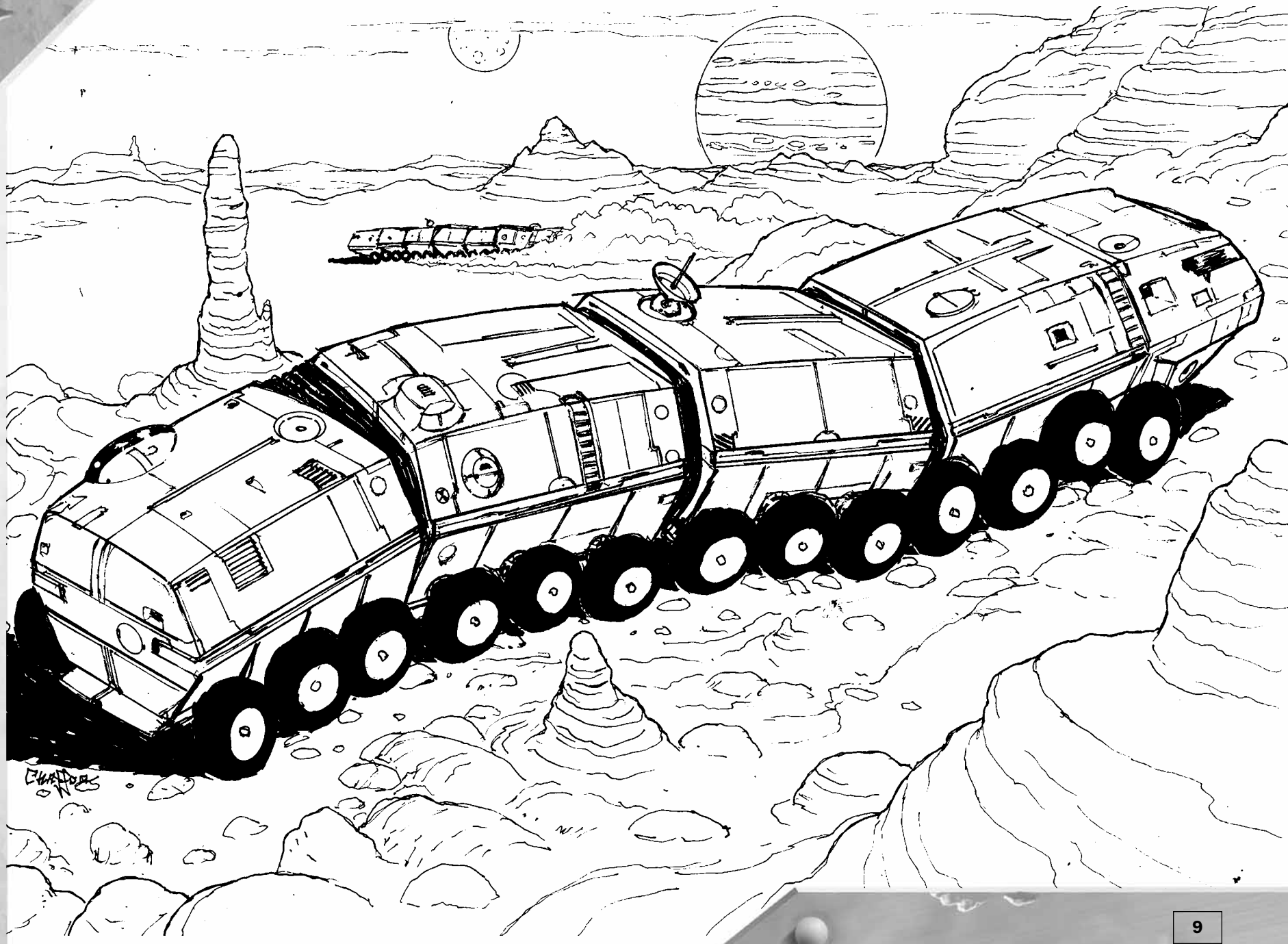
Equipment			**Mass**
Chassis/Controls:			5
Engine/Trans:			0
Cruise MP:	N/A		
Flank MP:	N/A		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 6):	62		2.5
	Internal Structure	*Armor Value*	
Front	3	22	
R/L Side	3	15/15	
Rear	3	10	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 0
Cargo:
22.5 tons standard — 2 Doors (Right/Left)

Notes: Features Tractor, Trailer and Off-road Chassis and Controls Modifications

PRAIRIE SCHOONER LAND TRAIN



LESSEPS / BRUNEL DUMP TRUCKS

A network of companies employing a wide variety of vehicles and equipment feeds the insatiable hunger of the Inner Sphere's industrial base. Earthmovers and transports are legion. Sometimes both functions are combined in a single vehicle. Iron, aluminum, germanium, uranium, and titanium—the ore bearing these metals is bulky and moving it is a task for some of the largest ground vehicles in common usage.

Produced at numerous sites across the Inner Sphere by the mammoth Earthwerks Corporation, the Lesseps Dump Truck is typical of the kind of vehicle used at mines and on construction sites. While battery-powered vehicles suffer from a number of issues that restrict their usage, this method of powering a vehicle works well when it is tied to a specific location. The Lesseps can operate on a full charge for over twenty-four hours, and batteries can be swapped out for charged units in a matter of minutes. Equipped with all-wheel drive and a rugged suspension, the vehicle can negotiate rough terrain commonly found in the locations where it is employed. While nobody would call it fast, the *Lesseps* can transport about seventy tons at over twenty kph.

In the late thirtieth century Earthwerks was plagued with complaints of the Lesseps spontaneously bursting into flames. A thorough investigation finally traced the problem to the vehicle's battery packs. Manufactured in the Capellan Confederation by a subcontractor, the faulty packs were prone to overheating. The original specifications had been correct, but after cheaper materials were introduced in an ill-conceived effort to improve profit margins, the units became dangerously unstable after prolonged use. Earthwerks moved quickly to replace all faulty battery units, but a number of competitors managed to take advantage of the bad press the incident created.

A product of Achernar Heavy Industries, the Brunel Dump Truck is a massive vehicle. Able to transport over two hundred tons of material, the colossal weight is spread over three axles mounted on off-road suspension. Running on a more conventional petrochemical-burning power plant, the Brunel has a similar performance envelope to the Lesseps.

First built for Basantapur Fine Metals to support massive strip-mining operations at their germanium mine on Colorado, the Brunel has been gaining favor with other similar companies (some of whom were becoming weary of dealing with burning Earthwerks products). Although more expensive than smaller designs, the Brunel can quickly pay for itself through the economies of scale it provides. Amusingly, one of the reasons for the Brunel's popularity is that it is relatively small compared to the largest dump trucks, and can thus be transported intact between strip-mining operations (rather than in several hundred-ton sections).

On some worlds of the Inner Sphere a curious subculture has grown up around these massive vehicles. Sporting colorful paint schemes and heavily modified (defiantly invalidating the manufacturer's warranty), these vehicles are pitted against each other in contests of speed, pulling power, and endurance.

Type: **Lesseps Dump Truck**
Chassis Type: Wheeled (Medium)
Mass: 50 tons
Equipment Rating: D/B-C-B/C

Equipment			**Mass**
Chassis/Controls:			11.5
Engine/Trans:	Electric (Fuel Cell)		6
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:	1,333 km		4
Turret:			0
Armor Factor (BAR 5):	78		2.5
	Internal Structure	*Armor Value*	
Front	5	28	
R/L Side	5	19/19	
Rear	5	12	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
20 tons standard (Dumper)

Notes: Features Off-road Chassis and Controls Modification, backhoe (5 tons, Front), dumper mechanism (1 ton, body)

Type: **Brunel Dump Truck**
Chassis Type: Wheeled (Heavy)
Mass: 150 tons
Equipment Rating: D/B-C-B/B

Equipment			**Mass**
Chassis/Controls:			40.5
Engine/Trans:	ICE		44
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:	909 km (Petrochemical)		4
Turret:			0
Armor Factor (BAR 6):	83		4
	Internal Structure	*Armor Value*	
Front	15	21	
Front R/L Side	15	13/13	
Rear R/L Side	15	13/13	
Rear	15	10	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
54.5 tons standard (dumper)

Notes: Features Off-road Chassis and Controls Modification, dump mechanism (3 tons, Body)

LESSEPS / BRUNEL DUMP TRUCKS

SATURNUS V / DURANDEL-BRITISH

In some form or another, racing cars—drag, stock, endurance, demolition, among others—have held man's fascination since Karl Benz puttered his gas-powered tricycle around the Neckar Valley. By far the most thrilling spectacle to watch in the Inner Sphere—and as rumor has it, among the laborer caste in the Wolf and Bear Occupation Zones—is the Grande Circuit Challenge Series held yearly on New Earth.

Saturnus racer models have been the ride of the winners of the past eight Grande Circuits, including Rhiannon Powers' record breaking win in 3064 where she set a benchmark of sixteen hours, twenty minutes on the three-thousand-kilometer course. Powered by a Sprague & Charles 950 gas turbine engine, the current model of this durable design can achieve speeds close to 230kph on the Skyway leg of the Circuit.

Because of the tremendous speeds and some of the treacherous terrain that the Circuit covers, each vehicle involved in the Grande Circuit is required to have an ejector system as an added safety precaution, along with a reinforced body and crash panels. The Saturnus V series uses the same sensor circuitry and bio-monitoring suites in its ejection seats that are used in Earthwerks Ltd.'s 'Mech cockpits.

High performance vehicles aren't just found in pro and amateur racing, however. Almost every world in the known Sphere sports high-end, high-performance sports cars, such as the Avanti Starfire, the Hughes-McCandless Streak, and the Scion-Nissaki Hyperion. The average citizen couldn't readily afford such quality vehicles until Durandel-British unveiled their Blue Nova convertible for the 3067 model year. Priced almost twenty percent less than the Starfire, the Blue Nova achieves some of its savings with a re-engineered 2750-model Outworlds Motors utility vehicle engine, which is mated to a carefully engineered exhaust system that provides a convincing aural illusion of a powerful engine. In fact, the Blue Nova is notoriously underpowered.

"The everyman's sportster" (as the *Thorin Consumer's Review* called it) comes in a wide array of colors, the most popular being the shimmer style, where two opposite colors are blended with polymers so that when people look at the car from different angles, different colors appear. While the standard coupe is a hardtop, for only a few bills more the buyer can have a convertible top installed along with the optional leather interior.

The fully loaded version—with ragtop, interior, trivid system and nitrous injectors—still comes in slightly less than the basic Hyperion. Consumers may want to wait at least a year for the furor to die down and availability to go up before indulging their inner wild child.

Type: **Saturnus V Grande Circuit Racer**
Chassis Type: Wheeled (Small)
Mass: 1,500 kg
Equipment Rating: D/X-X-D/C

Equipment		**Mass**
Chassis/Controls:		90 kg
Engine/Trans:	ICE	974 kg
Cruise MP:	13	
Flank MP:	20	
Heat Sinks:	0	0 kg
Fuel:	402 km (Alcohol)	49 kg
Turret:		0 kg
Armor Factor (BAR 6):	6	228 kg
	Internal Structure	*Armor Value*
Front	1	2
R/L Side	1	1/1
Rear	1	2

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
59 kg standard 1 Door (Rear)

Notes: Features Ultra-light Chassis and Controls Modification, driver ejection seat (100 kg)

Type: **Durandel-British "Blue Nova" Convertible**
Chassis Type: Wheeled (Small)
Mass: 1,500 kg
Equipment Rating: B/X-X-D/B

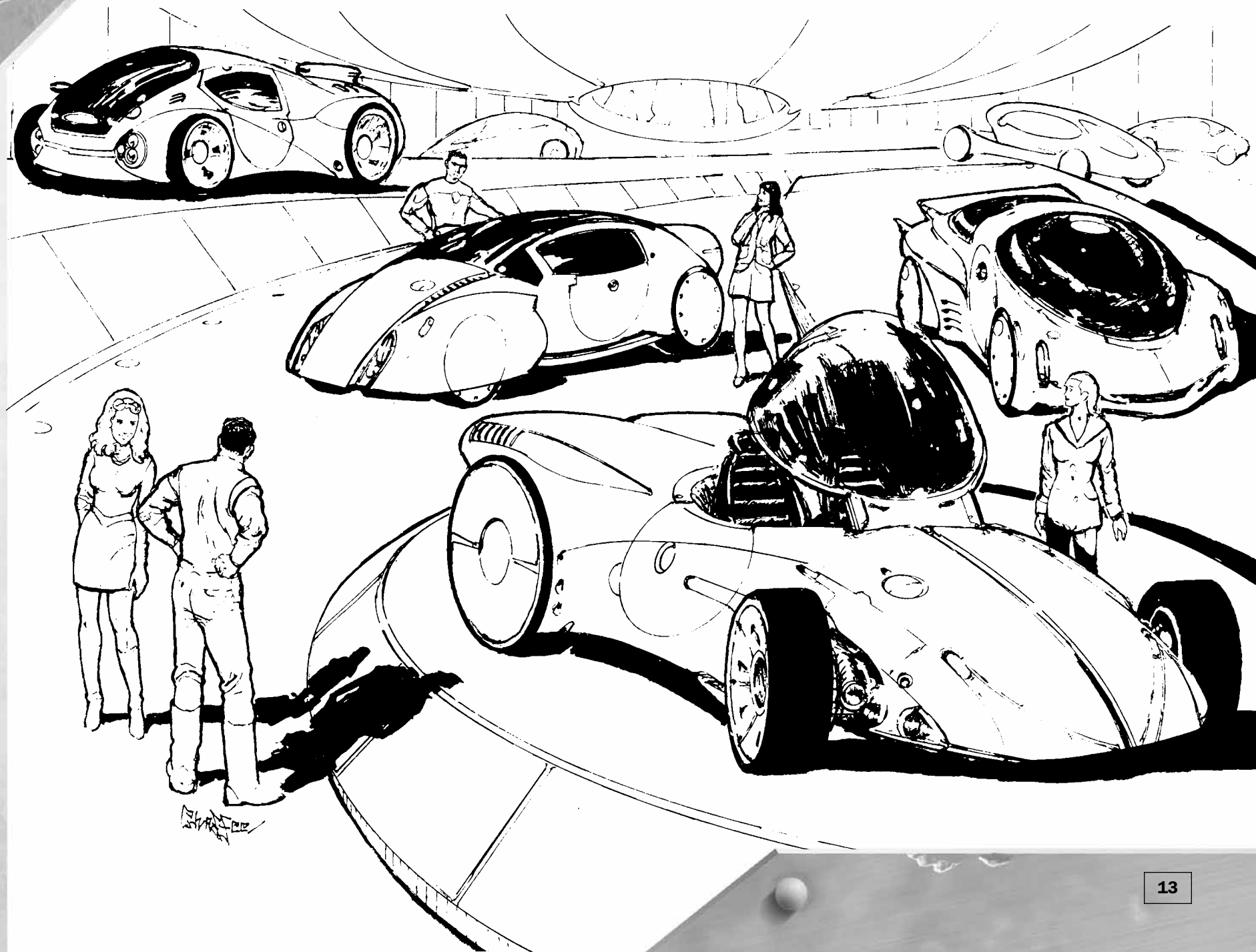
Equipment		**Mass**
Chassis/Controls:		258 kg
Engine/Trans:	ICE	765 kg
Cruise MP:	8	
Flank MP:	12	
Heat Sinks:	0	0 kg
Fuel:	379 km (Petrochemical)	29 kg
Turret:		0 kg
Armor Factor (BAR 2):	4	100 kg
	Internal Structure	*Armor Value*
Front	1	1
R/L Side	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
198 kg standard 1 Door (Rear)

Notes: Features convertible Chassis and Controls Modification, 2 crew/passenger seats (150 kg, Body)

SATURNUS V / DURANDEL-BRITISH



MAO-HENG CHARIOTEER

In early 2797, Sandol Quinn, distinguished in his status as the last *elected* leader of the Capellan Confederation, personally laid down the requirements for a new vehicle to be used exclusively by the Palace Guard on Sian. It was to be a wheeled vehicle, powered by fossil fuels, and capable of attaining a minimum of 60 kph. The result was a vehicle that lacked in all regards except these criteria, and rumors of a personal interest in expanding the influence of wealthy friends (in the fossil fuel mining industry) ran rampant for months as various companies vied for the contract.

Despite several promising entries, a sleek-looking but sluggish model known as the Mao-heng was accepted. The initial production run lasted less than two years, and produced less than 2,000 production models. When Dame Ilsa Liao came of age in 2801, Quinn abdicated his stewardship of the throne in favor of supporting the rightful heir of Barbara Liao, and shortly thereafter production of the Mao-heng was suspended and, eventually, cancelled completely.

For several years longer these clumsy vehicles prowled the streets of Sian, performing well enough in service with the fanatically loyal Capellan Hussars until the last of them, the infamous "Patrol 13," was decommissioned in 2834 and bought by Duke Jian Kao of Purvo for his personal collection.

In 3042 this design was reworked as a graduation project by a team of student researchers led by Professor George Sheng of the Sian Regional Training Center, with such promising results that a prototype was constructed and tested immediately by the school, results being reported to the Ministry of Transportation. Within six months, a bid was offered by the Minister and accepted by Professor Sheng to oversee the construction of a newly-contracted vehicle line featuring the internally reworked Mao-heng. The vehicle was once again slated to become a law enforcement standard issue.

Current production of the Mao-heng as a police cruiser is planned to continue for the foreseeable future, and promotion of the vehicle as a replacement for other older vehicles currently in use is progressing as expected. Its classic lines promise a bright future indeed.

Among Mao-hengs, "Patrol 13" gained its notoriety in July 2809, after its fifth straight month of being towed away from armed confrontations in urban areas while in service against Triad malcontents. While some might consider this a form of bad luck, the dispatch records for the vehicle show that the car was—by a vast margin—the single most requested vehicle while in such service. Historians on Purvo additionally claim that this is because so many awards were issued to any crew assigned the vehicle in these instances, but irregularities in the format of their records cast doubt on this claim. More likely it was as unlucky as its number, a fact probably proven repeatedly by the uncommon valor of the Hussars assigned to its use.

Type: **Mao-heng Charioteer**
Chassis Type: Wheeled (Medium)
Mass: 10 tons
Equipment Rating: C/E-E-E/D

Equipment			**Mass**
Chassis/Controls:			2
Engine/Trans:	ICE		6
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	0		0
Fuel: 833 km (Petrochemical)			.5
Turret:			0
Armor Factor (BAR 4):	15		.5
	Internal Structure	*Armor Value*	
Front	1	4	
R/L Side	1	4/4	
Rear	1	3	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
.4 tons standard — 1 Door (Front)

Notes: Features 8 passenger seats with restraints for prisoners (.6 tons, Body)

MAO-HENG CHARIOTEER

KNOX / BAILEY ARMORED CARS

Representative of Inner Sphere armored car designs, the Knox Armored Car is sufficiently well-armored to resist attacks from civilian small arms and lighter military weaponry. Based on an earlier Terran Hegemony design, the Knox and vehicles like it transport low bulk, high value cargo over short distances. Based on the chassis of a five-ton truck, the armored car's reinforced chassis and heavy armor degrades the vehicle's speed and range, and the light weaponry serves as more of a deterrent. A common sight on Inner Sphere streets throughout the Succession Wars, local militia has occasionally pressed them into service. In this role such vehicles have generally not proven effective—lacking the firepower and armor to serve as a tank and with insufficient cargo capacity to serve as an APC.

Often used to transport payrolls, armored cars are frequently targets for well-equipped criminal elements. Bandits and rogue military units possess weapons that are a real threat to these lightly armored civilian vehicles. Increasingly, it has become necessary to provide armed escort—either drawn from troops belonging to units stationed on-world, or in the form of freelance MechWarriors looking to pick up some easy money.

Even this is not always enough. In late 3059 a shipment of gems on Alexandria fell afoul of a gang of criminals. Even though the Knox Armored Car had been provided with an escort of a pair of *Commando* BattleMechs by the Alexandria Freedom Theater Militia, the criminals (rumored to have strong ties with the Mafia) possessed several suits of Grey Death Legion Battle Armor.

The infamous Briggs Armored Car robbery demonstrated that existing vehicle designs were increasingly vulnerable in the face of the growing availability of Battle Armor. In response, Gienah Automotive introduced their Bailey Armored Car. Better armed and defended, and significantly faster, the fusion-powered vehicle incorporates a number of items of recovered First Star League military equipment. Although still not on a par with dedicated military vehicles, the Bailey does have sufficient cargo capacity to turn it into a viable armored personnel carrier. The lack of off-road suspension restricts usage to the urban environment, however.

All of these improvements come at a price. The Bailey is more than twice as heavy and over six times the cost of the more primitive vehicle. Security is something people are willing to pay for, however, and Gienah has received a steady flow of orders for their vehicle.

Type: **Knox Armored Car**
Chassis Type: Wheeled (Medium)
Mass: 12 tons
Equipment Rating: D/X-E-D/E

Equipment			**Mass**
Chassis/Controls:			3
Engine/Trans:	ICE		4
Cruise MP:	5		
Flank MP:	8		
Heat Sinks:	0		0
Fuel:	1,250 km (Petrochemical)		.5
Turret:			.5
Armor Factor (BAR 10):	15		1
	Internal Structure	*Armor Value*	
Front	2	3	
R/L Side	2	3/3	
Rear	2	3	
Turret	2	3	

Weapons and Ammo	**Location**	**Mass**
Machine Gun	Turret	.5
Ammo (MG) 100	Body	.5
Basic Fire Control	Body	.5

Crew: 3 (2 + 1 gunner)
Cargo
1.5 tons standard — 1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification

Type: **Bailey Armored Car**
Chassis Type: Wheeled (Medium)
Mass: 27 tons
Equipment Rating: E/X-X-D/E

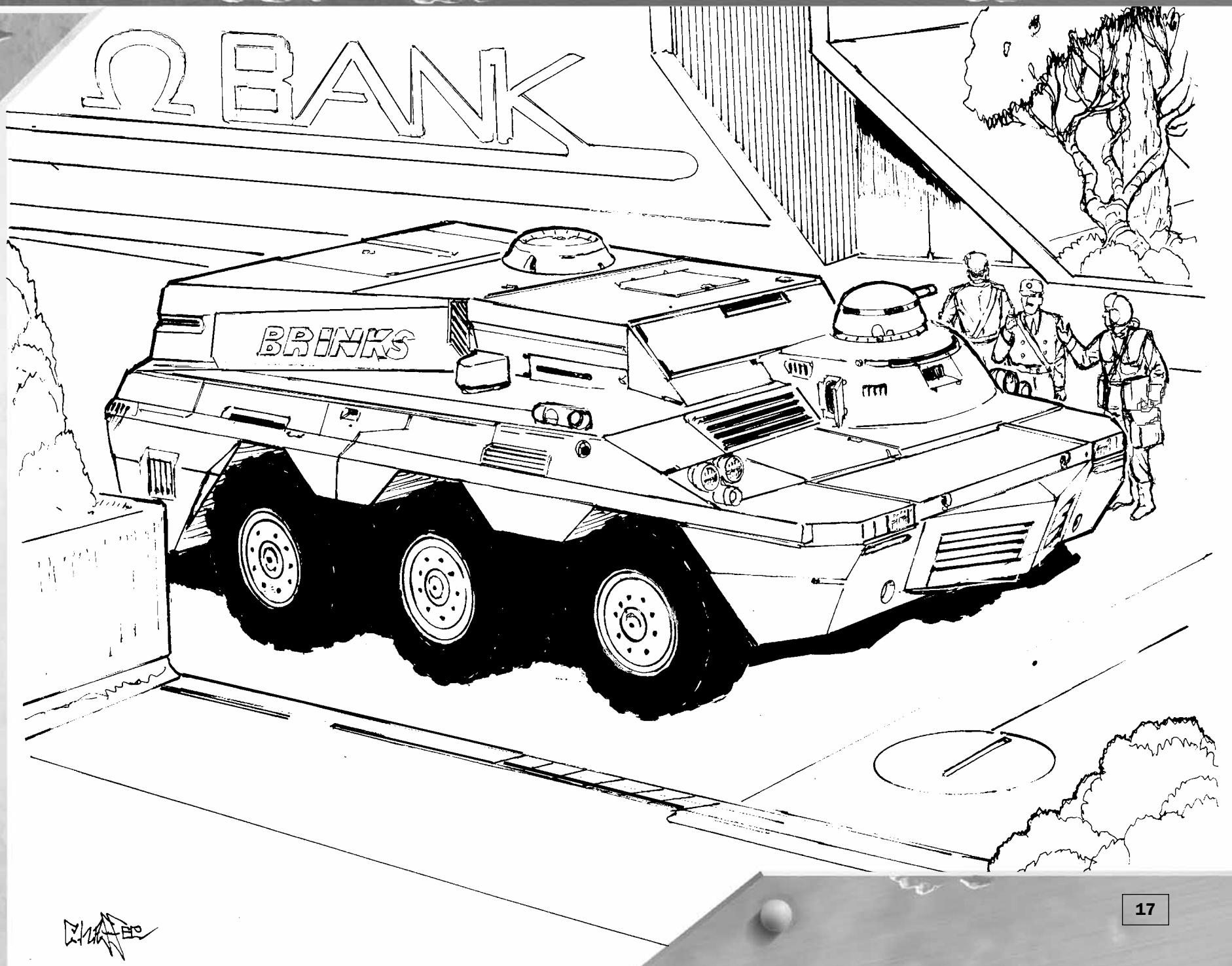
Equipment			**Mass**
Chassis/Controls:			5.5
Engine/Trans:	Fusion		6.5
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	4		4
Fuel:			0
Turret:			.5
Armor Factor (BAR 10):	58		3.5
	Internal Structure	*Armor Value*	
Front	3	13	
R/L Side	3	11/11	
Rear	3	13	
Turret	3	10	

Weapons and Ammo	**Location**	**Mass**
2 Small Pulse Lasers	Turret	2
AMS	Turret	.5
Ammo (AMS) 12	Body	1
Advanced Fire Control	Body	.5

Crew: 4 (2 + 2 gunners)
Cargo
3 tons standard — 1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification

KNOX / BAILEY ARMORED CARS



SAURER-BUCHER FIRE ENGINE / SIMCA AMBULANCE

Despite technological advances, the essence of some things don't change—like fire engines or ambulances.

Take the latter, for example. Basically it's still nothing more than a speedy vehicle with room to transport one or more people—hurt or otherwise. Granted, the modes of transportation changed or improved on occasion (you won't see any horse-drawn carriages anymore these days—not on our planet at least), as did the rest of the technical and medical equipment—and the colors, of course. I like the lime green we currently use, by the way.

So what great changes in design are there to make anyway? Despite whatever the First Princess wants us to think, cities of glass and gold where people teleport from airway to airway and everything is aloft are nothing more than utopian fiction. And so we still have roads and ground-based ambulances. Wouldn't want to have it any other way, would we? After all, screeching tires and some nice Simca driving is a hallmark of your local Rhinehold city paramedics! The sound of life, some say.

The same goes for our new fire engines. Let's face it—they may be bigger, meaner looking and equipped with that new whatsitsname extinguishing liquid that always makes such a mess, but other than that, it's not that different from the hulk our grandfathers used to lug around street-corners. Admittedly, they are impressive now in full action, with both ladders extended and the floodlights—now conveniently mounted directly on top—turned on. Miniaturizing seems a good thing for a change. And the amounts of water they suck through their hoses is just not from this world anymore. They've got payload space to hold enough hose to go up and down those incredible ladders and around the block, not to mention almost ten tons of on board water tankage when no hydrants are around.Thoroughly good job by the Saurer-Bucher guys, especially considering that they specialize in tractors and manure hoses.

You're calling me nostalgic? Maybe I am. But I'm here to save people, too. So please just look up some articles about last year's arson at the Sutel plant. It was all over the news. The fire spread incredibly fast and it took over a week to contain it. Luckily the government hadn't bought those firefighting VTOLs. Those freak electrical storms probably would have wiped them from the skies. Or the wind gusts would have gotten them, just like the police department's blimp. Sad story that. Thinking of that: Without our Simca's we would never have gotten all the injured to the hospital in time. Not with those fancy, tiny hovering meat wagons the private hospitals sent.

Anyway, what I'm getting at is that the tried and true stuff did the most good back then. And the men and women of Rhinehold's rescue service, of course. People like me. I still have that scar on my thigh right here. Want to have a look?

Type: **Simca Ambulance**
Chassis Type: Wheeled (Small)
Mass: 2,500 kg
Equipment Rating: D/C-C-C/C

Equipment			**Mass**
Chassis/Controls:			300 kg
Engine/Trans:	ICE		497 kg
Cruise MP:	7		
Flank MP:	11		
Heat Sinks:	0		0 kg
Fuel:	845 km (Petrochemical)		42 kg
Turret:			0 kg
Armor Factor (BAR 2):	0		0 kg
	Internal Structure	*Armor Value*	
Front	1	0	
R/L Side	1	0/0	
Rear	1	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
136 kg standard — 2 Doors (Rear)

Notes: Features 4 paramedic equipments (1,000 kg), 4 stretchers (300 kg), siren, strobes

Type: **Saurer-Bucher TLF-LL6500 Fire Engine**
Chassis Type: Wheeled (Medium)
Mass: 44 tons
Equipment Rating: D/A-B-A/C

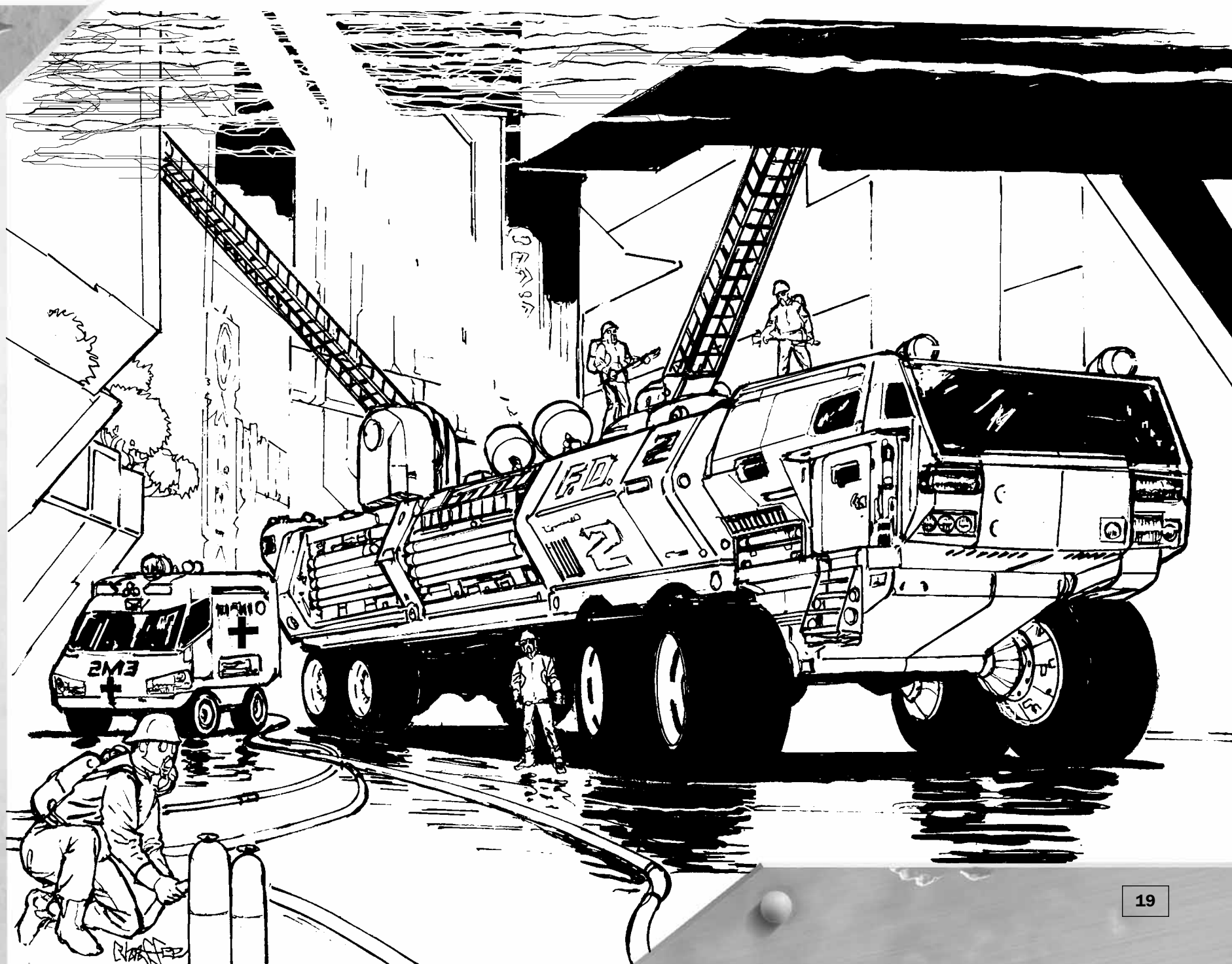
Equipment			**Mass**
Chassis/Controls:			7
Engine/Trans:	ICE		14.5
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	0		0
Fuel:	500 km (Petrochemical)		1
Turret:			0
Armor Factor (BAR 4):	19		.5
	Internal Structure	*Armor Value*	
Front	5	5	
R/L Side	5	5/5	
Rear	5	4	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
4 tons standard — 4 Doors (2 Left/2 Right)
8.6 tons liquid (9.5 tons)

Notes: Features 8 passenger seats (.6 tons), 2 mounted searchlights (1 ton), 2 40m ladder (0.4 tons), siren, strobes

SAURER-BUCHER FIRE ENGINE / SIMCA AMBULANCE



ASTON-MARTIN FIVER SERIES

Barely a jump away from New Avalon in the Federated Suns is Numenor, a peaceful world that has hardly felt the scourge of war in hundreds of years. The citizens that call Numenor home are some of the most confident, erudite, and snobbish people in the Inner Sphere. Without the horrors of war to keep them humble, they believe themselves inherently superior to most other people, espousing views that rise only during periods of prosperity, like political correctness and environmentalism.

In Connery, a port city on the Hereford Sea, a small automaker called Aston-Martin caters to the nobles of Numenor with a series of high-end electric vehicles. The current models, the Fiver series, are outselling all previous models as the Numenorians celebrate the end of the FedCom Civil War (and their non-participation in it).

Both vehicles are battery-powered, which appeals to both the environmentalist (no pollution from dirty internal combustion engines) and the politically correct (electric engines are too quiet to rouse even the advocates of noise regulation). Both are expensive, and the salesmen at the three Aston-Martin dealerships in Connery are experts at sniffing out the status of potential customers. The name—Fiver—comes from the number of wheels; the Roadster carries three drive wheels on the front of the chassis, and the Traveler has three in the rear.

The smaller vehicle, the Roadster, is an electric rocket with outstanding acceleration (if a moderate top speed). Built of composite materials, the two-seater is capable of speeds near two hundred kilometers an hour. A fair-sized bank of ten high-capacity batteries provides a five hundred-kilometer range. The modest trunk space allows day travelers to carry their luggage with them.

The Traveler is Aston-Martin's first foray into the family market. Recognizing that many of the customers who purchase the Roadster will have families (either newly-married younger men or middle-aged nobles in search of the cure for a mid-life crisis), a targeted ad campaign was created to link the two vehicles. Current sales figures prove that the so-called "hockey dads" of Numenor are embracing the Traveler.

Despite the publicity, the Traveler is a reliable and capable vehicle, sharing components with the Roadster, including the batteries and motor. Batteries provide enough power to carry a fully-laden Traveler 473 kilometers without recharging. The Roadster's motor (and a different transmission) cannot deliver the same acceleration to the Traveler, but manages to achieve almost the same top speed. A heavily-reinforced frame, tested against all contingencies (including light weapons!) provides plenty of safety, while comfortable seating for up to eight provides plenty of room. All of these precautions take on new light when one considers that this is still an Aston-Martin product: the Traveler is capable of speeds over a hundred-fifty kilometers per hour.

Seeking greater sales, public relations representatives from Aston-Martin have recently begun an advertising campaign comparing the Fivers to the latest Avanti hover vehicles available in the Lyran Alliance. During the years of the Federated Commonwealth, Avanti made great strides in capturing greater market shares across the Federated Suns. They succeeded, in fact, in driving Aston-Martin off of New Avalon, as sycophants bought Avanti cars to try and impress the Archon when she was in residence. With the end of the Civil War and the resurgence of Davion pride, Aston-Martin is looking forward to recapturing their place in the market.

Type: **Aston-Martin Fiver Roadster**
Chassis Type: Wheeled (Small)
Mass: 1,000 kg
Equipment Rating: D/X-X-B/B

Equipment			**Mass**
Chassis/Controls:			132 kg
Engine/Trans:	Electric (Battery)		444 kg
Cruise MP:	12		
Flank MP:	18		
Heat Sinks:	0		0 kg
Fuel:	1,000 km		222 kg
Turret:			0 kg
Armor Factor (BAR 2)	0		0 kg
	Internal Structure	*Armor Value*	
Front	1	0	
R/L Side	1	0/0	
Rear	1	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
52 kg standard — 1 Door (Rear)

Notes: Features Convertible Chassis and Controls Modification, 2 crew/passenger seats (150 kg)

Type: **Aston-Martin Fiver Traveler**
Chassis Type: Wheeled (Small)
Mass: 2,500 kg
Equipment Rating: D/X-X-B/B

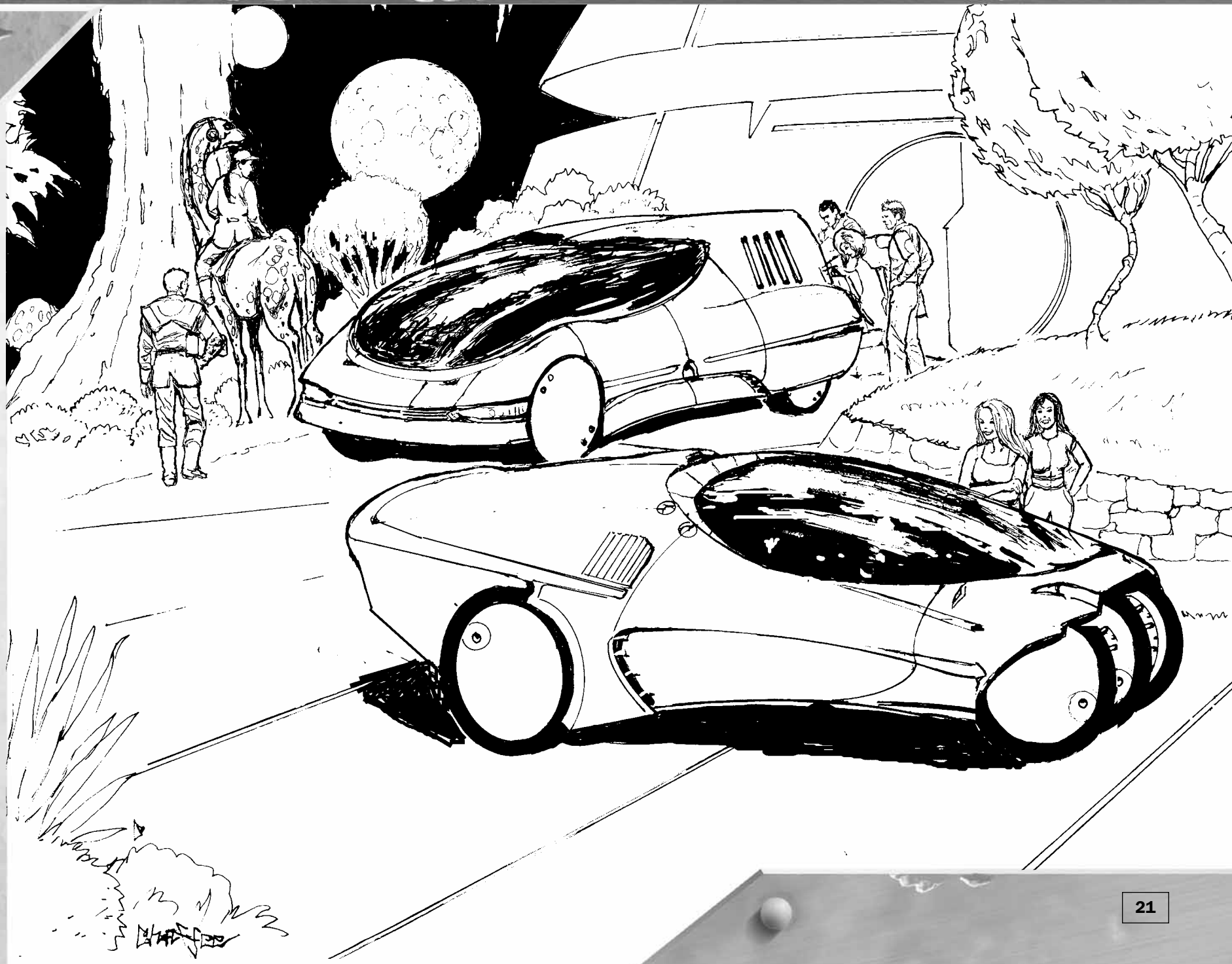
Equipment			**Mass**
Chassis/Controls:			300 kg
Engine/Trans:	Electric (Battery)		938 kg
Cruise MP:	11		
Flank MP:	17		
Heat Sinks:	0		0 kg
Fuel:	520 km		244 kg
Turret:			0 kg
Armor Factor (BAR 4)	8		208 kg
	Internal Structure	*Armor Value*	
Front	1	2	
R/L Side	1	2/2	
Rear	1	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
210 kg standard (210kg) — 1 Door (Rear)

Notes: Features 8 crew/passenger seats (600 kg)

ASTON-MARTIN FIVER SERIES



MÓTUÖ CHË NO. 2 / FLASHBANG ZZ10000

Fun, speed, excitement—words a lot of people associate directly to motorcycles of all kinds, regardless of age, social caste or home planet. Others would loudly add dangerous, reckless and intolerant to that list when it comes to "ridin' a bike" —a negligible majority to anyone from the former category. And as diverse as the consumer, so are the machines in question.

Interestingly though, wherever the question is asked, the word most associated with motorcycles is freedom. Freedom from hard labor for a poor farmer who doesn't have to pull his cart to market anymore. Freedom from his parents for the detaching teenager. Freedom from the daily stress for a jobber in Irian's stock exchange.

To satisfy this freedom is the goal of two very different manufacturers located on Sian in the Capellan Confederation. One is the venerable family enterprise simply known as Mótuö Chë Shang, manufacturers of exclusive motorcycles since 2467. Concentrating on faultless quality and exceptional customer service, its founder Trun Shang managed to get the first contract with the Chancellor's court in 2469. A must-have among Capellan nobles of a certain standing, every Mótuö Chë Shang was and is still assembled manually, customized to the customer's wishes. Apart from the waits gladly endured—there are never more than a few dozen models being constructed per year—a certain timelessness adheres to everything else as well. New gadgets, fads and sudden model changes simply do not exist with Mótuö Chë Shang, which continues to use chassis and engine technology that were old when it was introduced. Every alteration in design is the result of a slow, thoughtful process, more of an evolvement, naturally interlocking into what exists. It is the freedom of biding one's time.

On the other side of the coin there is a new kid on the block: Ceres Metals—at least in that branch of business. When Chancellor Sun-Tzu announced his *Xin Sheng* programme, the multi-corporation wasn't one to be left behind, quickly taking advantage of the new options offered by the government and expanding into new markets. One of which was leisure—and with it motorcycles. Compared to Mótuö Chë Shang, philosophies couldn't differ more, though. Ceres bikes are cheap—in all aspects. Nevertheless, success was almost guaranteed. Between an aggressive PR-campaign, governmental support and the "New Age" euphoria spreading across the Confederation, Ceres gobbled up market share faster than anyone could have anticipated.

But the continuation of this story of success has suddenly become uncertain again. While there have been several reports—which were hushed up—of unreliable merchandise resulting in deadly accidents in the pastthis latest incident might not simply go away. During the unveiling on Sian—performed in true Xin Sheng pomp—Ceres officials presented some of their newest sports models to members of the famous Red Lancers. However, the intended mind-boggling stunt show performed by the warriors themselves turned into a major catastrophe as the brakes on *Zhong-shao* Smith's bike gave out, sending the machine crashing full-speed into the safety barrier, killing the pilot instantly.

Type: **Mótuö Chë Shang No.2**
Chassis Type: Wheeled (Small)
Mass: 320 kg
Equipment Rating: C/D-D-D/B

Equipment			**Mass**
Chassis/Controls:			23 kg
Engine/Trans:	ICE		237 kg
Cruise MP:	12		
Flank MP:	18		
Heat Sinks:	0		0 kg
Fuel:	421 km (Petrochemical)		10 kg
Turret:			0 kg
Armor Factor (BAR 2):	0		0 kg
	Internal Structure	*Armor Value*	
Front	1	0	
R/L Side	1	0/0	
Rear	1	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
25 kg standard

Notes: Features Monocycle Chassis and Controls Modification, 1 crew seat/pillion (25 kg)

Type: **Ceres-Bikes Flashbang ZZ10000**
Chassis Type: Wheeled (Small)
Mass: 150 kg
Equipment Rating: C/X-X-A/B

Equipment			**Mass**
Chassis/Controls:			16 kg
Engine/Trans:	ICE		78 kg
Cruise MP:	10		
Flank MP:	15		
Heat Sinks:	0		0 kg
Fuel:	1,282 km (Petrochemical)		10 kg
Turret:			0 kg
Armor Factor (BAR 2):	0		0 kg
	Internal Structure	*Armor Value*	
Front	1	0	
R/L Side	1	0/0	
Rear	1	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
21 kg standard

Notes: Features Bicycle Chassis and Controls Modification, 1 crew seat/pillion (25 kg)

MÓTUÖ CHË NO. 2 / FLASHBANG ZZ10000

ŠKODA / IVECO BURRO TRUCKS

A mainstay of supporting units, the utility truck comes in many varieties along the same theme—a large open cargo bed with a crew compartment mounted on a rugged chassis that can negotiate tough terrain. Used for everything from delivering the latest Bosony tri-vid theater system to safely extricating live ammunition from a recent battlefield, these vehicles are a dime a dozen on almost every world in the known universe.

Though primarily designed for utility work, a smaller segment of the population uses them for cross-country racing, long-distance trekking, and even a sport called "mudsliding" (common among the Trinity worlds of the Free Worlds League and the Outback of the Federated Suns). Design parameters have changed little since the late twentieth century, as the simple form and function allow these vehicles to fulfill a myriad of roles.

Less common are the fusion-powered heavy duty trucks that used to populate Terran Hegemony bases. Using less weight for a more efficient engine, these vehicles allowed more utilitarian tools to be attached for mission-specific profiles. Most common were the Bombduster series, a six-wheeled truck with off-road capability that mounted a heavy bulldozer blade and military-grade armor. Used to comb recent battlefields, the Bombdusters would sweep the area of any unexploded ordinance before gravedigger and salvage teams arrived, keeping these vital support troops from being needlessly harmed.

Of special note are the Burro HD truck and its military-grade bother, the Burro II, employed by several Chaos March militia units. Each wheel on the chassis contains an independent motor that can help the chassis traverse even the most difficult and unstable terrain. With a large suspension frame, Burros and Burro IIs have been known to cross even the jagged wastelands of Caph with little impact on their overall speed. Equipped with a manipulator arm in the front, the lighter Burro can grab unexploded ordnance at a safe distance and remove it to a shielded trailer where it can be exploded safely. Towing the trailer is no problem, as the Burro is designed to tow most light- to medium-weight vehicles.

Versatile in the extreme, the Burro II is beginning to appear outside the Chaos March, as Iveco begins to place new factories in the nearby League and Confederation. Already, salvage teams from several mercenary units have bought up the entire 3066 production run. Because of its popularity, Iveco is planning several variants to fit an even wider array of environments, including underwater and near-vacuum.

Type: **Škoda "Growler" Service Utility Truck**
Chassis Type: Wheeled (Small)
Mass: 1,000 kg
Equipment Rating: D/C-E-D/D

Equipment			**Mass**
Chassis/Controls:			182 kg
Engine/Trans:	ICE		200 kg
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	0		0 kg
Fuel:	1,000 km (Petrochemical)		20 kg
Turret:			0 kg
Armor Factor (BAR 2)	4		64 kg
	Internal Structure	*Armor Value*	
Front	1	1	
R/L Side	1	1/1	
Rear	1	1	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 4
Cargo
104 kg standard — 1 Door (Right)

Notes: Features Amphibious, Off-Road, Ultra-light Chassis and Controls Modifications, 4 crew seats (300 kg), four hand-held searchlights (2 Front/Right/Left, 20 kg), one 20m ladder (100 kg), manipulator arm (10kg, Right)

Type: **Iveco Burro Heavy Support Truck**
Chassis Type: Wheeled (Small)
Mass: 1,500 kg
Equipment Rating: D/E-F-E/E

Equipment			**Mass**
Chassis/Controls:			486 kg
Engine/Trans:	Fusion		150 kg
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	0		0 kg
Fuel:			0 kg
Turret:			0 kg
Armor Factor (BAR 10):	7		441 kg
	Internal Structure	*Armor Value*	
Front	1	2	
R/L Side	1	2/2	
Rear	1	1	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
163 kg standard — 1 Door (Rear)

Notes: Features Armored, Off-road, Tractor Chassis and Controls Modifications, three crew seats (225 kg), five handheld searchlights (25 kg), manipulator arm (10 kg, Front)

Type: **Iveco "Burro II" Super Heavy Cargo Truck**
Chassis Type: Wheeled (Medium)
Mass: 50 tons
Equipment Rating: E/X-X-E/E

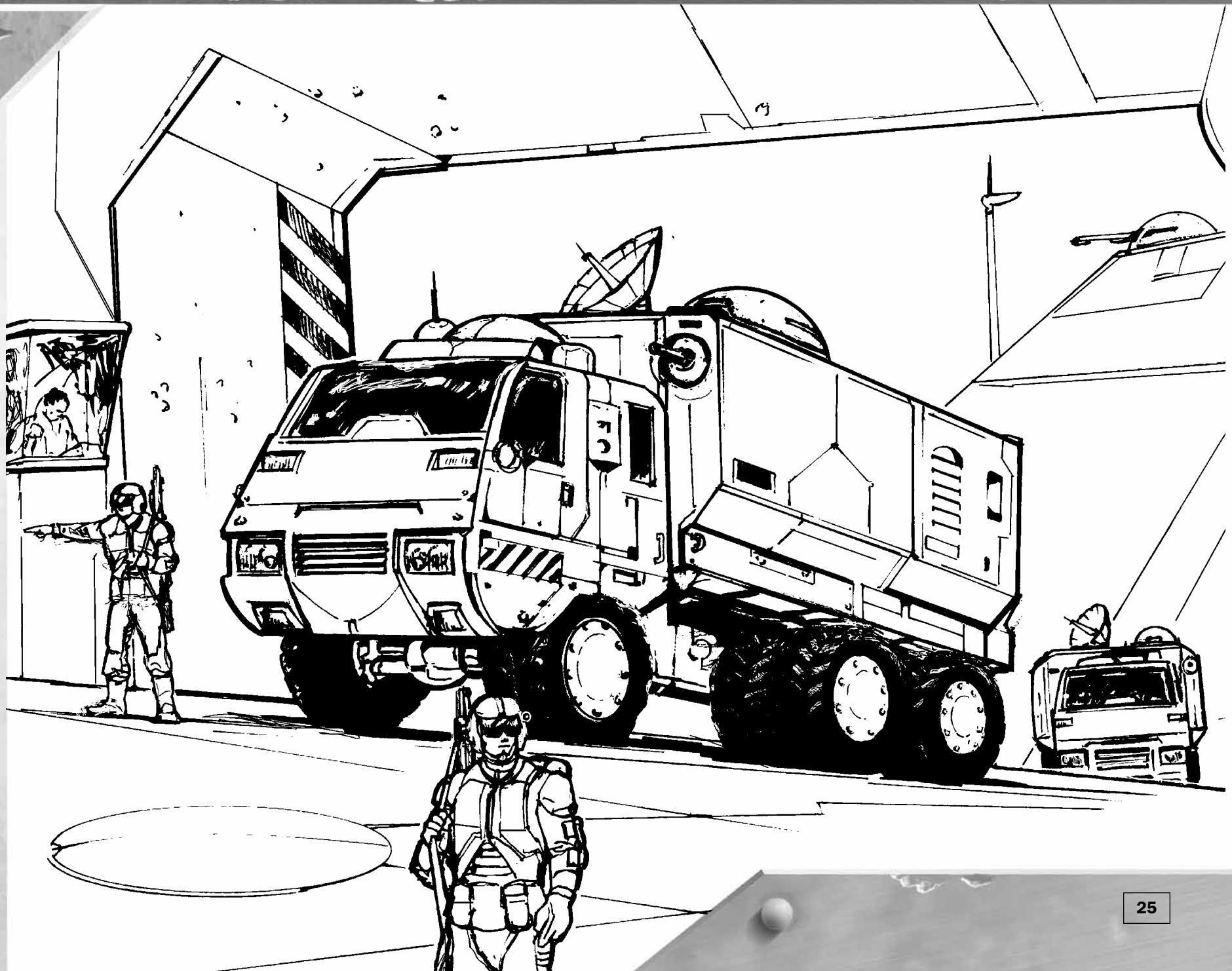
Equipment			**Mass**
Chassis/Controls:			29
Engine/Trans:	Fusion		3.5
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 9):	78		4
	Internal Structure	*Armor Value*	
Front	5	25	
R/L Side	5	20/20	
Rear	5	13	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
13 tons standard — 1 Door (Rear)

Notes: Features Armored, Off-road, Environmental Sealing Chassis and Controls Modifications, mounted searchlight (0.5 ton, Front)

ŠKODA / IVECO BURRO TRUCKS



BULLDOG / PIT BULL MEDIUM TRUCKS

The advent of mobile warfare in the first half of the Twentieth Century forced military forces to come up with ways to move supplies along with the combat units. Ever since then, armies across the stars have used everything from horse and carriage to heavy cargo hovercraft to move the beans and bullets. One vehicle that every military has used, however, is the simple cargo truck.

In Taurian space the most common chassis is the Bulldog Medium Truck. Produced prodigiously at PPL's Perdition facility and at satellite factories across the Concordat, the Bulldog is a civilian logistics vehicle. With a range of 1,000 kilometers, even loaded with over a ton and a half of cargo, the Bulldog is the preferred truck of many local delivery companies and fleets of food and clothing chains. Its simple-yet-sturdy construction requires very little maintenance. The Bulldog requires a driver, but carries seating for three additional people. Because of this capacity, it is a favorite of household moving companies and large-item delivery drivers.

The Taurian Defense Force also uses the military version of the Bulldog, the Pit Bull. Identical in every regard to the Bulldog, the Pit Bull sacrifices a couple hundred kilograms of cargo capacity for a reinforced off-road chassis. The Pit Bull serves in capacities across the Concordat that do not require the services of the full-size Flatbed Truck.

In 3044, a few survivors from the slaughter of Lady Death Trevaline's Tortuga Pirates raided the outlying Taurian world of Althea's Choice. A battalion of local infantry was cut off without supplies when the pirates landed. The unit's commander ordered his logistical section into action.

A convoy of Pit Bull trucks, driving at night without lights, traversed the broken terrain between the garrison base and the cut-off battalion. They carried with them a full battalion-load of weaponry to exchange for the battalion's training gear. Although they were forced to detour around serious obstacles, the Pit Bulls got through and gave the infantry battalion a fighting chance. Once the pirates retreated, the survivors of the battalion rode the Pit Bulls back to base.

PPL is very possessive of its products. An attempt in 3054 by competing Vandenburg Mechanized Industries to field a military supply vehicle met with disaster after the prototype was destroyed in testing on New Vandenburg. Although several executives were indicted for industrial espionage, none were ever convicted. In the uncertainty-filled wake of Thomas Calderon's removal from power, the VMI program was scrapped.

Comparable vehicles exist throughout the Inner Sphere and Periphery. The Lyran Alliance uses a model identical in all respects to the Bulldog. The Norman Utility Truck, produced primarily by the New Earth Trading Company, differs only in aesthetic details; the performance specs of the Norman are virtually identical. Davion RCTs have recently begun fielding a half-track design dubbed "Deuce-and-a-Half," by its users for its cargo capacity. Both the DCMS and the FWLM use a variety of supply vehicles.

Type: **Pinard Protectorates Limited Bulldog Medium Truck**
Chassis Type: Wheeled (Small)
Mass: 3,000 kg
Equipment Rating: B/B-B-B/B

Equipment		**Mass**
Chassis/Controls:		468 kg
Engine/Trans:	ICE	450 kg
Cruise MP:	4	
Flank MP:	6	
Heat Sinks:	0	0 kg
Fuel:	1,000 km (Petrochemical)	45 kg
Turret:		0 kg
Armor Factor (BAR 2):	4	100 kg

	Internal Structure	*Armor Value*
Front	1	1
R/L Side	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
1,617 kg standard (open bed) 1 Door (Rear)

Notes: Features 4 crew/passenger seats (300 kg, body), 4 handheld searchlights (20 kg, Front)

Type: **Pinard Protectorates Limited Pit Bull Medium Truck**
Chassis Type: Wheeled (Small)
Mass: 3,000 kg
Equipment Rating: B/B-C-B/B

Equipment		**Mass**
Chassis/Controls:		702 kg
Engine/Trans:	ICE	450 kg
Cruise MP:	4	
Flank MP:	6	
Heat Sinks:	0	0 kg
Fuel:	1,000 km (Petrochemical)	45 kg
Turret:		0 kg
Armor Factor (BAR 2)	4	100 kg

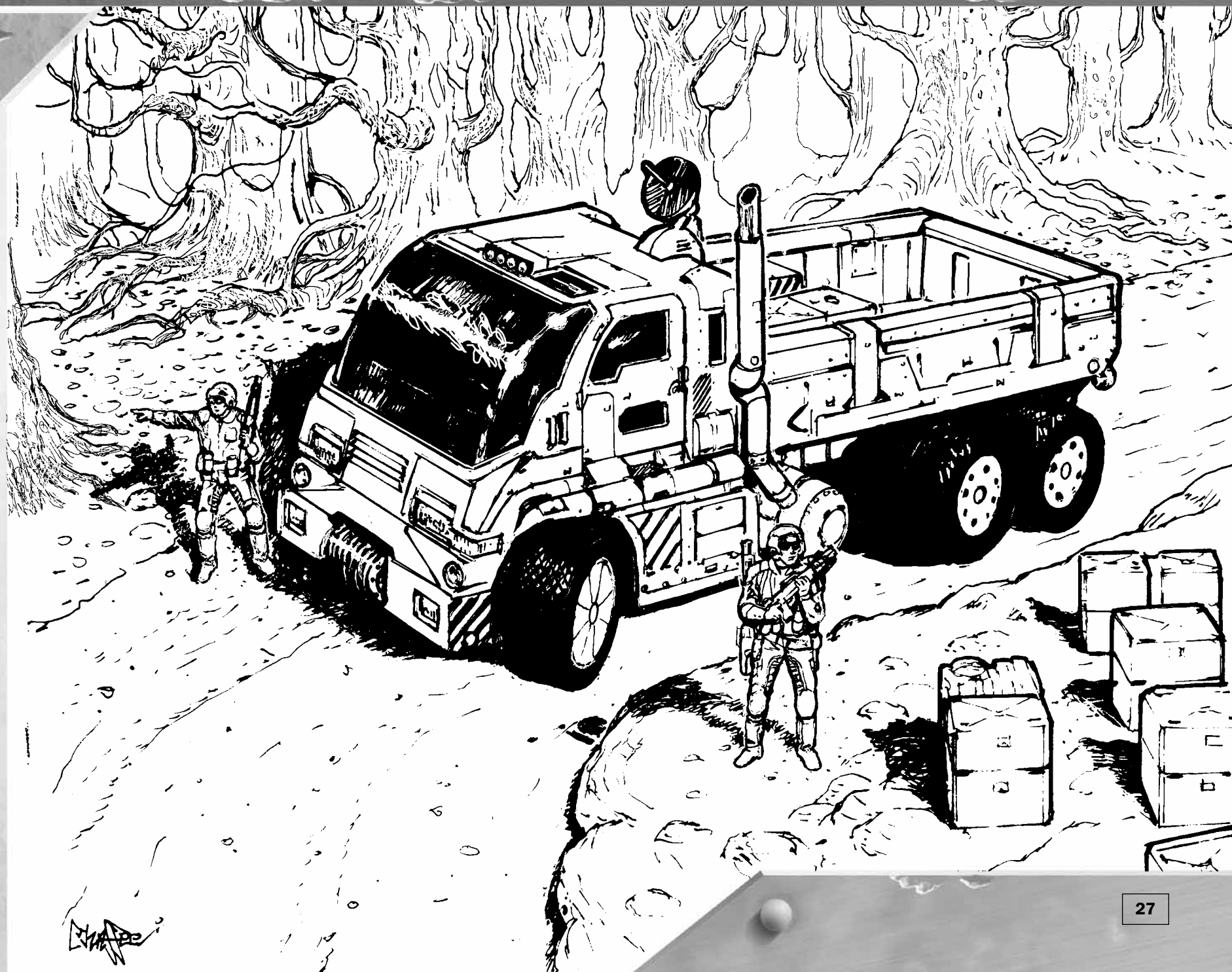
	Internal Structure	*Armor Value*
Front	1	1
R/L Side	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
1,383 kg standard 1 Door (Rear)

Notes: Features Off-road Chassis and Controls Modification, 4 crew/passenger seats (300 kg, Body), and 4 handheld searchlights (20 kg, Front)

BULLDOG / PIT BULL MEDIUM TRUCKS



TRACKED VEHICLES

Director Hughes:

We were interested to receive notice of your inquiry into our corporation and its products, but must confess confusion as to your plans for marketing such a vehicle in the Free Worlds League. Here at Markwell Industries we pride ourselves on producing and selling a truly unique vehicle. We would be happy to allow you and your corporation to purchase as many of our vehicles as you like, but cannot currently conceive of any situation in which we would allow you to build them under license. A large part of our prestige comes from the fact that each Markwell Rover is hand-built by experts, not assembled on an automated line.

Of course, Markwell cannot hope to compete with the industrial might of Irian Technologies. We merely ask that you allow us the freedom to pursue our corporate agenda without interference, in the spirit of free enterprise that the Free Worlds League has always been known for.

–Markwell

Hughes:

Don't concern yourself with this amusingly quaint nonsense. We've already assigned a fourth-tier shell corporation to acquire a controlling interest in Markwell. We anticipate full control of their manufacturing division inside six months. A suitable manager has already been selected to oversee the transition to mass production.

–Stark

The motive track is the most rugged form of transportation ever devised. Any engine with sufficient torque can provide enough thrust to push a vehicle across a linked series of tracks. One observer likens the motive system of a tracked vehicle as simply "a wheeled vehicle driving on its own roadway." With the ability to spread great amounts of weight across larger areas than wheeled vehicles, many tracked vehicles are used in off-road terrain in transit or rescue roles. Extreme environmental conditions, like snowstorms or noxious atmospheres, rarely slow down the tracked crawler, and very few vehicles can put the full power of their torque into towing like the tracked vehicle.

In military circles, the massive armored tank is second only to the BattleMech in destructive capabilities. Although they predate the 'Mech by centuries, the usefulness of the tracked combat vehicle is admirably demonstrated by its continued presence on modern battlefields. Heavy tanks like the Alacorn or the Schrek are capable of threatening other tanks, BattleMechs, or even grounded DropShips when used in the right manner. A number of independent armored regiments have gained fame and notoriety for their effectiveness on the battlefield.

In any situation, history has shown that the tracked vehicle fills any role required of it, and we can only expect it to continue to do so in the future.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GALAPORT GROUND TUG

Before the Dragoons turned their world of Outreach into the new mercenary's Mecca, Galatea in the Lyran Commonwealth serviced the mercenary trade. Galaport, outside of Galatea City, was one of the largest DropPorts in the Inner Sphere. Mercenaries of all shapes and sizes came and went on no schedule but their own. Galaport operated around the clock, seven days a week, every day of the Galatean year. The port consisted of thousands of DropShip pits across a sea of reinforced ferrocrete.

Those DropShip pits were serviced by massive tracked crawlers, hauling equally massive trailers that carried cargo and consumables to the waiting interplanetary craft. Hundreds of crawlers prowled the ferrocrete, pulling thousands of trailers. The drivers' union used to claim that they moved more beans and bullets than any military in history. Fusion powered, the crawlers are behemoths. The tractor itself is almost eight meters tall, and the trailers are of a similar size. They mount a powerful searchlight to see through the thick clouds of dust kicked up by DropShips lifting off and landing. The tug's hulls, while not reinforced to military standards, are armored to protect them from accidents and other dangers of the tarmac.

The trailer designed for the ground tug is as massive as the tractor. Because long trains of lightweight trailers (typical of airports) would be too unwieldy with hundreds of tons of DropShip cargo, the trailers were designed to accept as much cargo as possible in as few cars as possible. A single tractor-trailer combination can move almost five hundred tons of cargo or equipment at a time. Aside from the simple cargo trailer, a refueling trailer, fitted with insulated tanks, provides liquid hydrogen reaction mass to grounded DropShips when the dedicated "water buffaloes" are otherwise occupied.

The rise of Outreach in the 3040s destroyed the ground tugs' business. Most of these vehicles were scrapped or shipped offworld after the demand for them evaporated. A few still ply the trade on the empty stretches of Galaport. With the destruction of Outreach and the burgeoning resurgence of the mercenary trade on Galatea, the unions are demanding larger budgets to construct more crawlers. Those who remained when the others left are ideally positioned to reap the benefits of the renewed business, and are making fortunes.

Similar versions of the Galaport ground tug operate on almost every world of the Inner Sphere. They range from the light luggage carts operated on rural airstrips to the massive crawlers that service the landing pits of Geneva on Terra. The basic premise of these machines has not changed in over a thousand years, and isn't likely to anytime in the future. Unlike so many other machines, the ground tug is one that remains as it was, defined by its purpose.

Type: **Galaport Ground Tug**
Chassis Type: Tracked (Large)
Mass: 200 tons
Equipment Rating: C/C-E-D/C

Equipment			**Mass**
Chassis/Controls:			138
Engine/Trans:	Fusion		60
Cruise MP:	2		
Flank MP:	3		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 6):	31		1.5
	Internal Structure	*Armor Value*	
Front	20	6	
Front R/L Side	20	5/5	
Rear R/L Side	20	5/5	
Rear	20	5	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
None

Notes: Features Environmental Sealing and Tractor Chassis and Controls Modifications, and a mounted search light (.5 tons, Front)

Type: **Galaport Ground Tug Trailer**
Chassis Type: Tracked (Trailer)
Mass: 200 tons
Equipment Rating: C/C-D-C/C

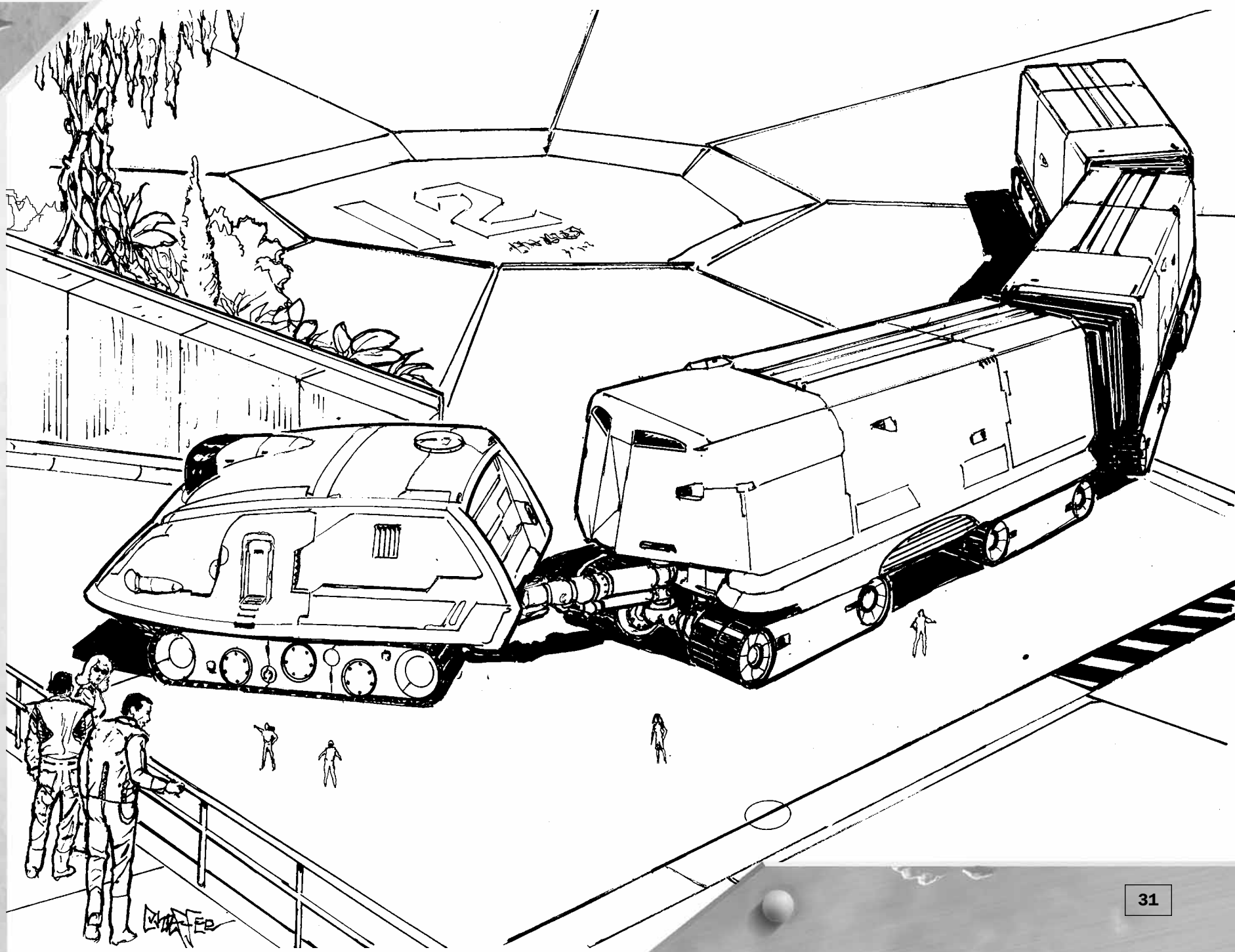
Equipment			**Mass**
Chassis/Controls:			110.5
Engine/Trans:			0
Cruise MP:	N/A		
Flank MP:	N/A		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 6)	31	1.5	
	Internal Structure	*Armor Value*	
Front	20	6	
Front R/L Side	20	5/5	
Rear R/L Side	20	5/5	
Rear	20	5	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 0
Cargo
88 tons standard — 2 doors (Left/Right Sides)
76.5 tons insulated (88 tons)

Notes: Features Environmental Sealing, Tractor, Trailer Chassis and Controls Modifications

GALAPORT GROUND TUG



GIENAH-DURAPAQ ELITE SERIES 3

The colonization of a planet can be perilous and when colonists are struggling to survive, war can easily spark over land and water rights. On the world of New Olympia, the Terran Alliance military intervened in both 2196 and 2220 to stop such conflicts. After the fall of the Alliance, war spiraled out of control.

In 2265, in an attempt to put an end to the bloodshed, two of the three warring regions accepted a proposal to join the nascent Marik Commonwealth. However, the ruling d'Andre family of Olympica refused, and with aid from Regulus—at the time warring with the Commonwealth—managed to secure recognition as an independent state, a status they hold to this day.

However, though war ceased to be a way to resolve differences, the three provinces continued to vie for market share—using any means necessary at times—and the independent Olympica constantly took the upper hand. In 2426, with Joseph Stewart as Captain-General and the economy of the entire Free Worlds League sliding towards ruin (along with the war with the Lyran Commonwealth), the two republics of Kasnov and New Greenland forged a new identity—the Republic of Kasnov-Greenland—in the hopes of creating a new economic power block against Olympica. In 2478, to further that goal, Earl Trusa Kefalczyk founded the Turbian Fishing Concern. Though initially a small cannery to compete against Olympica's larger Kondon Fisheries, it would eventually become DuraPaq Solutions, one of the largest manufacturers and shippers of foodstuffs in the FWL.

In 2864, as the leaders of all five Great Houses met on New Earth for peace talks at the end of the Second Succession War, a progressive-thinking Earl Jarv Kefalczyk made the bold move of contacting Duke Solia Zdenekova of Gienah with a business proposition: to combine DuraPaqs' patented packaging systems with Gienah Automotive to create a new standard of shipping vehicles. While the outbreak of war between the Free Worlds League and Lyran Commonwealth in 2869 slowed talks, they still continued, and by the end of the twenty-ninth century, the first in a long series of Gienah-DuraPaq land trains premiered.

Land trains have existed for centuries. Slow but reliable, they are a relatively low-tech means of transporting goods across vast, inhospitable distances between fledgling, landlocked cities on newly colonized worlds—worlds that cannot afford DropShips to shuttle such materials, do not yet have the means and the infrastructure to build rails, and lack waterways capable of supporting a mass transportation system. As such, dozens of models of such vehicles are available, from as many worlds and manufacturers. However, though the Davion-produced O'Keefre Model II and Kurita-produced Isesaki Roku Royal are similar and both exported to other realms, the quality and performance of the Elite Series across more than a century has ensured its market dominance.

Type: **Gienah-DuraPaq Elite Series 3**
Chassis Type: Tracked (Large)
Mass: 200 tons
Equipment Rating: D/X-E-D/C

Equipment			**Mass**
Chassis/Controls:			60
Engine/Trans:	Fusion		100
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 6):	158		6
	Internal Structure	*Armor Value*	
Front	20	33	
Front R/L Side	20	25/25	
Rear R/L Side	20	25/25	
Rear	20	25	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
2 tons standard — 1 Door (Rear)

Notes: Features Tractor Chassis and Controls Modification, 4 crew quarters (28 tons), 4-patient paramedic equipment (1 ton), 1 lift hoist (3 tons), usually includes second crew and medic

Type: **Gienah-DuraPaq Elite Series 3T**
Chassis Type: Tracked (Medium)
Mass: 50 tons
Equipment Rating: D/X-E-D/C

Equipment			**Mass**
Chassis/Controls:			7.5
Engine/Trans:			0
Cruise MP:	N/A		
Flank MP:	N/A		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 6):	79		3
	Internal Structure	*Armor Value*	
Front	5	20	
R/L Side	5	20/20	
Rear	5	19	

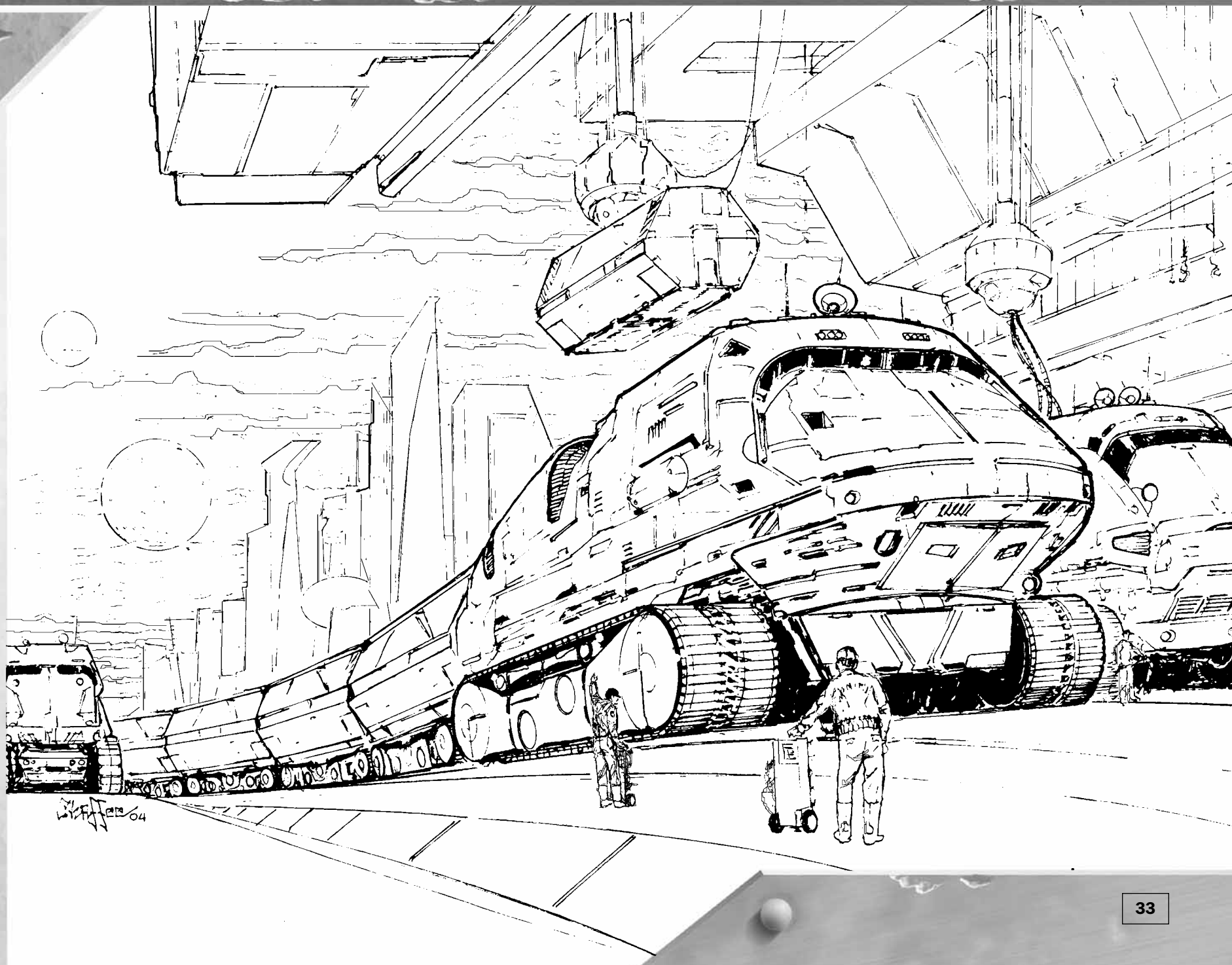
Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 0
Cargo
Includes one of the following configurations:

39 tons standard cargo	4 Doors (1 each side)
33.9 tons Insulated/Refrigerated (39 tons)	4 Doors (1 each side)
35.4 tons liquid (39 tons)	4 Doors (1 each side)
31.9 tons livestock (39 tons)	4 Doors (1 each side)

Notes: Features Tractor and Trailer Chassis and Controls Modification

GIENAH-DURAPAQ ELITE SERIES 3



LUCIANO WHITE WOLVERINE

As its name implies, an Arctic Crawler is built for cold, icy climates, preferably with terrain constantly covered in ice or hard-packed snow. In addition to being capable of functioning in temperatures well below freezing, a good Arctic Crawler is also of lightweight construction, yet is stable against sudden winds and can cope with most obstacles thrown unexpectedly into its path.

If that was what the brothers Luciano had planned when they started to tinker with the rusty Ground Tug they found at a nearby abandoned military airport, it is lost to history. Fact is, their handicraft proved to be a perfect vehicle on frosty Rubigen. Not averse to doing some business, the brothers soon found themselves opening a little shop, upgrading their neighbors' machines for fair prices and the occasional red wolverine fur. In dull wintertime, when—except for the occasional express repair—customers were scarce, Romeo profited from the growing economy in the young colony. From short sightseeing tours to demanding hikes across the ice-desert, he offered attractions of all variations in the Bassers Glacier area. Giacomo preferred to stay in the warm garage instead, further optimizing and tweaking components, profiting from whatever feedback customers or his brother were willing to part with. As such, it came as no surprise when he came forward some years later with a design entirely his own, simply called White Wolverine.

From there on, the brothers' story went on like those of so many successful start-up enterprises. Rising order figures were met with expanded production capabilities, more sales led to a multiplied income and this to, well, almost anything. In case of the Lucianos they didn't spend it on luxuries, but broadened their palette of models instead to stay ahead of the customer market. At the core of it, though, the White Wolverine still stood. Having undergone only minor changes, it had long since become the epitome of an Arctic Crawler.

Success had its downsides, of course, and while generally content with his life's work, Giacomo once mentioned in an interview that—deep inside—he still gnawed on an unfortunate incident dating back to the late 2560s. Soon after that interview, he proudly presented a major change to the White Wolverine: the non-intelligent drive assembly. Sounding like something not-so-positive at first, this—his—invention was a stroke of genius. Instead of using more and more sophisticated computers to calculate the positioning of wheels, tracks and struts to keep a vehicle's balance through difficult terrain, Giacomo went the other way. After a year-long study of insects whose leg reactions are lightning-fast and yet not coordinated by a central brain, he found a way to emulate this method by mechanical means, using no computer chips—hence the non-intelligent drive assembly. The tragic part about it was that Giacomo in his ecstasy had forgotten to claim a patent for his invention. And naturally, when he wanted to do so later in the year, it had already been done by a certain New Earth Trading Company, which conveniently announced the drive assembly problems plaguing their *Vedette* tank since its inception had been solved through "the next level in drive technology" just a few months later.

Type: **Luciano White Wolverine**
Chassis Type: Tracked (Medium)
Mass: 8 tons
Equipment Rating: D/D-E-D/C

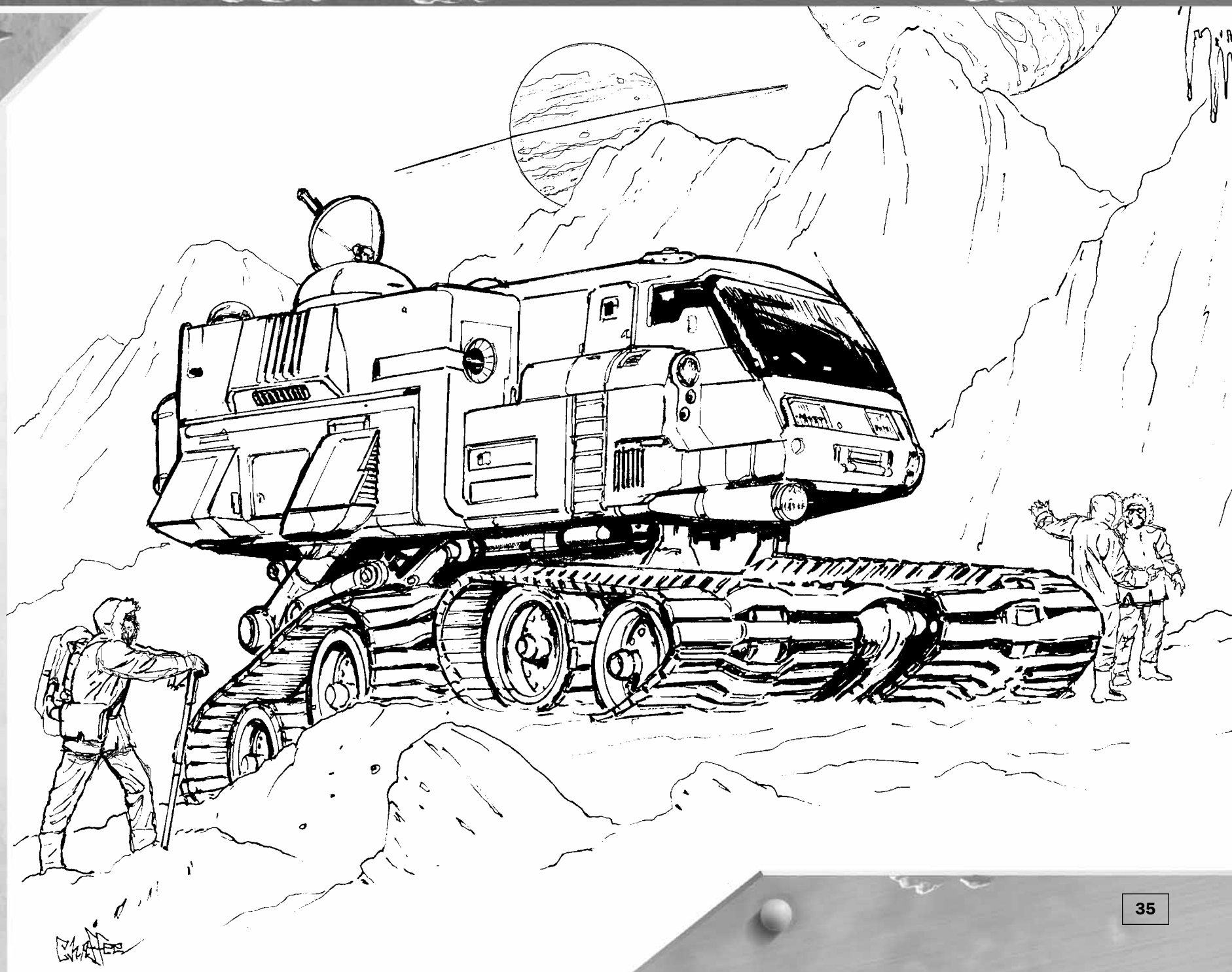
Equipment			**Mass**
Chassis/Controls:			2.5
Engine/Trans:	ICE		3.5
Cruise MP:	4		
Flank MP:	6		
Heat Sinks:	0		0
Fuel:	1,428 km (Petrochemical)		.5
Turret:			0
Armor Factor (BAR 6):	13		.5
	Internal Structure	*Armor Value*	
Front	1	4	
R/L Side	1	3/3	
Rear	1	3	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
.5 tons standard — 1 Door (Left Side)

Notes: Features Snowmobile Chassis and Controls Modification, searchlight (.5 tons, Front)

LUCIANO WHITE WOLVERINE



HESIOD UTILITY VEHICLE / SATURN HARVESTER

The new star of Earthwerks' civilian vehicle range, the Hesiod is a rugged all-terrain utility vehicle. Powered by a combustion engine renowned for its ability to run on almost anything, the Hesiod is valued for low running costs and reliability. But what really sets it apart from other civilian vehicles is the use of Omni technology derivative from the latest military equipment. A variety of modular agricultural tools allow the Hesiod to replace a host of specialized vehicles. The most commonly used options include a combine unit, a lift hoist, a bulldozer, and a cargo model.

Developed in the Free Worlds League in 3060, the Hesiod is now manufactured by all branches of the company. The turmoil of the FedCom Civil War had a major impact on sales in Lyran and FedSun space, but sales in the Free Worlds League more than compensated. Hard pressed to meet demand, Earthwerks-FWL began shipping in vehicles produced in the Capellan Confederation. This almost triggered strikes amongst the Bernardo-based workers who feared the precedent of using cheaper Capellan labor to do their jobs. However, rumors that the foreign-built vehicles were sub-standard caused Earthwerks even more difficulties.

While Earthwerks-FWL maintain that there is absolutely no evidence that their sister company's quality assurance system is any less rigorous than their own, the Bernardo plant has been expanded to meet demand and importation has been discontinued. Within the last few months there have even been encouraging signs of growing demand in other Inner Sphere states.

While Earthwerks sees the Hesiod as the future of agricultural vehicles, the mighty Saturn Harvester represents the company's past. First introduced in 2652, this giant machine was intended to fill the requirement for highly automated equipment. With new water purification and terraforming technology opening up many worlds for settlement, the colonists were finding their manpower was stretched to the limit. Although considerably more expensive than a fleet of smaller vehicles, the three-man crew of the Saturn can cover the same acreage as a team five larger.

The crews of these vehicles often follow a nomadic lifestyle, traveling in mighty convoys as they follow the shifts of the seasons and the harvest. With virtually unlimited range provided by a fusion power plant, the harvesters can operate independently of road networks and are fully amphibious. Vehicles often carry automatic food processing equipment that can accommodate both food crops gathered through a combine system and meat animals. Earthwerks promotional material proudly announces that their system can "go from hoof to freeze-pack in under twenty minutes." Conveyer and cargo lifts allow the vehicle to off-load packaged products even while on the move.

Although the original reasons behind the Saturn's design faded as populations grew, they remain in service on many worlds. The capability of processing on-site eliminates the cost of transporting waste material that will only be discarded later. In large scale operations the savings can be considerable—certainly more than enough to justify keeping these titans of the fields in service.

Type: **Hesiod Utility Vehicle**
Chassis Type: Wheeled (Medium)
Mass: 7 tons
Equipment Rating: E/X-X-E/B

Equipment			**Mass**
Chassis/Controls:			1.5
Engine/Trans:	ICE		1.5
Cruise MP:	4		
Flank MP:	6		
Heat Sinks:	0		0
Fuel:	2,667 km (Alcohol)		.5
Turret:			0
Armor Factor (BAR 4):	18		.5
	Internal Structure	*Armor Value*	
Front	1	5	
R/L Side	1	5/5	
Rear	1	3	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1

Configuration 1
Cargo
3 tons standard — 1 Door (Rear)

Configuration 2
Cargo
.5 tons standard — 1 Door (Rear)

Notes: Features Off-road and Omni (3 tons pod space) Chassis and Control Modification, combine (2.5 tons, Front)

Configuration 3
Cargo
1 ton standard — 1 Door (Rear)

Notes: Features Off-road and Omni (3 tons pod space) Chassis and Control Modification, bulldozer (2 tons, Front)

Configuration 4
Cargo
None — 1 Door (Rear)

Notes: Features Off-road and Omni (3 tons pod space) Chassis and Controls Modification, lift hoist (3 tons, Front)

Type: **Saturn Harvester**
Chassis Type: Tracked (Large)
Mass: 175 tons
Equipment Rating: D/C-E-D/C

Equipment			**Mass**
Chassis/Controls:			77
Engine/Trans:	Fusion		35
Cruise MP:	2		
Flank MP:	3		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 4):	115		3
	Internal Structure	*Armor Value*	
Front	18	25	
Front R/L Side	18	18/18	
Rear R/L Side	18	18/18	
Rear	18	18	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
21.5 tons standard
12 tons refrigerated (10.4 tons) — 1 Door (Rear)

Notes: Features Amphibious Chassis and Controls Modification, 3 crew quarters (21 tons), combine (2.5 tons, Front), lift hoist (3 tons, Rear)

HESIOD UTILITY VEHICLE / SATURN HARVESTER

UL-SERIES CONSTRUCTION VEHICLES

The Kallon UL-series industrial construction equipment, which debuted in 3054, is fast becoming the standard that all other civilian construction vehicles are being judged against. Although not true OmniVehicles, the UL-series all use a base chassis that is identical in every way, save the construction apparatus mounted on the front.

The most innovative feature of a UL vehicle is its adjustable-height chassis. The drive tracks are mounted on a series of hydraulic outriggers that allow the operator to lift the main body of the UL above obstacles. An automatic sensor tied to an audible alarm measures level conditions. The outriggers mean that a UL can operate on the side of a hill or across narrow pits.

At only ten tons, the UL series are light enough to be transported via truck. Their engines—powerful Kallon Growler ICE models—provide sufficient torque to drive any construction attachment. A massive half-ton fuel tank means the ULs can operate for extended periods without refueling, which is a strong selling point for construction companies breaking new ground far from support facilities.

Currently there are four production models of the UL. They are produced across the rimward half of the Inner Sphere in Kallon facilities in the Federated Suns and Free Worlds League. The parts for these simple machines are always produced onsite, leading to very slight variations in weights and measures, but the basic designs are identical.

The UL-10 is a backhoe model, often used in conjunction with popular dumper vehicles like the Brunel or Lesseps. Although both of those vehicles mount integral backhoes, many companies supplement them with UL-10s, often doubling the loading speed of these massive vehicles.

UL-11 Rock Cutters are found in almost every heavy construction site across the rimward Sphere. They are often paired with UL-14 Bulldozers to move the broken debris around, in preparation for processing. The UL-14 is an interesting dual-blade bulldozer, mounting heavy blades on both front and rear. This allows the UL-14 to work in both directions without taking time to swing around the ponderous machine. Many operators claim this increases their productivity, a profit-earning feature that endears the UL-14 to executives.

The rarest UL is the Model 12 Chainsaw. Common only on those worlds where logging is a serious industry, the UL-12 mounts a massive chainsaw on the end of a backhoe boom. Braces clasp a tree trunk of up to a meter's thickness while the blade cuts through. The boom operator can then pivot the boom and drop the tree to be trimmed and gathered. Because of competition with dedicated IndustrialMechs such as the LoggerMech, the UL-12 is experiencing lackluster sales.

Earthwerks markets a series of construction equipment to supplement their Lesseps Dumpers, but the poor reputation of that vehicle is making sales difficult. Kallon executives on several worlds encourage this, often showing the UL vehicles clearing burning debris or vehicle accidents. They are clearly trying to keep as much of the construction market share as they can.

Type: **Kallon UL-series Construction Vehicles**
Chassis Type: Tracked (Medium)
Mass: 10 tons
Equipment Rating: C/X-X-E/C

Equipment		**Mass**
Chassis/Controls:		2
Engine/Trans:	ICE	1.5
Cruise MP:	1	
Flank MP:	2	
Heat Sinks:	0	0
Fuel:	3,333 km (Petrochemical)	.5
Turret:		0
Armor Factor (BAR 3):	21	.5

	Internal Structure	*Armor Value*
Front	1	6
R/L Side	1	5/5
Rear	1	5

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2

Variant: UL-10 Backhoe
Cargo
.5 tons standard — 2 Door (Left/Right Sides)

Notes: Backhoe (5 tons, Front)

Variant: UL-11 Rock Cutter
Cargo
.5 tons standard — 2 Door (Left/Right Sides)

Notes: Rockcutter (5 tons, Front)

Variant: UL-12 Chainsaw
Cargo
.5 tons standard — 2 Door (Left/Right Sides)

Notes: Chainsaw (5 tons, Front)

Variant: UL-14 Dual Bulldozer
Cargo
1.5 tons standard — 2 Door (Left/Right Sides)

Notes: 2 bulldozers (2 tons, Front/Back)

UL-SERIES CONSTRUCTION VEHICLES

CORX MOBILE TUNNEL MINER

Mobile Tunnel Miners (MTM) have been a mainstay of interstellar exploration since the first colony was established on New Earth. Built in a multitude of forms, MTMs can be found on almost every habitable world in the human Sphere. Suitable for ore mining, deep-surface mining, and tunnel creation, MTMs have not changed much in design since Caterpillar-Deere unveiled the MoleRat tracked sub-surface miner in 2190.

The Corx MTM by Terex-Schaeff is one of the most venerable designs of the MTM. First built in 2420 on New Earth, the Corx is capable of creating any shape tunnel needed thanks to the TS-Essex rock cutter platform, allowing cuts that range up to forty-five degrees off the horizontal. Combining a sixteen-speed cutter with a lightweight condensing system (to keep the blades and rock from superheating from friction), the Corx can execute standard cuts over five times faster than the MoleRat, which disappeared from most mining consortium inventories by 2540.

Aggerri utilized several Corx machines in building their sixty-million square foot below-ground factory on Genoa, creating a series of caverns and tunnels that connected multiple sections of the plant to the surface DropPort. The massive layout allowed Aggerri to assemble full airframes for exportation and immediate loading onto their *Mule* transports with minimal exposure to the hostile surface environment. Because Aggerri kept 95% of their work on Genoa, they formed a small city—Buche Arreste—for their workforce and simultaneously reshaped the planetary economy. Without the Aggerri plant, it was assumed that Genoa would fade as a colony since the harsh environment and claustrophobia-inducing tunnel systems would wear down even the hardiest of people. This assumption became fact when Aggerri shut down production after the Second Succession War, when critical systems began failing and no information on how to retool the plant was available. With the death of these centuries-old technologies, the assembly plant could no longer function as a whole and Aggerri was reduced to creating spare parts for their production models. The cutbacks came hard as business dwindled, and many citizens of Genoa were forced to leave the system in search of opportunity elsewhere. The large fleet of MTMs was sold off at auction in 2982 as they were no longer needed for planetary development.

Contard Mining bought several of the Aggerri MTMs, using them to develop new mines on New Syrtis. The Corx was ideal for use in the frozen crust of the northern tundra. The tremendous heat given off by the cutters helped thaw out the rock long enough for workers to cement a solid framework in the mineshafts. This allowed Contard to build mines with a 100-percent safety record, with no tunnel collapses or mishaps. Contard was able to use the MTMs to dig deep into the crust, striking several massive veins of ore. Within two whirlwind generations, Contard became the second-biggest supplier of raw ore to the Davion military machine, helping the Suns to become a military powerhouse during the Fourth Succession war, the subsequent Clan invasion, and the FedCom civil war.

Type: **Corx MTM Vehicle**
Chassis Type: Tracked (Large)
Mass: 200 tons
Equipment Rating: C/E-E-E/E

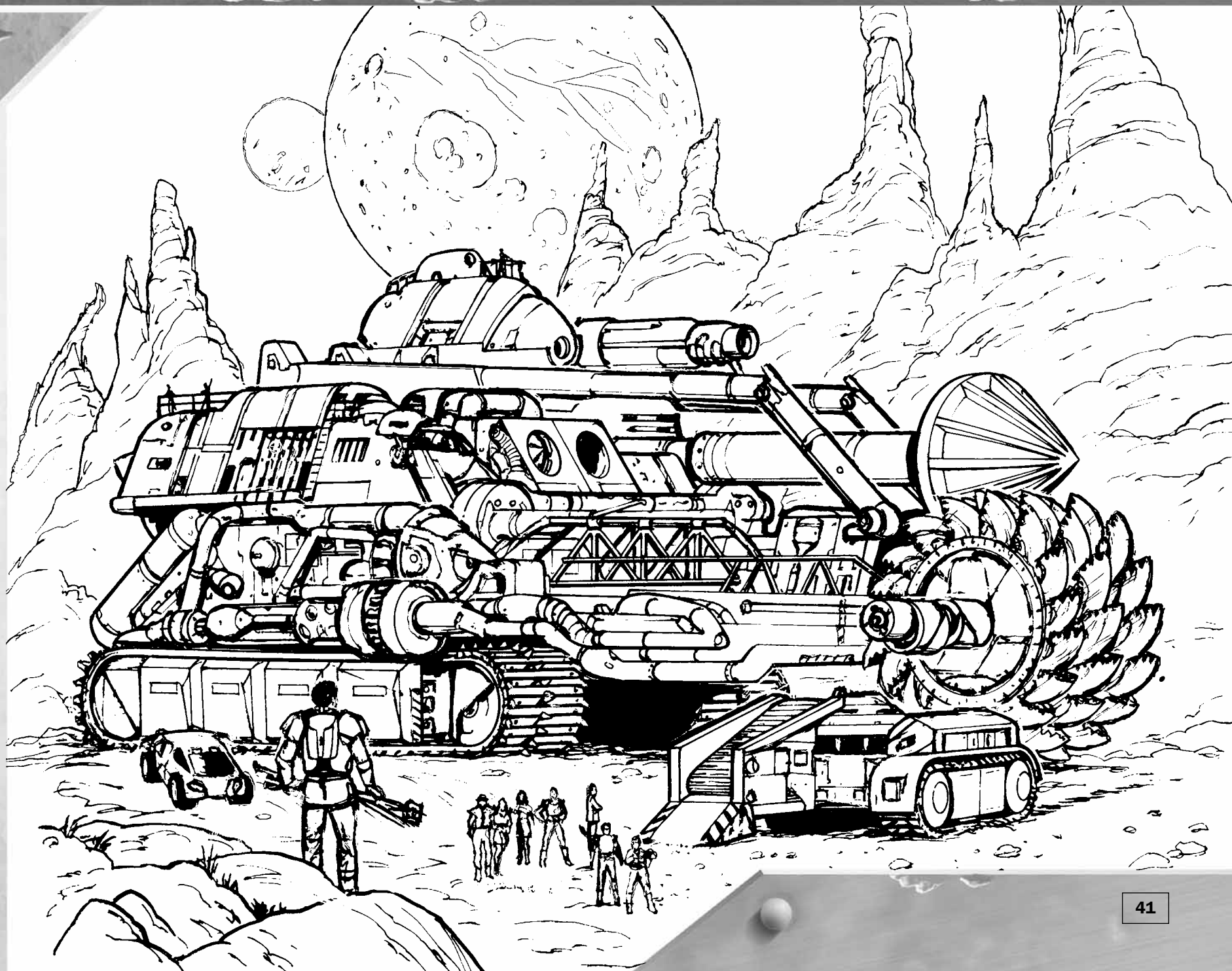
Equipment			**Mass**
Chassis/Controls:			115
Engine/Trans:	Fission		44
Cruise MP:	1		
Flank MP:	2		
Heat Sinks:	2		2
Fuel:			0
Turret:			.5
Armor Factor (BAR 5):	37		1.5
	Internal Structure	*Armor Value*	
Front	20	16	
Front R/L Side	20	3/3	
Rear R/L Side	20	3/3	
Rear	20	3	
Turret	20	6	

Weapons and Ammo	**Location**	**Mass**
2 Small Lasers	Turret	1

Crew: 6 (3 + 2 officers, +2 gunners)
Cargo
18.5 tons liquid storage (16.8 tons) 1 Door (Rear)

Notes: Features Environmental Sealing Chassis and Controls modification, mining drill (3 tons, turret), rock cutter (5 tons, Front), 3 liquid sprayers (45 kg, Front), 1 liquid sprayer (15 kg, Left), 1 liquid sprayer (15 kg, Right), 4 searchlights (2 tons, 2 Turret/2 Front)

CORX MOBILE TUNNEL MINER



CELLCO RANGER UPU-3000

Although hardly the most advanced or sophisticated of its kind in today's market, Quikscell Company's CellCo Ranger is arguably the most common example of the typical heavy law enforcement vehicle, with many variants of its design a common sight on the streets of major cities throughout Lyran space and beyond. Originally designed as an armored personnel carrier for use in urban combat environments, the current incarnation of the Ranger, the UPU-3000, first surfaced during the closing years of the Third Succession War. But while the design was remarkable for its use of less advanced technology than commonly available to military units of the day—making the UPU (Urban Pacification Unit) nominally easier to maintain in the scavenger culture that dominated the Inner Sphere at the time—these features failed to override the vehicle's somewhat higher cost and its inherent weaknesses compared to military-grade APCs of the day, at least in the eyes of the LCAF Quartermasters. The Ranger thus quickly became a staple not of the LCAF, but of various police agencies throughout the Commonwealth.

Light, but comparatively slow, the Ranger is not powered for pursuit, but for containment of trouble spots within dense urban areas. Its well-armored hide protects its cargo of up to seven SWAT troops in full riot gear against small arms and most support-grade weaponry, and can even repel most light military-grade weapons with ease. Lacking any onboard fire control systems, the Ranger's weapons—typically a turreted support machine gun and two liquid sprayers (hard-mounted front and rear) for crowd control—must be aimed and operated manually by the vehicle's crew. Unfortunately, the Ranger's cramped interior is designed for only three crewmen—one driver, one communications officer and one gunner in the vehicle's turret blister, which means that the vehicle's passengers must man the spray cannons as necessary, aiming these crowd control weapons with little more aid than the limited field of vision their armored viewport slits offer.

Despite the drawbacks that led to its failure as a military APC, the Ranger's basic design has proven most effective for highly trained law enforcement units and corporate security forces throughout Lyran and FedSuns space. Modified versions of this vehicle have seen use as armored cars and even mobile command centers for various corporate and security agencies throughout the former FedCom states. Similar vehicles abound in other realms as well. Some of the best known include the venerable Chi-ha CCV (the 24-ton Combine-produced equivalent with design roots dating back to the Age of War), the Capellan-made Urban Enforcer IV, or the more sophisticated Raptor RRV. The Raptor is a more advanced Free Worlds favorite that is lighter and less heavily armored than the Ranger, but features an extended range support laser with basic fire control systems, a roomier passenger bay, and space for extra field gear such as communications and heavy support weapons.

Type: **CellCo Ranger UPU-3000 Heavy Law Enforcement Vehicle**
Chassis Type: Tracked (Medium)
Mass: 17 tons
Equipment Rating: C/X-X-E/E

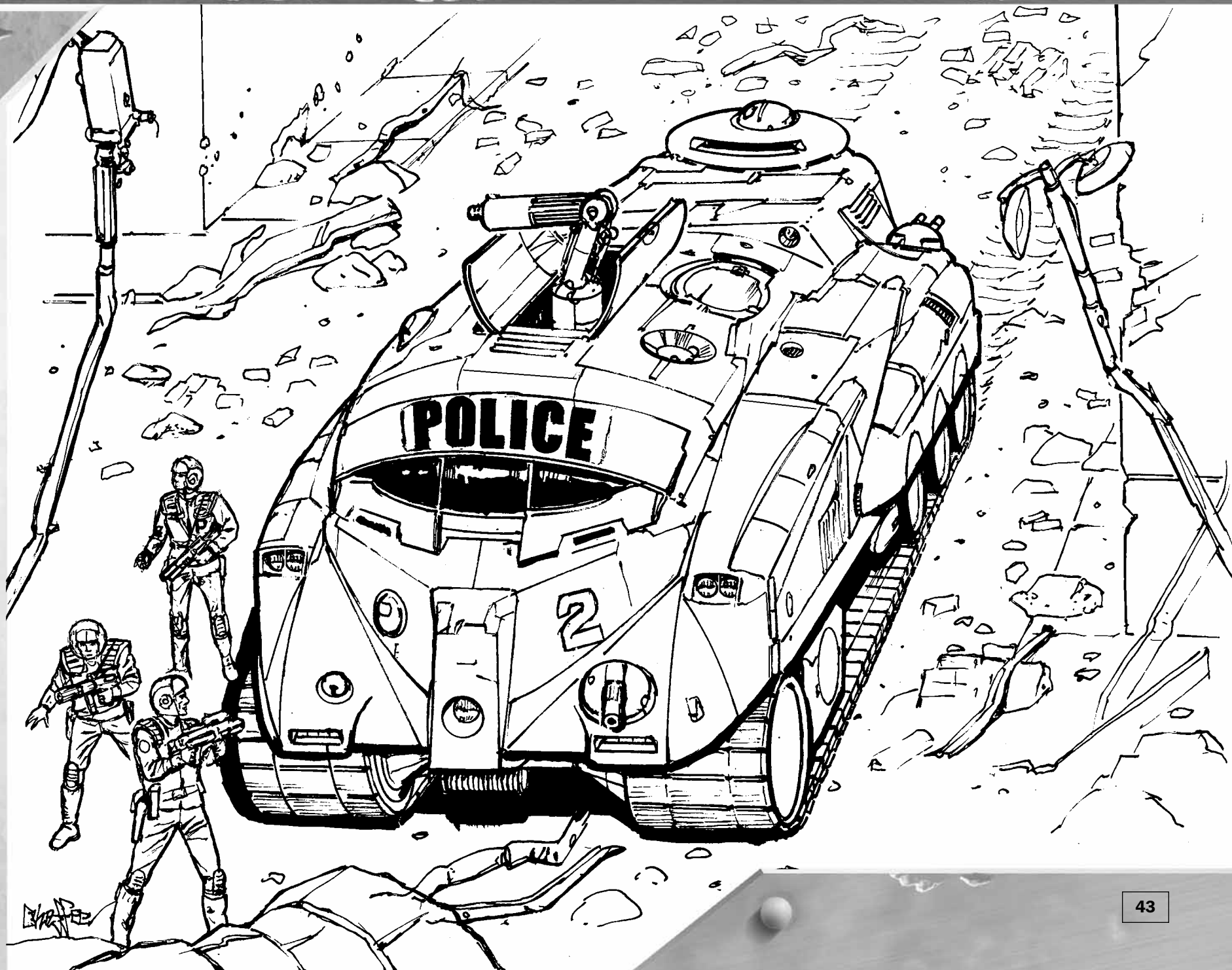
Equipment			**Mass**
Chassis/Controls:			4.5
Engine/Trans:	ICE		6
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:	666 km (Natural Gas)		.5
Turret:			.5
Armor Factor (BAR 8):	38		2.5
	Internal Structure	*Armor Value*	
Front	2	11	
Right/Left Side	2	7/7	
Rear	2	7	
Turret	2	6	

Weapons and Ammo	**Location**	**Mass**
Machine Gun	Turret	.5
Ammo (MG) 100	Body	.5
Sprayer	Front	.015
Sprayer	Rear	.015
Ammo (Sprayer) .86 tons	Body	.95

Crew: 3 (2 + 1 gunner)
Cargo
Infantry Compartment (1 ton) 1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification, 3 hand searchlights (15 kg, 2 Front/1 Turret), sprayer "ammo" treated as liquid cargo storage

CELLCO RANGER UPU-3000



CROYLE CORTEZ / DONOVAN-MITER MAGELLAN

When mankind began spreading its wings outward to the stars, new opportunities opened up for corporations to develop the tools necessary for the new wave of colonization.

Crosus Engineering was an engineering firm noted for its revolutionary chassis that tripled the load-bearing weight of construction machines. Univayle Systems was a scientific research firm based in the Congan jungle. A chance meeting and a radical idea shared between CEO's led to one of the odder mergers of the time—a gamble that paid off in spades.

Newly christened Croyle Systems presented the Cortez prototype at the Colonization Expo in 2114. The design catered to the needs of new colony teams—the ability to traverse most types of terrain while conducting extensive long-term terraforming research with facilities for up to a couple dozen researchers—and netted the company several lucrative contracts.

Several variants of the Cortez were developed, with the "Series N" being the most popular during the Star League era. The revolutionary cargo modules used a Slide-In/Slide-Out (SISO) system that allowed enormous flexibility for a multitude of environments and research protocols. The Cortez became the choice of interstellar terraforming and colonization companies up until the advent of the Succession Wars.

With the market drying up and the four primary factories on Daniels, Demeter, Muphrid and Capolla destroyed, Croyle Systems went bankrupt in less than a year and disappeared. Explorer vehicles fell out of use as parts became rare and eventually most Cortezes vanished for several centuries.

Until Donovan-Miter.

Donovan Limited, a small exploration company contracted with the Explorer Corps, came across an abandoned Cortez in the mid-3040's on CJW-7228, a small system three jumps off the FWL border. Unable to refurbish the ancient vehicle, the Board of Directors instead partnered with Miter Interstellar Research to reverse-engineer it with hopes of designing a new platform that could be sold to others contracted through the Corps.

The Magellan project was shelved when the Clan Invasion hit. Donovan-Miter's contract was not renewed and almost went under when it was approached by Interstellar Expeditions, an archaeological consortium focused on the mysteries of the legendary "Minnesota Tribe." With a large infusion of capital—and a seat on IE's board—the discarded prototype was finished and the Magellan began limited production runs.

Opting not to completely replicate the Cortez, Donovan-Miter switched to a cheaper electric engine so that smaller companies could afford it. Because of its low cost and wider availability, the Magellan is now the de facto choice of many labs and research firms involved in planetary exploration and study.

While each Magellan is custom-made to client specifications, the Series Four is the most popular. The expanded communications module includes scanning and recording equipment, as well as a small satellite uplink to allow real-time planetary coordination between multiple teams. Additionally, the cargo area was optimized for a wide variety of equipment. While the Donovan-Miter team wasn't able to re-engineer the SISO system found in the Cortez, new breakthroughs by Blackwell Corporation in modular technology offer future possibilities of upgrading the Magellan to an even more efficient research platform.

Type: **Croyle Systems Cortez Series N**
Chassis Type: Tracked (Medium)
Mass: 75 tons
Equipment Rating: E/E-F-F/E

Equipment			**Mass**
Chassis/Controls:			33.5
Engine/Trans:	Fusion		6
Cruise MP:	2		
Flank MP:	3		
Heat Sinks:	3		3
Fuel:			0
Turret:			.5
Armor Factor (BAR 8):	88		4
	Internal Structure	*Armor Value*	
Front	8	21	
R/L Side	8	18/18	
Rear	8	15	
Turret	8	16	

Weapons and Ammo	**Location**	**Mass**
Medium Laser	Turret	1
Beagle Active Probe	Body	1.5
Basic Fire Control	Body	.05

Crew: 3 (2 + 1 gunner)
Cargo
18 tons standard (removable container) 1 Door (Rear)
.5 tons standard

Notes: Features Environmental Sealing, Amphibious Chassis and Controls Modifications, 2 manipulator arms (20 kg, Front), remote sensor dispenser (.5 ton), 12 handheld searchlights (60 kg, three in each Location except Turret), mounted searchlight (.5 tons, Turret), and infantry bay (Foot Platoon, 5 tons)

Type: **Donovan-Miter Magellan Series Four**
Chassis Type: Tracked (Medium)
Mass: 75 tons
Equipment Rating: D/X-F-E/E

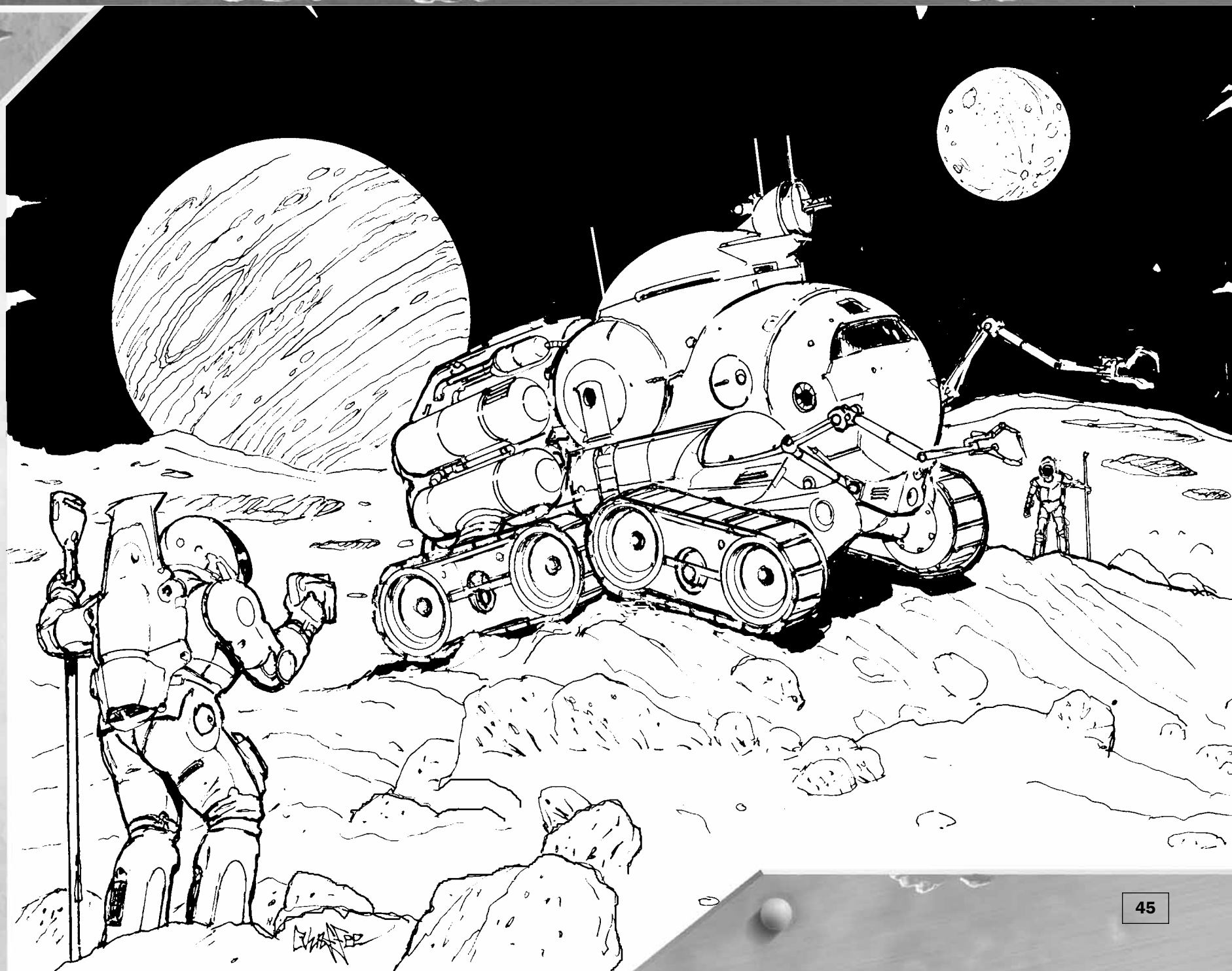
Equipment			**Mass**
Chassis/Controls:			39.5
Engine/Trans:	Electric (Fuel Cell)		8
Cruise MP:	2		
Flank MP:	3		
Heat Sinks:	0		0
Fuel:	2,500 km		3
Turret:			.5
Armor Factor (BAR 5):	62		2
	Internal Structure	*Armor Value*	
Front	8	18	
R/L Side	8	13/13	
Rear	8	8	
Turret	8	19	

Weapons and Ammo	**Location**	**Mass**
2 Machine Guns	Turret	1
Ammo (100)	Turret	.5
Basic Fire Control	Body	.05

Crew: 4 (2 + 2 gunners)
Cargo
11 tons standard 1 Door (Rear)

Notes: Features Environmental Sealing, Amphibious Chassis and Controls Modifications, 2 manipulator arms (20 kg, Front), 1 lift hoist (3 tons), 4 mounted searchlights (2 tons, Front/Right/Left/Turret), and infantry bay, (Foot Platoon, 5 tons)

CROYLE CORTEZ / DONOVAN-MITER MAGELLAN



SHERPA ARMORED TRUCK

Deployed BattleMechs and combat vehicles have always received the limelight, but behind the scenes it is support vehicles that keep their more glamorous cousins fighting. Invisible to the layman, an army's logistical tail can decide the outcome of a battle before it begins. Although the fastest way to move cargo over distances is aboard a DropShip, sub-orbital hops are often not an option. Maintaining a secure line of supply overland—especially in hostile territory—can sap the strength of an army just as fast as disaster on the battlefield. Fusion-powered ground vehicles have no range restrictions—making them ideal to the role. Inevitably, only the most prestigious formations can expect to have sufficient fusion vehicles to equip their rear echelons. And so it falls to the humble ICE powered vehicles to service most armies, but this introduces problems of its own—the need for a steady supply of fuel. Supplying a single element of an army, even a single BattleMech company, can be a mammoth undertaking. Food and water, ammunition, spare parts, medical supplies, clothing, and a host of other consumables are required.

Workhorse designs like the Sherpa Armored Truck have been used across known space since the Age of War. Built on a reinforced chassis configured as a half-track, the Sherpa can negotiate terrain impassable to most civilian ground transports. Armored to withstand small arms and light support weapons, the vehicle can also fight back in a limited fashion with its own support machine gun mounted in a turret atop an armored cab. Many of the vehicle's components can be replaced with parts from civilian vehicles—indeed the drive train from many common heavy freight vehicles can be used as a temporary replacement. This compatibility unfortunately works both ways, and local militia can find their logistical support immobilized by light-fingered personnel out to make a few C-bills.

Capable of hauling seven tons at speed (and significantly more in dire circumstances), the Sherpa's one weakness is its high rate of fuel consumption. One Capellan commander was recorded sourly making the observation that half his logistical transport was tied up following his Sherpas around with the fuel they needed to keep running. For any army attempting to conduct a mobile campaign, this is indeed not far from the truth. Never intended for frontline combat duty, vehicles like the Sherpa are still often employed in poorly equipped mechanized infantry elements of militia and paramilitary formations. Both the Capellan Confederation and Taurian Concordat utilize the truck in this role in their planetary militia.

Many manufacturers produce the Sherpa or similar vehicles, with the Earthwerks production line in the Capellan Confederation being the most prolific; only Vandenberg Mechanized Industries on New Vandenberg comes close to matching the output of the Grand Base industrial complex. A basic but reliable chassis and power train have resulted in a bewildering array of Sherpa variants over the years. Fuel tanker, mobile communication center, MASH vehicle, and mobile canteen—the list of applications seems almost endless.

Type: **Sherpa Armored Truck**
Chassis Type: Tracked (Medium)
Mass: 35 tons
Equipment Rating: D/C-E-D/E

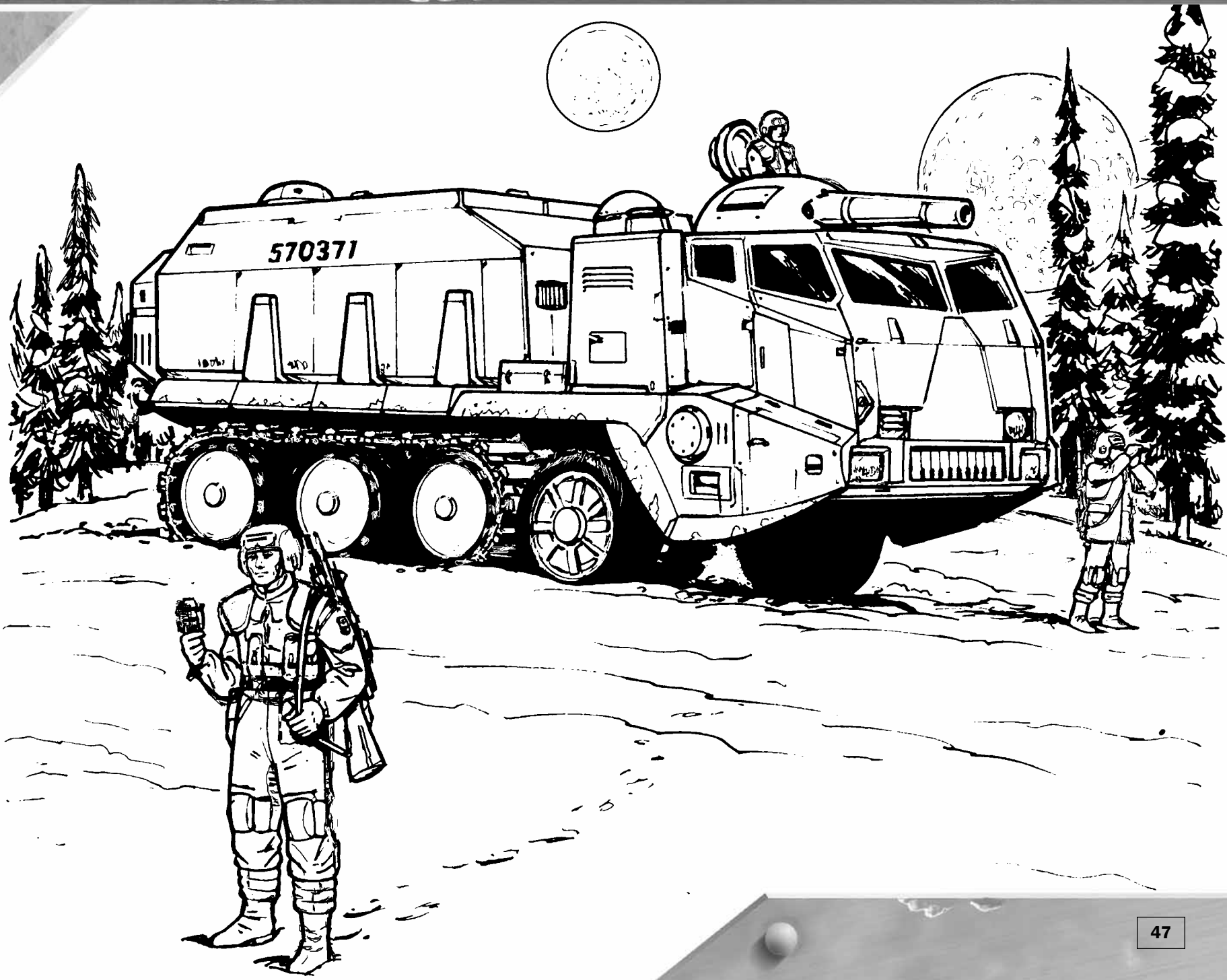
Equipment			**Mass**
Chassis/Controls:			8
Engine/Trans:	ICE		14
Cruise MP:	4		
Flank MP:	6		
Heat Sinks:	0		0
Fuel:	1,071 km (Petrochemical)		1.5
Turret:			.5
Armor Factor (BAR 10):	31		2
	Internal Structure	*Armor Value*	
Front	4	7	
Turret	4	6	
R/L Side	4	6/6	
Rear	4	6	

Weapons and Ammo	**Location**	**Mass**
Machine Gun	Turret	.5
Ammo (MG) 200	Body	1
Basic Fire Control	Body	.5

Crew: 3 (2 + 1 gunner)
Cargo
7 tons standard — 1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification

SHERPA ARMORED TRUCK



RRV "ROCK ROVER" HALF-TRACK

In modern times, the average military table of organization and equipment (TO&E) features listings of BattleMech, aerospace fighter, and conventional vehicle forces in the grossest of possible terms, often overlooking the supporting vehicular apparatus beyond the main battle tanks, fighters, and other combat units. While this is hardly news to most people, the fact remains that even a mention of motorized or mechanized conventional infantry tends to overlook the actual means by which many infantry units are indeed mobilized. Often, such troops are comprised of a combination of smaller vehicles—unarmored jeeps and military motorcycles—built not so much for raw speed, but to transport squads of infantry in tight formations on the modern battlefield, or amid the winding streets of an urban maze.

The RRV "Rock Rover" half-track is an example of one such vehicle favored by mechanized conventional infantry formations, and a prime specimen of modern standards in small-scale infantry and logistical support. Built by Pinard Electric Motors of the Taurian Concordat, the RRV weighs in at a mere four tons in mass, over a quarter of which is devoted to cargo. Well-armored for its size, the vehicle can easily resist most small arms fire, and boasts the ability to give as good as it gets. It has a turret-based Magna Red Star support laser and two side-pintle auto-rifle bubbles, each able to zero in on enemy threats with the aid of the same kind of full military-grade targeting and tracking systems found in most BattleMechs and combat vehicles.

Intended principally to provide up to two full squads of infantry with basic on- and off-road transportation and firepower, the RRV is built just large enough to hold ten to fourteen fully equipped unarmored infantrymen in its rear cargo bay, with seating for the vehicle driver and two gunners—including one at the upper turret seat. Weapon slits along the vehicle's hull provide troops on board with ventilation and the ability to fire from the vehicle even while in motion. The slits may also be closed to protect against the elements. Though not terribly fast, the RRV's ground speed and half-track design allow it to maneuver well in difficult terrain and open ground alike, and its size allows the vehicle to enter terrain larger combat vehicles cannot negotiate as easily. Furthermore, with over two tons of cargo space available, this vehicle has proven its value as a logistical support unit in addition to being an infantry transport.

Though marketed for military sale, the RRV has also entered the civilian markets of the Periphery and even the Inner Sphere in various forms. Most common is the commercial security model, which tends to swap weapons and cargo space for a little more ground speed. Similar designs are also commonplace among competitors and arms suppliers for other states as well, including Gienah Automotive's three-ton Rumbler-HT, or Buda Imperial Vehicles' Limpet (which matches the RRV in almost every way, except for the use of an SRM in place of the support laser).

Type: **RRV "Rock Rover" Half-Track**
Chassis Type: Tracked (Small)
Mass: 4,000 kg
Equipment Rating: D/E-E-E/E

Equipment			**Mass**
Chassis/Controls:			780 kg
Engine/Trans:	Electric (Fuel Cell)		192 kg
Cruise MP:	2		
Flank MP:	3		
Heat Sinks:	0		0 kg
Fuel:	625 km		18 kg
Turret:			8 kg
Armor Factor (BAR 8):	12		612 kg
	Internal Structure	*Armor Value*	
Front	1	3	
Right/Left Side	1	3/3	
Rear	1	2	
Turret	1	1	

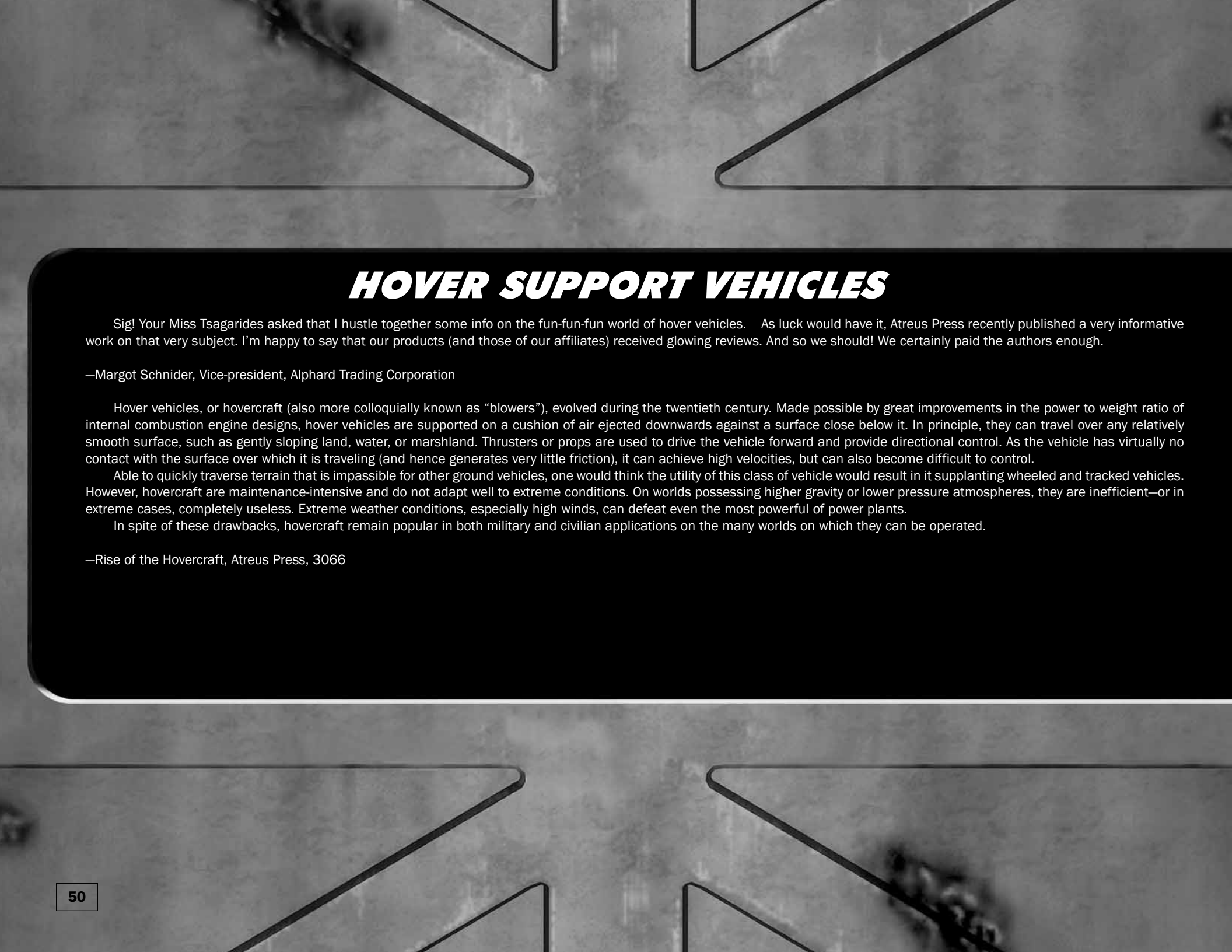
Weapons and Ammo	**Location**	**Mass**
Support Laser	Turret	72 kg
Ammo (Support Laser) 30	Turret	6 kg
Automatic Rifle	Left (Pintle)	4.2 kg
Ammo (Automatic Rifle) 300	Body	4.8 kg
Automatic Rifle	Right (Pintle)	4.2 kg
Ammo (Automatic Rifle) 300	Body	4.8 kg
Advanced Fire Control	Body	8 kg

Crew: 4 (1 + 3 gunners)
Cargo

1,000 kg Infantry Bay (1 squad)	1 Door (Rear)
779 kg standard	1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification, 3 crew seats (225 kg, Body), 1 handheld searchlight (5 kg, Front)

RRV "ROCK ROVER" HALF-TRACK



HOVER SUPPORT VEHICLES

Sig! Your Miss Tsagarides asked that I hustle together some info on the fun-fun-fun world of hover vehicles. As luck would have it, Atreus Press recently published a very informative work on that very subject. I'm happy to say that our products (and those of our affiliates) received glowing reviews. And so we should! We certainly paid the authors enough.

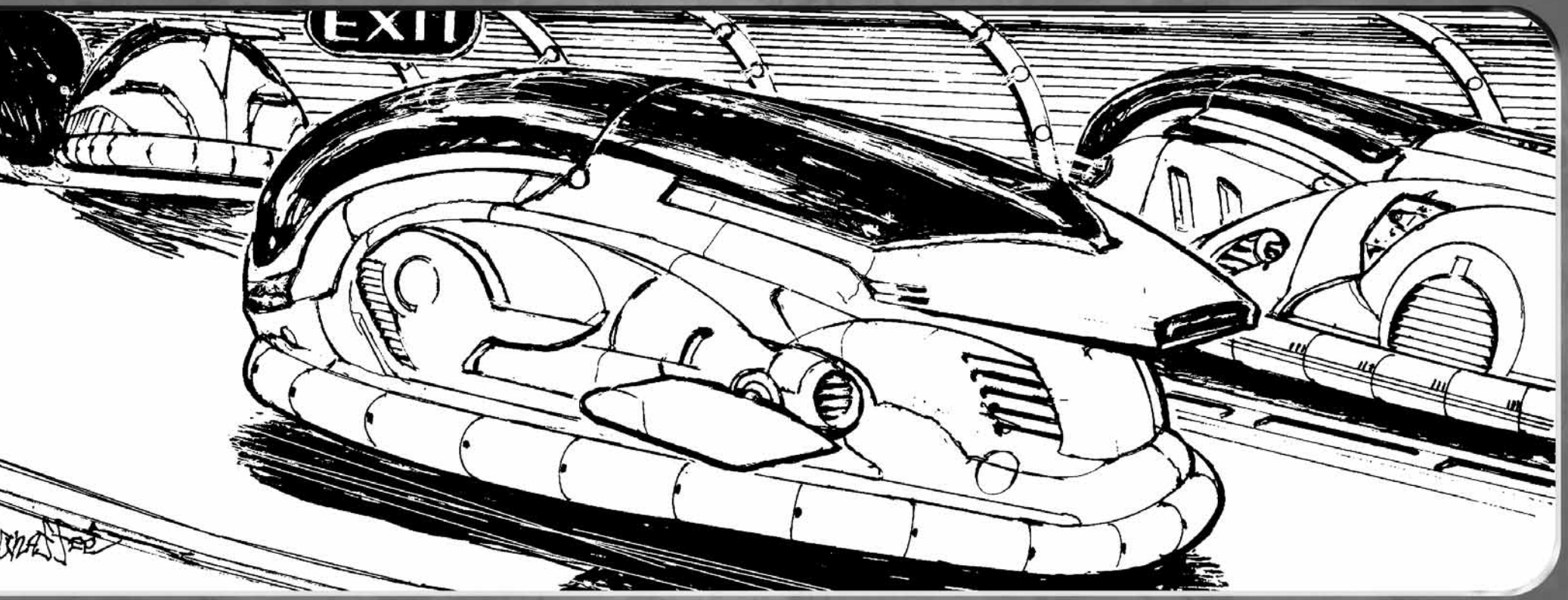
—Margot Schnider, Vice-president, Alphard Trading Corporation

Hover vehicles, or hovercraft (also more colloquially known as "blowers"), evolved during the twentieth century. Made possible by great improvements in the power to weight ratio of internal combustion engine designs, hover vehicles are supported on a cushion of air ejected downwards against a surface close below it. In principle, they can travel over any relatively smooth surface, such as gently sloping land, water, or marshland. Thrusters or props are used to drive the vehicle forward and provide directional control. As the vehicle has virtually no contact with the surface over which it is traveling (and hence generates very little friction), it can achieve high velocities, but can also become difficult to control.

Able to quickly traverse terrain that is impassible for other ground vehicles, one would think the utility of this class of vehicle would result in it supplanting wheeled and tracked vehicles. However, hovercraft are maintenance-intensive and do not adapt well to extreme conditions. On worlds possessing higher gravity or lower pressure atmospheres, they are inefficient—or in extreme cases, completely useless. Extreme weather conditions, especially high winds, can defeat even the most powerful of power plants.

In spite of these drawbacks, hovercraft remain popular in both military and civilian applications on the many worlds on which they can be operated.

—Rise of the Hovercraft, Atreus Press, 3066


EXIT

BFFL "BUFFALO"

A vehicle dating back to the Terran Hegemony Supply and Support Services, the BFFL survived the centuries on the strength of its simplicity. A basic crew cab, an efficient engine, and four sets of universal cargo cubicle hard points are the elementary components of the BFFL.

Jarod Westphal was an enterprising young man serving a tour of duty in the Hegemony Armed Forces. Assigned to the HAF Logistics Command on New Earth, Westphal commanded an underground cargo staging point. As his final tour was coming to an end, Westphal was looking for business opportunities on New Earth. After convincing the planetary Quartermaster (with a case of rare, imported brandy) to retire ten of the older BFFLs, the veteran took them, cleaned them up, restored them to factory condition, and started the Westphal Cargo Carriers Company.

One of Westphal's initial clients was the famed New Earth Trading Company. NETC officials commented on how the BFFL was a relatively quiet hovertruck, thanks to its fuel cell-powered electric engine. At the same time, the BFFL was able to handle large amounts of cargo, due to its simple but robust transmission system. After failed attempts by NETC to license the design, the corporate board decided to simply buy the company who designed the BFFL. Capitalizing on the opportunity to license the design to vehicle manufacturers across the Inner Sphere, NETC's land-based CargoCrawlers division remained one of the more consistent divisions in the company. All the while, Westphal Cargo Carriers Company shuttled thousands of tons of cargo around New Earth every week for the next hundred and fifty years.

Understanding that while owner/operators would rename their trucks anyway, the advertising and marketing people at New Earth Trading Company knew they had to market it to the procurement offices of other corporations. The designation the HAF gave the truck—BFFL—was shortened from Behind Friendly-lines, Fixed Logistics. An accurate description for a truck that was never designed to come near the battlefront, the name was still unwieldy. Noting the relative size of the hovertruck as it moved through traffic, a random marketing fellow joked with a co-worker that "...the damned things looked like a buffalo herd heading out to pasture." Unfortunately for the fellow, his officemate fired off an electronic message to their boss with "her" suggestion for a name. Despite cries of foul play, the young lady wound up with a raise and a promotion to the head of the then renamed "Buffalo Department" of CargoCrawlers.

The fall of the Star League, along with the following Succession Wars, had very little impact on sales of Buffalos. The most difficult part of the truck to produce, the transmission, was still relatively simple. The only impact the Succession Wars had on the design was a change of materials used to make the transmission. Even then it was only a matter of a few hundred kilograms between the lightest and heaviest transmission. But in an industry where every kilogram counts, owners of the Buffalos welcomed the re-introduction of lighter transmissions as the metallurgical knowledge of the Helm Memory Core spread.

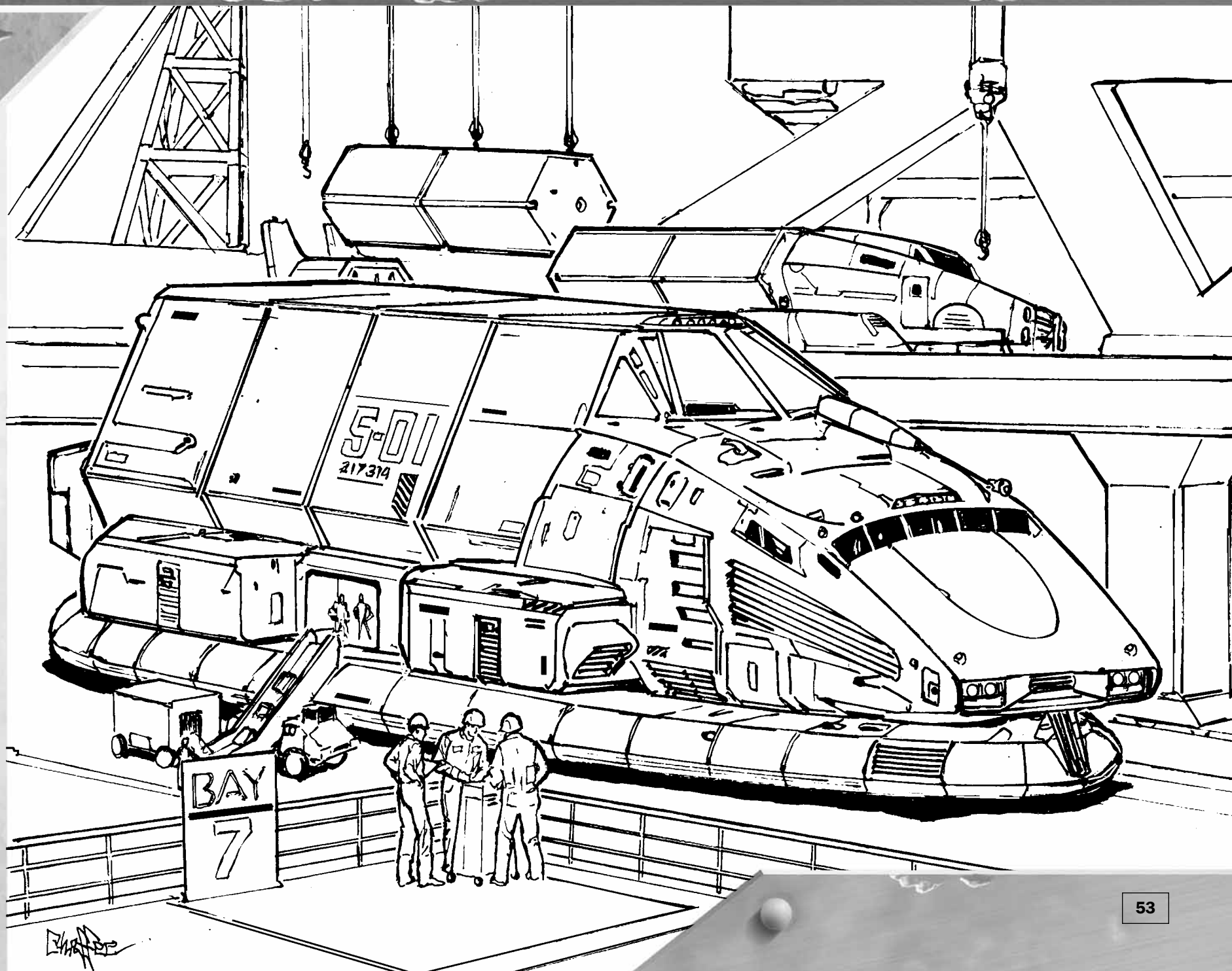
Type: **BFFL Buffalo**
Chassis Type: Hover (Large)
Mass: 100 tons
Equipment Rating: D/B-C-C/D

Equipment			**Mass**
Chassis/Controls:			30
Engine/Trans:	Electric (Fuel Cell)		23.5
Cruise MP:	5		
Flank MP:	8		
Heat Sinks:	0		0
Fuel:	1,702 km		6
Turret:			0
Armor Factor (BAR 2):	38		.5
	Internal Structure	*Armor Value*	
Front	10	8	
Front R/L Side	10	6/6	
Rear R/L Side	10	6/6	
Rear	10	6	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
40 tons (container) 1 Door (Rear)

BFFL "BUFFALO"



ROUTEMASTER SHUTTLE / LEWIS SKIMMER BUS

Employed as part of an integrated metropolitan transport system, hover shuttles operate exclusively on dedicated roadways, or reserved lanes on public highways. Free from the curse of congestion, the hover shuttle can achieve great speeds as it transports passengers from point to point. Far easier and cheaper to construct and maintain than an equivalent rail system, the hover shuttle concept has proven an attractive solution to the problems of urban traffic. Most hover shuttles carry a human operator, but a number of automated systems (most notably the networks in Geneva on Terra and that of Avalon City) operate autonomously under centralized computer control.

Manufactured by the civilian vehicles division of Defiance Industries since 2770, the Routemaster Hover Shuttle is a typical example of this class of vehicle. With capacity to carry fourteen passengers and a modest volume of luggage, the vehicle can travel at speeds in excess of 150 kph under the guidance of a single operator. The ubiquitous red Routemasters of Tharkad City have become a much-loved part of the city's landscape—so much so that when Archon Katherine Steiner-Davion moved to have the fleet repainted in Steiner blue, she was forced to abandon the plan in the face of a groundswell of public opposition.

Hover vehicles are also an effective solution to the problems posed by the need for heavy transports. The cost of laying down a robust roadbed that can survive incessant use by heavy vehicles is often prohibitive. However, hover vehicles generate very low ground pressure in relation to their mass, and can even use local waterways. A stunning array of passenger and cargo skimmers can be found across the Inner Sphere.

Following the success of their Savannah Master hovercraft, S. L. Lewis, Incorporated branched out into the civilian vehicle market. Their popular Lewis Skimmer Bus is powered by a clean and efficient hydrogen fuel cell. With capacity for eighty-six passengers and an impressive eighteen tons of cargo, the Skimmer Bus is an affordable alternative to air travel over short and intermediate distances. A three-man crew consisting of a driver and two stewards can be augmented with one or more plain clothes "transport police" amongst the passengers, especially if a particularly valuable cargo is carried.

On occasion, vehicles like the Lewis have been pressed into service in the role of an infantry transport. As the Third Succession War sputtered to an end, Steiner commanders defending Severn used local Skimmer Buses to ferry troops to and from the front lines, freeing up their dwindling APC complement to support offensive operations.

Type: **Routemaster Hover Shuttle**
Chassis Type: Hover (Small)
Mass: 3,800 kg
Equipment Rating: C/D-B-A/C

Equipment		**Mass**
Chassis/Controls:		874 kg
Engine/Trans:	ICE	1,615 kg
Cruise MP:	9	
Flank MP:	14	
Heat Sinks:	0	0 kg
Fuel:	495 km (Petrochemical)	80 kg
Turret:		0 kg
Armor Factor (BAR 3):	4	96 kg
	Internal Structure	*Armor Value*
Front	1	1
R/L Side	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
85 kg standard — 2 Doors (1 each side)

Notes: Features 14 crew & passenger seats (1,050 kg)

Type: **Lewis Skimmer Bus**
Chassis Type: Hover (Large)
Mass: 80 tons
Equipment Rating: D/X-C-C/D

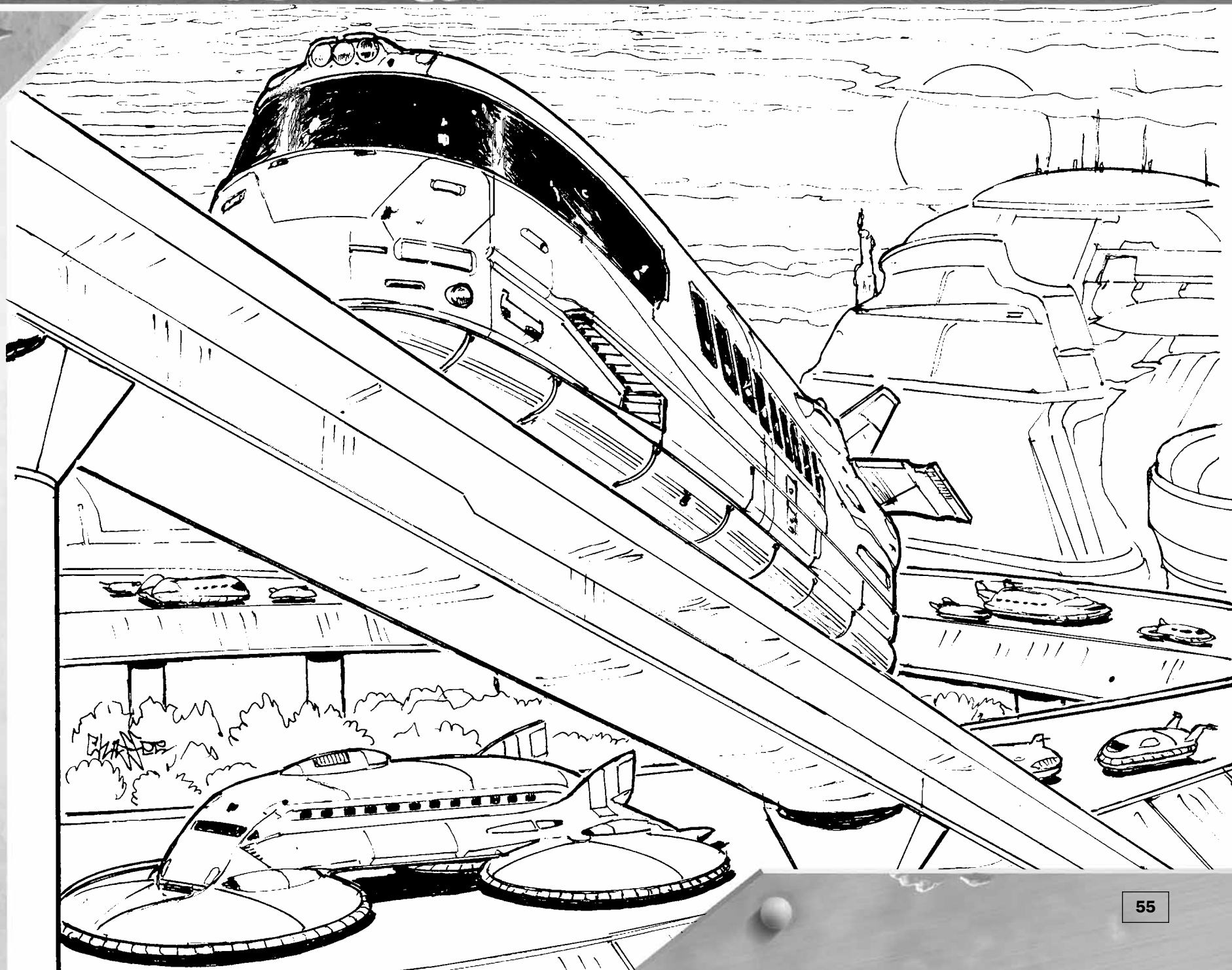
Equipment		**Mass**
Chassis/Controls:		24
Engine/Trans:	Electric (Fuel Cell)	26
Cruise MP:	6	
Flank MP:	9	
Heat Sinks:	0	0
Fuel:	1,025 km	4
Turret:		0
Armor Factor (BAR 4):	57	1.5
	Internal Structure	*Armor Value*
Front	8	11
Front R/L Side	8	9/9
Rear R/L Side	8	9/9
Rear	8	10

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
18 tons standard — 1 Door (Rear)

Notes: Features 86 crew/passenger seats (6.5 tons)

ROUTEMASTER SHUTTLE / LEWIS SKIMMER BUS



CRIMSON STREAK / CS535 HOVER CARS

Within the vehicle racing subculture, there are literally hundreds of different leagues and classes. Just within the hovercar race leagues are more than a dozen different classes based on engine type, body type and the nature of the course or track on which the races run. Because of the specialized nature of each league and class, few manufacturers choose to build vehicles specifically for the races. Instead, they offer a number of different chassis and engine/drivetrain combinations from which various drivers and teams can choose. They then customize these to their own specifications.

Champion Hoversports chose to go a different route, however. The company rose to prominence more than forty years ago when it transitioned from being a lowly Outback racing team to a true force to be reckoned with in the ISCHAR and LHRS leagues. With a stable of winning drivers and highly customized vehicles, Champion Hoversports continued to add to its impressive list of wins and drivers. By 3042, it had banked enough money and made enough industrial contacts that its controlling partners decided to expand the business by simultaneously producing two new lines of sports hovercars—one for the racing market and one, stripped down but otherwise based on the race model, for the civilian market

The Crimson Streak is the newest offering of Champion Hoversports. Drawing upon advances in materials engineering and engine construction made in the past several years, the Crimson Streak is faster and more fuel efficient than its predecessors, and also more durable. Champion gave three of the model's five prototypes to its racing team, generating more buzz in the media for the Crimson Streak than any ad campaign. Aleisha Cotten drove her Crimson Streak to a fourth ISCHAR championship and Teren San-Hi garnered a second-place LHRS finish. Even the totaling of the third car in the Edwards 1000 brought significant good press—caught up in a seventeen car pileup in which three drivers lost their lives and eleven more were seriously injured, the Crimson Streak absorbed the brunt of the damage, allowing its driver to walk away from the accident. A year after it was officially introduced, the Crimson Streak Hover Racer is now part of twenty-seven different teams competing in forty-three different leagues—and is the chosen ride of no less than fifteen drivers currently ranked in the top ten of their leagues.

The civilian version, the CS535, began shipping fifteen months ago, and dealerships across the Inner Sphere are finding it almost impossible to keep in stock. Anything but a family vehicle, it is designed for two, though a third passenger can ride in the cramped space behind the driver and front passenger. Likewise, the tiny trunk at the front of the vehicle is barely large enough to fit a couple of small bags. But then again, that's not the purpose of this hover car with a published top speed in excess of 220 kph—though owners regularly claim to be able to hit 250 kph or more on straight-aways with little difficulty.

Type: **Champion Hoversports Crimson Streak Hover Racer**
Chassis Type: Hover (Small)
Mass: 3,500 kg
Equipment Rating: E/X-X-D/D

Equipment		**Mass**
Chassis/Controls:		298 kg
Engine/Trans:	Electric (Fuel Cell)	2,308 kg
Cruise MP:	17	
Flank MP:	26	
Heat Sinks:	0	0 kg
Fuel:	1,302 km	451 kg
Turret:		0 kg
Armor Factor (BAR 8):	8	360 kg
	Internal Structure	*Armor Value*
Front	1	3
R/L Side	1	2/2
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
8 kg standard

Notes: Features Ultra-light Chassis and Controls Modification, 1 crew seat (75 kg)

Type: **Champion Hoversports CS535 Hover Car**
Chassis Type: Hover (Small)
Mass: 3,000 kg
Equipment Rating: E/X-X-D/B

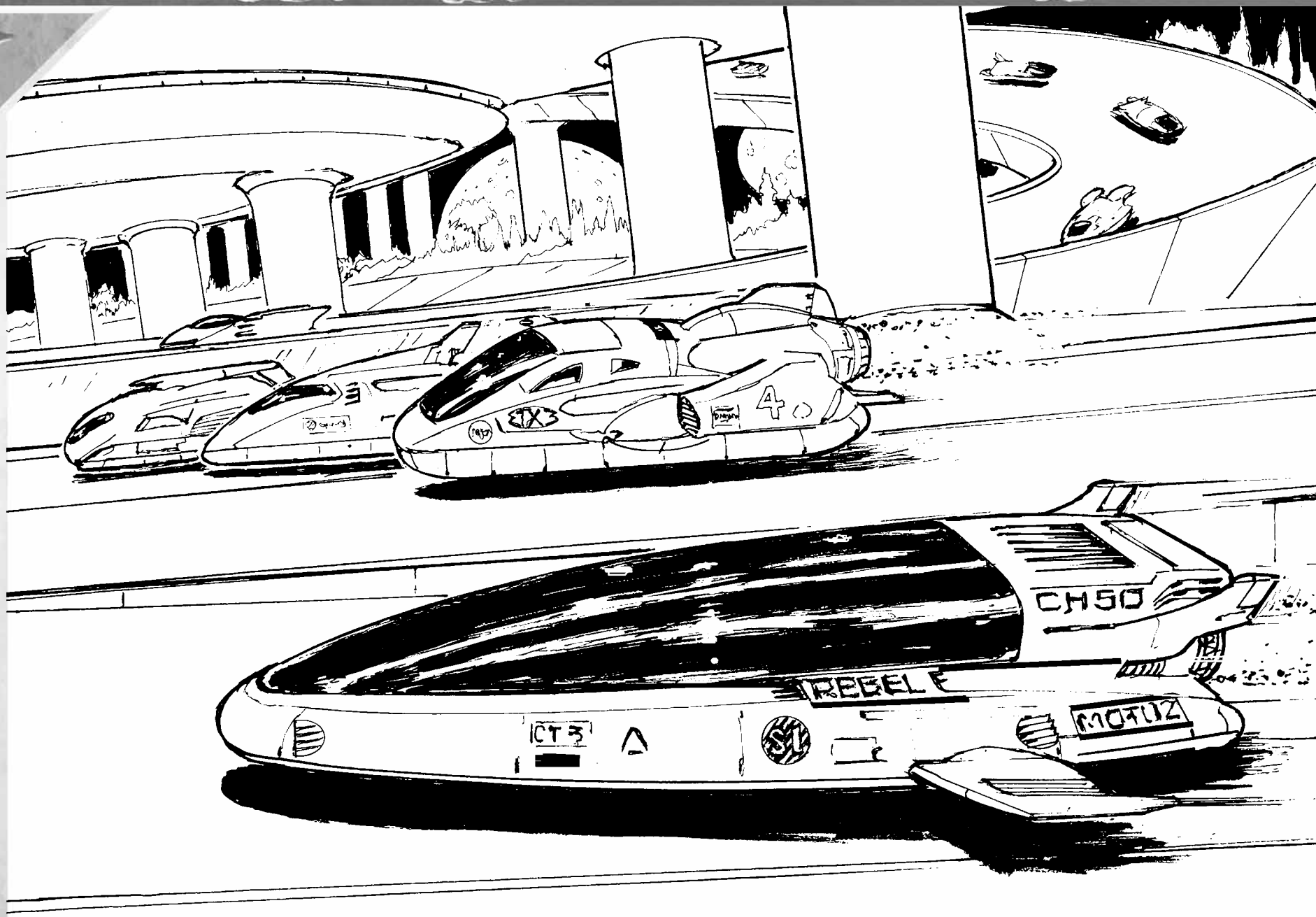
Equipment		**Mass**
Chassis/Controls:		255 kg
Engine/Trans:	ICE	2,233 kg
Cruise MP:	15	
Flank MP:	23	
Heat Sinks:	0	0 kg
Fuel:	447 km (Petrochemicals)	100 kg
Turret:		0 kg
Armor Factor (BAR 2):	4	48 kg
	Internal Structure	*Armor Value*
Front	1	1
R/L Side:	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
214 kg standard 2 Doors (Right/Left)

Notes: Features Ultra-light Chassis and Controls Modification, 2 crew/passenger seats (150 kg)

CRIMSON STREAK / CS535 HOVER CARS



KRESSLY DILLINGER POLICE VEHICLE

The dissolution of the Sarna March captured the media attention of all of the Successor States. They flocked to these embattled worlds and told riveting stories of the dueling nobles, battling mercenaries, and suffering people. What they didn't reveal was the incredible upsurge in criminal activity. The nobles believed they'd been released from the oversight of interstellar governments; the criminals of these worlds thought every day was Christmas.

On Epsilon Eridani the new President, Pierre Benton, saw this groundswell of crime. He knew his Eridani Guards could not hope to battle both petty thieves and daring pirates, so he pushed his police forces to new levels of performance. He demanded that the various counties and palatinates of Epsilon Eridani support their law enforcement. To supplement this, Kressly WarWorks produced and marketed the Dillinger hovercraft.

The main weapon of this hovercraft is its imposing presence; although it masses only forty tons, the structure of this monstrosity was expanded to make it as large as possible. It towers over any other vehicle traffic in any of Epsilon Eridani's cities. Many police forces use these craft as mobile command centers, knowing that criminals will see the bulky craft from a distance and know that the police are taking them seriously.

The façade is not the Dillinger's only weapon. Four heavy machine guns, including one mounted on top in a turret, provide enough suppression fire to quell even the largest riot. Many Dillingers load their guns with rubber bullets, but most almost always have a load of live ammunition carried in the craft's ample cargo hold.

For headquarters duty, the Dillinger carries space enough for over a dozen policemen to gather. Military-grade communications gear provides incorruptible communication and tactical control, and a paramedic station in the rear of the vehicle provides a ready source of medical care. In the rare cases when the Dillinger is called upon for tactical work, it can transport a full platoon of Special Weapons and Tactics troopers in a small compartment in the nose.

The Dillinger is currently deployed, at least in single units, by every significant police force on Epsilon Eridani, and is quickly spreading throughout the Blake Protectorate. Before the current hostilities, many police departments in the Free Worlds League purchased the Dillinger. The largest concentration is found on Irian, where many of the corporate heads use them as super-heavy limousines.

A team of researchers from the Federated Suns was visiting the Kressly factory on Epsilon Eridani when the world entered the Blake Protectorate. Several firms were interested in licensing the Dillinger to help quell unrest left over from the Civil War. The status of these teams is unknown; what is known is that none of them have reported or returned home.

Type: **Dillinger Police Vehicle**
Chassis Type: Hover (Medium)
Mass: 40 tons
Equipment Rating: D/X-X-E/E

Equipment			**Mass**
Chassis/Controls:			15
Engine/Trans:	Fusion		8.5
Cruise MP:	7		
Flank MP:	11		
Heat Sinks:	0		0
Fuel:			0
Turret:			.5
Armor Factor (BAR 10):	31		2
	Internal Structure	*Armor Value*	
Front	4	6	
R/L Side	4	6/6	
Rear	4	6	
Turret	4	7	

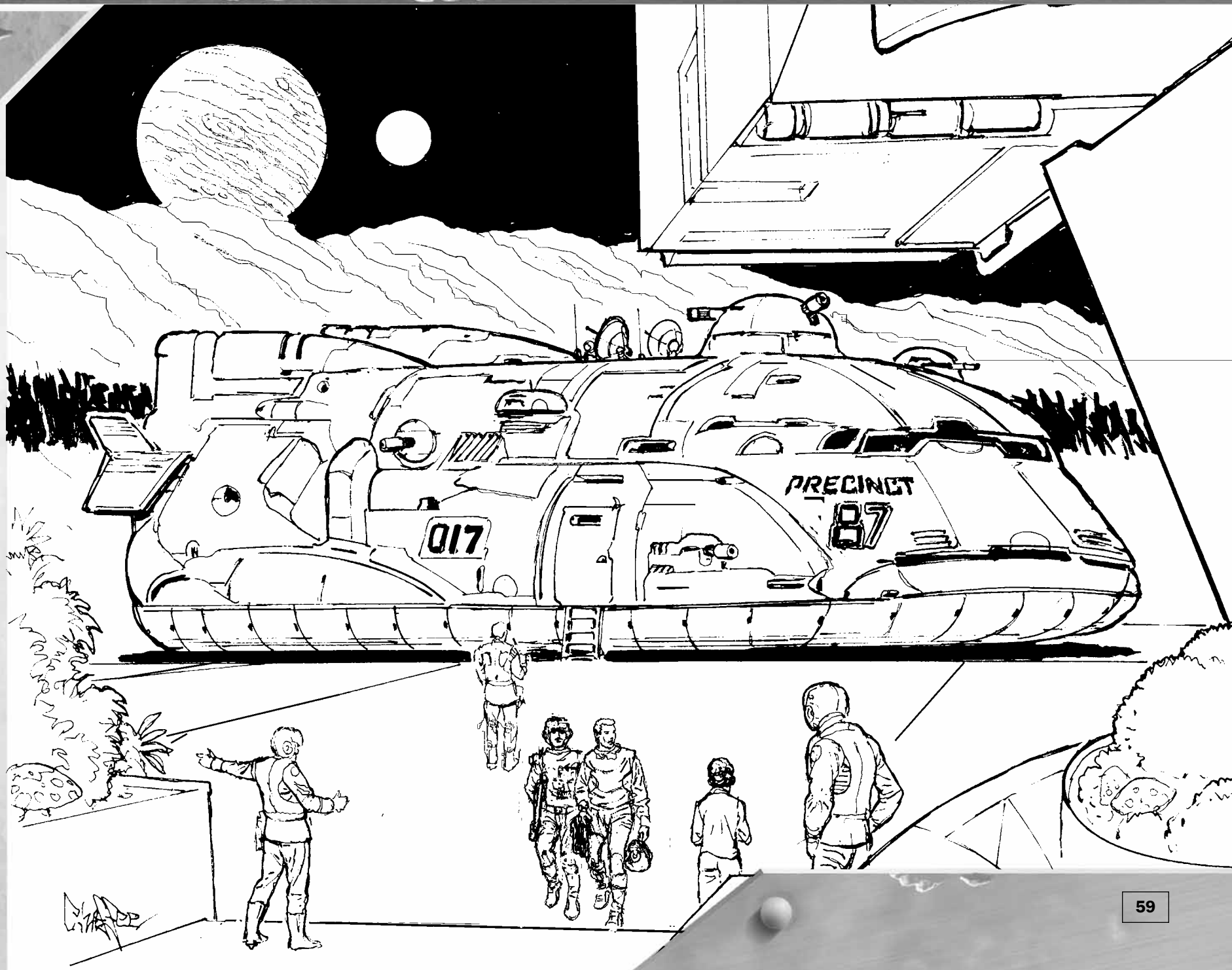
Weapons and Ammo	**Location**	**Mass**
Machine Gun	Turret	.5
Machine Gun	Front	.5
Machine Gun	Right	.5
Machine Gun	Left	.5
Ammo (MG) 200	Body	1
Basic Fire Control	Body	.5

Crew: 9 (2 + 2 officers, 1 comms, + 4 gunners)
Cargo

Infantry Compartment, Foot Platoon	1 Door (Front)
5 tons standard	1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification, 1 set of paramedic equipment (.25 tons), communications equipment (1 ton), and 13 passenger seats (1 ton)

KRESSLY DILLINGER POLICE VEHICLE



DEUSENBERG VIP LUXURY HOVERCAR

"In honor of our marriage... I give you a vast prize. I give you the Capellan Confederation!"

Such words are not to be lost in history, but are destined to ring throughout all eternity—declarations to be recalled with reverence and respect for past sacrifice, or with wrath and the thirst for vengeance over past sleights. For as long as there is war, such sentiments will ring throughout the corridors of time, heedless the inevitable confrontations and the clash of destiny they bring each new generation of leaders and their warriors.

Hanse Davion was well aware of the tempest he was inciting with such a bold declaration to his bride on that fateful day in 3028, and he knew well the temperament of the man he had singled out. Maximilian Liao, a man who had so recently plotted to replace Hanse himself with a doppelganger puppet, would not lie down and die, nor would his troops allow the advance of the AFFS to come without great cost. Still, the battlefields became wastelands littered to overflow with the ruin of Liao BattleMechs, tanks, and the bodies of beaten, defeated troops. The beginning of the Fourth Succession War was anything but orderly, and for those on the losing side, it was catastrophic indeed.

For First Prince Hanse Davion, however, all things seemed to be moving along according to plan. He rapidly gained dominion over nearly half of the worlds of the Capellan Confederation and his forces swept the field of virtually all before them as their momentum continued to build. Eventually he realized that he would have to go to the conquered—or liberated, from his perspective—worlds and see them for himself. An easy matter for a Warrior-Prince, ensconced in his own 'Mech, all but impervious to attack... but perhaps not for his entourage. No, many of them were not qualified MechWarriors, and would require other arrangements to be made on their behalf.

But Hanse was not perfunctorily known as "The Fox." He knew what would be expected, and required, of him on a public-relations tour. Thus it was in 3024, four years before the assault was to begin, that he quietly commissioned the design and manufacture of a new type of limousine, one that would both awe the nobility of his entourage, and provide for their ultimate protection. The result was the technologically advanced Deusenberg VIP Luxury Hovercar (the A-pods were added during an upgrade in the late-3050s).

The Deusenberg One was Prince Hanse Davion's personal limousine—not that he would know what the inside of it looked like. Hauptmann Gershvin Jackson, driver and caretaker of One until his death in 3051, considered his position and duties a matter of pride, and himself one of the Prince's personal bodyguards—even though they had never once met. Sometime after Katherine Steiner-Davion's assumption of power on New Avalon, One fell into disrepair and was lost. It has not been seen since late 3062, and its whereabouts are unknown.

Type: **Deusenberg VIP Luxury Hovercar**
Chassis Type: Hover (Medium)
Mass: 50 tons
Equipment Rating: E/X-D-D/D

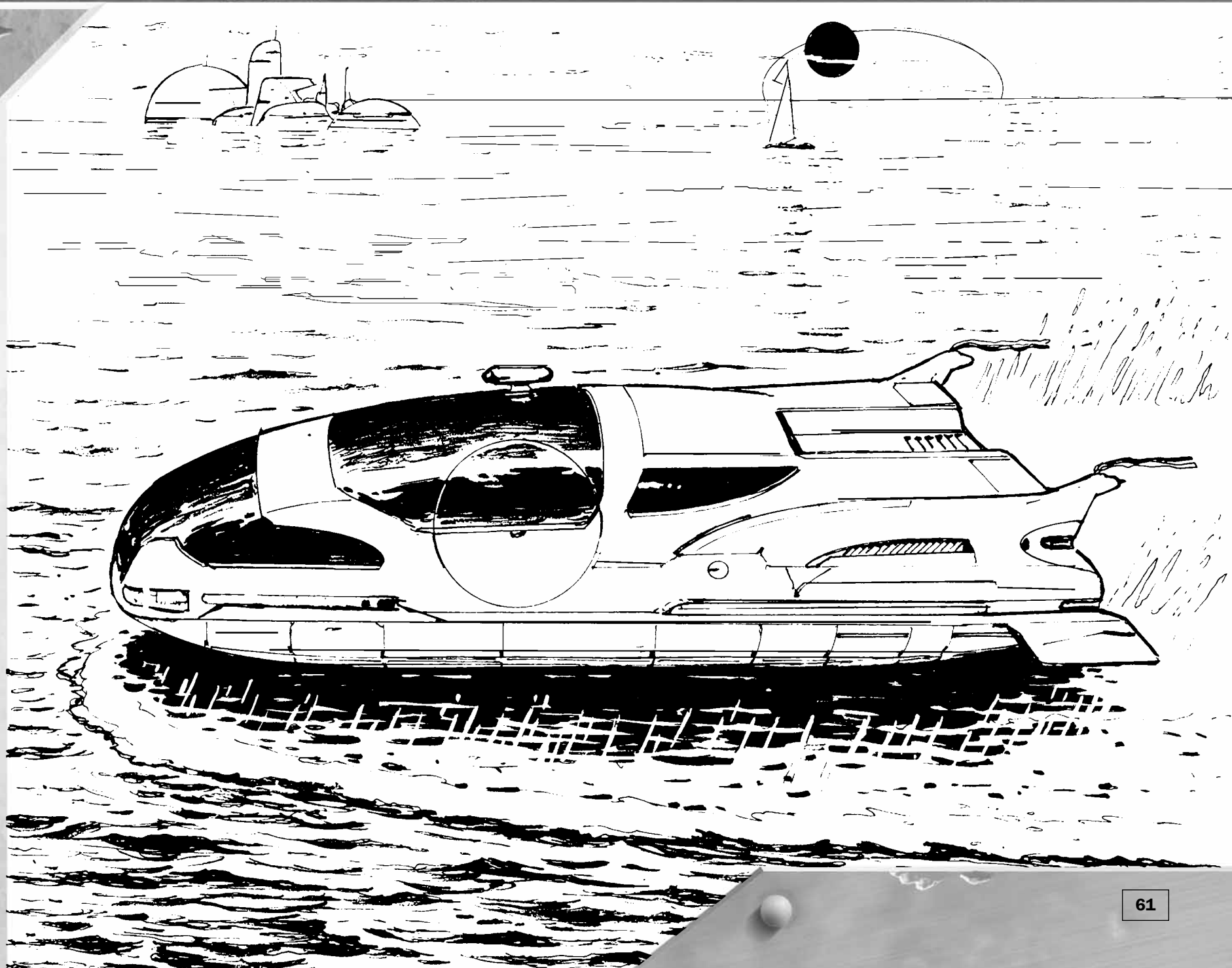
Equipment			**Mass**
Chassis/Controls:			19
Engine/Trans:	Fusion		11
Cruise MP:	7		
Flank MP:	11		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 10):	54		3.5
	Internal Structure	*Armor Value*	
Front	5	16	
R/L Side	5	13/13	
Rear	5	12	

Weapons and Ammo	**Location**	**Mass**
Beagle Active Probe	Front	1.5
Guardian ECM Suite	Right	1.5
A-Pod	Front	.5
A-Pod	Right	.5
A-Pod	Left	.5

Crew: 2
Cargo
1.55 tons standard — 3 Doors (Left/Right/Rear)

Notes: Features Armored Chassis and Controls Modification, 1 first-class passenger quarters, 6 passenger seats (.45 tons)

DEUSENBERG VIP LUXURY HOVERCAR



INA-DU SWAMP SKIMMER

With its snarled network of canals and waterways, Zaniz City is the largest on Zdice, covering well over two hundred square kilometers with a population of only ten million. A thriving taxi service sprang up among the myriad of narrow water routes that snaked through the metroplex. The Ina-du ("snake" in ancient Cherokee) was introduced with little fanfare by Hoyle Systems in 2870 and quickly became a favorite among the couriers and taxi drivers, thanks to its high acceleration rate, efficient fuel cells, and durable frame. Over the subsequent decades, Hoyle made few modifications to the three-man skimmer, with the hoverskirt design overhaul in 2997 the only notable exception. With the precision electronic sensors tied to the primary rear steering vanes, the Ina-du automatically adjusts small sections of the airskirt to allow for greater maneuverability. This modification was well-received among the water taxi unions, as it allowed drivers to wind through the city's waterways with an appreciable gain in speed, getting customers to destinations faster.

Competition between the three major taxi unions was inevitable. After the DeWalt Group suffered three fatal "accidents" in one day, the union leaders met to discuss the escalating violence. Though little was resolved in their initial conference, the seeds of what would become the Extraordinaire Canal Contest (ECC) were planted. Because the competition for fares was intense—leading to over four hundred accidents and incidents during 2999 alone—something was needed to alleviate the problem. The brainchild of Jonas Silt, the ECC was born as a way for the taxi companies to compete in a biennial competition. The overall winner would be able to determine their own exclusive zones (within some limits) for the next two years and command a higher base fare.

Initially, the Zaniz City council was against the idea. Somehow, conducting a high-speed hovercraft racing circuit over the course of three days that could endanger life and property didn't seem to appeal to them. With reservation, they allowed the first ECC to occur in 3001 and were shocked when over 300,000 people turned out to watch various taxi companies compete on a complex water course that miraculously resulted in no deaths—even after a Trosbarty Taxi missed a hairpin turn and vaulted through the local Hecc's department store on the canal's edge.

Recognizing an instant cash cow and an obvious boost to tourism, the city council unanimously endorsed the ECC for an indefinite period of time. Every odd-numbered year, the ECC Racing Board reveals the new eighty kilometer course for the coming year's contest. Strict regulatory rules dictate that the taxi companies participating must use existing motor pool assets, leading to many custom variations and body styles among the drivers. Not surprisingly, Hoyle started a customizing line for their Ina-du model, continuing to keep a lock on the skimmer market. Flashy and affordable, citizens and visitors to Zaniz City are treated almost daily to a variety of paint schemes, body art, and chrome piping. With the rising interest in the Ina-du's versatile build, Hoyle recently began sponsoring the Zdice Custom Expo, drawing over half a million visitors to the 3066 Expo to view the latest accessories and custom show skimmers.

Type: **Ina-du Swamp Skimmer**
Chassis Type: Hover (Medium)
Mass: 10 tons
Equipment Rating: C/X-D-C/D

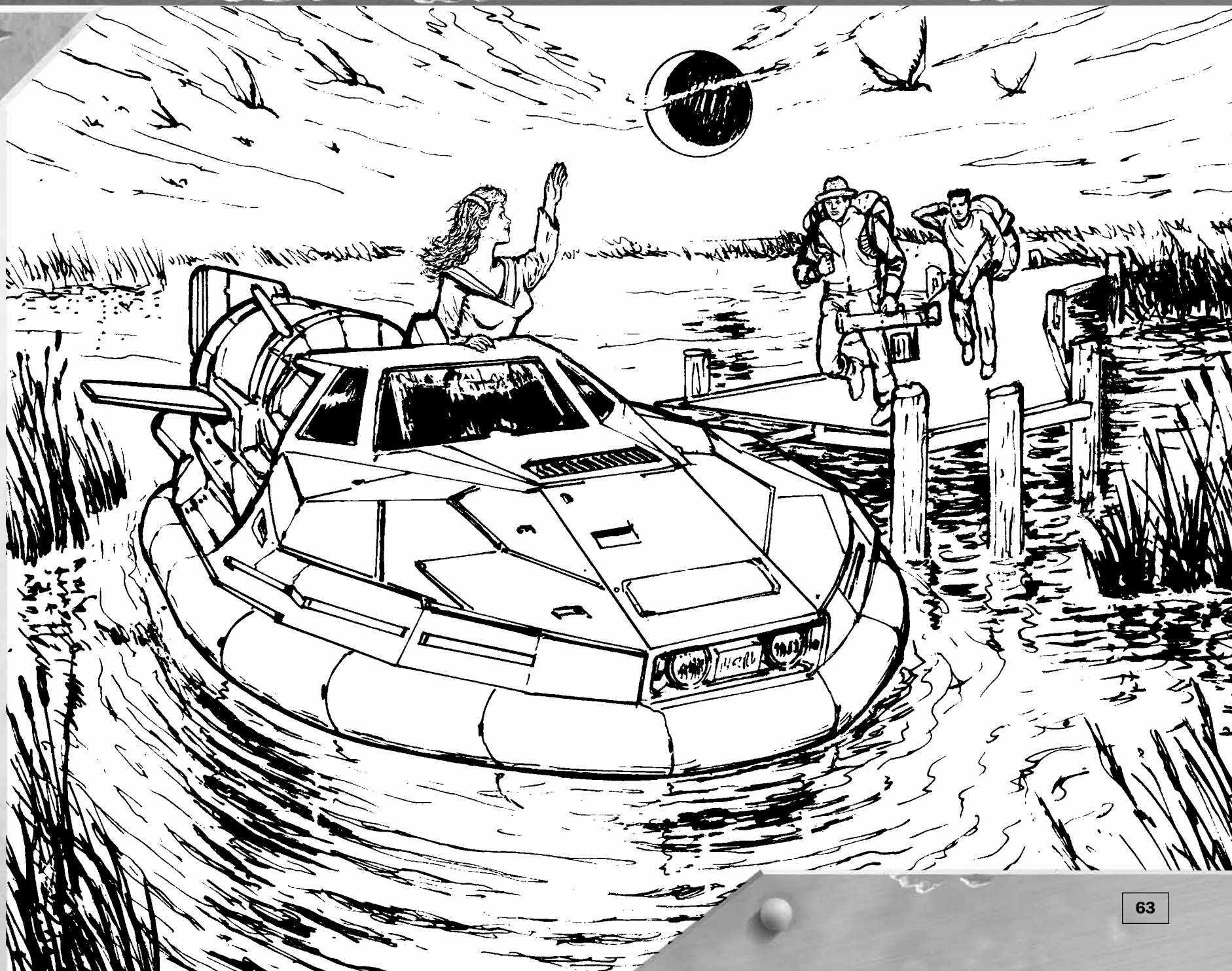
Equipment			**Mass**
Chassis/Controls:			3.5
Engine/Trans:	Electric (Fuel Cell)		4.5
Cruise MP:	9		
Flank MP:	14		
Heat Sinks:	0		0
Fuel:	740 km		.5
Turret:			0
Armor Factor (BAR 5):	14		1
	Internal Structure	*Armor Value*	
Front	1	4	
R/L Side	1	4/4	
Rear	1	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
.2 tons standard — 1 Door (Rear)

Notes: Features Convertible Chassis and Controls Modification, 4 passenger seats (300 kg)

INA-DU SWAMP SKIMMER



SLIPPER LX-SERIES

Although the company began as a small manufacturer of military hovercraft when founder Samuel L. Lewis came upon a large and unlikely cache of military-grade Omni 25 fusion plants, S. L. Lewis, Incorporated has since branched off the initial success of its infamous Savannah Master hovercraft into the lucrative markets of civilian hovercar and hydrofoil designs. Opting for a no frills approach to automotive design, Lewis' design engineers soon produced quality hovercars for the price-conscious consumer, and by the late 3030s, S. L. Lewis had become a household name throughout the Federated Commonwealth.

Today, S. L. Lewis' Slipper LX-Series hover sedan—which actually first debuted as the G-Series in 3040—has become the standard by which all other civilian hover vehicles are often measured. This distinction is not because the Slipper is particularly outstanding in any way, but because its economical design philosophy quickly made this vehicle the most widely known and available example of modern civilian hovercraft engineering (at least in FedCom space). Combining a high speed, environmentally friendly electric fuel cell engine with an ultra-light chassis, the Slipper maximizes its street performance and offers a roomy interior for its four occupants, ideal for long cross-country commutes. Unfortunately, like most civilian hovercars, the Slipper's air fans are notoriously noisy, particularly at higher speeds. Indeed, many cities where such vehicles are sold often impose heavy fines for disturbing the peace on drivers who rev their engines unnecessarily while cruising the urban landscape.

Because of its relatively low cost, the LX-Series has proven one of S. L. Lewis' greatest commercial successes since the vehicle's debut in 3061, even though the company also offers a much more luxurious (and quieter) version in the PX-Series hovercruiser, and the larger and more roomy ZX-Series hoverwagon. All three Slipper models are common across Lyran space, as well as in the Federated Suns, where their designs have been licensed to a couple of local automotive firms (one of which has become known as the Crucis-R series). The Slipper LX compares favorably with other well-known hovercars sold throughout the Inner Sphere, including the relatively silent, hyper-luxurious, but woefully fuel inefficient Capellan-made Feicui Aircar, the Exeter Excelsior LE turbofan cruiser (popular throughout Marik space), and the alcohol-powered Windstreak Z70, made by Pesht Motors in the Draconis Combine.

Type: **Slipper LX-Series Hovercar**
Chassis Type: Hover (Small)
Mass: 1,500 kg
Equipment Rating: D/X-X-D/B

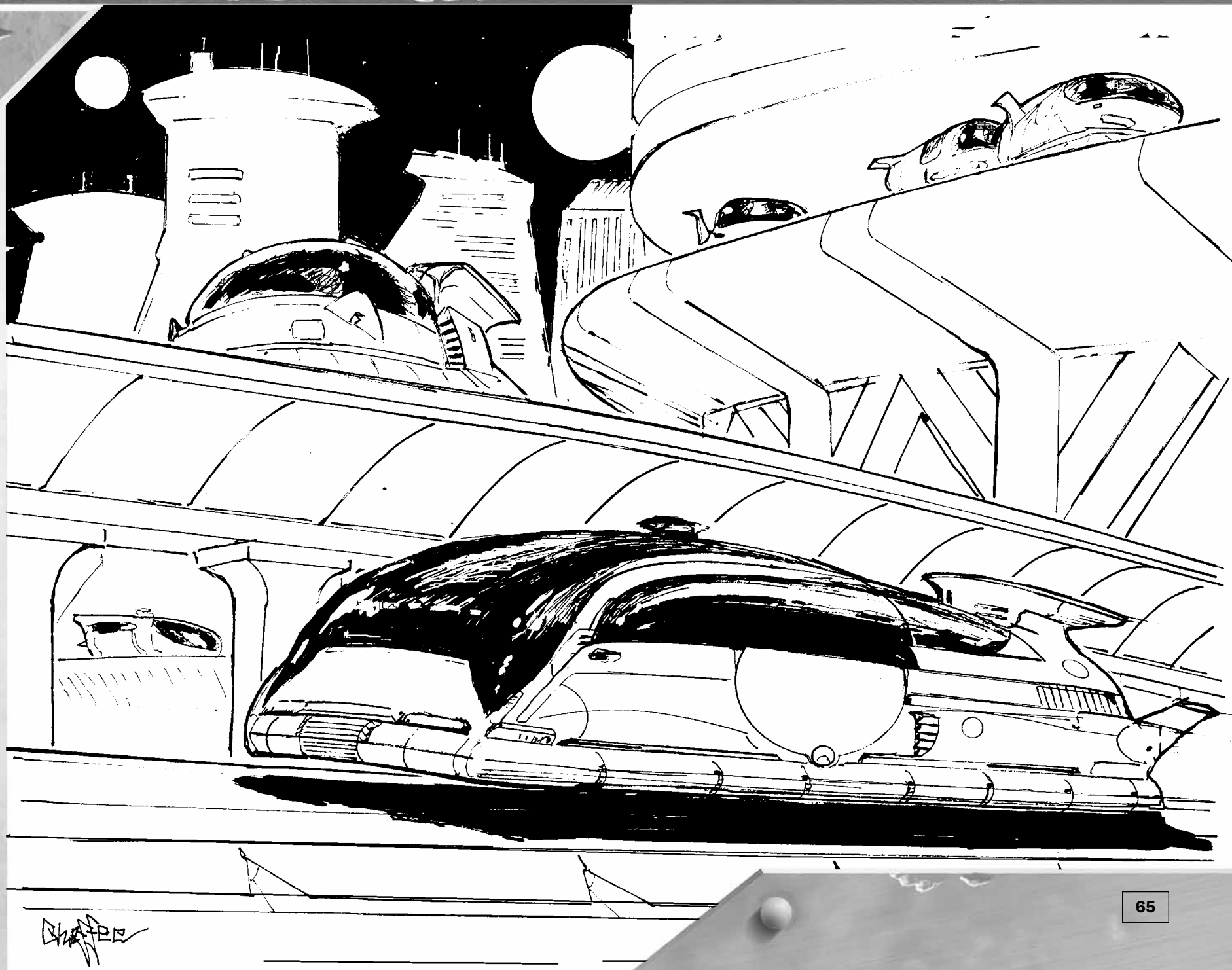
Equipment			**Mass**
Chassis/Controls:			150 kg
Engine/Trans:	Electric (Fuel Cell)		859 kg
Cruise MP:	15		
Flank MP:	23		
Heat Sinks:	0		0 kg
Fuel:	605 km		78 kg
Turret:			0 kg
Armor Factor (BAR 4):	4		104 kg
	Internal Structure	*Armor Value*	
Front	1	1	
Right/Left Side	1	1/1	
Rear	1	1	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
9 kg standard 1 Door (Rear)

Notes: Features Ultra-light Chassis and Controls Modification, 4 seats (300 kg) and 4 passenger doors (2 per side)

SLIPPER LX-SERIES



BAYAMO HOVERBIKE / FREEDOM 900 HOVER JEEP

Manufactured by GM/Rowell Sport Vehicles, the Bayamo Hoverbike is loosely based on a military design. Not requiring the heavy armor or weapons of the Skimmer, the Bayamo possesses a far lighter chassis and trades the military fusion power plant for battery power.

At inception the design was targeted at the niche market on affluent Federated Suns worlds for fast off-road personal leisure vehicles. However the formation of the Federated Commonwealth and the accompanying economic upswing after the Fourth Succession War created a whole new market. With more C-bills in their pockets, middle class families were eager to purchase luxury goods. By engineering strategic product placement in popular HoloVid shows Roswell turned the Bayamo into a "must have" item for teenagers across the Crucis March. While the Hoverbike was unquestionably used in its intended role, it is also true that most of the millions sold in the last four decades have never ventured from the well-maintained ferrocrete highways on wealthy worlds.

The Lyran market was far less lucrative for the Bayamo even before its secession from the Commonwealth. Attempts to secure export orders to the other Inner Sphere nations during the years of the Second Star League proved an embarrassing failure. Taking stock, Rowell Sport Vehicles has chosen to concentrate on the home market, successfully launching the restyled Bayamo '59 (pictured here).

While the Bayamo enjoyed success as a luxury leisure item, the Freedom 900 Hover Jeep has become the ubiquitous four-seat utility hover vehicle to be found across the Inner Sphere. Produced by the monolithic Earthwerks Corporation, simplicity and reliability are the features that have made the Freedom-series such a successful design since its introduction in the late 2600's.

It is this simplicity and ruggedness that has allowed EarthWerks to offer the Freedom series in a sometimes bewildering range of options and models—everything from MPVs, through to light cargo conversions to even law enforcement and even an ambulance models.

Over the centuries Earthwerks has faced accusations from smaller manufacturers of using its size and power to squash attempts to enter the Freedom's market space. Claims of artificially low prices or of import duties evasion on vehicles built by low-wage workers in the Capellan Confederation or Draconis Combine have been common. No proof of such anti-competitive business practices has ever been uncovered.

The civilian hover vehicle market is alive with rumors surrounding the yet-to-be-announced Freedom 1000. Thought to be manufactured using more advanced materials and components, performance is anticipated to be significantly improved. However some industry analysts voice concern that in building a more advanced vehicle, Earthwerks will lose the vast market represented by the hundreds of underdeveloped worlds where the Freedom's reputation was established.

Type: **Bayamo Hoverbike**
Chassis Type: Hover (Small)
Mass: 600 kg
Equipment Rating: D/X-X-B/B

Equipment		**Mass**
Chassis/Controls:		90 kg
Engine/Trans:	Electric (Fuel Cell)	267 kg
Cruise MP:	12	
Flank MP:	18	
Heat Sinks:	0	0 kg
Fuel:	509 km	68 kg
Turret:		0 kg
Armor Factor (BAR 2):	4	52 kg

	Internal Structure	*Armor Value*
Front	1	1
R/L Side	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
68 kg standard

Notes: Features Bicycle Chassis and Controls Modification, 2 pillion passenger seats (50 kg), 1 hand searchlight (5 kg, Front).

Type: **Freedom 900 Hover Jeep**
Chassis Type: Hover (Small)
Mass: 3,000 kg
Equipment Rating: D/X-B-B/B

Equipment		**Mass**
Chassis/Controls:		660 kg
Engine/Trans:	ICE	1,170 kg
Cruise MP:	10	
Flank MP:	15	
Heat Sinks:	0	0 kg
Fuel:	2,564 km (Petrochemical)	300 kg
Turret:		0 kg
Armor Factor (BAR 6):	7	266 kg

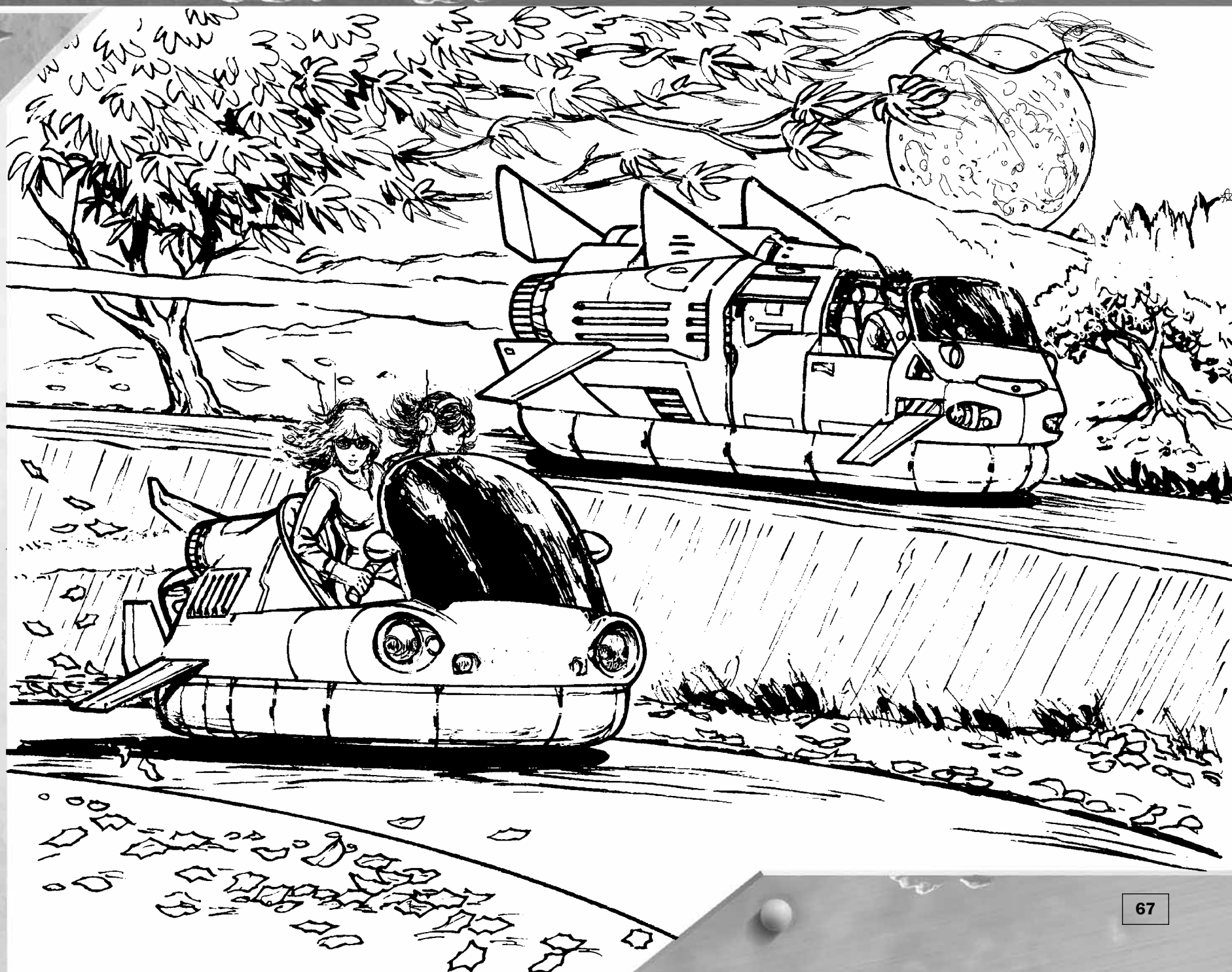
	Internal Structure	*Armor Value*
Front	1	2
R/L Side	1	2/2
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
304 kg standard 1 Door (Rear)

Notes: Features Convertible Chassis and Controls Modification, 4 crew/passenger seats (300 kg, Body)

BAYAMO HOVERBIKE / FREEDOM 900 HOVER JEEP



VTOL SUPPORT VEHICLES

Ms. Tsagarides:

Perhaps the following will be of interest to your readers:

The forest fires came on swiftly, racing across the firebreaks no matter how fast the firefighters blew them. They were like poor infantry, constantly being outflanked by a more mobile enemy. I don't know how many of them were lost, but I do know what saved the rest: firefighting helicopters.

We had a half-dozen of them, big fat-bellied things that sounded for all the world like they were beating the air with baseball bats when they flew. They kept up a steady rotation, dipping into the deep end of Lake Hampton before dumping their loads in front of, and sometimes on top of, the firefighters. I heard stories of fish falling out of the sky already cooked. They were scooping that deep into the water and the fires were that hot. I never got the names of the pilots or even the outfit that flew them, but I can tell you those choppers saved a lot of lives. If any of them are reading this, you just come on back to Wyatt and the boys of the Wyatt City FD will buy you all the drinks you can handle. And then some.

The first thing we bought last year out of our appropriations was a pair of firefighter helicopters.

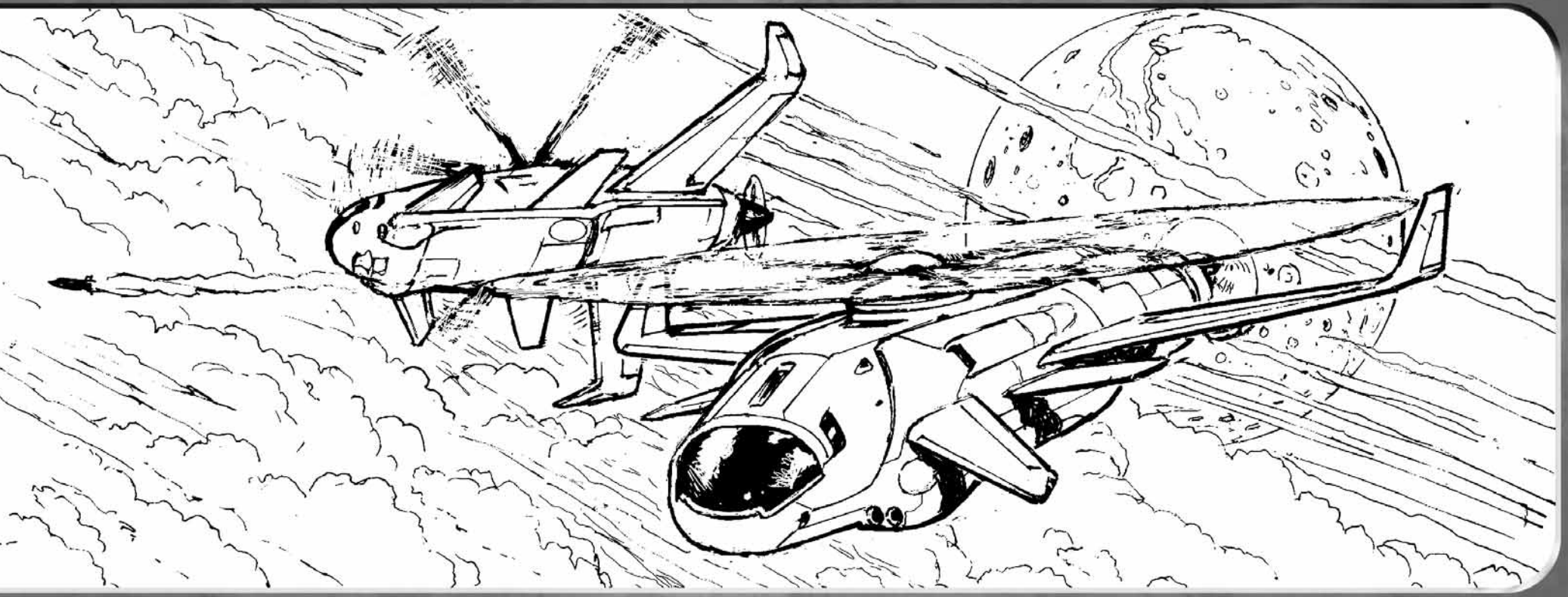
—Battalion Chief Adam Howard, WCFD

They're fast. They can land on a button. They're relatively cheap to build.

In almost every instance the Vertical Take-Off and Landing craft is a bonus to every situation into which it's thrown. One need only look at the variety of roles it's been thrust into to see its versatility: rescue craft, surveillance vehicle, attack helicopter, logistical transport, stunt craft, medical transport, crowd control, civilian transport, personal transportation, firefighting vehicle, delivery vehicle. In almost any given field there is a function a VTOL can fulfill.

Of course, this diversity means that there are almost as many manufacturers and models out there as there are needs. Most everyone recognizes the big names: Michaelson, Lockheed/CBM, Cal-Boeing. For every one of those, of course, there are ten little operations like Markson Aircraft, the SHAL Corporation, or even Wild Wendy's Whirligigs. Even the most rural of communities often import VTOLs for emergency response simply because these aircraft have proven themselves as the most reliable and respectable vehicles on the market.

In military circles they're often derided for their fragility. Proponents point out their phenomenal speed as harasser units, or even turn the argument against detractors and add that the reputation is armor in itself. "It's only a helicopter" has proven to be the famous last words of many MechWarriors and tankers in the Chaos March, and more and more media outlets are changing that mantra to "Look out, it's a helicopter!"



ST. CHRISTOPHER CARGO TRANSPORT C1 / C2

Manufactured by the Lockheed-CBM Corporation on Furillo, plans for the St. Christopher multi-role VTOL were produced in the 3050s and the first prototype flew in 3060. However, it was only at the end of the FedCom Civil War that the first production models rolled off the assembly line, sold to both the Steiner government and approved Lyran corporations. Two core configurations form the basis of Lockheed-CBM's manufacturing strategy, one militarized and the other designed for civilian use.

Intended to rival the heavier Karnov UR military transport, the C1 configuration of the St. Christopher mounts military-grade armor and sports a reinforced chassis, allowing it to weather enemy fire and rough handling. Many of the VTOL's components take advantage of civilian mass production, resulting in a craft that is lighter and carries more cargo yet is only marginally slower and less armored. The civilian C2 variant employs a lightweight chassis and thinner armor composites. This, in exchange, increases its cargo capacity by almost fifty percent, making its configurable cargo bay capable of holding up to 12 tons. The standard cargo bay of the St. Christopher contains simple anchor points for cargo pallets, but factory-built modifications allow for the installation of specialized cargo holds (including refrigerated and pressurized), passenger seating, electronic warfare equipment, or a host of other options.

The use of off-the-shelf civilian components means both variants are cheap and easy to maintain, though they lack the ruggedness of fully militarized designs like the Karnov. The St. Christopher will not tolerate the rough handling of the NETC design, but at less than half the cost (a fifth the cost in the case of the C2), it is a cost-effective alternative for those who don't plan on putting their vehicles through front-line combat operations. Lockheed-CBM sells a variety of maintenance plans with the aircraft, ranging from the minimum servicing required by the Lyran Aviation Authority to contract staff on call to maintain the vehicles whenever needed. Astute business analysts have pointed out that in many cases these service contracts offer a better return for Lockheed-CBM than do sales of the VTOLs themselves.

The LAAF has purchased several dozen C1s for evaluation. The first was delivered in September 3067 and is employed by the Quartermaster Corps, though plans call for the design's deployment to several front-line units for testing. The Lyran Diplomatic Corps has purchased six C2 St. Christophers. Decked out in distinctive blue and gold livery, these C2s are used to ferry passengers between the Triad and other parts of Tharkad City. The design has so far weathered the harsh conditions of the capital well. Furthermore, Robert Kelswa-Steiner has expressed an interest in both the C1 and C2 to rebuild the battered Skye forces, "supporting the regional economy" in the process, though Tharkad has yet to approve any purchases.

Type: **St. Christopher Cargo Lifter (C1)**
Chassis Type: VTOL (Medium)
Mass: 25 tons
Equipment Rating: D/X-X-D/D

Equipment			**Mass**
Chassis/Controls:			9.5
Engine/Trans:	Electric (Fuel Cell)		4.5
Cruise MP:	8		
Flank MP:	12		
Heat Sinks:	0		0
Fuel:	740 km		.5
Armor Factor (BAR 10):	23		1.5
	Internal Structure	*Armor Value*	
Front	3	7	
R/L Side	3	5/5	
Rear	3	4	
Rotor	3	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
8.5 tons standard — 3 Doors (Right/Left/Rear)

Notes: Features Armored Chassis and Controls Modification, 6 passengers (.5 tons)

Type: **St. Christopher Cargo Lifter (C2)**
Chassis Type: VTOL (Medium)
Mass: 25 tons
Equipment Rating: D/X-X-C/D

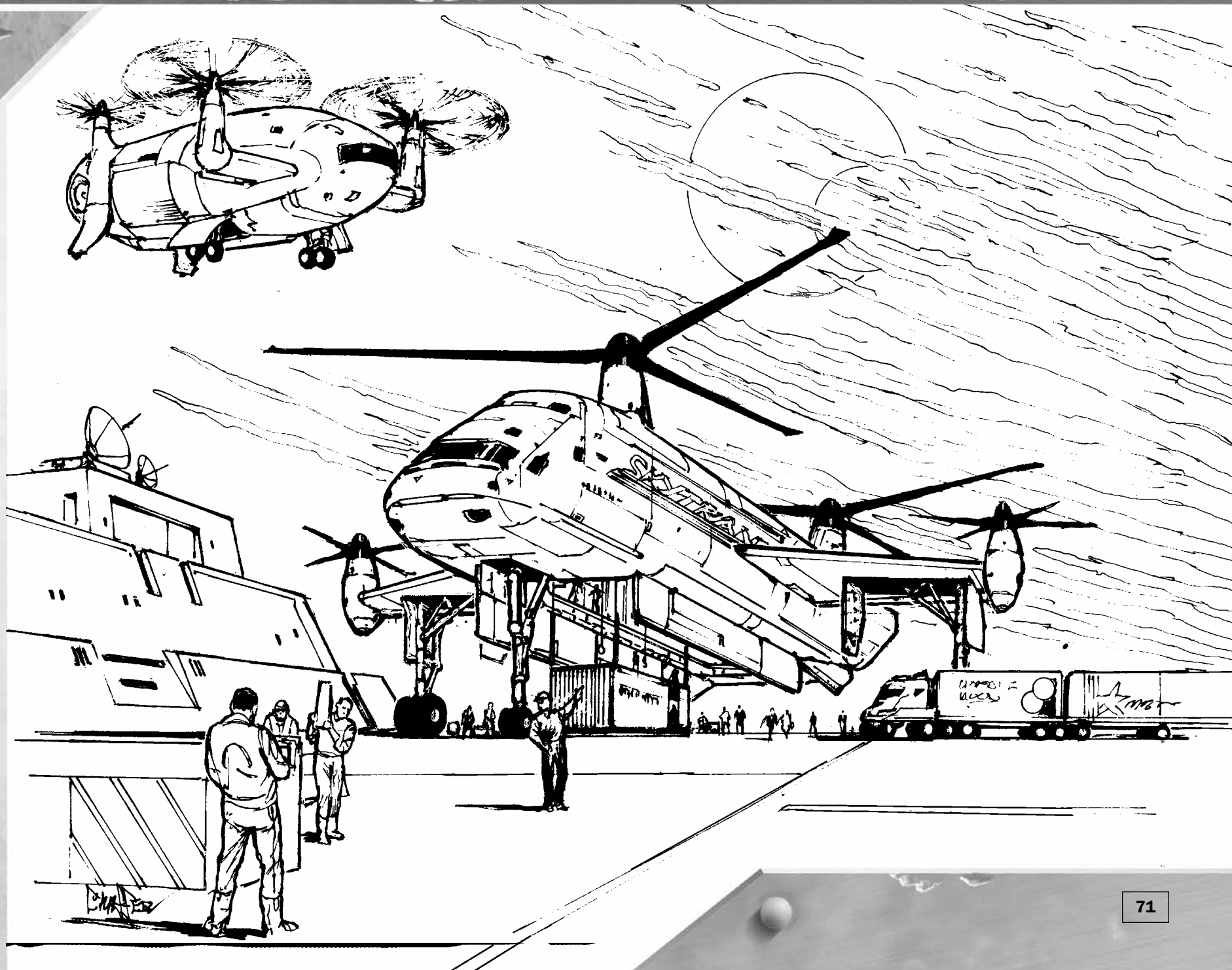
Equipment			**Mass**
Chassis/Controls:			6.5
Engine/Trans:	Electric (Fuel Cell)		4.5
Cruise MP:	8		
Flank MP:	12		
Heat Sinks:	0		0
Fuel:	740 km		.5
Armor Factor (BAR 4):	19		.5
	Internal Structure	*Armor Value*	
Front	3	6	
R/L Side	3	4/4	
Rear	3	3	
Rotor	3	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
12.5 tons standard — 3 Doors (Right/Left/Rear)

Notes: Features 6 passenger seats (.5 tons)

ST. CHRISTOPHER CARGO TRANSPORT C1 / C2



SOAR / PEACEKEEPER SWAT CARRIER

Kenneth and Bella Yan formed Yan Manufacturing in 3009 after Kenneth retired from over forty years of active service as a firefighter with the New Samarkand Fire Department. The Yans loved to fly and owned two older-model Wakazashi Airframe's *Ruckus*-class acrobatic helicopters that had been handed down from Bella's side of the family. Using a sizeable amount of their savings, the Yans entered the very niche market of do-it-yourself chopper kits. The small company sold three their first year and the company never seemed to be destined for anything but a hobby for the couple until 3013. During the Galedon Acrobatic Tour, Michael Hulis managed to score a 97.23 (out of 100) using a Yan *Stutter*-class single-seat chopper, catapulting the small company into the spotlight.

Demand outstripped supply in a matter of months and the Yans began expanding their business. When Kenneth died in 3017, Bella sold the majority shares to Luthien Armor Works with the stipulation that LAW retain the company's name and focus of producing small, compact VTOL airframes. LAW happily complied and immediately designed and produced the Search-Over And Rescue (SOAR) VTOL a year later, directly competing with Wakazashi Airframe's AirRescue model. By using pre-molded equipment "pockets," the SOAR could carry extra fuel cells (increasing its range to almost 1000 km), enough paramedic equipment to service up to four patients, and seating for six passengers or paramedics. A small myomer tether can be fastened to the doorframe to facilitate accurate vertical pickups if needed. Lightly armored, the SOAR can sustain over 100 kilometers an hour for long periods of time.

Buoyed by the instant success of the SOAR, LAW began testing other airframes for possible construction. Though several dozen designs ended up as scrap on the drawing room floor—thanks to cutbacks in most non-BattleMech departments—the engineering team did hit upon a design model that could be used by police and ISF forces alike with little adjustment. Built for more mission-specific roles centering on local Special Weapons and Tactics (SWAT) teams, the Peacekeeper could quickly get these specialists into position for time-critical insertions. The Peacekeeper is built around the infantry compartment, which is roomy enough for a jump-equipped platoon of troopers. Although sporting a Shigunga SRM-6 rack and twin Rorynex mini-guns, the Peacekeeper is rarely in a position to use deadly force. In fact, most police-equipped Peacekeepers are loaded with rubber bullets and special tear gas missile warheads for riot duty.

These VTOLs are also prized by some ISF DEST teams as well. Loaded with live ammunition and heavily armored, these Peacekeepers can maintain enough of a defensive posture to provide air cover for their insertion team. The inherently quiet fusion engine and active vibration control in the main rotors keeps the VTOL quiet even in a rural environment, allowing the DEST squad a good degree of anonymity.

Due to security precautions, Yan is unable to sell the Peacekeeper outside of the Combine and no solid number of production models exists—though most analysts agree that Yan has produced over a thousand of them. On the other hand, the SOAR has seen widespread use in the Free Rasalhague Republic and even the Lyran Alliance—the Royal Tharkad Mountain Patrol has no less than six SOARs in rotation at any given time.

Type: **SOAR**
Chassis Type: VTOL (Medium)
Mass: 15 tons
Equipment Rating: C/X-D-C/D

Equipment			**Mass**
Chassis/Controls:			9
Engine/Trans:	Electric (Fuel Cell)		3.5
Cruise MP:	8		
Flank MP:	12		
Heat Sinks:	0		0
Fuel:	952 km		.5
Armor Factor (BAR 4):	15		.5
	Internal Structure	*Armor Value*	
Front	2	5	
R/L Side	2	3/3	
Rear	2	2	
Rotor	2	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
None

Notes: Features Environmental Sealing Chassis and Controls Modification, paramedic equipment for 4 patients (1 ton), 6 passenger seats (.5 tons)

Type: **Peacekeeper SWAT Carrier**
Chassis Type: VTOL (Large)
Mass: 50 tons
Equipment Rating: D/X-E-E/E

Equipment			**Mass**
Chassis/Controls:			22.5
Engine/Trans:	Fusion		11
Cruise MP:	7		
Flank MP:	11		
Heat Sinks:	0		0
Fuel:			0
Armor Factor (BAR 10):	54		3.5
	Internal Structure	*Armor Value*	
Front	5	18	
R/L Side	5	13/13	
Rear	5	8	
Rotor	2	2	

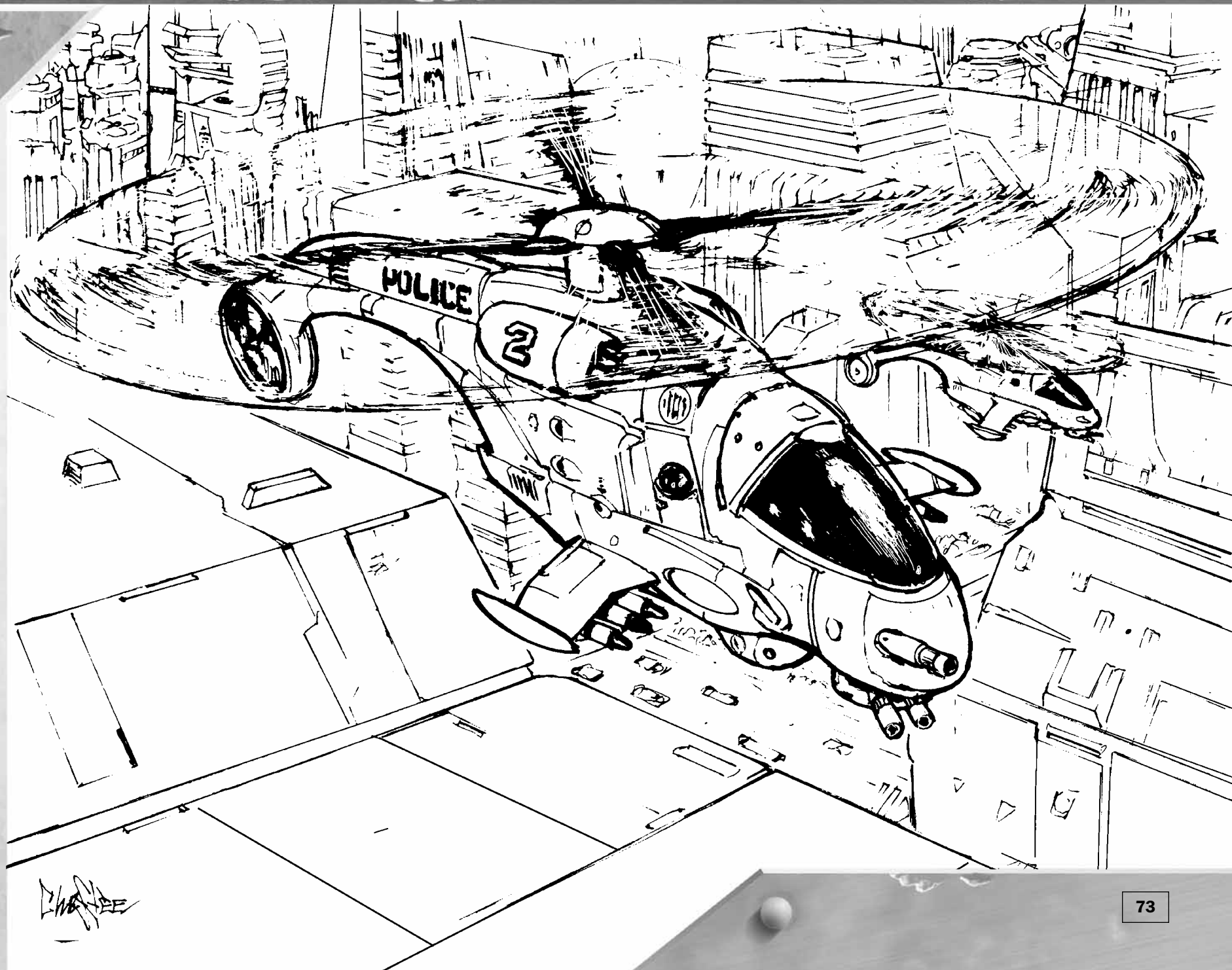
Weapons and Ammo	**Location**	**Mass**
2 Machine Guns	Front	1
Ammo (MG) 100	Body	.5
SRM 6	Front	3
Ammo (SRM) 15	Body	1
Advanced Fire Control	Body	.5

Crew: 8 (3 + 2 officers, +3 gunners
Cargo

Jump Platoon Compartment (4 tons)	1 Door (Rear)
2 tons standard	1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification and 2 mounted search lights (1 ton, Right/Left).

SOAR / PEACEKEEPER SWAT CARRIER



SKY EYE NEWS HELICOPTER

The compact Sky Eye produced by Cal-Boeing was introduced in 3061 to muted reaction in a Federated Suns that was sliding into civil war. Sales were initially sluggish, but the very conflict that nearly doomed the lightweight helicopter came to its rescue, as news agencies scrambled for the best footage they could get of the raging conflict. Foreign sales also did well for Cal-Boeing as agencies like Irian News and ComStar's INN acquired Sky Eyes. Six years after its launch, examples of the Sky Eye can be found in every Successor State.

The sophisticated camera arrays built into the helicopter are attractive to many buyers—gyrostabilizing and automatic tracking systems allow them to remain focused and on-target even when the Sky Eye is maneuvering. However, the key selling point of the design has been its advanced communications array that allows pictures to be relayed quickly and easily to downlink stations. Built into this array are studio-quality mixing and pre-production systems that allow on-board staff to process both sound and trideo, in effect making the Sky Eye a miniature flying studio. The communication array also handles conversions between data protocols, allowing the imagery taken by the VTOL—years of which can be held in the onboard memory—to be delivered in the recipient's preferred format. This is particularly important when the Sky Eye is being used away from its home base. Thanks to a licensing deal with INN, the array includes direct upload capabilities with ComStar's HPG network, allowing near-seamless transmission of material to off-world stations.

The Sky Eye can be flown by a single pilot, but duplicated controls and instrumentation allow a co-pilot when desired, and a dedicated crewman for the communications equipment is all but required for proper operation of the Sky Eye's systems. Four additional seats can be found in the soundproofed rear compartment of the helicopter, each with direct access to camera control and production systems. A standard news team may feature a camera operator, a sound technician/narrator and a production engineer. Smaller agencies may reduce this to only two personnel, and the Cal-Boeing sales literature suggests that a pilot alone could operate the systems (though the quality of any recordings would be suspect, rendered a secondary concern by the needs of piloting the aircraft). The only successful examples of solo-operated Sky Eyes have been those used for traffic reporting, though some well-known footage—such as the Renard Reportage coverage of the fighting on New Avalon—was captured by hastily scrambled pilot-operated Sky Eyes. However, with a price tag in excess of half a million C-bills, using the Sky Eye as little more than a camera platform wastes a considerable investment. It has been suggested that the MIIO are investigating using the design in an intelligence-gathering role, adding more sophisticated optics and sensors to the already advanced onboard systems.

Type: **Sky Eye News Helicopter**
Chassis Type: VTOL (Medium)
Mass: 20 tons
Equipment Rating: D/X-X-D/C

Equipment			**Mass**
Chassis/Controls:			4
Engine/Trans:	ICE		5.5
Cruise MP:	7		
Flank MP:	11		
Heat Sinks:	0		0
Fuel:	1,250 km (Petrochemical)		.5
Armor Factor (BAR 5):	15		.5
	Internal Structure	*Armor Value*	
Front	2	4	
R/L Side	2	3/3	
Rear	2	3	
Rotor	2	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
1.2 tons standard

Notes: Features 4 crew/passenger seats (.3 tons), high-res imaging camera (2.5 tons, Front), infrared imager camera (5 tons, Front), communications gear (1 ton)

SKY EYE NEWS HELICOPTER

PEGASUS / BARONET PASSENGER VTOLS

By 3060 Blackstone BattleMechs of Inarcs had established themselves as premier BattleMech manufacturers. Executives within the company began to discuss diversifying, and one group offered as a likely candidate the civilian short-range air-transport market. A feasibility study proved that many nearby Lyran worlds would purchase such a craft if it were made available. Blackstone executives, their eyes set firmly on the massive profit margins made in heavy manufacture, wavered until 3065. Feelers from rival corporations researching the same market in that year forced their hand.

By the end of the first quarter of 3066, a prototype had been designed and built. The Pegasus could carry a hundred passengers in relative comfort over two thousand kilometers without refueling. A generous cargo capacity insured that those traveling could bring adequate amounts of luggage. Put into limited production in late 3066, the first run had sold out by mid-3067.

Blackstone immediately began research on a larger craft, anxious to capture a larger share of the market. Development of the larger Baronet airframe proceeded at a leisurely pace due to the difficulty of adapting more advanced, weight-reducing materials until September of 3067, when the prototype took to the air. Pre-purchase orders have already financed the construction of the Baronet assembly line, despite the fact that the airframe itself is still being tested.

The Pegasus serves as an airborne mass-transit vehicle in the dense cities of the inner Lyran Alliance. Its almost-negligible landing footprint means that it's not tied to existing airfields. One firm, Yellow Taxi of New Exford, has already begun a VTOL taxi route. Their ten vehicles fly a set pattern within two cities on New Exford, and profits from this early venture have Yellow Taxi considering franchise operations on nearby worlds. Like the simple ground vehicles of the past, the bright yellow Pegasus VTOLs on New Exford are quickly becoming ubiquitous.

Despite its lack of pedigree, the Lyran Alliance Armed Forces have procured two early prototypes of the Baronet. The officers in charge are interested in using the Baronet to ferry large numbers of troops across short distances in secured areas. As the Baronet, like the Pegasus, is a completely civilian craft, it possesses no protective armor whatsoever. Critics of this program are quick to point out that even a soldier discharging his weapon by accident might bring down the Baronet.

Although they market the newest entries into the field, Blackstone by no means holds a monopoly on passenger helicopters. Cal-Boeing of Dorwinion has long supplemented the lackluster sales of their combat helicopters with a steady stream of reliable civilian craft. In the former Chaos March, Michaelson Heavy Industries financed their combat craft with sales of civilian tilt-wing aircraft. The real appeal of the Pegasus today is its newness.

Type: **Blackstone Pegasus Passenger VTOL**
Chassis Type: VTOL (Medium)
Mass: 30 tons
Equipment Rating: C/X-X-C/D

Equipment			**Mass**
Chassis/Controls:			9
Engine/Trans:	Electric (Fuel Cell)		6.5
Cruise MP:	8		
Flank MP:	12		
Heat Sinks:	0		0
Fuel:	2,051 km		2
Armor Factor (BAR 2):	0		0
	Internal Structure	*Armor Value*	
Front	3	0	
R/L Side	3	0/0	
Rear	3	0	
Rotor	3	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
5 tons standard — 2 Doors (Right/Left)

Notes: Features 100 passenger seats (7.5 tons)

Type: **Blackstone Baronet Passenger VTOL**
Chassis Type: VTOL (Large)
Mass: 50 tons
Equipment Rating: D/X-X-E/D

Equipment			**Mass**
Chassis/Controls:			15
Engine/Trans:	Electric (Fuel Cell)		14
Cruise MP:	8		
Flank MP:	12		
Heat Sinks:	0		0
Fuel:	1,428 km		3
Armor Factor (BAR 2):	0		0
	Internal Structure	*Armor Value*	
Front	5	0	
R/L Side	5	0/0	
Rear	5	0	
Rotor	5	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
3 tons standard — 2 Doors (Right/Left)

Notes: Features 200 passenger seats (15 tons)

PEGASUS / BARONET PASSENGER VTOLS

CAL-BOEING RTC-215M SWIFTRAN

Since the opening shots of the Fourth Succession War, the modern battlefield has changed considerably. The chivalry of the past has been replaced with the shock and awe of unrelenting warfare, especially with the coming of the Clans. No longer do combatants cease a battle before its conclusion to repair and rearm their 'Mechs and vehicles, and to tend to the wounded. It is no wonder, then, that combat medics and search and rescue teams have become so important. Quickly moving cargo and replacement personnel to the field, and getting the wounded back to field hospitals, is as much a concern as defeating the enemy.

VTOLs are, more than ever, the vehicle choice for battlefield transport. Requiring little more than a simple, open field—easily created in most terrain with the judicious application of high explosives—they can get in and out quickly. Moreover, while they don't necessarily need to be armed, they do need to be armored against light weapons fire and must even be able to survive hits from heavy weapons. With those factors in mind, Cal-Boeing introduced their Swiftran design.

Utilizing a tilt-rotor to increase range while still giving it the ability to take off and land vertically, the Swiftran can carry some seven tons to and from a battlefield. Operating from a typical forward LZ, the Swiftran can make more than a half-dozen round trips before requiring refueling, or make a long haul flight of almost 1,000 kilometers one way.

Despite its obvious value, the Swiftran did not truly find its niche until Cal-Boeing debuted a medivac version of this VTOL. This design included positions for six fully-equipped stretchers, each with monitors, life support equipment and medication dispensers, as well as room for ten medics. In addition, it contained space to cram in up to ten additional wounded or passengers, and a half-ton of cargo with a wide, rear-access ramp. This version of the Swiftran was just what the Federated Commonwealth's military was looking for.

Following its acceptance by the AFFC in 3053, the Swiftran found markets across the stars. Cal-Boeing has licensed it for production in every Inner Sphere nation except the Capellan Confederation. The medivac version is still, by far, the most popular design of the Swiftran, though typically only within military units and government agencies—most hospitals and paramedic services have no need to carry more than a few patients at a time, after all. The white VTOLs with large red crosses emblazoned on the fuselage, wings, nose and rear ramp are a common sight on battlefields and over the skies of disaster areas.

The medivac configuration is not the only Swiftran in use, however. A pure cargo variant, able to carry either freight or even a light vehicle, is available to both military and civilian customers. Passenger variants, capable of carrying some 75 commuters, are used by short-hop transport companies in many major cities. Cal-Boeing even markets a luxury version, with an office/first class travel compartment forward and space to carry a limousine (or other vehicle) or important cargo to the aft.

Despite the Swiftran's capabilities, it has been plagued by a variety of problems. Prior to its acceptance, Cal-Boeing had difficulty synchronizing the vertical-to-horizontal flight transition that required four engines on two separate pairs of wings to rotate together. Thought by many to have been fixed, similar problems have crept up on several craft from the first production runs after fifteen years in service, leading to three tragic accidents. Additional reports from the field on craft more than ten years old have described mysterious, severe vibrations, leading engineers to issue airframe directives mandating early replacement of certain engine components.

Type: **Cal-Boeing RTC-215M Swiftran**
Chassis Type: VTOL (Medium)
Mass: 25 tons
Equipment Rating: E/X-X-C/C

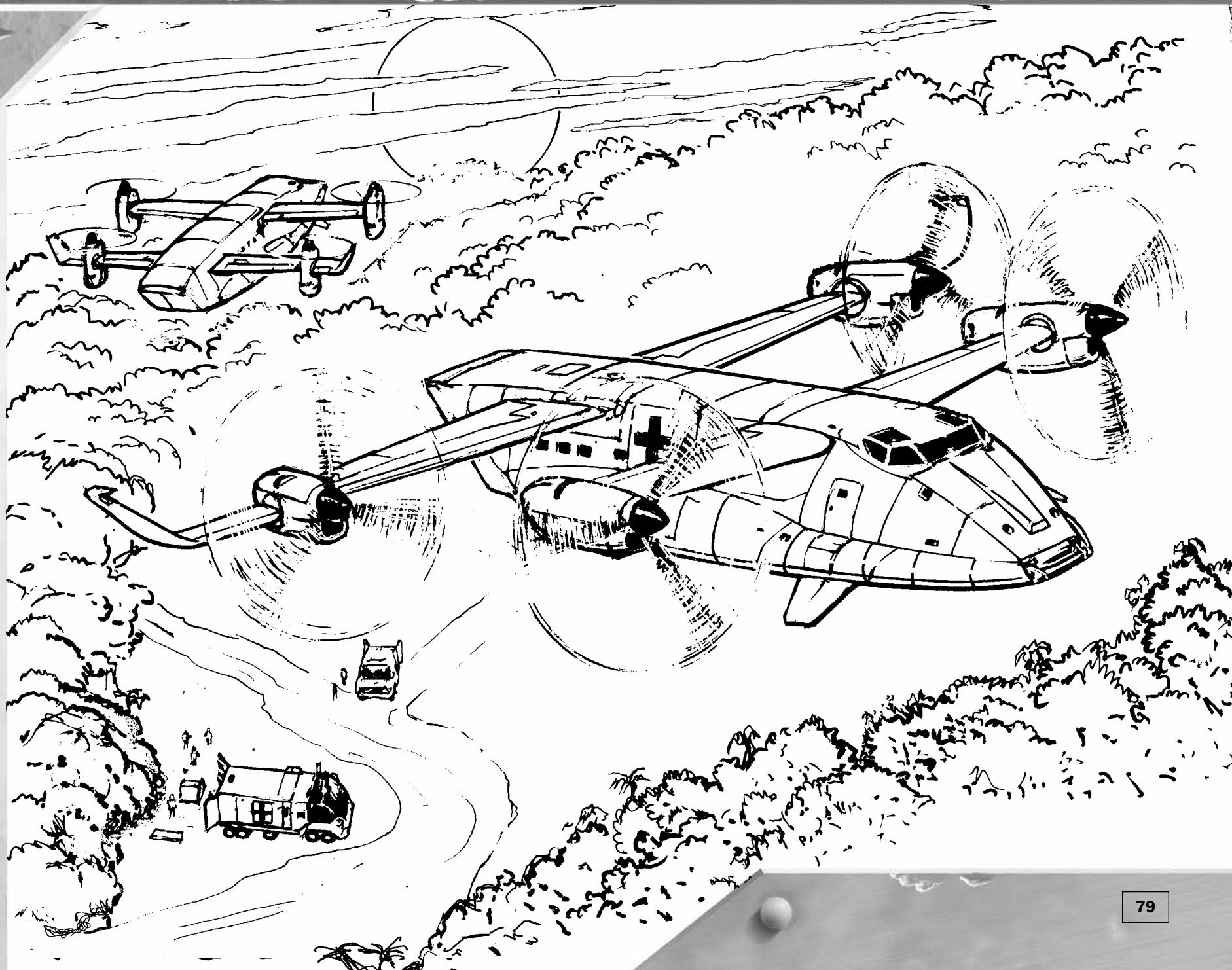
Equipment			**Mass**
Chassis/Controls:			8
Engine/Trans:	ICE		10.5
Cruise MP:	11		
Flank MP:	17		
Heat Sinks:	0		0
Fuel:	952 km (Petrochemical)		1
Armor Factor (BAR 10):	29		2
	Internal Structure	*Armor Value*	
Front	3	8	
R/L Side	3	7/7	
Rear	3	5	
Rotor	3	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2 (+ 10 medics)
Cargo
.5 tons standard — 1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification, 20 crew/passenger seats (1.5 tons), 6 sets of paramedic equipment (1.5 tons)

CAL-BOEING RTC-215M SWIFTRAN



LEXAN OCEANIC SERIES LUXURY VTOL

Lexan Oceanic didn't begin as a vehicle manufacturer. Originally founded as a firm that designed and decorated luxury yachts and ocean liners in the mid-twenty-first century, Lexan made a name for itself by expanding its market among the rich. Everyone who had serious money to burn hired the design firm to appoint and decorate their various properties—from high-rise penthouse apartments to low-orbit space station suites to custom-built luxury DropShips. Owning something that came from Lexan Oceanic meant that person had power, money, and position.

Corrine Yeardly took Lexan in an entirely new direction in 2311. Yeardly partnered with Boeing United, a small subsidiary of the larger Boeing conglomerate responsible for the corporation's passenger VTOL planes. Using a standard VT-1922 airframe, Lexan would provide custom specifications to B-U, who would then build the aircraft. Profits skyrocketed and Boeing United was bought by Lexan shareholders. The newly-renamed United Airframe built two new factories on New Earth and Keid.

The Oceanic Series II became a popular favorite with many interstellar corporate CEOs. A medium-sized VTOL, the Series II contained a custom-built office that boasted one of the most deluxe communications systems outside of the Hegemony military, plus a defensive ECM suite. Fully armored and extremely fast, the Series II came with foldable wings that allowed the versatile aircraft to be easily stored in a DropShip's cargo bay. Each Series II was unique in appointments, containing such luxuries as Terran redwood floors, Capolla jade filigree, Acamarian diamond strings and even Tharkad coral inlay. The compact fusion engine could keep the Series II aloft for days at a time. The Series II was almost fully automated, utilizing a dumbed-down AI program normally utilized in Hegemony military simulations. The AI could even react to attack profiles if necessary, though no such incidents are on record. The last Series II was built for Stefan Pretanis, CEO and President of Earthwerks. The Lexan factories were destroyed during the First Succession War by Davion and Steiner troops.

Lexan Oceanic survived the next few centuries by doing what it did best—catering to the rich and famous. In 3047, the New Earth facility, long ago sold to IrTech, was bought back by Lexan when IrTech stopped producing airframes after a corporate reshuffling. Knowing that custom-built vehicles sold well in the past, CEO Jason Ullman-Yeardly had the R&D division come up with a new VTOL design. In 3053, after a slight delay from the Clan Invasion, the Series VI VTOL was introduced. Three times the size of the original Series II, the VI boasted amphibious capability for added versatility. The larger fuselage coupled with the rare compact fusion engine allowed the VI to add in a large luxury suite, which could be customized based on the client's needs.

By far, the most expensive Series VI produced to date was the pair built for ex-Archon Katrina Steiner in 3066. Boasting exotic furs, upholstery and woods from several Alliance worlds, the price tag for just one of Katrina's custom VI's exceeded the base airframe price of 1.1 million C-bills by forty-two million. Unfortunately, the Archon never got to enjoy her luxury aircraft. Archon Peter Steiner graciously purchased them and immediately donated them to the Tharkad Make-a-Dream Foundation in September of 3067.

Type: **Lexan Oceanic Series VI Luxury VTOL**
Chassis Type: VTOL (Large)
Mass: 60 tons
Equipment Rating: E/X-X-E/D

Equipment			**Mass**
Chassis/Controls:			40.5
Engine/Trans:	Fusion		5.5
Cruise MP:	5		
Flank MP:	8		
Heat Sinks:	0		0
Fuel:			0
Armor Factor (BAR 10):	44		2.5
	Internal Structure	*Armor Value*	
Front	6	12	
R/L Side	6	10/10	
Rear	6	10	
Rotor	6	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
1.5 ton standard — 1 Door (Rear)

Notes: Features Amphibious and Armored Chassis and Controls Modifications, 1 luxury quarters (10 tons)

Type: **Lexan Oceanic Series II Personal VTOL**
Chassis Type: VTOL (Medium)
Mass: 15 tons
Equipment Rating: E/E-F-F/D

Equipment			**Mass**
Chassis/Controls:			5
Engine/Trans:	Fusion		6.5
Cruise MP:	15		
Flank MP:	23		
Heat Sinks:	0		0
Fuel:			0
Armor Factor (BAR 10):	17		1
	Internal Structure	*Armor Value*	
Front	2	7	
R/L Side	2	3/3	
Rear	2	2	
Rotor	2	2	

Weapons and Ammo	**Location**	**Mass**
ECM Suite	Body	1.5

Crew: 2
Cargo
.5 tons standard — 1 Door (Rear)

Notes: Features Armored Chassis and Controls Modification, 6 passenger seats (.5 tons)

LEXAN OCEANIC SERIES LUXURY VTOL

PION-LAURIER CASCATELLE / LAMA-DEUX

With their costly two-year field test cycle netting only failures, Pion-Laurier finally came to its senses and accepted that its PEQRAF-program (Progressive and Effective Quick Response Airborne Firefighting) was just that: too progressive. Scrapping the silly project name along with the plans for large bore "aisle-cannons" and carbon dioxide "extinguish-hammers" (against forest fires or burning tower blocks, respectively) and concentrating on tried and true designs again, the long-standing specialist company from Chenier managed to wrench the wheel around, saving itself from bankruptcy.

First off the "new" line in 3063 was the Cascatelle, a massive tiltrotor aircraft, capable of hauling and drop-dispensing a large amount of extinguishing agents over fairly long distances. Additionally, its modular cargo bay allows a fire-command to react selectively to an evolving threat, as they can choose from several types of containerized tanks of water or dry powder. Another option is to mount equipment bombs—fireproof detachable cargo containers—to supply parachuting firemen transported in the small passenger compartment.

Recharging, too, can be done as demanded by the situation: manually or in-flight through quick tank exchange, suction tubes, standardized filler necks or the big front hatch for the showy ground-level, water pickup in lakes.

The Cascatelle is also used to subdue burning structures in the midst of sprawling cities in general, and in skyscraper-dotted metropolitan regions especially. When a fire is out of reach for classic ladders and impossible to contain with the building's own firefighting equipment, VTOLs can save the day—again—by inserting firemen and rescuing inhabitants via the roof. There's also a host of other firefighting VTOLs purposely designed for combating skyscraper fires—like the Lama-Deux. This aircraft is basically a flying water tank fitted with two protruding high-speed nozzles on cantilever arms, joystick-controlled from an operator's console inside the cabin or with a remote from a fireman in the building itself.

But even the best of technology doesn't guarantee success. A tragic example was the 3049 "Great Stock Market Fire" on upstart Zolfo, where the whole financial district burned down due to the crash of a petroleum-carrying *Mule* DropShip. While the initial impact was bad enough in itself, it was the ensuing dense cloud of blackest smoke, combined with sudden shear winds from the heat and subsequent explosions that made a deployment of VTOLs impossible. However, some luck was present even in the midst of misfortune: the disaster had struck on a Sunday when few people were working, keeping the death toll in the low hundreds.

Not that more conventional, ground-based means would have been more effective, of course, but it still didn't go over well with the local populace, especially since they were protesting against cutbacks to the fire departments just a few months before. Cutbacks that were ironically justified by the Duchess to finance a new squadron of firefighting VTOLs. Of course, those in charge immediately canceled the order and promptly put their feet into their mouths again with the promise of looking into the acquisition of firefighter airships instead.

Type: **Pion-Laurier Cascatelle**
Chassis Type: VTOL (Large)
Mass: 60 tons
Equipment Rating: D/X-X-D/C

Equipment			**Mass**
Chassis/Controls:			18
Engine/Trans:	ICE		14.5
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	0		0
Fuel:	2,068 km (Petrochemical)		3
Armor Factor (BAR 6):	64		2.5
	Internal Structure	*Armor Value*	
Front	6	21	
R/L Side	6	15/15	
Rear	6	11	
Rotor	6	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
20 tons standard (container) 2 Doors (Front/Rear)

Notes: Features 12 passenger seats (1 ton), filler equipment (1 ton)

Type: **Pion-Laurier Lama-Deux**
Chassis Type: VTOL (Medium)
Mass: 30 tons
Equipment Rating: C/X-D-C/C

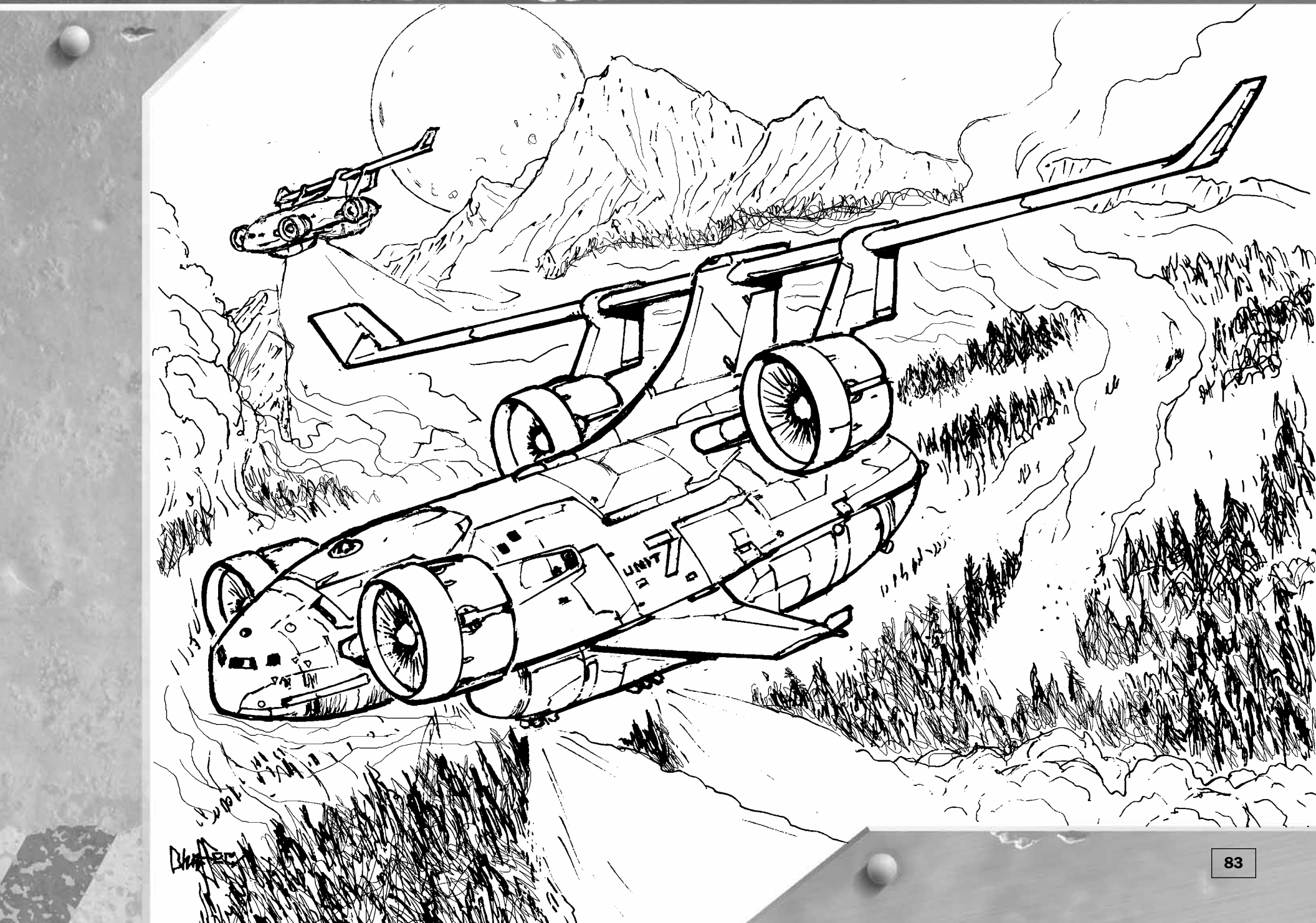
Equipment			**Mass**
Chassis/Controls:			9
Engine/Trans:	ICE		6
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	0		0
Fuel:	833 km (Petrochemicals)		.5
Armor Factor (BAR 3):	34		1
	Internal Structure	*Armor Value*	
Front	3	11	
R/L Side	3	8/8	
Rear	3	5	
Rotor	3	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
12.5 tons liquid (11.3 tons) 1 Door (Rear)

Notes: Features 6 passenger seats (.5 tons), 2 sprayers (.03 tons), mounted searchlight (.5 tons)

PION-LAURIER CASCATELLE / LAMA-DEUX



WIGE SUPPORT VEHICLES

Often overshadowed by DropShips and conventional aircraft technology, WiGEs have nevertheless established themselves in a number of niche roles. Our established expertise in conventional aerospace technology could be leveraged to allow us to enter this market with ease. If such a course is to be followed, I humbly suggest that you familiarize yourself with the troubled history that blighted attempts to introduce this particular type of craft. See the attached press item. Like the concept of the Quad 'Mech, we may find that the negative press WiGEs experienced in their formative years could come back to haunt us. A carefully orchestrated marketing campaign should deal with the issue.

—Leonardo Chun, CEO Tengo AeroSpace

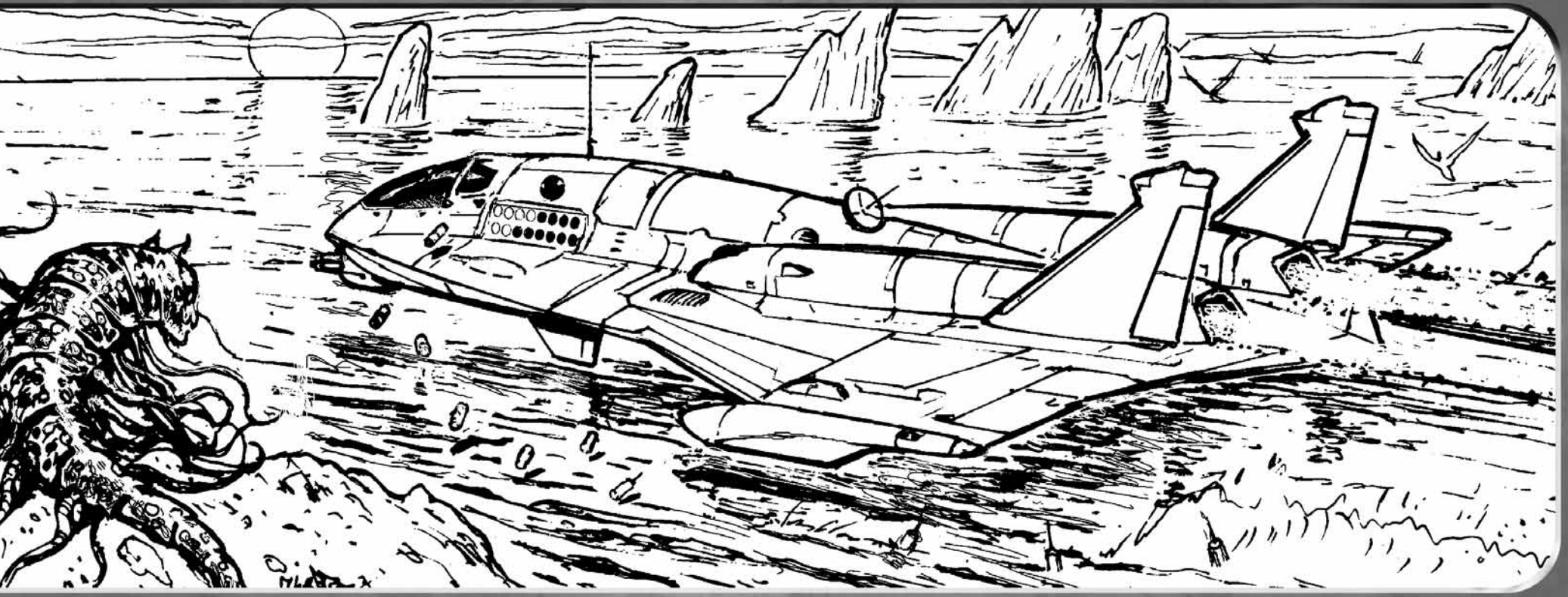
WiGE is an abbreviation of Wing In Ground Effect. A WiGE can be seen as a crossover between a hovercraft and an aircraft. A hovercraft floats on a cushion of air that is created by a fan that blows in a cavity under its hull. The cavity is bounded by skirts that restrict air leakage. The air cushion reduces the hovercraft's friction drag, and would make it a very efficient vehicle if it weren't for the fan that creates the cushion. A WiGE also sits on a cushion of air, but this cushion is created by aerodynamics rather than by an engine. This means that it only exists when the WiGE has sufficient forward speed, but once the craft is in motion it is also very efficient. Indeed, the efficiency of a WiGE increases with size.

First developed during the twentieth century following the dawn of powered flight, the WiGE concept remained little more than an aerodynamic curiosity. With a few exceptions, experimental models were too small to demonstrate the kind of efficiency needed to make the concept commercially attractive. Development of the concept atrophied until the twenty-fourth century when the Terran Hegemony introduced the Thorizer. Equipped with variable-geometry wings, its Hegemony designers envisaged the Thorizer to be a blend of aerospace fighter and hovertank. Unkindly dubbed the "Goony Bird," the Thorizer proved disappointing as a combat vehicle. However, it did succeed in sparking renewed interest in the WiGE concept.

Today light WiGEs remain little more than curiosities, but larger models have proven themselves both economical and effective in roles as diverse as maritime patrol, bulk cargo carriers, and assault transports. Typically operating over water, WiGEs are often amphibious. They can also operate freely over land, but their inability to function at altitude limits their effectiveness in such environments.

The selection of WiGE designs that follows is typical of the types currently in operation.

—Flightline Monthly, April 3066



COANDA / QUICKSILVER PERSONAL SPORTS CRAFT

The myriad worlds of the Inner Sphere have spawned a bewildering assortment of recreational pastimes. Almost inevitably many become the focus of competition as the skilled (or lucky) face off to prove just who is best. Following the competitors are the fans and, of course, the sponsors.

One such example is the water racing championships on Skye. Drawing competitors and spectators from across Lyran space and beyond, the event is held every four years. The championships are a month-long extravaganza that hosts events such as surfing, wind-powered sailing, and powerboat racing. But arguably the most exciting (and certainly the most dangerous) competition is the speed and endurance challenge. In their quest for speed, the competitors have abandoned conventional hydrofoils and hovercraft, instead embracing the Wing-in-Ground-Effect as the ultimate racing vehicle. Extensive media coverage ensures that the competition is always fiercely fought, and the prestige of producing the winning vehicle has attracted participation from many watercraft and aerospace companies. While there is little market for WiGE racers, the publicity garnered during the event has stimulated the development and design of these craft.

Produced by Skye Pleasure Craft, the Coanda is a typical example of the fast and sporty WiGE craft used in the white-knuckle challenge. Introduced in 3054, SPC's new design soared to victory with Hans Moore at the controls. A popular figure on the race circuit, Moore retained his title in '58, but tragically ran out of luck in '62 when his Coanda broke up in mid-race. Crash investigators concluded that Moore had lost control after redlining his engines in the final drive for the finishing line. Despite this incident, the Coanda has been a success for SPC, garnering the company much prestige.

Built by the Lockheed/CBM Corporation, the Quicksilver was designed with only one goal in mind—to defeat SPC's successful Coanda. Larger and faster than its rival, the Quicksilver sacrifices endurance. Carrying insufficient fuel to complete the two thousand-kilometer course, a pilot must make the most of the superior speed to build a lead on his opponents sufficient to allow for the necessary refueling stops. This was demonstrated graphically in the 3058 championship when the faster Quicksilver was only just defeated because it lost vital minutes in refueling. Following that debacle, Lockheed/CBM's pit team trained ceaselessly to turn the confusion of a refueling stop into a choreographed operation that won Judith Church the title in '62.

Off the race circuit, the speed and excitement of flying WiGEs holds great appeal to the rich and famous. Ricardo Hunt (former star of the *Immortal Warrior* HoloVid show) has taken to the sport with relish. Lockheed/CBM was swift to capitalize on this, winning out over SPC in the battle to sign Hunt to a contract to promote their Quicksilver line.

In response to Lockheed/CBM's increasing dominance, SPC has announced the development of the Coanda II. Shrouded in secrecy, the capabilities of this yet-to-be unveiled craft are the subject of great speculation. Many believe that SPC is using high-tech materials (possibly of Clan origin).

Type: **Coanda Personal Sports Craft**
Chassis Type: WiGE (Small)
Mass: 3,500 kg
Equipment Rating: D/X-X-C/C

Equipment		**Mass**
Chassis/Controls:		735 kg
Engine/Trans:	ICE	1,969 kg
Cruise MP:	11	
Flank MP:	17	
Heat Sinks:	0	0 kg
Fuel:	2,412 km (Petrochemical)	475 kg
Turret:		0 kg
Armor Factor (BAR 6):	4	152 kg
	Internal Structure	*Armor Value*
Front	1	1
R/L Side	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
19 kg standard — 1 Door (Left)

Notes: Features Amphibious Chassis and Controls Modification, 2 crew/passenger seats (150 kg)

Type: **Quicksilver Personal Sports Craft**
Chassis Type: WiGE (Small)
Mass: 4,500 kg
Equipment Rating: D/X-X-C/C

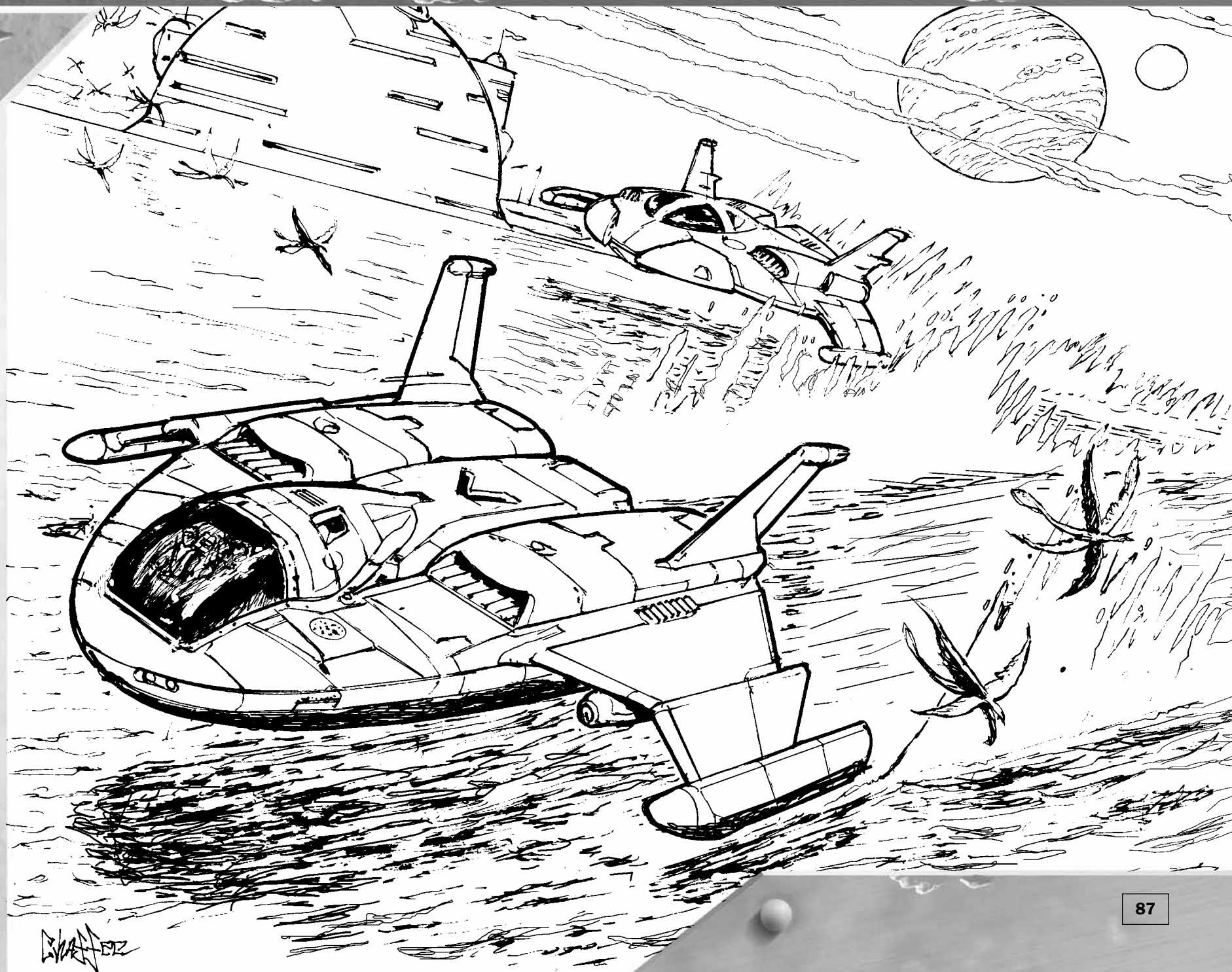
Equipment		**Mass**
Chassis/Controls:		945 kg
Engine/Trans:	ICE	2,997 kg
Cruise MP:	12	
Flank MP:	18	
Heat Sinks:	0	0 kg
Fuel:	1,201 km (Petrochemical)	360 kg
Turret:		0 kg
Armor Factor (BAR 4):	4	104 kg
	Internal Structure	*Armor Value*
Front	1	1
R/L Side	1	1/1
Rear	1	1

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
19 kg standard — 1 Door (Rear)

Notes: Features Amphibious Chassis and Control Modification, 1 crew seat (75 kg)

COANDA / QUICKSILVER PERSONAL SPORTS CRAFT



CORMORANT MEDIUM CARGO / FULMAR PATROL

Worlds boasting significant oceans, such as Ulysses in the Federated Suns, provide their inhabitants with a convenient method of transporting bulk cargos via surface vessels. While economical, this mode of transport is slow. Air transport is far faster but is also proportionally more expensive. The Terran Hegemony experimented with Wing-in-Ground-Effect craft in the twenty-fourth century, but their small Thorizer was not a successful combat vehicle. However, the WiGE's unique qualities make it both a fast and economical option as a civilian transport.

Better known for their military aircraft designs, the Michaelson Aircraft division of Michaelson Heavy Industries has manufactured the Cormorant since 2690. One of the most common WiGEs in the Federated Suns, the Cormorant is a typical medium cargo carrier. A large rear-mounted cargo hatch allows for rapid loading and unloading. Fully amphibious, the WiGE can operate completely independently of a prepared airstrip. Indeed, durable cargo fitted with parachutes and flotation devices can just be jettisoned from the rear cargo doors in mid-flight.

Traveling Ulysses' extensive oceans can be a hazardous undertaking. Large predators such as the Ulyssean Tiger Raptor give a whole new definition to the concept of "bird strike" when creatures are big enough (and aggressive enough) to seriously damage both flying aircraft and surface shipping. When confronted with eight hundred kilos of hungry reptile, the Cormorant falls back on its machine guns. Not all threats faced by a WiGE are natural. For every settled and civilized world like New Syrtis or Numenor, there are the wild frontier worlds like Memphis and Des Arc. In such places the crew of a Cormorant may find themselves dealing with pirates and hijackers as often as hungry fauna. Some crews remove the weapons to increase cargo capacity, but those that must brave the wilds prefer to keep the firepower—light as it is.

Michaelson introduced their upgraded Fulmar in 3056; it originally mounted standard machine guns, but the newest configuration mounting light machines guns has just become available. Outwardly almost identical to the Cormorant, it serves as a maritime patrol vehicle and paramilitary transport. Constructed with advanced composites, the Fulmar is both faster and tougher than its civilian parent. With its extended range and higher speed, the WiGE can transport a full company of marines and their gear. Unfortunately, the Fulmar has also become a favorite with smugglers and pirates who frequent the shallow costal seas of Ulysses. During the height of the FedCom Civil War, shipping losses reached epidemic proportions as the enterprising pirates used their WiGEs to prey on undefended vessels. This state of affairs continued until the Ulysses Navy instigated a convoy system and deployed their own Fulmars to protect the ships and locate the corsair's base of operations. The threat was eliminated at last when a squadron of Fulmars landed a battalion of marines on top of the pirate's headquarters on the island of Penelope.

Type: **Cormorant Medium Cargo Craft**
Chassis Type: WiGE (Medium)
Mass: 70 tons
Equipment Rating: D/C-E-D/E

Equipment			**Mass**
Chassis/Controls:			18.5
Engine/Trans:	ICE		15.5
Cruise MP:	5		
Flank MP:	8		
Heat Sinks:	0		0
Fuel:	2,580 km (Petrochemical)		4
Turret:			0
Armor Factor (BAR 6):	39		1.5
	Internal Structure	*Armor Value*	
Front	7	10	
R/L Side	7	10/10	
Rear	7	9	

Weapons and Ammo	**Location**	**Mass**
Machine Gun	Right	.5
Machine Gun	Left	.5
Ammo (MG) 100	Body	.5

Crew: 4 (2 + 2 gunners)
Cargo
29.5 tons standard — 1 Door (Rear)

Notes: Feature Amphibious Chassis and Controls Modification

Type: **Fulmar Patrol Craft**
Chassis Type: WiGE (Medium)
Mass: 70 tons
Equipment Rating: E/X-X-E/E

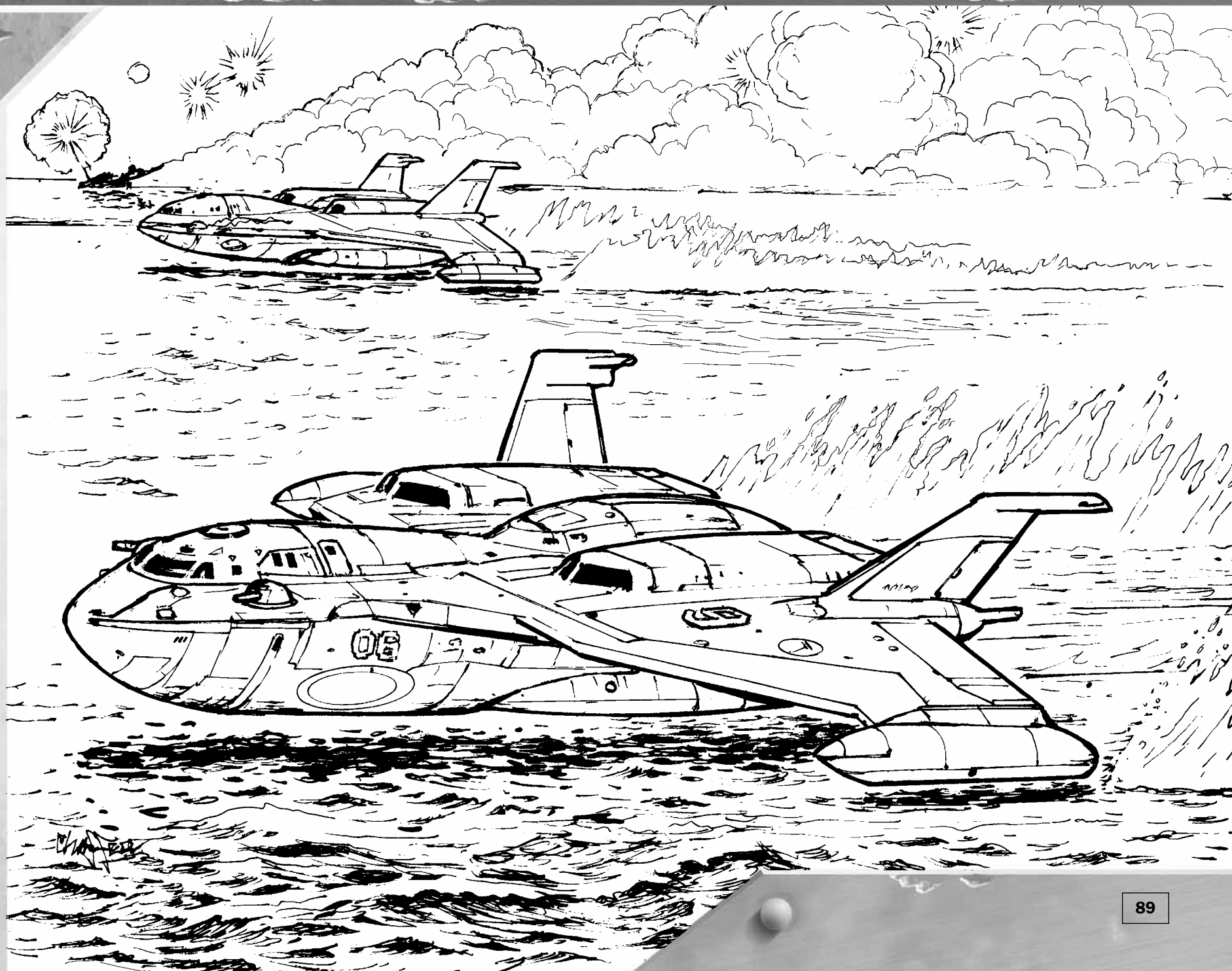
Equipment			**Mass**
Chassis/Controls:			16
Engine/Trans:	ICE		24.5
Cruise MP:	7		
Flank MP:	11		
Heat Sinks:	0		0
Fuel:	2,857 km (Petrochemical)		7
Turret:			0
Armor Factor (BAR 7):	74		3
	Internal Structure	*Armor Value*	
Front	7	20	
R/L Side	7	18/18	
Rear	7	18	

Weapons and Ammo	**Location**	**Mass**
Light Machine Gun	Right	.5
Light Machine Gun	Left	.5
Advanced Fire Control	Body	.5
Ammo (Light MG) 100	Body	.5
4 Mine Dispensers	Rear	2

Crew: 5 (3 + 2 gunners)
Cargo
15.5 tons standard — 1 Door (Rear)

Notes: Features Amphibious Chassis and Controls Modification

CORMORANT MEDIUM CARGO / FULMAR PATROL



KOI / RYU TRANSPORT WIGES

A planet is a big place, even if a DropShip is available for rapid point-to-point transport. Not even a flotilla of DropShips could hope to service the needs of a whole planet. Even if they were not desperately needed to keep the river of interstellar commerce flowing, the operating costs are prohibitive. Instead, worlds have developed other transport strategies better suited to their population size, economic strength, and environmental conditions. For example, the Draconis Combine has seen a rapid growth in the use of large Wing-in-Ground-Effect transports over the previous two decades. Faced with the Clan threat, Coordinator Theodore Kurita introduced reforms that have strengthened the economy to support the rearming of the DCMS. That, in turn, has fueled the modernization of the transport infrastructure.

Seeing an increased demand for fast and economical cargo transports, Wakazashi Enterprises developed a range of WiGEs for the domestic market. Their flagship design is the two-hundred-forty-ton Koi. Its cargo capacity and virtually unlimited range has caused the executives at Pesht Motors (the Combine's primary manufacturer of civilian transports) no small degree of concern. In 3061 a factory fire halted Koi production for three months. Wakazashi executives accused Pesht of sabotage, and an investigation proved that the incident had been a deliberate act of arson. However, no definitive evidence linking Pesht to the incident was uncovered. Relations between the two corporations have since been strained.

The two million-strong Hunters International collective on Tabayama have pressed the Koi into service in their continuing struggle against the whitetail deer. Introduced almost four hundred years ago by a wealthy industrialist, the animal has flourished in the absence of predators. Organized into the collective, the Hunters have been waging war (both figuratively and literally) in defense of Tabayama's precious cropland. The Koi transport has proven a boon to the Collective, allowing them to shift men and equipment rapidly and ship their kills back for processing and export.

Planetary militia and the DCMS have been quick to embrace the potential of the WiGE. To fill a niche market, Wakazashi has introduced an armed version of the Koi known as the Ryu. Providing a heavy lift capability for planetary militia lacking DropShip support, the Ryu's cavernous cargo bay can be reconfigured quickly to transport a mix of infantry and vehicles, or even a BattleMech. Using the same combination of flotation tanks and powerful pumps as the Koi, the Ryu can open its bay doors while afloat without fear of being swamped. Though armed and relatively well armored, the Ryu is not intended for front line combat duty. Like all WiGEs, it is vulnerable to both ground fire and more nimble conventional aircraft and AeroSpace fighters. The weapons are not intended for prolonged combat, but are present to support ground units as they embark or disembark from the craft.

Type: **Koi Heavy Transport**
Chassis Type: WiGE (Large)
Mass: 240 tons
Equipment Rating: D/X-X-D/C

Equipment			**Mass**
Chassis/Controls:			71.5
Engine/Trans:	Fusion		42
Cruise MP:	5		
Flank MP:	8		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 6):	78		3
	Internal Structure	*Armor Value*	
Front	24	14	
Front R/L Side	24	14/14	
Rear R/L Side	24	13/13	
Rear	24	10	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
123.5 tons standard — 2 Doors (Front/Rear)

Notes: Features Amphibious Chassis and Controls Modification

Type: **Ryu Heavy Transport**
Chassis Type: WiGE (Large)
Mass: 240 tons
Equipment Rating: D/X-X-D/E

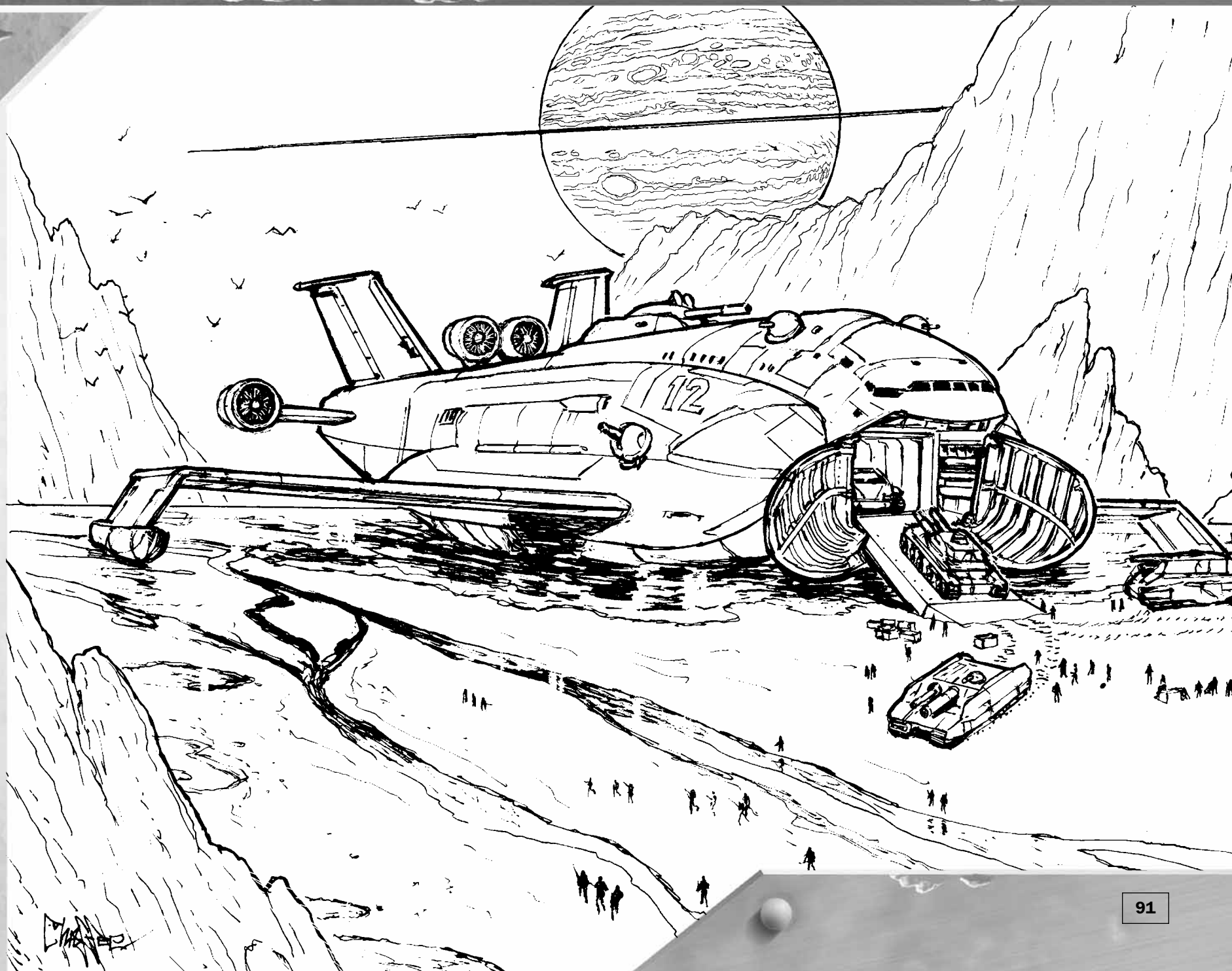
Equipment			**Mass**
Chassis/Controls:			71.5
Engine/Trans:	Fusion		42
Cruise MP:	5		
Flank MP:	8		
Heat Sinks:	0		0
Fuel:			0
Turret:			1
Armor Factor (BAR 6):	105		4
	Internal Structure	*Armor Value*	
Front	24	16	
Front R/L Side	24	15/15	
Rear R/L Side	24	15/15	
Turret	24	18	
Rear	24	11	

Weapons and Ammo	**Location**	**Mass**
Autocannon/5	Turret	8
Ammo (AC) 40	Body	2
2 Machine Guns	Front	1
Machine Gun	Left	.5
Machine Gun	Right	.5
Ammo (MG) 200	Body	1
Basic Fire Control	Body	.5

Crew: 12 (3 + 2 officers, + 7 gunners)
Cargo
108 tons standard — 2 Doors (Front/Rear)

Notes: Features Amphibious Chassis and Controls Modification

KOI / RYU TRANSPORT WIGES



AIRSHIP SUPPORT VEHICLES

Sigmund. Your request caught me just before my departure for New Olympia. I know many see airships as a quaint anachronism from ancient Terra, and thus tend to dismiss them out of hand. It is true that they are often relegated to filling niche markets, but because of that, it is easy to justify a very healthy market price.

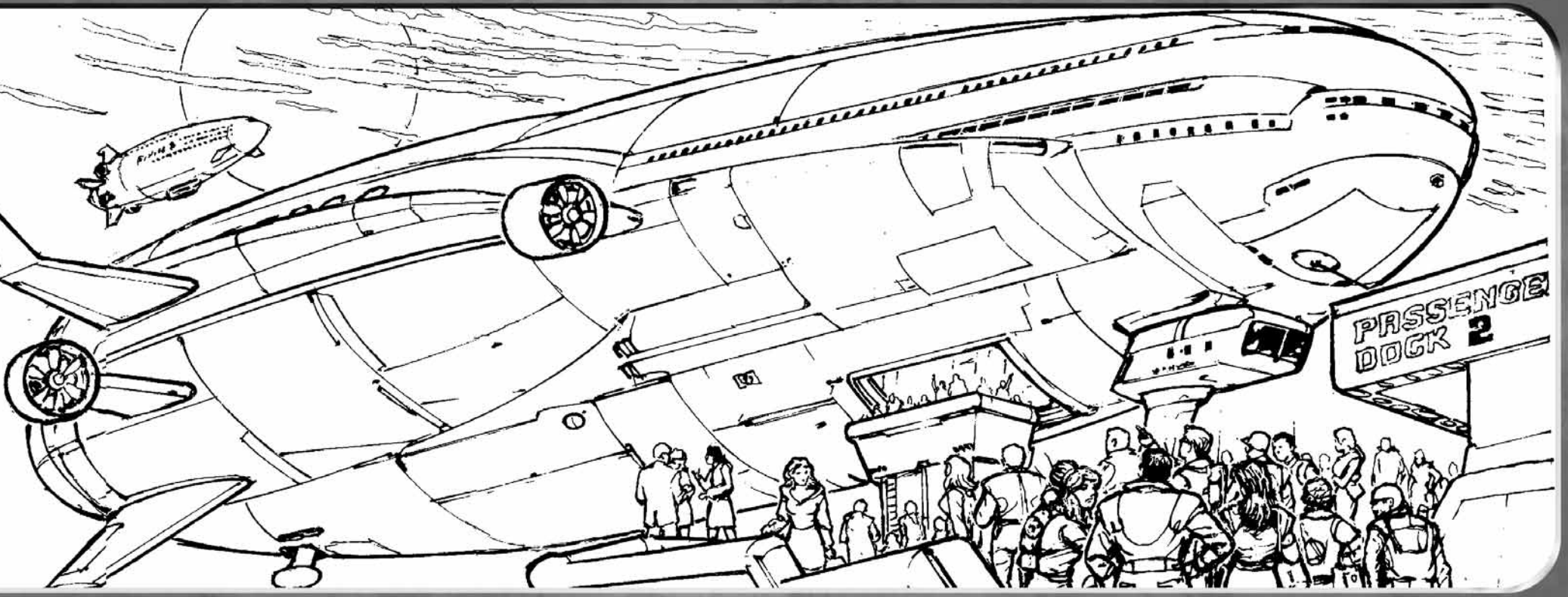
Also, I recently came across a rumor that a Schatten Surveillance Airship sporting Bounty Hunter colors had been spotted. While my first impulse was to disregard such a ludicrous claim out of hand (why would the Bounty Hunter use such a specialized vehicle?), the rumor kept spinning in my head. After all, the Bounty Hunter has been very active of late, including his spectacular grab of Kai Allard-Liao and then the Emris IV StarCorps manager. Not to mention...who would dare impersonate the Bounty Hunter? Regardless of whether it's true, however, I believe we can easily capitalize on this situation with an ad campaign geared towards secondary planetary markets.

Regardless, here is some info I put together for the last shareholders' meeting.

—Rico Mendez, Andurien AeroTech

Unlike fixed wing aircraft and VTOLs that remain aloft by generating lift using aerofoils or vectored thrust, airships use buoyancy. Filling a large cavity with gas of lesser density than the surrounding atmosphere to create lift, they soar almost effortlessly through the air. Unburdened by the requirements of conventional flight, an airship's endurance is often more likely to be dictated by the needs of passengers and crew. After early promise, the development of the airship was blighted by a series of very public disasters. Overtaken by the rapid development of fixed wing craft, it was only after mankind went to the stars that the airship finally redeemed its tarnished reputation. The challenges of the new frontiers encountered by Terra's early colonists were as varied as the worlds upon which they attempted to settle. No longer filled with dangerously flammable hydrogen gas, a new breed of airships built with the latest technology served our courageous ancestors as safe and efficient tools.

Today airships are a common sight, giving yeomanry service as heavy transports. Although too fragile for combat roles, their ability to loiter for extended periods makes them particularly useful as observation platforms, and in law enforcement as search and rescue units.


PASSENGER
DOCK 2

DAWN TREADER CARGO AIRSHIP

Water worlds such as Athenry face many problems that most other "normal" systems do not. Because of the constantly heavy seas and high sulfur content of the water—which made ship hulls more expensive—sustaining valuable offshore platforms was difficult. With easy sea access denied them, the corporations developing Athenry turned to the air.

Airships were a common sight all across the skies of Athenry by the early 2600s, with almost ninety percent of the airborne vessels transporting mining equipment and supplies from offshore and underwater drilling sites to the main DropPort. A small germanium pocket discovered in 2681 made the world even more valuable than its water supply. A target of continuous deep raids from the nearby Federated Suns, the populace learned to hate the Davion sun-and-sword emblem. Pressure on the Combine to place more garrison forces in the system (on top of the standard 'Mech company and infantry regiment) increased until 2802, when for two weeks, Athenry declared its independence from House Kurita. Not wanting to be deprived of a vital water source—or worse, lose it to the Suns if the Davions decided to attack (Athenry had practically no local militia)—the Combine immediately dispatched the Fourth Sword of Light from nearby Dieron to garrison the world. This cost the entire planetary government its honor, which was redeemed in an elaborate *seppuku* ceremony on May 16, 2802 that put the system back under the Dragon's rule.

Athenry's importance declined dramatically when the small germanium mine was depleted in the late 2990s. Apparently, even the Davions didn't pay much attention after that, as the ast germanium raid was in 2999 and the brief but impressive invasion by the Blue Star Irregulars in the War of 3039.

The planetary government has since attempted to turn the system into a tourist destination. Using the assets at hand, Capriole Dynamics was contracted to redesign and rebuild many of the older Provost-class airships—a cavernous cargo hauler with massive ore lifts—into a newer, more cost-efficient design. Removing the older internal combustion engines and fuel cells, Capriole fitted the airship shells with solar power plants to take advantage of the system's almost constant sunlight. Cutting the cargo capacity by over half, the new Dawn Treader-class of airships sports two levels of passenger accommodations and a small VTOL hanger (for private sightseeing tours and emergency medivac). By retaining a cargo bay in the roomy hull, the airship is able to keep operating costs down, much to the delight of the more budget-conscious traveler. By late 3050, Athenry became known across much of the Dieron Prefecture as the "aircruise tour capital" for the average citizen. Even today, a two-week aircruise circuit only costs a family of four 750 K-bills, a steal when compared to similar tours on Eltanin that cost over five times as much.

Type: **Dawn Treader Cargo Airship**
Chassis Type: Airship (Large)
Mass: 1,000 tons
Equipment Rating: C/X-E-D/C

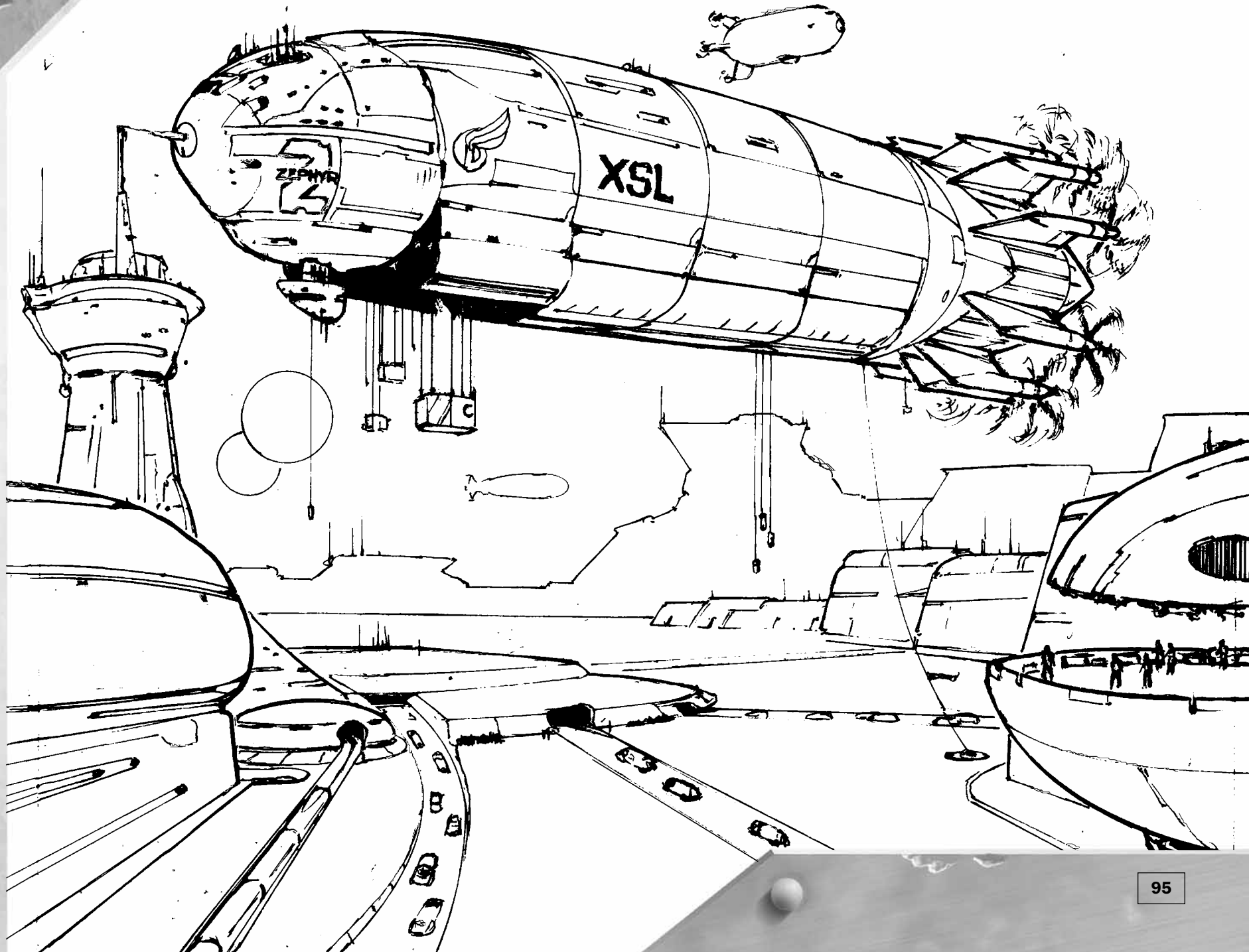
Equipment		**Mass**
Chassis/Controls:		345
Engine/Trans:	Electric (Solar)	300
Cruise MP:	1	
Flank MP:	2	
Structural Integrity:	20	
Heat Sinks:	0	0
Fuel:		0
Armor Factor (BAR 2):	94	1.5
	Armor Value	
Nose	31	
Wings	21/21	
Aft	21	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2 officers, 5 enlisted/non-rated
Cargo
19.5 tons standard — 1 Door (Floor)

Notes: Features 3 lift hoists (9 tons), 10 mounted searchlights (5 tons, 2 Front/2 Rear/3 each side), light vehicle bay (50 tons), 20 second class passenger quarters (140 tons), and 5 first class passenger quarters (50 tons)

DAWN TREADER CARGO AIRSHIP



CORVAIR LUXURY PASSENGER AIRLINER

Tiber is known to many outside the Principality of Regulus as a key factory world with a small population whose lives revolve around the corporate culture. Indeed, over six hundred various corporations from the Free Worlds League Fortune 10,000 List make their presence known on Tiber, of which almost half have their corporate headquarters in Verona. Though much of the planet is industrialized, the massive mountain ranges of New Assam still retain their wilderness, a perfect location for the corporate heads to have their retreats and getaways. Inside the corporate culture of the Principality, Tiber is better known as a vacation haven, where one can find even the most expensive tastes sated.

Boeing introduced the Corvair series of passenger liners in 3066. Dedicated exclusively to the rich and well-off, these medium-sized airships are built to exacting detail. Using mostly hand-crafted metals and woods, each cabin becomes a work of art. Every cabin is built around a theme—usually period or architecturally designed, such as the Victorian stateroom on the Delphine, or the Monet Room on the Venus. The outer staterooms have one wall made entirely of Plexus Glass-Weave, which does not scuff and has been known to stop bullets and laser strikes. Even the "cheaper" inner rooms contain at least a holographic wall to give a view of the passing mountains below.

Though each Corvair can handle over 40 guests, they rarely do. Because each stateroom is constructed of interlocking panels, it is common for several staterooms to be connected into a suite complex for those guests willing to pay. On average, a Corvair normally only has twenty first-class passengers (sharing suites). On occasion, a liner has been hired out for small family groups—which Duke and Duchess Seren did recently, celebrating their thirtieth wedding anniversary.

When passengers arrive for their month-long cruise, they are greeted by a staff who has been briefed on their likes, desires, and idiosyncrasies. Thus, every need is taken care of, allowing the guests to truly relax and leave their stresses behind. The Corvair's small cargo bay is packed wall-to-wall with items specifically selected for each guest, including several reserve crew quarters. Though normally staffed with five crewmen, more employees can be hired for the more selective guests who require individualized attention.

For those corporate giants who can't bear to leave their businesses alone for one moment, a complete business suite is located on each liner, allowing moguls to conduct private meetings, conversations, and communications. The Delphine has been upgraded with a direct-to-HPG satellite connection, for those who need to contact their brokers on other planets.

Each liner works a solitary flight path through the massive mountain chains along New Assam before following the coast to the frigid waters of the Southern Sea. If weather patterns are good, most Corvair liners drop close to the arctic waters, allowing their passengers to glimpse the massive pods of whalan below. At least three nights are spent along the polar crust, and if done during the longer winter evenings, the gorgeous Tiberian Storms can be seen in full radiant color.

Though not inexpensive—the lowest berth price starts at 500,000 M-bills and goes up—the cruise is well worth the cost. With lavish balls, intense Drax games, and catered meals, no passenger has yet to file a complaint with Boeing Travel, the principal owner of the line. Rumor even has it that Captain-General Marik spent his honeymoon with Dame Halas on the Delphine, sequestered in the expansive Versailles Penthouse suite.

Only six Corvairs serve the Boeing Travel Line, with four more in development. Insider information has revealed that of those four, two are slated to begin running part of their route through the massive Tezpur caverns, a feat previously unheard of. Prices are expected to be well over a million M-bills for the underground cruise, well out of reach of even CEOs of moderate-sized corporations.

Type: **Corvair Luxury Passenger Airliner**
Chassis Type: Airship (Large)
Mass: 350 tons
Equipment Rating: E/X-X-E/D

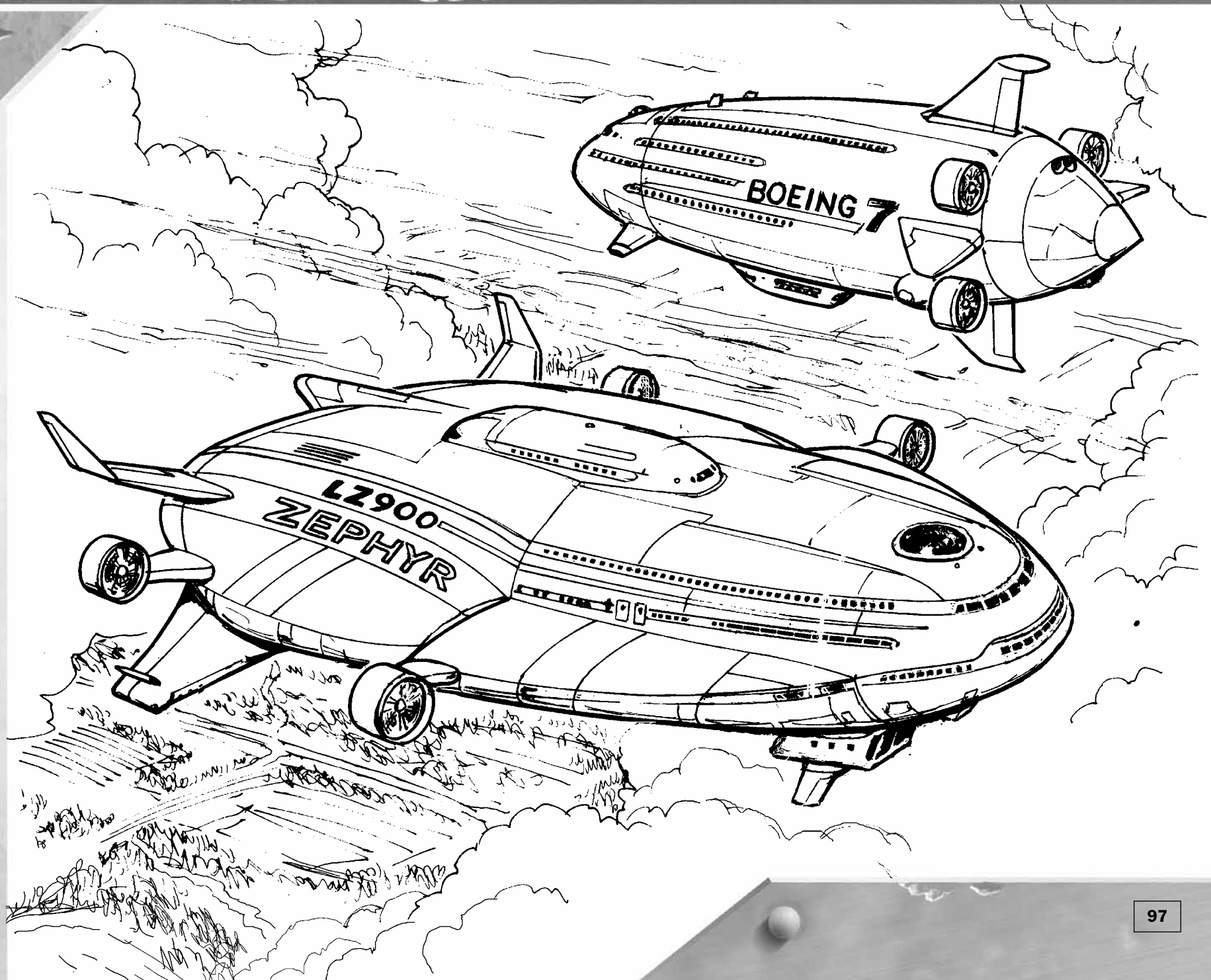
Equipment		**Mass**
Chassis/Controls:		178.5
Engine/Trans:	Fission	29.5
Cruise MP:	1	
Flank MP:	2	
Structural Integrity:	7	
Heat Sinks:	0	0
Fuel:		0
Armor Factor (BAR 4):	104	2.5
	Armor Value	
Nose	29	
Wings	25/25	
Aft	25	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1 officer, 4 enlisted/non-rated
Cargo
19.5 tons standard — 2 Doors (Rear/Floor)

Notes: Features Environmental Sealing Chassis and Controls Modification, 12 first-class passenger cabins (120 tons)

CORVAIR LUXURY PASSENGER AIRLINER



SCHATTEN SURVEILLANCE AIRSHIP

ComStar has maintained a solid grip on Terra ever since Jerome Blake seized it in 2788 and declared the human homeworld neutral in the warmongering of the other Great Houses. With Terra's large population and ethnic mix, historians and psychoanalysts have pondered for decades how ComStar managed to maintain a solid, yet mostly benevolent, grip on one of humanity's most prosperous worlds.

Enter the Schatten project, hidden from the rest of the Inner Sphere for over two hundred years.

While much of the information surrounding the highly-secretive project is conjecture, enough information exists from old SLDF, corporate, and ROM archival intelligence reports to be able to piece together one of the Order's most successful long-term operations. The project was uncovered after the Order was ejected from Terra in 3058 and the Precentor Martial did not deny the existence of the Schatten operation when questioned at an intelligence symposium on Orestes in 3064.

WOB-ROM Precentor Alexander Kernoff assured the Star League's Membership Committee in 3065 that the program was shut down shortly after the Word of Blake took ownership of Terra. The Precentor's office even conducted the twelve-member committee on a short tour of the Zodiac facility, which was being reconfigured to produce material for jump sails. The SLMC has assured the Office of the First Lord that the Schatten project is indeed no longer in operation.

In 2791, ComStar commissioned Zodiac Systems to design and manufacture a rigid-body airship to be used for surveillance purposes. Teamed with Pelco Electronics, Zodiac debuted the Schatten airship with utter secrecy in 2802. The Schatten was designed to stay aloft at high altitudes for weeks at a time, with its crew quarters (and facilities for up to 20 passengers, typically covert operatives or observers) reflecting that mission. Utilizing several hi-res, infra-red and standard cameras, as well as the sophisticated GUTHRIE radar system, the Schatten essentially functioned as a low-orbit satellite system but with the ability to loiter over one location for days at a time. Utilizing this variety of equipment and network, ComStar was able to maintain close watch on the Terran citizenry and ferret out potential subversives and spies.

In order to help disguise the Schatten from the curious, Zodiac also designed the Luxemburg-class cargo airship. Zodiac debuted the nearly-identical airship in 2800 to great fanfare during the New Year's festivities in Hong Kong. With two years crossing Terran airspace delivering exotic cargos and subsequently, passengers, citizenry were none the wiser when the Schatten began serving ROM by watching over the Terran populace.

In 2898, the Schatten underwent a refit, incorporating newer communication intercept technology and some light weaponry for point defense; these were recently upgraded to extended range lasers. Schatten teams remained aloft for months at a time, processing and analyzing the constant transmission streams, video and imaging surveillance from the highly sophisticated spy systems. It is now known that at least four Schatten airships were assigned to each Great House assemblage that attended Hanse Davion and Melissa Steiner's wedding, no doubt to keep tabs on the private doings of the attendees.

The airframes were environmentally sealed around 2940, leading many analysts to conclude that several Schattens were transported to worlds with hostile environments, like Titan. In fact, an SLDF intelligence analyst only recently discovered a massive discrepancy from the old Zodiac records—several hundred of the airships seem to be unaccounted for over a twenty year period during the turn of the millennia. Considering that many metropolitan worlds have records of ComStar using the Luxemburg-class to "ferry HPG relay maintenance teams," it seems very likely that ROM was in fact carrying out covert intelligence operations against their host worlds.

Type: **Schatten Surveillance Airship**
Chassis Type: Airship (Medium)
Mass: 380 tons
Equipment Rating: E/X-E-E/F

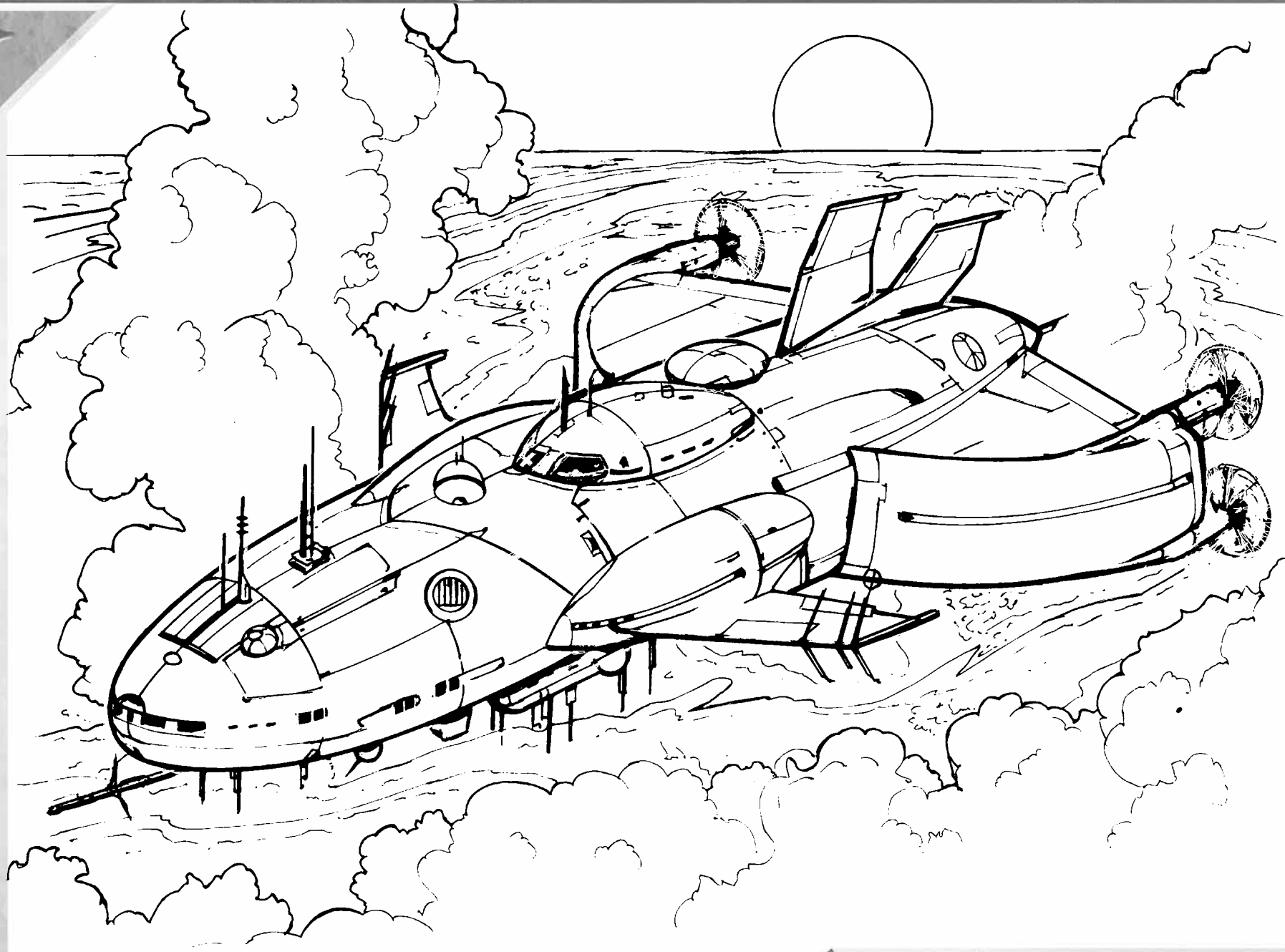
Equipment		**Mass**
Chassis/Controls:		158.5
Engine/Trans:	Fusion	27.5
Cruise MP:	2	
Flank MP:	3	
Structural Integrity:	8	
Heat Sinks:	4	4
Fuel:		0
Armor Factor (BAR 8):	99	4.5
	Armor Value	
Nose	35	
Wings	24/24	
Aft	16	

Weapons and Ammo	**Location**	**Mass**
2 ER Small Lasers	Nose	1
Advanced Fire Control	Body	.5

Crew: 3 officers, 12 enlisted/non-rated
Cargo
7.5 tons standard — 2 Doors (Rear/Floor)

Notes: Features Environmental Sealing Chassis and Controls Modification, communications equipment (6 tons), 4 hi-res cameras (10 tons, Front/Rear/Sides), 4 infrared imager cameras (20 tons, Front/Rear/Sides), look-down radar (5 tons), and 20 steerage passenger quarters (100 tons)

SCHATTEN SURVEILLANCE AIRSHIP



CLOUD NINE CARRIER AIRSHIP

By late 3065 Count Douglas Fassei, owner of Cal-Boeing of Dorwinion, was fed up with the steadily-decreasing profit margins he was facing because of competition. The debut a decade earlier of Michaelson Heavy Industries' very popular line of combat helicopters had all but shut down production of his Wild Weasel VTOL. Buyers were demanding new products to face modern challenges, and Count Douglas demanded his design teams think outside the box.

One of Fassei's designers, a young engineer named Donald ("Call me Macon") Hoeck, sold the Count on the idea of a mobile aircraft carrier. Macon designed an airship that would carry a squadron of medium fighters above the ground, out of the reach of saboteurs and infiltrators. The Count readily agreed to fund a prototype, and the Cloud Nine was born.

Pundits on Dorwinion called it "the noble experiment." The airship would be built around the largest commonly available airframe, with ballonets secreted inside molded wings. The airship was massive, majestically visible for kilometers when aloft. Fusion-powered, it was only required to land for maintenance—even consumables could be delivered by aircraft. Macon envisioned billeting a squadron of *Corsair* fighters aboard to reduce the need to carry cumbersome (and explosive) ammunition. Quarters for the pilots and technicians needed to man the first airborne mobile field base were added to further reduce the craft's dependency on ground-based support.

A single aerospace fighter catapult bay was added beneath the Cloud Nine's nose. The rest of the interior was dedicated to a cavernous hangar bay, where the remaining five fighters could queue up to be launched. A revolutionary hook-and-harness arresting system was created to recover the fighters. Tests showed the deck crew capable of launching a fighter every fifteen minutes. Since Macon intended the Cloud Nine to remain safely outside the combat zone, this time was deemed adequate.

Count Fassei insisted his new airship be fitted with full command-and-control facilities in case the AFFS was interested in creating airborne command posts. With its defenses already built-in by the inclusion of a squadron of fighters, Fassei envisioned Davion RCTs with Cloud Nine headquarters across the Suns. The few serving officers he convinced to come to Dorwinion and see the new airship were at best skeptical. At worst, they were quickly removed from the Count's presence before their laughter angered him.

The noble experiment was a failure.

After convincing his AFFS visitors to convene a trial, Fassei ordered the Cloud Nine out over the Great Dorwinion Sea, out of range of land-based conventional aircraft. The fighter squadron—a *Corsair* unit grudgingly assigned from a nearby March Militia, deployed from the airship as scheduled. They succeeded in destroying their assigned targets and returned to the airship. The first five fighters were recovered safely, but the last *Corsair* missed the arresting hook and plunged up through the thinly-armored ballonets. The Cloud Nine fell from the sky and disintegrated when it struck the water. There were no survivors.

Donald Hoeck left Dorwinion on the next DropShip.

Type: **Cloud Nine Carrier Airship**
Chassis Type: Airship (Large)
Mass: 1,000 tons
Equipment Rating: E/X-X-F/E

Equipment		**Mass**
Chassis/Controls:		255
Engine/Trans:	Fusion	45
Cruise MP:	1	
Flank MP:	2	
Structural Integrity:	20	
Heat Sinks:	0	0
Fuel:		0
Armor Factor (BAR 2):	83	1
	Armor Value	
Nose	23	
Wings	20/20	
Aft	20	

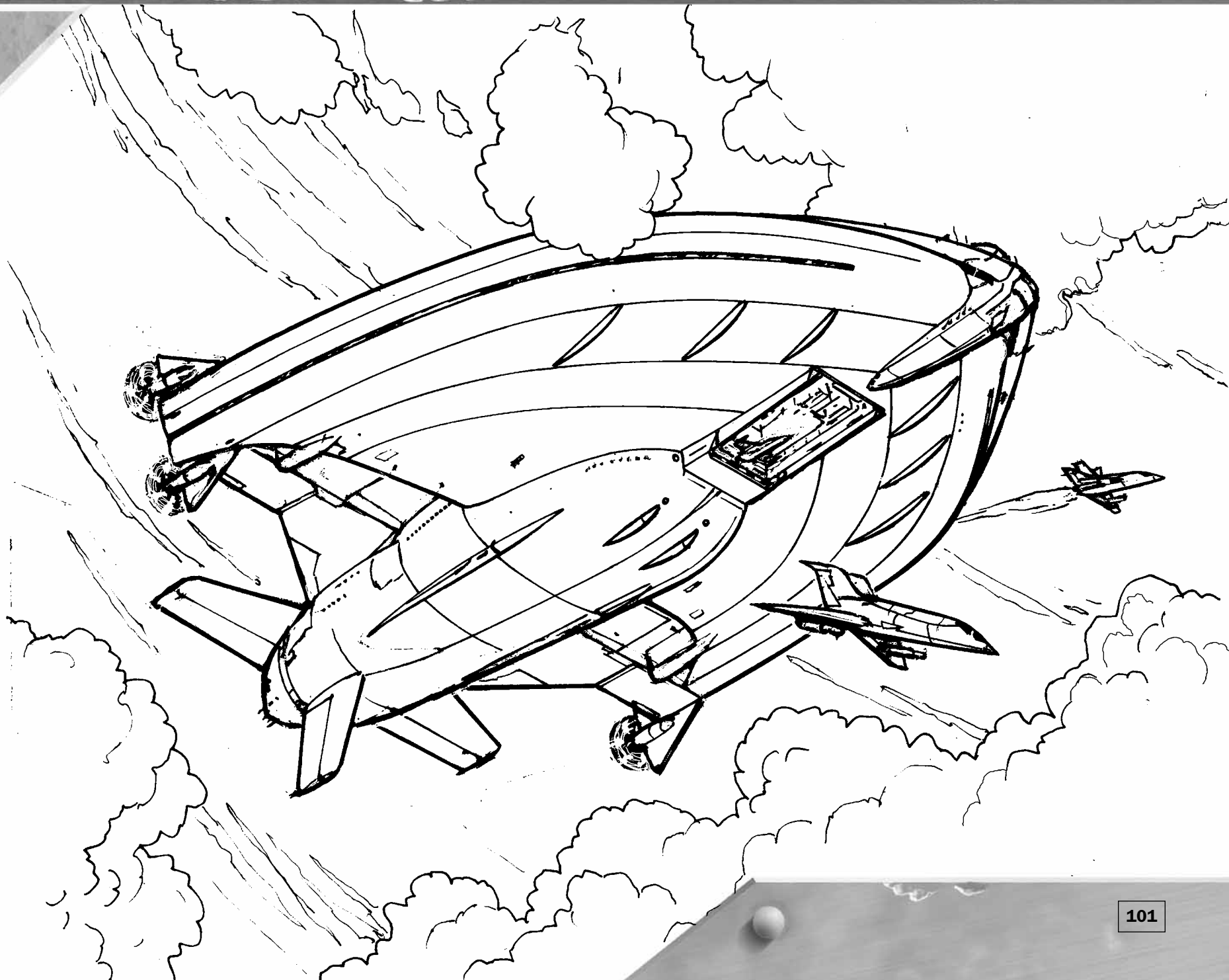
Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 4 officers, 17 enlisted/non-rated, 12 bay personnel
Cargo

400 tons standard (hangar)	1 Door (Bottom)
39 tons standard	2 Door (Left/Right)

Notes: Features 2 lift hoists (arresting gear) (6 tons), 4 mounted searchlights (2 tons, Front/Rear/Sides), 1 aerospace fighter bay (150 tons), 15 steerage-class passenger quarters (75 tons), communications equipment (7 tons), mobile field base (20 tons)

CLOUD NINE CARRIER AIRSHIP



EC-1 ECKENER TANKER AIRSHIP

During the heyday of the Ryan Cartel, the massive conglomerate had several subsidiaries involved in various aspects of water transportation between the stars. Though the most well-known aspect was the massive "ice convoys" that plied the space lanes, this was only the tip of the Cartel's expansive corporate iceberg. The Cartel also owned or created corporations involving water testing, exploration, bottling, distilling, sales and distribution, not to mention ancillary companies to handle basic maintenance functions and transportation vessels.

Johnson Platform Airframes (JPA) was created specifically to develop and design single-world transportation systems on worlds starved of fresh water. Contrary to popular belief, Cartel DropShips didn't always just land, connect a hose to a central pipeline and pump away. On raw frontier planets that needed the Cartel the most, such infrastructure did not exist. Accordingly, water had to be shipped by vehicles to thirsty customers. As such, JPA designed the Eckener-class airships, which could hold nearly 400 tons of liquid cargo and transport from the larger storage depots near the Cartel's DropShip drop-off points. Using an airship was decidedly cheaper than smaller-capacity land trains or prohibitively expensive rail lines.

Though the Cartel's heyday was long past by the 31st Century, JPA remained in business thanks to their quick thinking and versatility. Easily converting the Eckener's liquid container hold to handle a variety of volatile, hazardous, or unstable cargos, these 1000-ton airships were soon spotted transporting liquid hydrogen, petroleum, and even radioactive coolant water from nuclear reactors across hundreds of Inner Sphere worlds. The Eckener became a mainstay of many petrochem corporations in particular, shuttling various forms of oil, gasoline, and other fuels to isolated customers from central depots.

On some Periphery border worlds, these tanker airships became valuable targets. Filled with "black gold," the Eckeners of the Esso-Xenon PetroChem Corporation were favorite targets of bandits on Cohegan in the Federated Suns. During the years between 3031 and 3051 alone, over 300 sorties were flown by the Red Skull Legion pirate band against the company's airships. The band was located somewhere on Cohegan, as evidenced by the Legion's dominant usage of conventional fighters. Though the planetary government hired several mercenary outfits to protect their Eckener convoys and root out the Red Skull, they were never successful. The attacks faded after 3057, with the company speculating that the pirate leader, Genghis "Khan" Tolson, had died during a particularly disastrous raid against the *Pacifica*. Esso-Xenon had recently hired a new corporate security mercenary band—Blake Security Aviation—and Harris "Paladin" Blake had set out to trap the Legion with the explosives-laden *Pacifica*. When the majority of the Legion had drawn close, the *Pacifica* detonated, taking eight Mechbuster fighters to the ground with it—and, presumably, Khan Tolson. The Red Skulls never mounted another organized raid again, lending credence to Paladin Blake's assertion that Tolson had been killed. Esso-Xenon was not magnanimous in victory, though. Until it sees Tolson's body, the company is withholding the ten million D-bill bonus.

Type: **EC-1 Eckener Tanker Airship**
Chassis Type: Airship (Large)
Mass: 1,000 tons
Equipment Rating: D/D-E-D/C

Equipment		**Mass**
Chassis/Controls:		300
Engine/Trans:	Electric (Solar)	270
Cruise MP:	1	
Flank MP:	2	
Structural Integrity:	20	
Heat Sinks:	0	0
Fuel:		0
Armor Factor (BAR 3):	112	2
	Armor Value	
Nose	31	
Wings	28/28	
Aft	25	

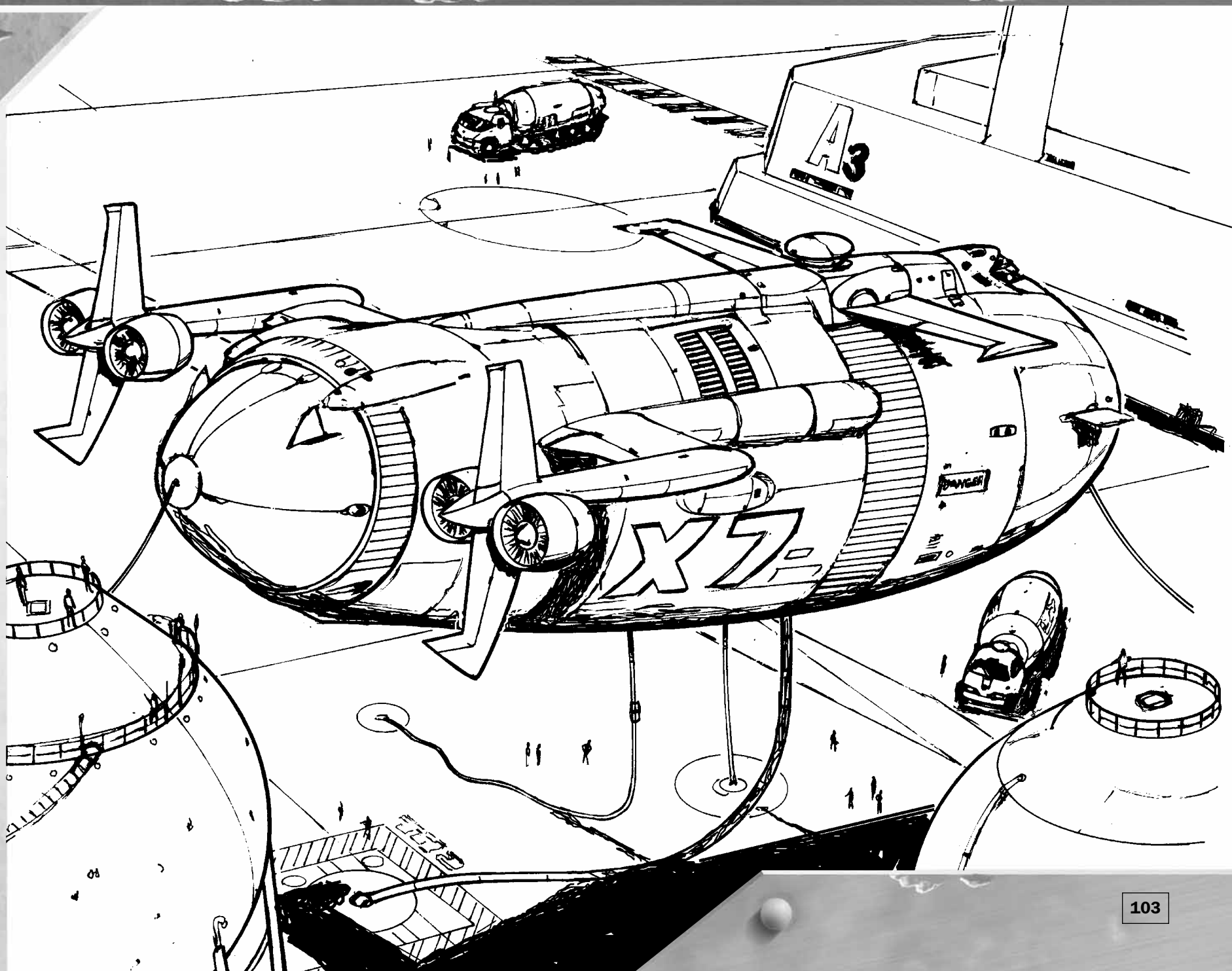
Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2 officers, 5 enlisted/non-rated
Cargo

418 tons Liquid (388 tons)	2 Doors (Floor/Rear)
9 tons standard	1 Door (Rear)

Notes: Features refueling drogue (1 ton)

EC-1 ECKENER TANKER AIRSHIP



DIXON LAW ENFORCEMENT / FIRETENDER AIRSHIPS

Introduced in 2705 to deal with the unrest growing in the face of Captain-General Elise Marik's crackdown on civil liberties, the Dixon Law Enforcement Airship became a common sight throughout the Free Worlds League. Manufactured by Andurien Aerotech, the Dixon has since shed some of the unsavory image it gained during Elise Marik's reign—thanks to an ongoing "Protect and Serve" public relations campaign.

Effectively a floating station house, the senior officer can direct the efforts of over fifty law enforcement officers and supporting units from a sophisticated communications center. When called in for crowd control duty, the Dixon employs four powerful water cannon to dampen the fervor of all but the most fanatical demonstrators—for whom the airship reserves a quartet of machine guns and two military-grade lasers.

Possessing almost unlimited endurance thanks to its Nimakachi fusion power plant, the Dixon can be found on patrol over the League's most heavily populated cities. Citizens attending concerts and sporting events can expect to see these airships hovering watchfully. Most such events pass (relatively) peacefully, but on occasion Dixons have had to move in when order breaks down. The disgraceful pitch invasion during the '59 League Cricket finals and the mass riots when the Branth-riders (self-styled fission-rock band) canceled their tour in '49 at the very last moment both required intervention by attending units.

For a non-military vehicle, the Dixon is exceptionally well armored. Although not up to the standard of military-grade armor, an outer shell constructed from panels of an ablative, foamed ceramic reinforced with a mesh of ceramic fibers and ballistic polymers block small arms fire. During the ill-fated Anton Revolt the rebels pressed police equipment into service—using Dixons as mobile command centers. Though more than adequate for civilian service, the armor was no match for the Loyalist *Stingray*s as they gunned down the lumbering airships.

The most famous Dixon does not in fact exist. Featured in *The Skies of Atreus City*, IMI's hit TriVid police drama set in the Greendock precinct of the League's capital, several ACPD Dixons played the role of Unit 515 during the show's fifteen-year run.

On Atreus several Dixons have been converted into flying firefighting appliances. Stripping out the weapons and internal bays allows these flying fire tenders to carry almost two hundred tons of water. The modified airships have proven ideal for the challenge of tackling fires in the capital's soaring skyscrapers, and retain the extensive communications suite that allows them to act as aerial command posts to battle large fires.

Type: Dixon **Law Enforcement Airship**
Chassis Type: Airship (Medium)
Mass: 300 tons
Equipment Rating: D/E-E-E/E

Equipment		**Mass**
Chassis/Controls:		75
Engine/Trans:	Fusion	19.5
Safe Thrust:	2	
Maximum Thrust:	3	
Structural Integrity:	6	
Heat Sinks:	6	6
Fuel:		0
Armor Factor (BAR 7):	104	5
	Armor Value	
Nose	29	
Wings	25/25	
Aft	25	

Weapons and Ammo	**Location**	**Mass**
3 Machine Gins	Nose	1.5
1 Machine Gun	Aft	.5
Ammo (MG) 1,000	Body	5
Medium Laser	RW	1
Medium Laser	LW	1
Basic Fire Control	Body	.5

Crew: 4 officers, 16 enlisted/non-rated
Cargo
8.5 tons standard — 3 Doors (Nose/RW/LW)
9 tons liquid (10 tons)

Notes: Features 3 light vehicle bays (150 tons), 2 foot infantry compartments (6 tons), communications equipment (6 tons), 4 sprayers (.5 tons, 2 Nose/Sides), lift hoist (3 tons), 2 mounted searchlights (1 ton, Nose/Aft)

Type: **Dixon Firetender**
Chassis Type: Airship (Medium)
Mass: 300 tons
Equipment Rating: D/D-E-D/C

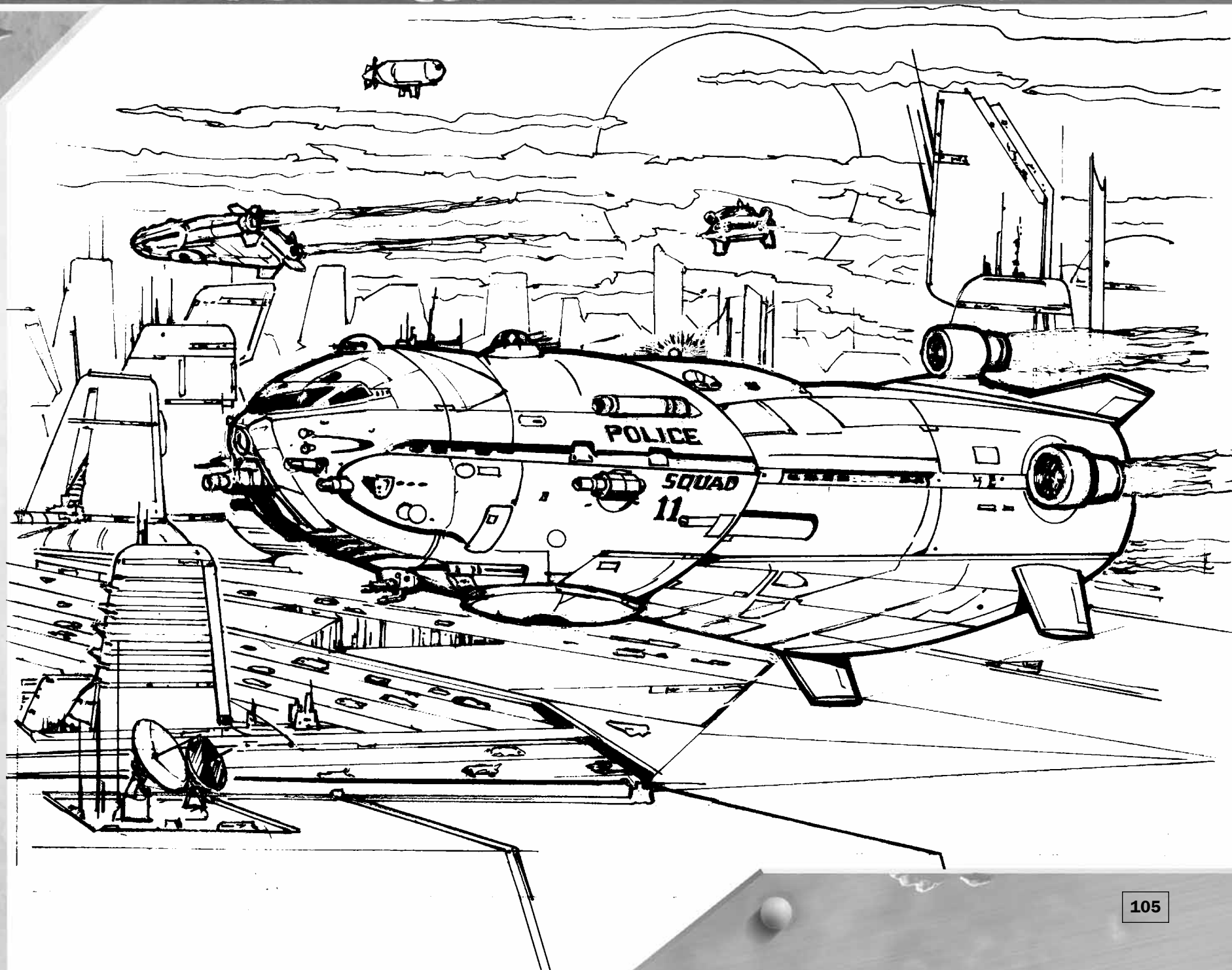
Equipment		**Mass**
Chassis/Controls:		75
Engine/Trans:	Fusion	19.5
Safe Thrust:	2	
Maximum Thrust:	3	
Structural Integrity:	2	
Heat Sinks:	0	0
Fuel:		0
Armor Factor (BAR 7):	104	5
	Armor Value	
Nose	29	
Wings	25/25	
Aft	25	

Weapons and Ammo	**Location**	**Mass**
2 Sprayers	Nose	1
Sprayer	LW	.5
Sprayer	RW	.5

Crew: 2 officers, 10 enlisted/non-rated
Cargo
9.44 tons standard — 3 Doors (Nose/RW/LW)
181 tons liquid (164 tons)

Notes: Features communications equipment (6 tons), lift hoist (3 tons, Nose), 2 mounted searchlights (1 ton, Nose/Aft)

DIXON LAW ENFORCEMENT / FIRETENDER AIRSHIPS



METEOS 9 MANNED DIRIGIBLE

Built by the HidaCorp Consortium of Robinson in 2898, the first of the Meteos series of dirigibles was, as its name suggests, designed to make and report weather observations in an era when satellite observations and stratospheric aircraft could not be relied upon. Compact and lightweight, the small dirigibles could easily be redeployed as needed, either under their own (rather limited) power, or transported by larger vehicles.

It soon became apparent that the nearly silent and long-endurance Meteos could also serve in other roles, including as a platform for police (and security service) observation, traffic management, sports commentary, town planning, sightseeing and a host of other possibilities. A variety of alternate configurations ensued, of which the 9-series is the latest and most versatile.

Equipped with sophisticated imaging gear, the Meteos 9 remains at its heart a platform for scientific instruments, though the exact mix varies from vehicle to vehicle. Battery packs power the vessel's instrumentation and also provide sufficient power for hours of maneuvering; although few Meteos travel such distances, the notable exception being versions used for sightseeing. Instead, the kilometers traveled are most commonly *in situ* as part of station-keeping. Near the ground, a tether line can be used to anchor the dirigible in place and also as a conduit for power—giving the Meteos an effectively unlimited endurance—and instrumentation feeds. However, the maximum practical tether length is 5000 meters (longer cables have been used, but are dependent on weather conditions) and so the vessel commonly operates independently. A few Meteos employed as high-altitude reconnaissance platforms or communication relays have been equipped with solar arrays on the exterior of their helium envelopes, drastically extending their ability to remain on-station. Most Meteos operating in such roles are crewless, piloted remotely from a base station or else trusted to onboard navigation computers.

With a service ceiling in excess of fifteen-thousand meters (though few reach the 3041 record of twenty-thousand meters set by the Meteos 8 design), a pressurized cabin is essential to the 9-series and sets it apart from many other commercial dirigibles that are designed to operate solely at low altitude. This feature also allows the deployment of the Meteos on worlds with atmospheres toxic to humans, though the performance characteristics of the helium envelope don't allow the airship's deployment in atmospheres too divergent from Terra-standard (like gas giants).

Facilities are provided onboard for six passengers as well as the five crew, though the single cabin of the standard Meteos is cramped and lacking any but the most basic facilities. Sightseeing conversions (in particular those used for animal observations, popular because of the quiet nature of the airship) trade the sophisticated and heavy instrument package in favor of cooking and sanitation facilities. Such variants usually carry additional passenger seating, possibly increasing capacity to upwards of a dozen.

Type: **Meteos 9 Manned Dirigible**
Chassis Type: Airship (Medium)
Mass: 35 tons
Equipment Rating: D/X-E-D/C

Equipment		**Mass**
Chassis/Controls:		17.5
Engine/Trans:	Electric (Fuel Cell)	2
Safe Thrust:	1	
Maximum Thrust:	2	
Structural Integrity:	1	
Heat Sinks:	0	0
Fuel:	33	.5
Armor Factor (BAR 7):	11	.5
	Armor Value	
Front	3	
Wings	3/3	
Rear	2	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1 officer, 4 enlisted/non-rated
Cargo
1.5 tons standard — 1 Door (Rear)

Notes: Features Environmental Sealing Chassis and Controls Modification, 6 passenger seats (.5 tons), hi-res camera (5 tons, Front), infrared imaging camera (5 tons, Front), and look-down radar (5 tons)

METEOS 9 MANNED DIRIGIBLE

FIXED WING SUPPORT VEHICLES

Sigmund, I hope your trip to New Olympia met with more luck than mine. Last time out I almost bagged a Hodson Flyer that must have been over two thousand kilograms. I was able to catch two other pretty good specimens, but they were minnows compared to the one that got away.

I have to admit that I am very worried about this new air safety legislation that has been placed before Parliament this session. If we have to conform to these new guidelines, it is going to put a serious bite on my bottom line. Could you have a word with Zamfirescu about it? Perhaps he can sit on it long enough for me to have it quietly smothered before the start of the next session.

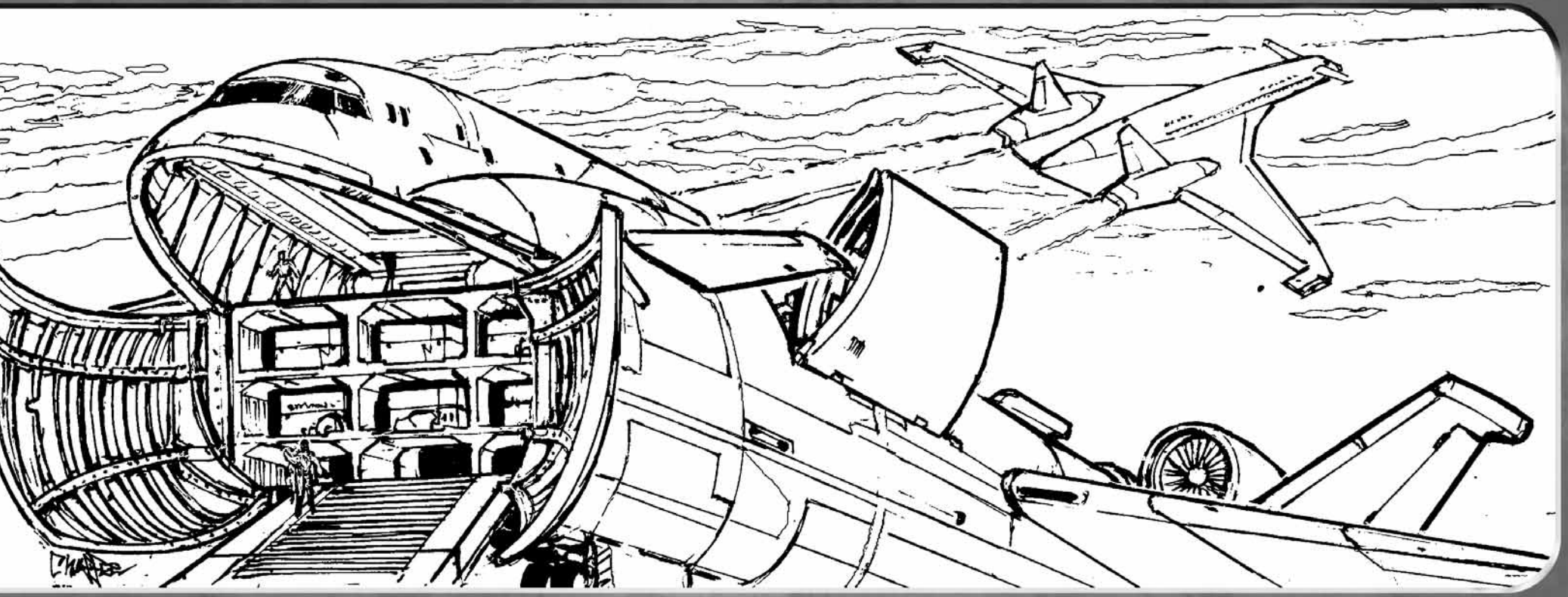
Anyway, you wanted a bit more information on the aerospace market. I managed to dig up a review my boys and girls put together last year. You wouldn't be thinking of going into business against me, would you?

—Rico Mendez, Andurien AeroTech

Distinct from DropShips and small craft, as well as fighters, conventional aircraft are restricted to planetary atmosphere. Unlike their space-going cousins, conventional aircraft are fine-tuned for their native environment. The additional effort required to adjust engines and flight control systems for different gravities and atmospheric conditions has always been a problem for military commands moving from one world to another. The availability of a compatible fuel has also been a stumbling block for aircraft dependent on an ICE for propulsion. Civilians and local militia on the other hand have no such worries, for they are configured for local conditions by default.

Air transport has been a critical key to the economic success of any world. Making the transition from colony to self-supporting industrialized world has always required an effective transportation network. Moving people and cargo rapidly over thousands of kilometers can be achieved with DropShips, but not economically. Not on the scale required. Conventional aircraft have always been there to take up the slack. Since those first faltering flights at the dawn of the twentieth century, aircraft have served both civilians and the military. In addition to the prosaic roles, conventional aircraft have been used in a number of specialized applications.

It is impossible to detail every type of conventional aircraft that can be found in the Inner Sphere, the Periphery, and in Clan space. The designs presented here are just the tip of the iceberg, representing a cross section of the more common conventional aircraft types.



AVANTI AEROSPACE ACL-800 AIRLINER

Avanti Aerospace of Canonbie, the primary branch of Avanti Industries, has been a longtime producer of civilian aircraft for the Lyran elite, with products ranging from the ACP series of private aircraft—the most popular of which is the 35-ton ACP-51 luxury jet—to the popular ACS Stratocruiser airship series. But while most of these designs cater to the exceptionally wealthy, the ACL airliner series has set the standard for comfort and economy in commercial air travel across both halves of the former Federated Commonwealth, if not the whole of the Inner Sphere.

Weighing in at 180 tons, the ACL-800 Comet is the most common civilian airliner offered by Avanti Aerospace. Built for speed, economy, and—above all—comfort, it is powered by an Avanti AA-700 series propulsion system built around a quartet of variable-intake turbofans that offer excellent airspeed and maneuverability. Seating for the Comet's 120 passengers is broken into two decks, with much of the upper deck devoted to two large first-class suites. Configured to make maximum use of space and comfort, these suites offer banquet facilities, private quarters that can be quickly converted for personal and business meetings, and even an office center that provides access to the liner's onboard satellite and communications suite, enabling VIP passengers to enjoy the full range of local holovid, interweb, and telecommunications networks during their trip. "Cattle car" versions of the ACL-800 that dispense with the first-class suites can more than double the passenger and cargo capacity.

The ACL-800 even comes equipped with inflatable lifeboats for an emergency water landing, and a small sick bay to handle any minor medical crises that may arise in transit. The secure cargo stores located behind the lower passenger deck are expansive as well, able to handle diverse cargos ranging from routine passenger luggage to small vehicles with equal efficiency. All these features combined have earned the ACL class its place in airlines across the Steiner and Davion realms, and customized models have even become popular as the private craft of planetary leaders and major corporate CEOs.

The ACL-800's popularity has also led to a number of copies seen across the Inner Sphere. Many of these—such as Michaelson Aircraft's MA-80 Delta Air Cruiser, seen today in skies across the FedSuns' Capellan March—are Avanti-licensed models which differ in only the most minor ways. Others have either arisen as honest efforts by corporate rivals to match the ACL-800's specs (such as the 90-passenger Wakazashi WK-1000 Stratos), or from blatant acts of corporate theft. In fact, at this time, legal action is still pending against St. Ives-based Mujika Aerospace, whose recently debuted TC-80 Skyliner series, according to Avanti lawyers, sports engine designs almost indistinguishable from the Avanti AA-700.

Type: **Avanti ACL-800 Airliner**
Chassis Type: Fixed Wing (Large)
Mass: 180 tons
Equipment Rating: D/X-E-D/C

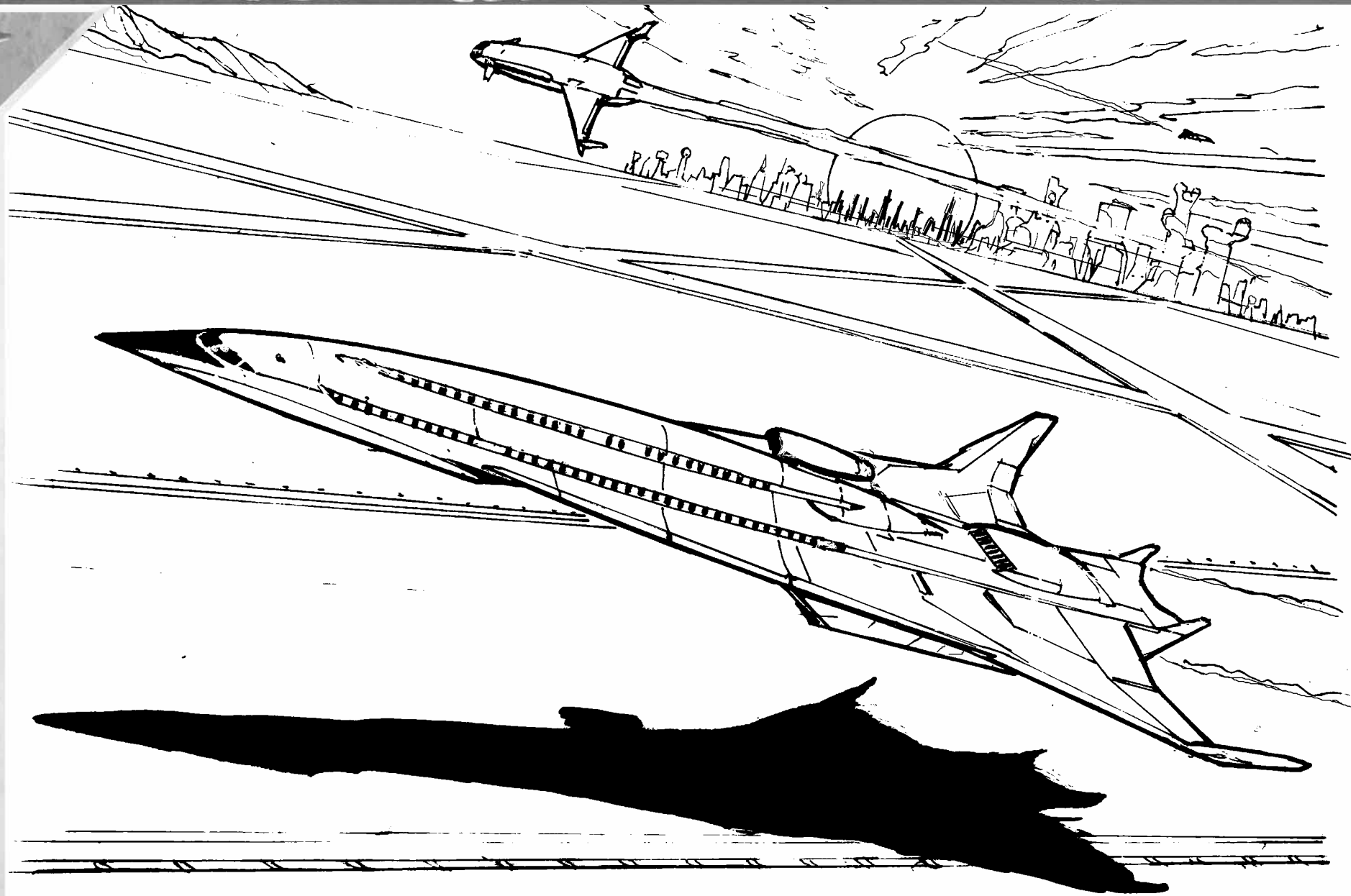
Equipment		**Mass**
Chassis/Controls:		27
Engine/Trans:	ICE	81
Safe Thrust:	4	
Max Thrust:	6	
Structural Integrity:	4	
Heat Sinks:	0	0
Fuel:	750 (Petrochemical)	21
Armor Factor (BAR 6):	79	3
	Armor Value	
Nose	28	
Wings	19/19	
Aft	13	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
7 tons standard 1 Door (Rear)

Notes: Features paramedic equipment for 4 (1 ton), passenger seating for 120 passengers & stewards (9 tons), 2 first-class passenger accommodations (20 tons), and 12 lifeboats (12 tons, useful only in water landings)

AVANTI AEROSPACE ACL-800 AIRLINER



FEDERATED-BOEING FB-335 LONGHAUL

In this modern age, when the average person thinks cargo transport, he or she likely pictures a *Mule* or other similar cargo DropShip. Of course, the DropShip is but one link in the extensive transport chain, though it may well be the most critical link, as it is the only way to move cargo from one world to another. On-world, however, there are other, more cost-effective ways of moving cargo around. Deepwater cargo ships, barges, trains and trucks all play their own parts in the transport chain, carrying heavy loads across long distances, albeit at a relatively slow rate. When cargoes must be delivered rapidly without resorting to the rare DropShip, however, conventional aircraft are the choice.

Conventional cargo aircraft come in a variety of sizes and shapes, with the Federated-Boeing Longhaul representing the high end of mid-sized conventional aircraft. Designed and manufactured by one of the largest aerospace corporations in the Inner Sphere, the Longhaul is the product of literally centuries of experience. Intended for both the military and civilian markets, the aircraft has a strong hull, capable of withstanding small-arms fire and even surviving heavier hits. It incorporates heavy-duty landing gear for rough-field operations, and four powerful fusion-turbine engines with thrust reversers for short field take-offs and landings. Due to the high ground pressure of its compact landing gear, the Longhaul cannot use a completely unprepared field, though it doesn't take much for an engineering unit to clear and prepare a landing strip for this aircraft. These impressive qualities may not be required by civilian market customers, but they ensure an aircraft capable of heavy use with few maintenance problems.

It is the Longhaul's cargo capacity that makes it such a valuable asset. Its mammoth cargo bay, with drive-on/drive-off loading ramps at the front and back, along with side personnel entry doors, has a capacity of one hundred tons. During one of its prototype flight trials for the AFFS Department of the Quartermaster, it carried two Vedette tanks with support personnel, dropping them into a rough airfield and departing minutes later. On another flight, it also carried three Pegasus hovertanks, which literally drove out of the craft's rear as it rolled down the runway and took off again after all three had departed. It has even delivered an *Atlas* BattleMech (which obviously had to be removed from the aircraft with significant effort before it could start up and walk off). Federated-Boeing painstakingly documented every test, and on the strength of the resulting tri-vid—which featured footage of all three of those test flights—local cargo companies on dozens of Federated Suns worlds bought their own Longhauls.

The Longhaul has seen quite a few variations over the years. Most cargo hauler companies use it solely to do just that, though the craft in military service are often called on to transport personnel, or even to serve as a mobile command post. Dedicated Longhaul units will typically have a number of different modules they can rapidly install; common modules will turn the cavernous cargo hold into a multi-level craft, with the two decks carrying some 700 passengers while still having room for more than fifty tons of palletized gear.

The Longhaul may be a rugged design, but it is not indestructible, as accidents over the years have proven—though most have been due to pilot error or problems due to misuse of the aircraft. Cargo must be secured properly or else dangerous shifts can happen, shifts that can rip open the fuselage or even destroy the flight controls. It cannot constantly operate from short and temporary airfields—as opposed to normal paved airfields with lengthy runways—with maximum cargo loads without regular heavy maintenance. Without that maintenance, the landing gear will eventually collapse under those circumstances, and the engines may even fail on takeoff or landing. Steep and "hot" landings are also problematic for the Longhaul, as are short field take-offs where obstructions have not been fully cleared. The Longhaul may be able to take to the air on a short runway, but it still requires a fair amount of distance before it reaches enough airspeed for a steep climb.

Type: **Federated-Boeing FB-335 Longhaul**
Chassis Type: Fixed Wing (Large)
Mass: 200 tons
Equipment Rating: E/X-X-D/C

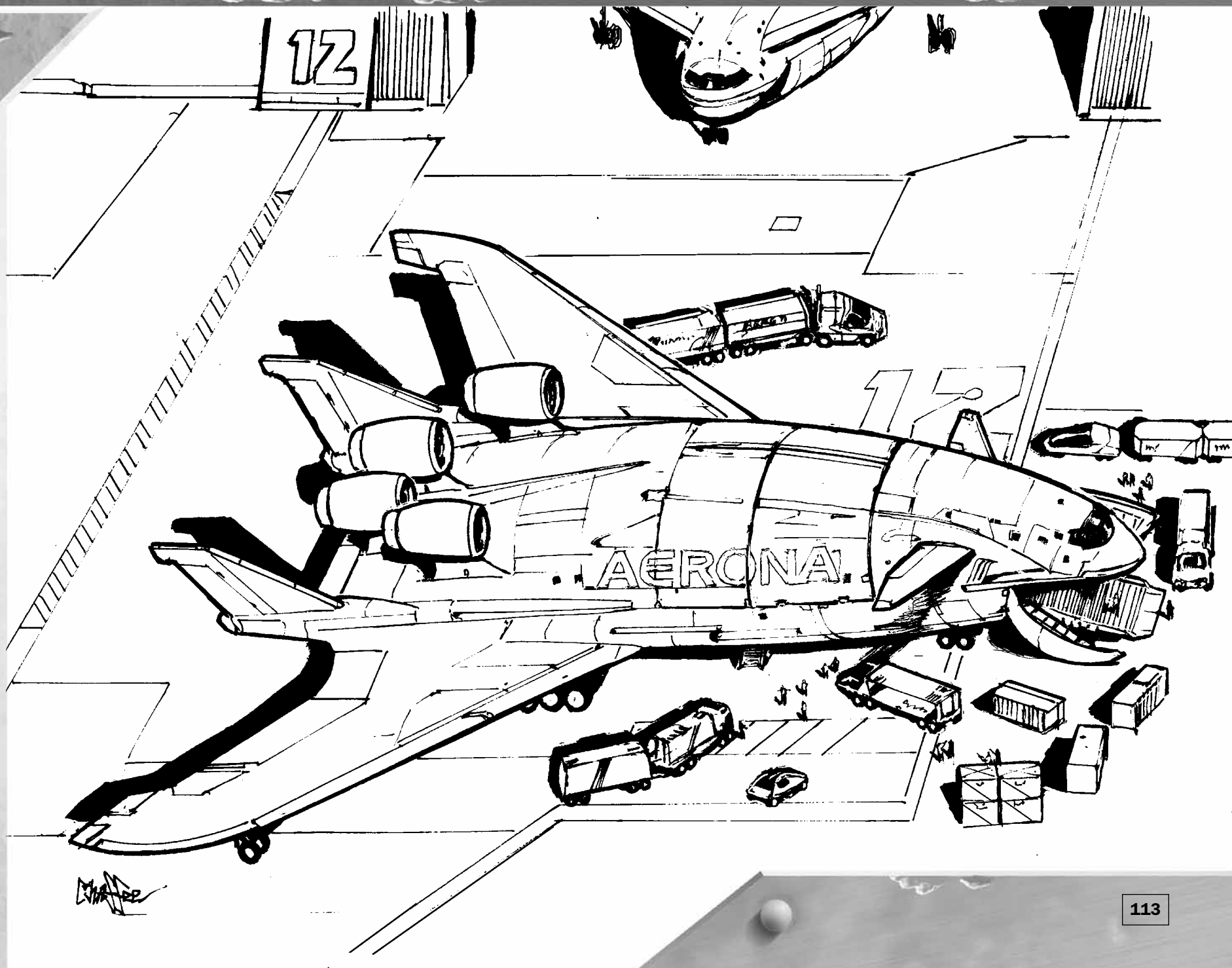
Equipment		**Mass**
Chassis/Controls:		38.5
Engine/Trans:	ICE	29.5
Safe Thrust:	3	
Max Thrust:	5	
Structural Integrity:	3	
Heat Sinks:	0	0
Fuel:	760 (Petrochemical)	17.5
Armor Factor (BAR 8):	100	4.5
	Armor Value	
Nose	32	
Wings	26/26	
Aft	16	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 6
Cargo
105 tons standard — 4 Doors (Front/RW/LW)

Notes: Features STOL Chassis and Controls Modification, 26 crew/passenger seats (2 tons), galley and facilities provide food and sanitation for crew and passengers for the duration of the flight (3 tons)

FEDERATED-BOEING FB-335 LONGHAUL



JETTA CORUNA 4 X / S 2772

Quite a fad in old times, especially among show-off nobility, tycoons and nouveau rich, real luxury planes like the double-decked S 2772 outfitted by New Avalon-based SphereBAC are now few and far between. Expensive and difficult to maintain and quickly outmoded—trendwise as well as technically—only the wealthiest with nothing else to care about treat themselves to such a pleasure.

The wealthiest category includes most of the Great Houses, especially the Davion Royal Household fleet of more than one hundred planes, with two planes kept ready for use on every major world in the Federated Suns. But even this source of income for manufacturers tapered down with the heads of state becoming more interested in security than opulence.

But reasons for the decline of luxury planes are as much of practical as of financial nature: The segment of probable customers for these aircraft consists largely of successful businesses. And the key to being successful is to be available, which—from the beginning—prompted most companies to settle near the hubs of activity, namely spaceports. Thus, planetary travel tends to be over rather short distances, which in turn was the domain of VTOLs. These carry not only a smaller price tag, but offer much more flexibility in other aspects as well. After all, not every customer, corporate headquarters or El Doradian island resort has a runway readily available.

Another factor that made personal luxury planes more and more obsolete was, once again, the rise of technology during the last decades. VTOLs were becoming faster and, with recovered fusion technology, had almost unlimited range. Also, rediscovered communication technologies allowed for better availability anywhere (eliminating the need for fast transit). And suddenly something else was much more prestigious than a mere plane. After all, who would still want a luxury jet when he now had a real chance at a private DropShip?

Those on the lookout for a flying estate, however, unimpressed by trends, not privy to shareholder pressure and with a large purse, will find a whole customer market at their feet. In a world where Branth-hide sofas can be ordered from stock, nothing is impossible. Décor at leisure, a five-star kitchen catering to every taste, small recreational parks, hot-spring bathing caverns, a carousel for the children and all that at nearly supersonic speeds with or without an automatic landing system... Only the budget is the limit.

And they're getting faster, too. Presented in early 3066, the Jetta Coruna 4X is SphereBAC's latest attempt at merging a high-speed business jet into the upper-segment luxury class. And a good attempt at that. Topping off at Mach 3 at its operational ceiling, onboard passengers might find it difficult to enjoy the amenities offered as they'll be arriving at their destination maybe even a bit faster than desired. Nonetheless, the new Jetta Coruna seems to appeal to a broad customer base, with the first run of 200 planes already sold and a larger number on order.

Type: **Jetta Coruna 4X**
Chassis Type: Fixed Wing (Medium)
Mass: 35 tons
Equipment Rating: D/X-X-D/C

Equipment		**Mass**
Chassis/Controls:		7
Engine/Trans:	Fusion	7
Safe Thrust:	4	
Maximum Thrust:	6	
Structural Integrity:	4	
Heat Sinks:	0	0
Fuel:	425	8.5
Armor Factor (BAR 2):	39	1
	Armor Value	
Nose	15	
Wings	9/9	
Aft	6	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2 (+2 or more cabin personnel if applicable)
Cargo
1.5 ton standard — 1 Door (Rear)

Notes: Features Environmental Sealing Chassis and Controls Modifications, 1st class cabin (10 tons)

Type: **S 2772**
Chassis Type: Fixed Wing (Large)
Mass: 130 tons
Equipment Rating: C/D-E-D/C

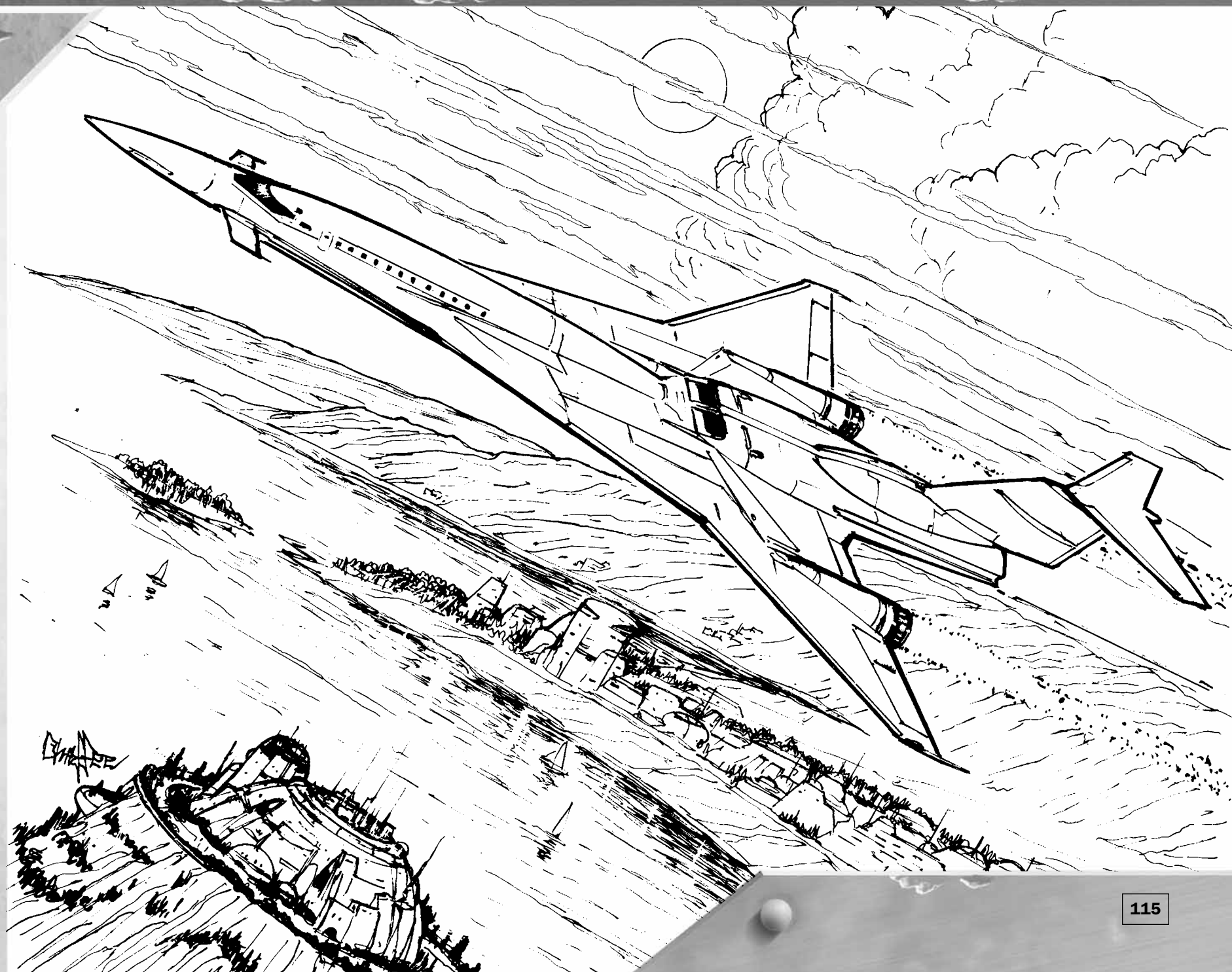
Equipment		**Mass**
Chassis/Controls:		22.5
Engine/Trans:	ICE	31.5
Safe Thrust:	2	
Maximum Thrust:	3	
Structural Integrity:	2	
Heat Sinks:	0	0
Fuel:	428 (Petrochemical)	15
Armor Factor (BAR 2):	62	1
	Armor Value	
Nose	22	
Wings	15/15	
Aft	10	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3 (+10 or more cabin personnel if applicable)
Cargo
8.5 tons standard — 4 Doors (2 RW/ 2 LW)

Notes: Features five 1st class cabins (50 tons, 20 crew/passengers eats (1.5 tons)

JETTA CORUNA 4 X / S 2772



MOSQUITO IX RADAR PLANE

Airborne radar has been a mainstay in ground military units since the birth of atmospheric flight in the twentieth century. With the exploration and colonization boom in the subsequent centuries, new uses for several military-oriented technologies became evident. High-altitude spy planes became topographical tools for new worlds. Radar planes helped colonial scientists ascertain other planetary details, such as magnetic field strength, fault lines, tidal patterns, and even local fauna migratory patterns. Essentially, old mothballed military equipment got a second wind as research platforms for the Age of Colonization.

DMI, Ltd., found new life as a company when the demand for their Walrus-class cargo haulers tanked after Imstar Aerospace debuted their much cheaper—and inherently safer—Planetlifter Air Transport. DMI began looking at designing a platform to utilize the treasure trove of advanced electronics and communications gear they had found in an old storage bunker deep in the Rocky Mountains of North America.

After several years of testing multiple prototypes in a variety of environments, DMI debuted the Mosquito series of radar aircraft to mediocre acclaim. Still plagued by rumors of production short cuts and substandard airframes, DMI sold the entire manufacturing facility on Caph to William Mallus and his brother, Nathan. Within two years, DMI faded from the corporate rolls and disappeared, taking with it the secret location of the Rocky Mountain bunker.

William invested most of the family fortune into developing the Mosquito series, re-engineering the airframe and redesigning the massive rudder tail that tended to overbalance the aircraft in thinner atmospheres. When William died of a heart attack in late 2439, Nathan picked up where his brother left off—creating the Malrite Company as a tribute to William in the process—and invented a way to safely mount a compact fission engine, which allowed the replacement of the massive gas turbines and the troubled VTOL lift system. By freeing up more room in the wings, Nathan was able to add more electronic gear and even attach weapon hardpoints, so that the Mosquito could be used for light military duty.

When the revamped Mosquito hit the market in 2448, it exceeded sales expectations and created such a backlog in orders that Malrite opened up several new factories across the Hegemony. Colonization corporations, planetary governments and even several provincial militaries gobbled up every Mosquito that rolled off the assembly line.

The versatility of the Mosquito was the key to its success. Using a SISO (Slide In/Slide Out) module system similar to that found in the Cortez exploration vehicle, the Mosquito could be reconfigured to fit whatever research protocols are called for by the client. Malrite made sure that at least four configuration modules were included in each sale, utilizing the large stock of electronics that the Mallus brothers had bought from DMI.

Mosquito planes can still be found in active service on most civilized systems. Common usage today around the Inner Sphere worlds see Mosquitos as fire fighting planes, refueling platforms, storm chasers, and even as part of a planetary defense force. Because of the advancement of electronic systems in the last few decades, the old SISO modules have been replaced with newer, miniaturized components, freeing up even more space within the airframe for passengers, more electronic gear, cargo storage, or even weapons. The biggest testament to the Mosquito's success can be found in one of the SLDF embassy's reports on the Clan society, where several Mosquitos were observed in use over Strana Mechty and Huntress.

Type: **Mosquito IX Radar Plane**
Chassis Type: Fixed Wing (Medium)
Mass: 75 tons
Equipment Rating: E/D-D-D/E

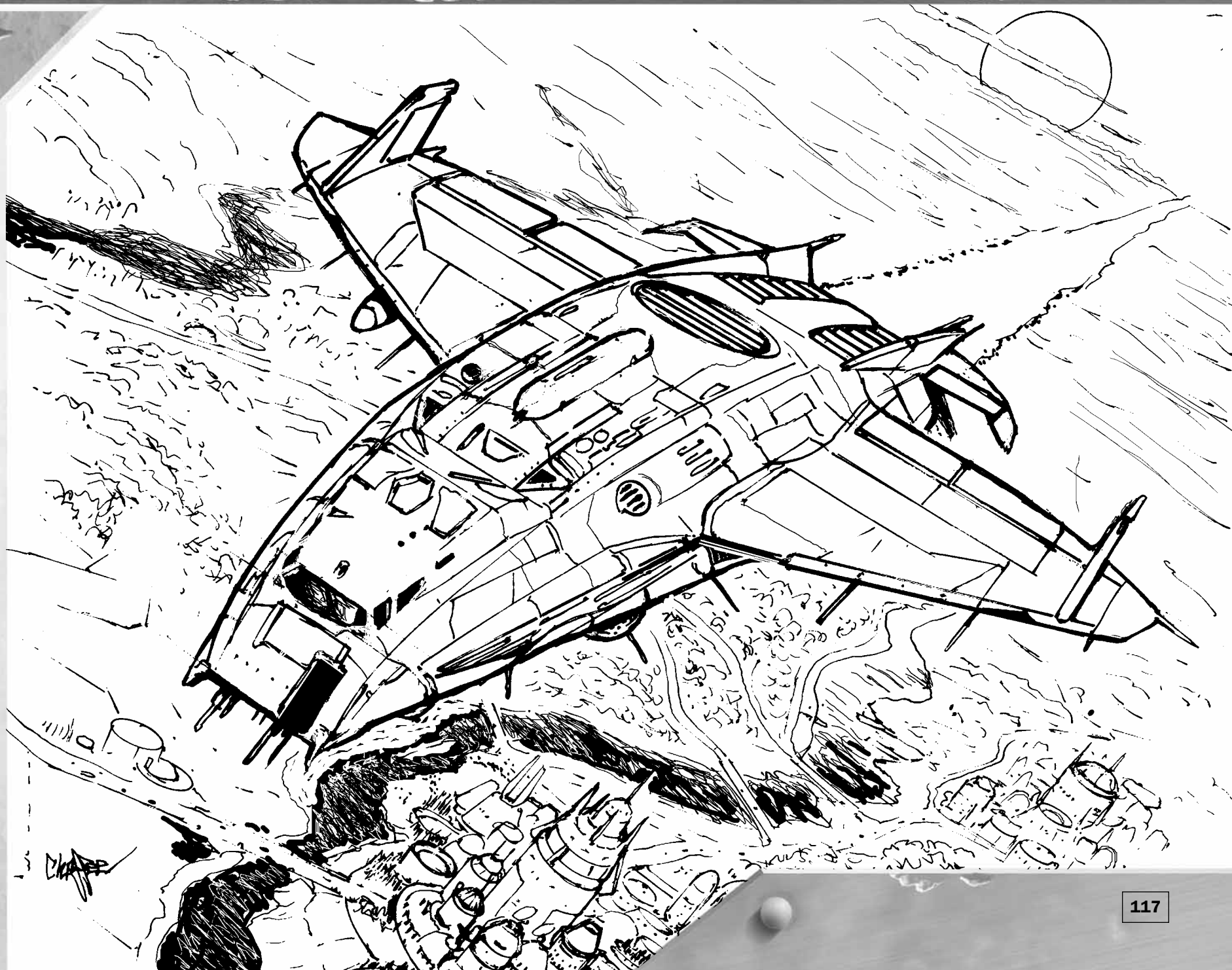
Equipment		**Mass**
Chassis/Controls:		11.5
Engine/Trans:	Fission	21
Safe Thrust:	4	
Max Thrust:	6	
Structural Integrity:	4	
Heat Sinks:	5	5
Fuel:		0
Armor Factor (BAR 6):	29	1
	Armor Value	
Nose	10	
Wings	7/7	
Aft	5	

Weapons and Ammo	**Location**	**Mass**
2 External Stores Hardpoints	RW	.5
2 External Stores Hardpoints	LW	.5
ER Medium Laser	Nose	1
Basic Fire Control	Body	.1

Crew: 6 (2 + 1 officer, + 2 comms, + 1 gunner)
Cargo
20.02 ton liquid (18.2 tons) 1 Door (Rear)

Notes: Features STOL, Prop Chassis and Controls Modification, 2 ejection seats (200 kg), communications suite (2 tons), hi res image camera (2.5 tons), infrared image camera (5 tons), look down radar (5 tons), refueling drogue (1 ton), remote sensor dispenser (0.5 tons)

MOSQUITO IX RADAR PLANE



C-790 PROTECTOR HIGH-SPEED MEDEVAC

In holovids across the Inner Sphere the glory given to combat medics is second only to that of the MechWarrior. These brave souls face down enemy fire, treacherous terrain, and exploding BattleMechs to pull injured soldiers to safety. The holovids show them securing their charges, stopping deadly bleeding and making certain the injured hero will survive until he reaches a hospital.

What those holovids ignore is how that soldier gets to the far away hospital.

Wangker AeroSpace debuted the C-790 Protector High-Speed Medevac aircraft late in the 2990s. It was created to provide support to battlefield medical units, bringing injured soldiers from the rear areas of the engagement zone to the relative safety of a full-fledged hospital in urban areas. The C-790 accomplishes this with a combination of speed and accessibility. With a cruising velocity of 900 kph, and burst speeds of Mach 3, the C-790 provides swift transport with low cost and low overhead.

Because it is expected to operate near battlefields, Wangker modified the C-790's powerful wing-mounted jet engines to provide vectored thrust, greatly reducing the runway length needed to takeoff and land. This STOL ability allows the C-790 to reach areas closer to the aid stations, reducing the travel time for wounded soldiers. A large access door in the side of the aircraft allows patients to be loaded via stretcher, rather than being forced through a narrow personnel hatch.

Once onboard, ten separate paramedic stations provide emergency care for the severely wounded. These stations are manned by trained paramedics, and provide the same level of care in the air as the wounded person might receive on the ground. Sixty passenger seats allow the C-790 to transport ten paramedics and almost two platoons' worth of lightly-injured troops. The wide-bodied aircraft provides a surprisingly smooth flight, keeping stress levels low and allowing both passengers and patients to rest.

Although it was designed for the AFFS, the C-790 has sold extremely well to civilian markets. With a ticket price of just over one million C-bills, the aircraft is inexpensive enough to be sold to hospitals, municipalities, and even large corporations. With its STOL ability, the Protector (as the civilian version is called) is popular with both search and rescue units as well as disaster relief.

A number of Protectors were captured by the Capellans during the Fourth Succession War. In 3031 Ceres Metals released a copy, dubbed the Chariot. It differs from the Protector in that it replaces the paramedic bays with a single-theater MASH module. While the Chariot carries a ton less armor protection, it provides a higher level of care for its patients. Wangker AeroSpace had lodged a complaint with the Star League for license evasion, but the fall of that body ended the adjudication there.

Other realms have craft modeled after the Protector as well. The Lyran Alliance maintains a large number of Wangker airframes purchased during the Federated Commonwealth years, but most of these have been converted to simple cargo craft or VIP transports. The Free Worlds and the Draconis Combine each have homegrown designs that match the C-790's performance profile.

Type: **Wangker C-790 Protector High-Speed Medevac**
Chassis Type: Fixed Wing (Medium)
Mass: 90 tons
Equipment Rating: C/X-D-C/C

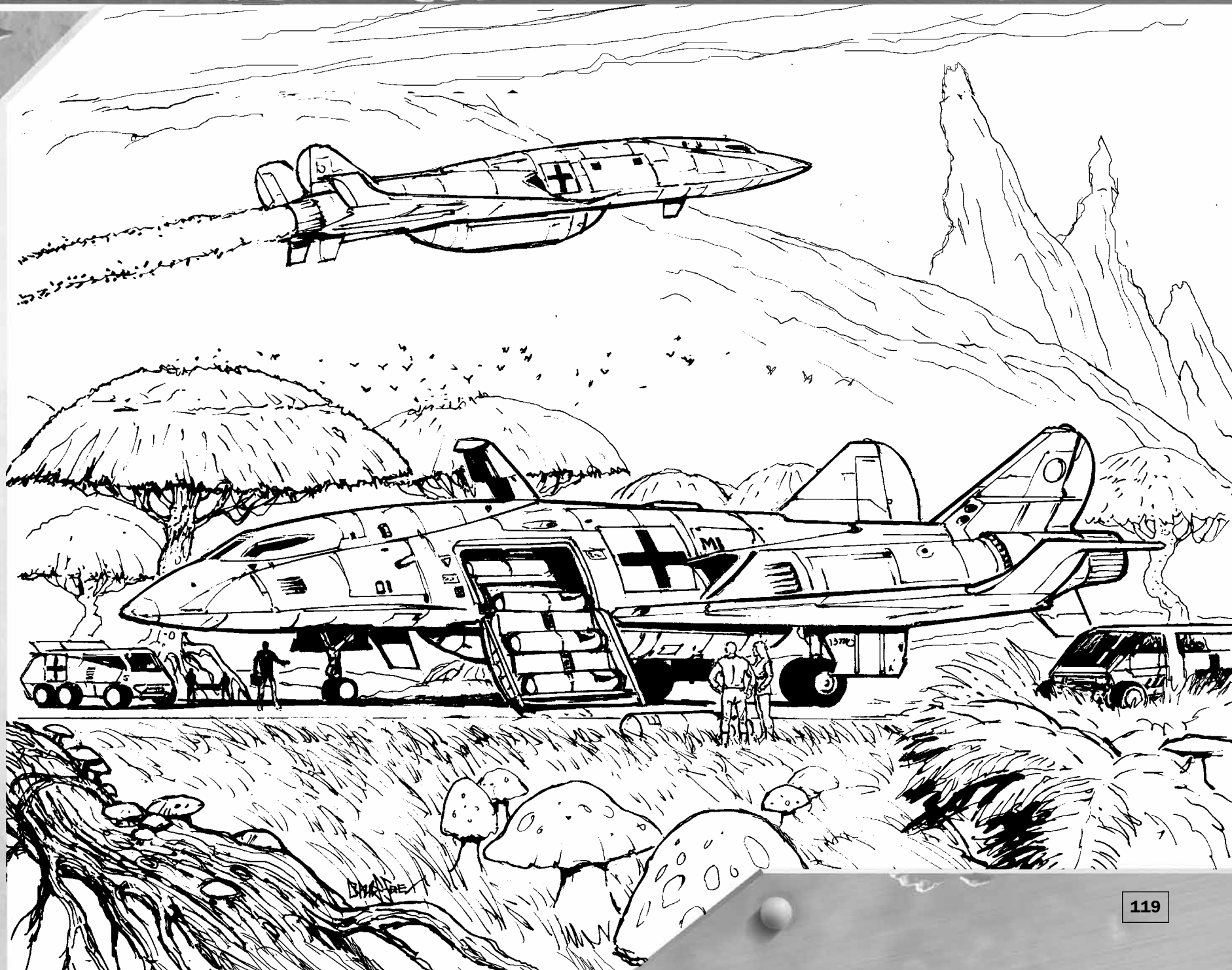
Equipment		**Mass**
Chassis/Controls:		16
Engine/Trans:	ICE	52.5
Safe Thrust:	4	
Max Thrust:	5	
Structural Integrity:	8	
Heat Sinks:	0	0
Fuel:	460 (Petrochemical)	11.5
Armor Factor (BAR 6):	62	3
	Armor Value	
Nose	20	
Wings	15/15	
Aft	12	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
None — 2 Doors (Left/Rear)

Notes: Features STOL Chassis and Controls Modification, paramedic equipment (10, 2.5 tons), seating for 60 paramedics and passengers (4.5 tons), and 2 bay doors (Left, Rear)

C-790 PROTECTOR HIGH-SPEED MEDEVAC



TORRENT HEAVY BOMBER

As man moved across the stars in a massive wave of colonization and expansion, he carried with him the tools of war familiar to him. While spacefaring and colonization technology experienced a renaissance of discovery after the success of Kearny and Fuchida's interstellar jump drives, military breakthroughs were slower to come. Thus, many of the newly-founded colonies carried military gear borrowed from their founding Terran Alliance member-state for protection. Usually included in that mix was at least a squadron of Torrent heavy bombers.

One of the most popular designs with the United States of North America Air Force in the late twenty-first century and pawned off on colonies in the twenty-second and twenty-third centuries, the Torrent utilized thrust vectoring and fly-by-light systems that eliminated the need for a horizontal rudder. Additionally, by using a variable-position engine mount, the heavy bomber could utilize many of the shorter runways found on raw colonies—at least if carrying a limited bomb load. (With a full bomb load, the Torrent was limited to full-length takeoffs, sometimes needing rocket assistance.) Capable of carrying fifteen tons of bombs on the external hardpoints and with a large fuel capacity, the Torrent could easily strike targets half a world away with minimal refueling. The inclusion of one of the first Squealer I ECM suites helped protect the Torrent better than the three tons of Hubris Heavy Armor.

The Torrent began to fall out of favor with more modern worlds due to its lumbering speed and light bomb loads. With the new aerospace fighters of the twenty-fourth and twenty-fifth centuries able to tear through conventional aircraft, such a "low and slow" combat aircraft as the Torrent was practically forced into retirement among many planetary militias, though it did not entirely leave service.

Once produced en masse on several worlds by different corporations (all who claim to own the original engineering schematics), many Torrent production lines were converted to produce aerospace fighters. With parts for the large plane dwindling, the last faction that could claim a Torrent anywhere among their TO&Es was the Capellan Confederation. At least one line on Bellatrix is still considered active for parts replacement; on a whim, the corporation builds one complete Torrent a year and sells the plane to various collectors and museums across the Sphere.

Torrents played a surprising role in the Pentagon civil wars, if ComStar records of the Clans are correct. At least a full wing had disappeared with General Kerensky and two Torrent crews actually received mention in the early passages of the Goliath Scorpion *Remembrance*. According to Scorpion records, these two crews were responsible for several air support runs that saved the lives of many of the new Clan's warriors, often at great peril to both crews. Only one Torrent survived the brutal engagements on Dagda—the *Venom's Kiss*, which is displayed in the antechamber of the Clan's repository. This particular Torrent had the distinction of delivering saKhan Jenna Scott and her elite paratroopers inside the rebel's primary communications compound on Riva, Dagda's main continent. This action permitted the Clan to take the massive planetary defense facility and allowed Clans Widowmaker and Burrock to seize the continent of Dratha, which broke the back of Dagdan resistance.

Other variants do exist in various record archives. One Torrent model, the Torrent–IC, was purported to have a compartment located to the rear of the aircraft for the purpose of deploying an entire jump infantry platoon in HALO drops. The Torrent–FC contained several refueling drogues and a large reservoir to provide in-air refueling. The Torrent–ASW mounted torpedoes and contained specialized equipment to be used in anti-submarine warfare. None of these variants have actually been found, but records from the Boise District on Terra do indicate several variants in use among the four defensive armies stationed around the North American continent during the early 2100s.

If a Torrent is found in service among the worlds of the Inner Sphere today, most likely it has been converted into use as a fire fighting platform. With little structural modification made to the airframe, several small weapon manufacturers produce "water bombs" —large water canisters that attach to the bomber's weapon hardpoints on the wings. These canisters have a small explosive device that is triggered by the weapons officer, splitting the metal casing along the long seams and dumping water and fire-suppressants into the target area. Though effective, most firefighting companies find the overhead for these bombers extremely high and use them only when in a pinch.

Type: **Torrent Heavy Bomber**
Chassis Type: Fixed Wing (Large)
Mass: 200 tons
Equipment Rating: E/D-E-E/E

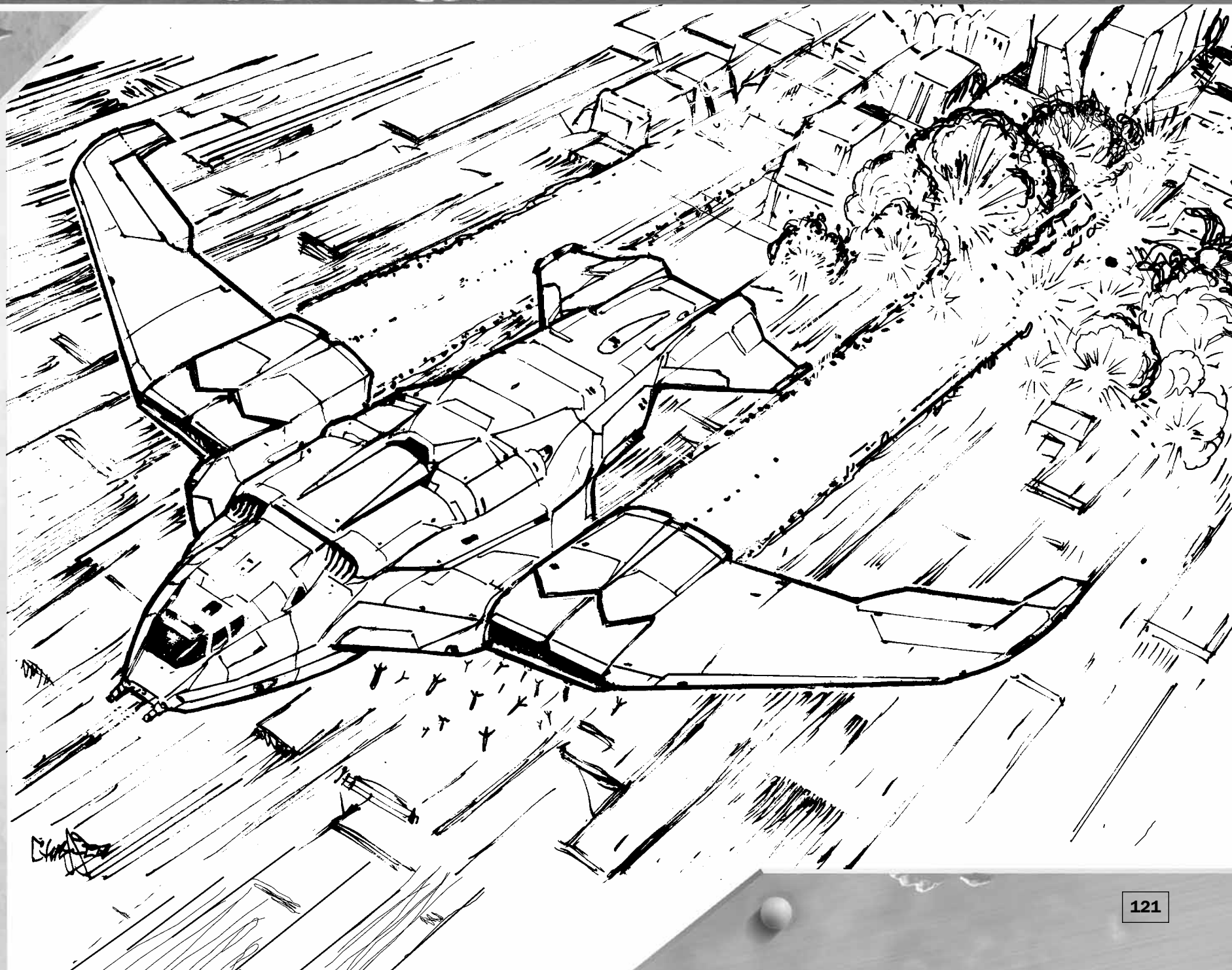
Equipment		**Mass**
Chassis/Controls:		52
Engine/Trans:	ICE	120
Safe Thrust:	4	
Max Thrust:	6	
Structural Integrity:	4	
Heat Sinks:	0	0
Fuel:	371 (Petrochemical)	13
Armor Factor (BAR 6):	73	3.5
	Armor Value	
Nose	20	
Wings	20/20	
Aft	13	

Weapons and Ammo	**Location**	**Mass**
ECM Suite	Body	1.5
4 Machine Guns	Nose	2
Ammo (MG) 100	Nose	.5
SRM 6	Aft	3
Ammo (SRM) 15	Aft	1
Advance Fie Control	Body	.5

Crew: 10 (3 + 2 officers, + 5 gunners)
Cargo
None

Notes: Features STOL Chassis and Controls Modification, fifteen external hardpoints (3 tons, Body)

TORRENT HEAVY BOMBER



ZANADU AIR BUS

While there exists an ever-present demand for inexpensive air travel for the masses, there is also a need for something beyond basic "cattle car" services. Today, the Zanadu Air Bus is synonymous with the image of luxury air travel—an image Avanti Aerospace has worked unceasingly to cultivate. Best known for their luxury ground and water vehicle division, Avanti Industries studied the market for air travel with great care before their Aerospace division unveiled the design in 3004 that would become the Zanadu.

Bringing the same attention to detail paid to the sumptuous interiors of their limousines, Avanti's designers spared no expense in creating interiors catering to the needs of the rich and famous. Almost from the start, the first demonstrator aircraft were flying daily as press and media from across the Inner Sphere experienced the comforts of the Zanadu's palatial interior. After wading through the glitz of the launch event, however, Avanti's competitors quickly noted that the aircraft bore more than a passing resemblance to the old Longshoreman air cargo transporter, a design produced by Avanti during the previous century. Avanti's rejoinder conceded that the airframe was indeed based upon a design that had amassed a safety record second to none in the century it has been in operation.

With the initial furor of the launch media blitz over, many expected Avanti to offer a more basic version of the Zanadu as a standard passenger transport. However, Avanti's experience in the luxury market had long ago taught them that exclusivity was a strong selling point.

The interior of each Zanadu is a custom design tailored to the requirements of a specific customer—be they an individual, an airline, a corporation, or a planetary government. Avanti's craftsmen have incorporated fittings as diverse as communications systems, sleeping quarters, and even (in one special commission for Ricardo Hunt—star of the first seventeen seasons of the smash hit HoloVid show *Immortal Warrior*) a swimming pool. The model presented here is the basic Zanadu with all first class seating.

Other companies have endeavored to create their own luxury air transports, but few have been able to match Avanti's creation. The Graceful Crane, a Wakazashi Enterprises creation, is probably the closest to the Zanadu. Nearly matching Avanti's aircraft in both size and performance, the Crane is a favorite with corporations across the Draconis Combine—where it is considered an indispensable status symbol for their CEOs.

Type: **Zanadu Air Bus (Typical)**
Chassis Type: Fixed Wing (Medium)
Mass: 80 tons
Equipment Rating: C/X-E-D/C

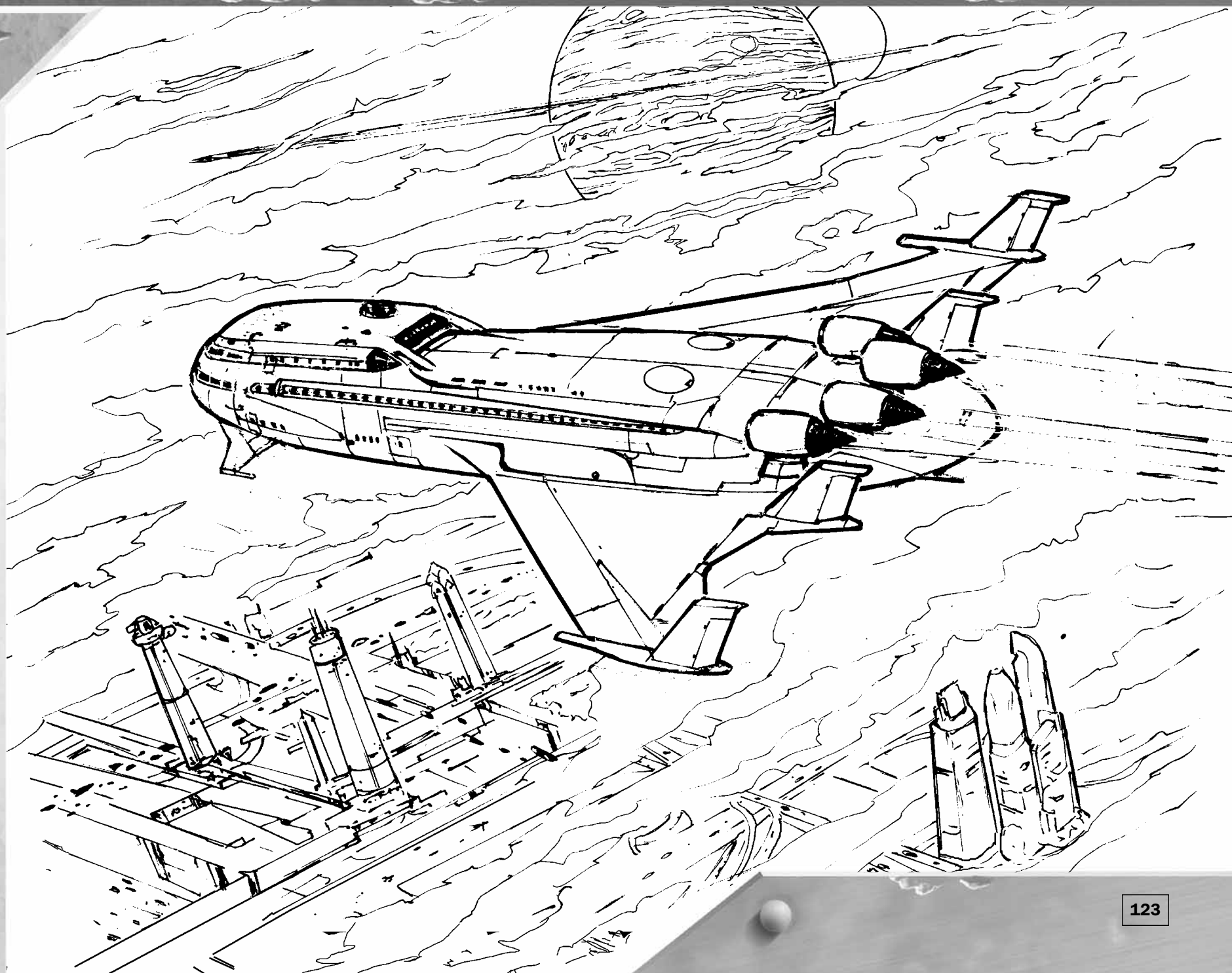
Equipment		**Mass**
Chassis/Controls:		9.5
Engine/Trans:	ICE	21
Safe Thrust:	3	
Maximum Thrust:	5	
Structural Integrity:	3	
Heat Sinks:	0	0
Fuel:	1,200 (Petrochemical)	30
Armor Factor (BAR 6):	52	2.5
	Armor Value	
Front	13	
Wings	13/13	
Rear	13	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 5
Cargo
5 tons standard — 1 Door (LW)

Notes: Features 100 passenger seats (7.5 tons) and a field kitchen (3 tons)

ZANADU AIR BUS



LOCKHEED/CBM KC-9 "KING KARNOV"

As a battlefield support vehicle, New Earth Trading Company's Karnov UR Transport is a craft whose origins lay shrouded in mystery—especially as the New Earth-based company has long been known to completely lack VTOL manufacturing capabilities. Though some have suggested that the Karnov is thus the product of a secret subcontractor, hoping to score military sales through NETC's extensive marketing reach, no company in the Inner Sphere has been known to take credit for the vehicle's design. Nevertheless, as if to lend credence to the "secret partner" theory, Lyran-based Lockheed/CBM of Gibbs unveiled a heavy industrial air transport in 3001, with design lines so similar in many ways to the lighter craft that corporate conspiracy theorists far and wide immediately declared the Karnov's origin mystery solved.

The mystery only deepened, however. While Lockheed/CBM admitted that their newly debuted KC-5 air transport bore a certain resemblance to the Karnov, it was based on entirely different engineering. It sported engines and electronics wholly made in the Commonwealth, built as an aircraft for sustained, long-distance air travel (rather than the shorter hops of the Karnov VTOL). Developed for civilian and industrial concerns, in fact, the media-dubbed "King Karnov" lacked even the hardened military-grade armor the 30-ton Karnov boasted, though its operating air speed allowed for far swifter delivery, with tilt-rotor wings for VSTOL landings in difficult terrains.

Despite the differences, the King Karnov name stuck with the KC series, but was never formally adopted by Lockheed/CBM (despite a failed 3012 legal action by NETC that charged otherwise). The aircraft underwent numerous upgrades over the years to compete with similar industrial air transports—such as Cal-Boeing's SA-10 "Swallow" favored in much of the Federated Suns, or the AAC-60 "Walrus" produced for various Free Worlds League, Capellan, and corporate agencies by Andurien AeroTech. But in spite of the upgrades, the King Karnov always retained its distinctive look. The current KC-9 model, which debuted in 3053, is the pinnacle of its class, weighing in at the largest possible size for maximum cargo capacity. It sports a CBM-Festerling hydrogen fuel cell engine as its main power supply (replacing the Praht-450 internal combustion turbines used by the KC-5 and -6 models), a sophisticated on-board communications system (first introduced on the KC-6), one high-capacity lift hoist, and 6 tons of industrial-grade armor strong enough to withstand most heavy weapons.

Though plans were floated to upgrade the King Karnov's protection to Lockheed Skyshield armor—functionally similar to modern battlefield armor—the necessary structural modifications for the armor proved too costly to the craft's primary mission. As a result, the predicted KC-10 model (intended for AFFC sales) never saw the light of day. Nevertheless, sales of the more standard KC-9s to military and militia units rose steadily throughout the Commonwealth states in the decade after the Clan Invasion as the allies struggled to race troops and supplies to the front lines.

Type: **Lockheed/CBM KC-9 "King Karnov"**
Chassis Type: Fixed Wing (Large)
Mass: 200 tons
Equipment Rating: D/X-X-D/D

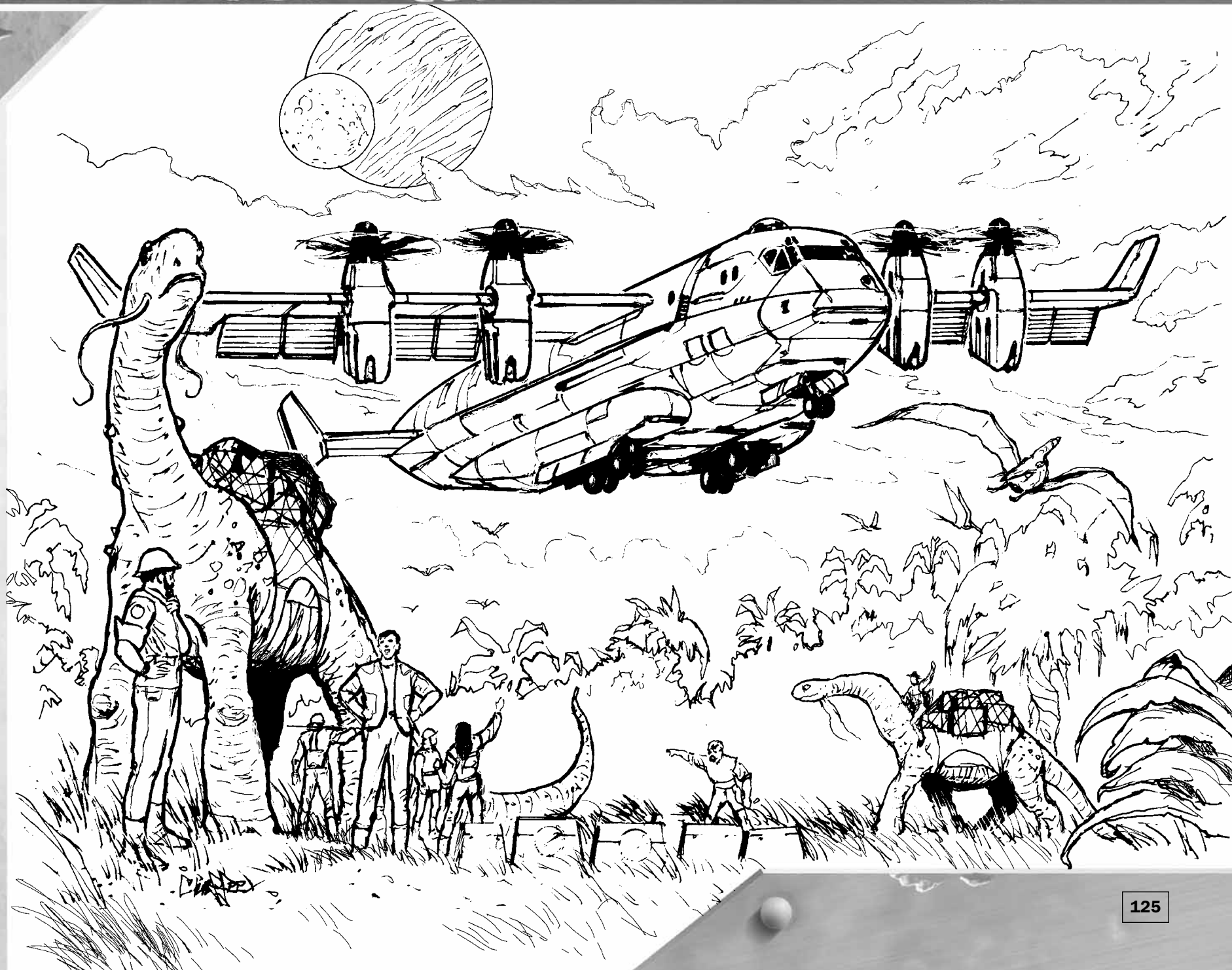
Equipment		**Mass**
Chassis/Controls:		72
Engine/Trans:	Electric (Fuel Cell)	39
Safe Thrust:	3	
Max Thrust:	5	
Structural Integrity:	3	
Heat Sinks:	0	0
Fuel:	190	4
Armor Factor (BAR 7):	133	6
	Armor Value	
Nose	34	
Wings	33/33	
Aft	33	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
76 tons standard — 1 Door (Rear)

Notes: Features Prop and VSTOL Chassis and Controls Modifications, 1 lift hoist (3 tons, Rear)

LOCKHEED/CBM KC-9 "KING KARNOV"



SATELLITE SUPPORT VEHICLES

Hughes:

I don't know what they've been telling you there, but it's wrong. Satellites are the way to go. We've got (they've got, I should say) orders spilling out of the drawers for those sneaky little comsats, and I overheard the R&D guys talking about using a payload sat for pre-positioned equipment caches. You know, like the Clans did back in 3050? The LAAF buyers are up in arms about the Word's luck with supply caches. They want to hide some stuff where no one's ever going to find it.

It's not just the military stuff, either. Orders for little positioning satellites are going through the roof. They're going to break ground on a new production facility as soon as they get the location secured. It's no use to build a nice new factory if it's going to be fallout in a few months. I managed to get a set of sketches in with your next care package. Open it with the lights off. I don't want anyone seeing that except you.

I'll try to get something on that new storage sat for the next message. It might be a few months, though. The late unpleasantness has got the security goons trying all sorts of things to ferret out "Blakist infiltrators." I swear, it's getting to the point where you can't even engage in a little honest industrial espionage anymore.

Keep all this under your hat, hey? I don't want the Nashan internal security boys bugging my phone again.

—Parke

It's never possible to fit everything you want into your luggage, is it? No matter how well you pre-pack, you're always left with those nagging items that defy rational organization. Coat hangers. Decimeter–heel shoes. A pistol. Whatever it is, it never fits. Now imagine for a moment that same phenomenon, applied to the multi-ton cargoes carried between worlds. What is luggage for a space vessel?

In some cases, a satellite.

The very first object man sent into space a thousand years ago was a satellite. Since then, they've grown from simple radio relays to storage containers to massive space habitats (although those are more properly called space stations, instead of mere satellites) and every shape and need in between. The most common use has always been for communication. Although radio often seems like a miracle, it's limited to what it can see just like most everything else. A satellite transmitter can send a signal around a world. Cheaper to maintain than manned outposts, and oftentimes designed for a single disposable use, satellites are a valuable commodity in modern technology.

Newly spacefaring man used them. The Star League used them. ComStar uses them. Even the Clans have uses for the ubiquitous satellite. In almost every system colonized—and many simply visited—by man, there exists at least one satellite. Often ignored, and little lauded, these systems are frequently the difference between life and death.

GALAX LAUNCH SYSTEMS SEU-193D STARCOMM

Galax Launch Systems has long been a leader in designing and constructing all manner of high-tech satellites for government, military and private use. Marketing lines of communications, navigation, surveillance, weather, and scientific research satellites, it has a product for just about every potential customer—or at least those willing to pay for a quality product.

The SEU-193D Starcomm series is as much of an economy communications satellite as the company produces. Massing just twenty tons, it can be put into orbit by unmanned rocket, shuttle, or even DropShip. It is not heavily armored—mounting just enough to protect it from typical micro-asteroids and debris strikes—and relies upon solar panels for power. That leaves a full nine tons of mass devoted to its only mission, communications. While most of GLS's products feature a wide variety of systems, the Starcomm's paucity of additional equipment doesn't mean that it is a worthless product. On the contrary, when used as intended—as a part of a constellation of similar satellites—it does its job and does it well. In fact, its equipment allows it to support a number of different missions, depending upon how its transponders and controllers are set.

The great majority of customers use it, of course, as a simple communications satellite, relaying digital transmissions from one ground station to another. This could be in support of a planet-wide public communications system, a satellite-based personal communications system, or a company's information network, with ground stations ranging from permanent facilities with large dish antennas, to noteputers with internal antennas, or even a handheld device. Another common use is for the transmission of tri-vid, audio or other electronic entertainment or information to large regions of a planet.

Communications relay is not the Starcomm's only potential function, however. Most often, it is used also as a satellite navigation position beacon and even to aid in direction finding, receiving distress signals and electronically determining its position on the planet. These additional functions require only setting one of the satellite's many transponders to function on each. In fact, a single satellite can have transponders operating in a number of different functions; the only limitations are the number of transponders and the fact that each can only handle a certain amount of bandwidth.

The Starcomm is in use by planetary governments, civilian corporations and military organizations throughout the former Federated Commonwealth and well beyond. In military operations, it provides a stable and reliable communications and information network; typically, half a dozen (or more) are deployed around a world to support major military operations, afterward remaining in orbit to serve as the beginnings of a civilian communications infrastructure. In civilian use, more than a dozen of these, or similar, satellites can be found in orbit around even relatively minor worlds, while major worlds can have literally scores.

Type: **Galax Launch Systems & Satellites SEU-193D Starcomm**
Chassis Type: Satellite (Medium)
Mass: 20 tons
Equipment Rating: E/X-D-D/D

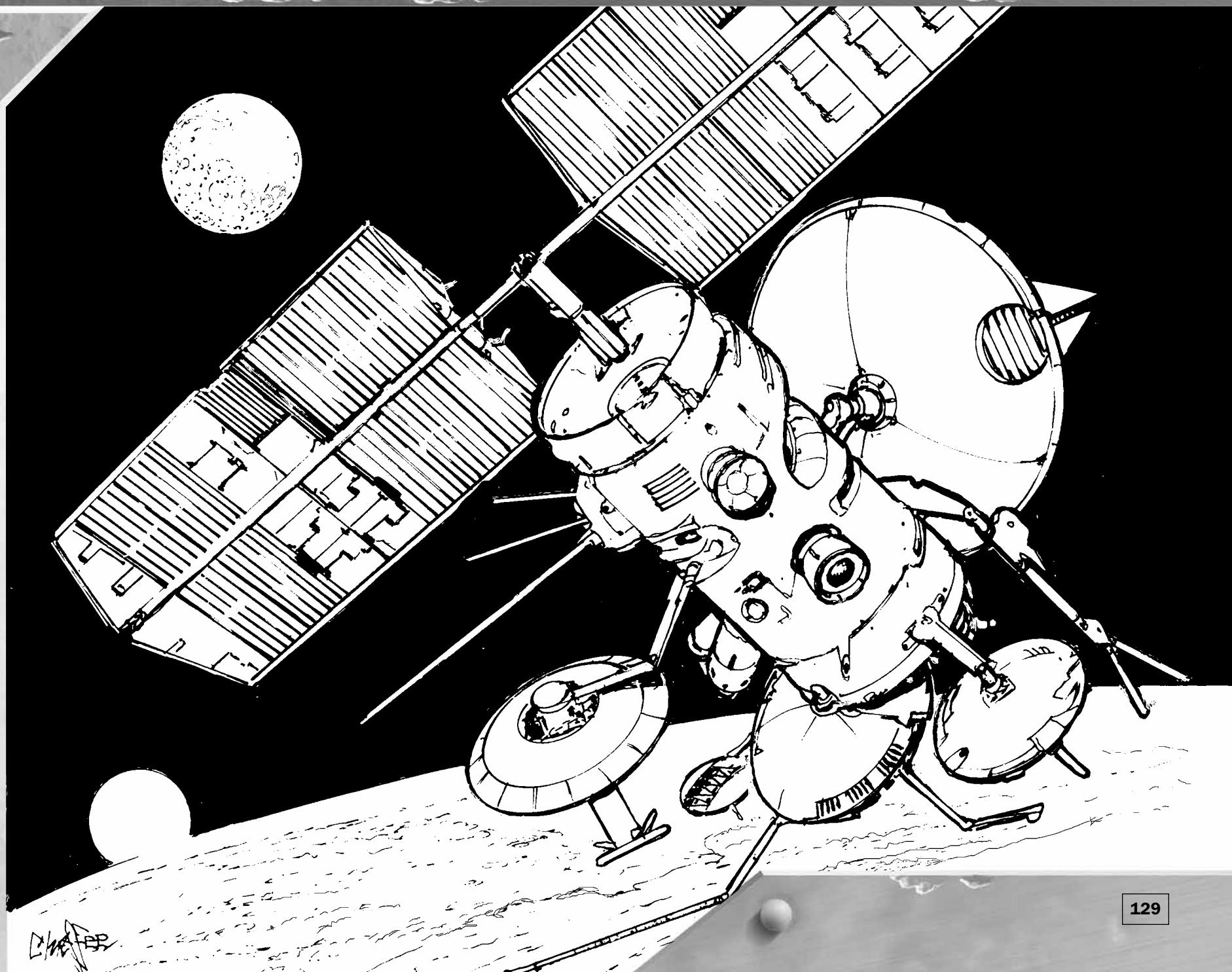
Equipment		**Mass**
Chassis/Controls:		2.5
Engine/Trans:	Electric (Solar)	8
Station-Keeping Thrust:	0.1G (0.2 Thrust)	
Structural Integrity:	1	
Heat Sinks:	0	0
Armor Factor (BAR 5):	14	.5
	Armor Value	
Nose	4	
Wings	3/3	
Aft	4	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Cargo
None

Notes: Features communications equipment (9 tons)

GALAX LAUNCH SYSTEMS SEU-193D STARCOMM



D40 / SNEAKSAT COMMUNICATIONS SATELLITES

Doering Electronics has long supplied the LAAF, and the LCAF and AFFC before it, with secure and stable communications equipment. They were one of the first Inner Sphere firms to recreate the Narc Missile Beacon system around the time of the Clan Invasion, and have remained at the forefront of Lyran technological know-how ever since. In late 3062 the firm launched a new branch for the company when they released the D40 Communications Satellite.

Finding a way to securely transmit information has long been the bane of every technological military force. Encryptions are only so good; hardwired communications lines can be cut or, worse, tapped. Most military forces keep specialized communications shuttles or even DropShips in orbit over contested worlds to serve as communications hubs. These forces are often subject to interdiction, as well as possible destruction. Doering heard the complaints and decided to branch out.

The D40 was developed as a disposable satellite. With a mass of only 3,300 kilograms, the D40 is small enough to be deployed by shuttle or even aerospace fighter. Most LAAF units expecting to need secure communications stock enough of these to last them several months. At a little over 31,000 C-bills each, they're not nearly as expensive as even the lightest vehicle. Cost-conscious generals who fret are often given figures showing the tally of probable expense when a task force is lost due to intercepted communications.

Over sixty percent of the mass of the D40 is given over to communications equipment. A variety of RF and laser communicators poke out from the hull upon deployment. The D40s are all equipped with the latest encryption algorithms before they are deployed, and each transmitter has the capacity to use a different cipher with each transmission. Radio antenna and laser receptors dot the hull to provide uninterrupted reception. A software option allows a constellation of D40s to be tied together, often blanketing an entire planet so no unit is ever out of reach.

Following their design mandates for a disposable satellite, the Doering engineers gave the satellite no defenses whatsoever. Even the danger of meteorites was discounted, as the operational life of a D40 was measured in days, not years. The satellites are painted with a non-reflective black paint to prevent visual detection, but nothing can be done about the six-meter solar panels that power the satellite. Most test engagements with LAAF aerospace pilots painted the solar panels as the likeliest target, but no countermeasure could be conceived.

The success of the D40 during the recent Civil War has prompted several of the Alliance's other electronic firms to throw their own designs on the market. The only serious competitor is the tiny SneakSat from Nashan Diversified. At a little over 1,100 kilograms, the fusion-powered SneakSat is all but undetectable. While the SneakSat has barely a third of the D40's bandwidth, its smaller size and longer life are endearing it to LAAF officers across the Alliance. The fact that it's roughly one-third the cost of the D40 helps Nashan's marketing as well.

Type: **Doering Electronics D40 Communications Satellite**
Chassis Type: Satellite (Small)
Mass: 3,300 kg
Equipment Rating: F/X-X-E/E

Equipment		**Mass**
Chassis/Controls:		88 kg
Engine/Trans:	Electric (Solar)	1,155 kg
Station-Keeping Thrust:	0.1G (0.2 Thrust)	
Structural Integrity:	1	
Heat Sinks:	0	0
Armor Factor (BAR 2):	0	0
	Armor Value	
Nose	0	
Wings	0/0	
Aft	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Cargo
57 kg standard

Notes: Features Ultra-light Chassis and Controls Modification, communications equipment (2 tons)

Type: **Nashan Diversified SneakSat Communications Satellite**
Chassis Type: Satellite (Small)
Mass: 1,100 kg
Equipment Rating: F/X-X-E/E

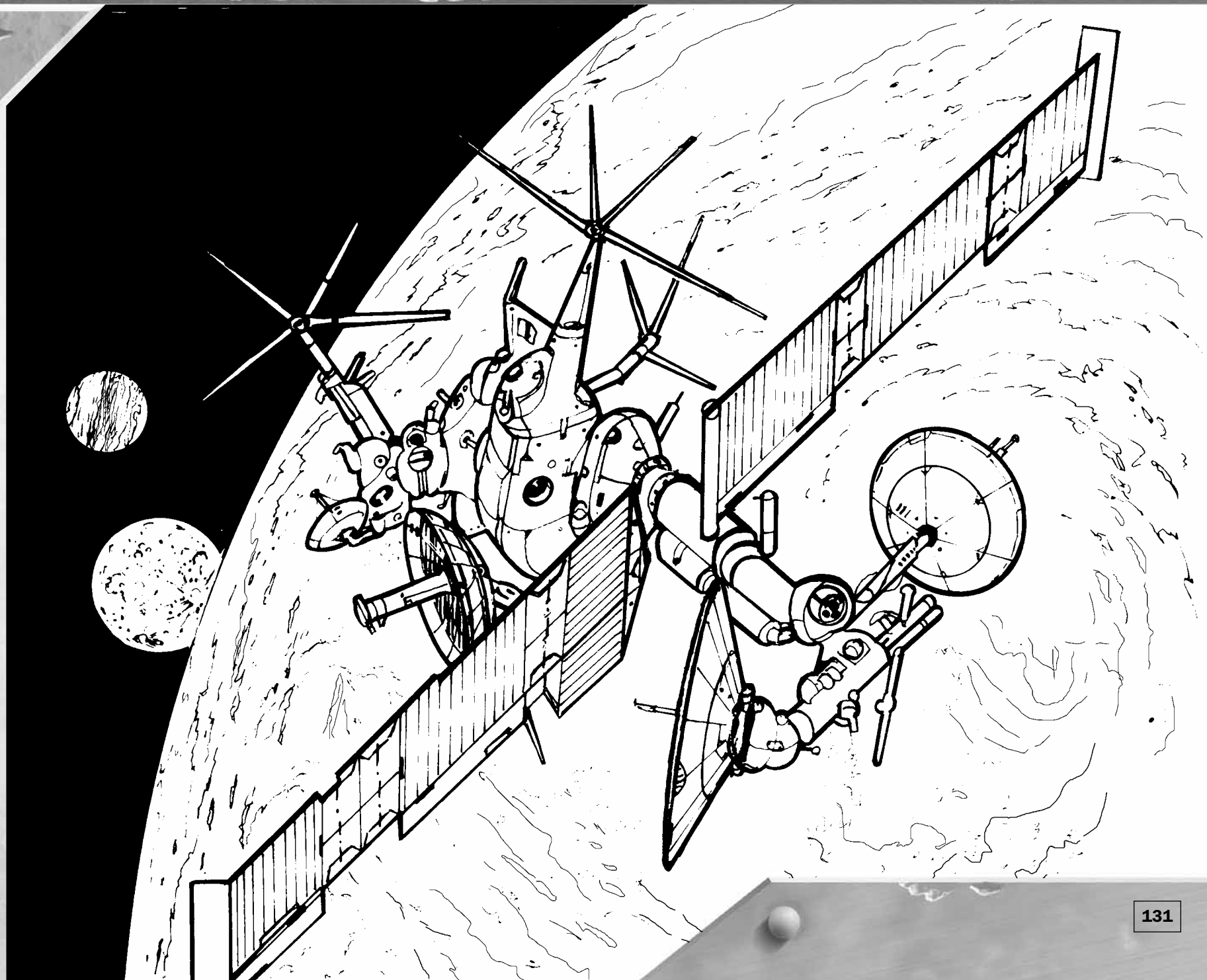
Equipment		**Mass**
Chassis/Controls:		30 kg
Engine/Trans:	Fusion	55 kg
Station-Keeping Thrust:	0.1G (0.2 Thrust)	
Structural Integrity:	1	
Heat Sinks:	0	0
Armor Factor (BAR 2):	0	0
	Armor Value	
Nose	0	
Wings	0/0	
Aft	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Cargo
15 kg standard

Notes: Features Ultra-light Chassis and Controls Modification, communications gear (1 ton)

D40 / SNEAKSAT COMMUNICATIONS SATELLITES



SKYWARD MODEL XII WARNING SATELLITE

Since the early days of space exploration—and, sadly, over many of the centuries since—mankind has found—or rendered—worlds unsafe for human travel. Inviting, yet cursed by natural or manmade scourges, these worlds have become a hazard for space travelers, destinations of certain death for those unprepared and unaware of their dangers. In an effort to warn off scavengers, refugees, or other potential settlers, since the dawn of deep space travel, quarantine satellites have been employed by the more conscientious space explorers to prevent any unnecessary loss of life to those who would venture off the safe and beaten paths of interstellar trade. With the widespread deaths of worlds after the collapse of the original Star League, warning satellites such as these became a common sight across the Inner Sphere, at once a functional tool for travelers as well as a solemn reminder of the horrors of war.

The SkyWard Model XII warning satellite, while not the most recent of its kind, is perhaps the most common type of quarantine satellite seen today. Originally debuting during the closing months of the First Succession War, produced at a breakneck pace by numerous Terran factories under an exclusive contract with ComStar, the Model XII was deployed far and wide as the Order undertook a humanitarian mission to flag many of the dozens of worlds decimated by the dawning age of Sphere-wide warfare. The first wave of these satellites, deployed by specially modified DropShips, found themselves seeded around most of the destroyed worlds in the former Terran Hegemony, often with as many as twelve placed around each destroyed planet—three in synchronous orbits at the primary world's most stable La Grange points, at least four placed in close planetary orbits, and five more in solar orbits designed to regularly intersect with local jump points or major in-system transit routes.

Built to operate for indefinite periods with little to no maintenance, the Model XII SkyWard satellite relies on solar power for its energy needs, which are focused almost entirely on maintaining its station-keeping system, warning beacons, and passive sensor suites. Military-grade armor protects the satellite from routine damage by spaceborne debris and even light anti-fighter weapons—though scores of inoperative SkyWards have been encountered over the centuries that have suffered from either glancing blows by larger space debris, or were shattered in outright acts of vandalism by pirates intent on plundering dead worlds. Finally, a series of redundant onboard transmitters ensures that even a damaged SkyWard can still broadcast warnings for some time.

Though it mounts the same sophisticated sensors common to most spy satellites, the difference between the SkyWard and its surveillance-based cousins is that these sensors face *away* from the planet once the satellite is placed, to monitor for incoming vessels. The sensors operate passively, powering up to sweep the local area only once every hour or so (depending on programming), until discernable movement is detected in the vicinity. Once such movement is detected and confirmed, the SkyWard flashes high-powered beacons and plays a looping message on all channels to warn away the approaching craft. Lacking hyperspace transmission capabilities, the SkyWard's signals only benefit an approaching vessel in the system. No warnings are typically sent out to nearby forces, as SkyWards generally watch over dead systems. However, many of these satellites have been modified through the years for use as pickets by local garrisons in living systems, sometimes even transmitting only to the local defenders, and thus acting as a kind of silent alarm for the natives to guard against interlopers in systems both dead and alive. Rumors abound that ComStar and the Word of Blake have employed larger SkyWards in this way, complete with HPG transmitters or even fusion station keeping drives for static jump point deployments.

Type: SkyWard Model XII Warning Satellite
Chassis Type: Satellite (Medium)
Mass: 65 tons
Equipment Rating: C/X-E-D/D

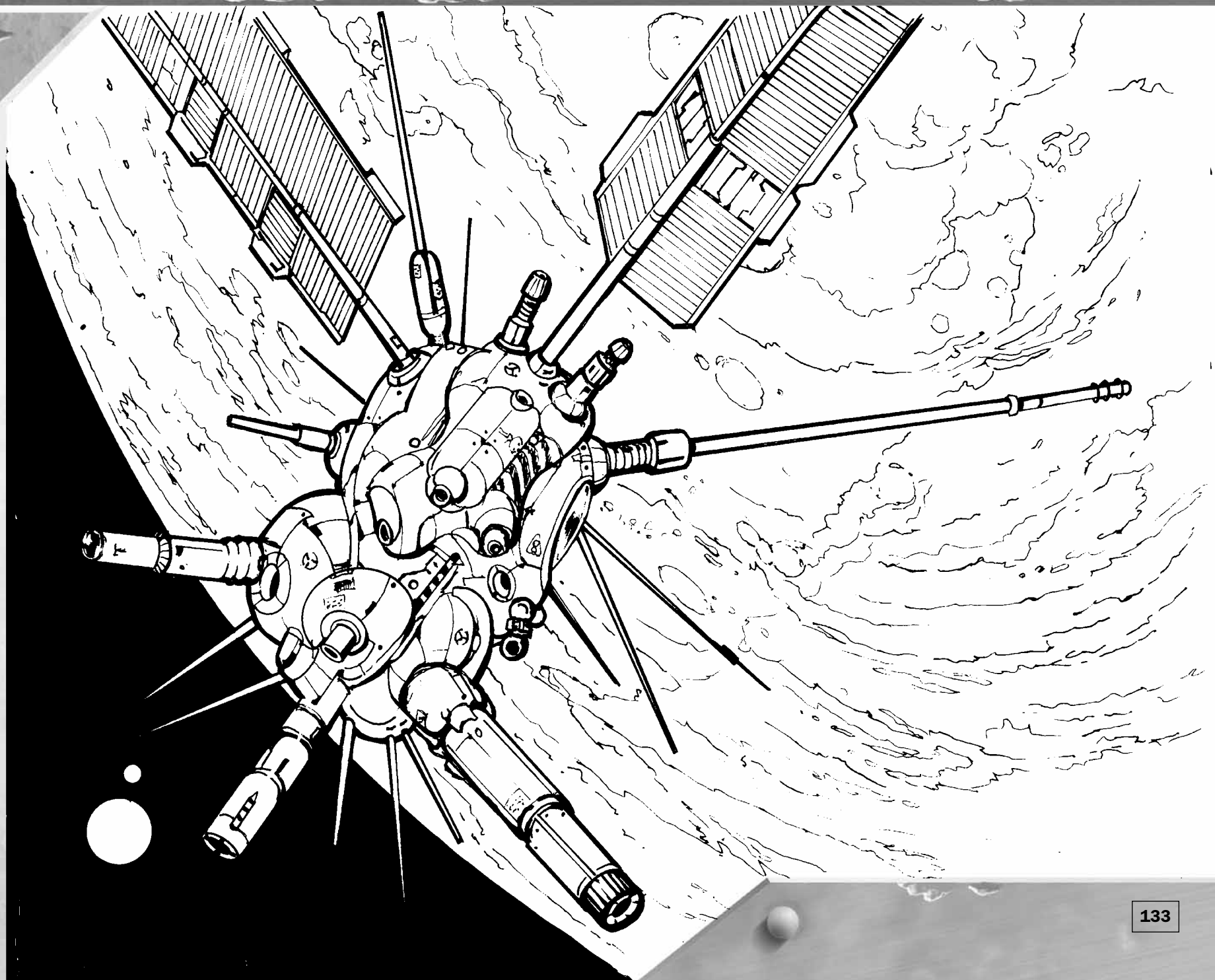
Equipment		**Mass**
Chassis/Controls:		13.5
Engine/Trans:	Electric (Solar)	32.5
Station-Keeping Thrust:	0.1G (0.2 Thrust)	
Structural Integrity:	1	
Heat Sinks:	0	0
Armor Factor (BAR 10):	30	4.5
	Armor Value	
Nose	9	
R/L Wing	7/7	
Aft	7	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Cargo
None

Notes: Features Armored Chassis and Controls Modification, 1 infrared imager camera (5 tons, Nose), 1 high-res image camera (2.5 tons, Nose), 2 mounted searchlights (used as beacons, 1 ton, Nose), and communications equipment (6 tons)

SKYWARD MODEL XII WARNING SATELLITE



FIGYEL II SCIENCE SATELLITE

Bluntly put, the zenith of science satellites is long past. Not only because of forgotten knowledge, but more so due to a change of general philosophy. Once, understanding the universe and finding answers to questions about life and the universe was more important than punching a neighbor's nose. Exploration thrived, expanding known space on a daily basis, intent on satisfying mankind's growing needs with hard work and science instead of sword and steel.

As such, it was quite an honor to excel in the science race, and satellites played a crucial role in that. On planets already settled, they were used in a multitude of fields: weather-forecasting, environmental-surveillance, the tracking of endangered species, space telescopes—nearly every researcher found a way to profit from such installations. As diverse as their use, so was their size. Ranging from small stationary models to sizable, manned spacelabs, nearly every physical science discipline could find a supporting satellite.

Further out, in exploration, satellites usually made up the next step after a promising discovery, allowing for a much more thorough survey than deep-space probes or ship-to-ground scans. Although waiting for some automated ball of metal to finish measuring atmospheric levels wasn't exactly popular with colonists, it helped in preparations that ultimately paid off upon landing. And no one complained about an already mapped new home either.

Nowadays, though, as everyone seems to cling to what he has and only makes gains by taking someone else's possessions, pure science satellites are few and far between. Their decline was inherent in the design—electronic eyes watching star formations could just as well be turned onto jump points. Ears listening for tectonic shifting were predestined to be fine-tuned to filter out "interesting data" of a more military kind, like the distinctive march of BattleMechs. And so, in a universe of war, nearly every type of satellite in use serves at least one other non-scientific purpose—be it military, espionage or something yet more secretive.

It is no wonder then that governments weren't euphoric when Interstellar Expeditions started to seed the Inner Sphere with FIGYEL II satellites "for mapping and navigational purposes." While IE insists those satellites to be a simple rehash of a pre-Star League explorer model, critics are not so sure about that. Especially not since the supplier turned out to be Irian Interstellar's Technology Transfer Division, itself the target of a media expose in the recent Wenk Affair. While no conclusive proof of industrial espionage was found in this case, it did involve a mysterious high-tech project called "Figyel" by the press. Back then, IrTech did not take a position on that matter and is not likely to do so now. All the corporation was willing to part with are the general specifications of the FIGYEL II. Whether they are correct remains to be seen. So far all attempts at capture have resulted in a self-destructing satellite. "A drastic, but sadly necessary precaution against abuse by unauthorized parties," as an IE representative announced during their last press conference.

Type: **FIGYEL II Science Satellite**
Chassis Type: Satellite (Medium)
Mass: 22 tons
Equipment Rating: C/X-E-D/D

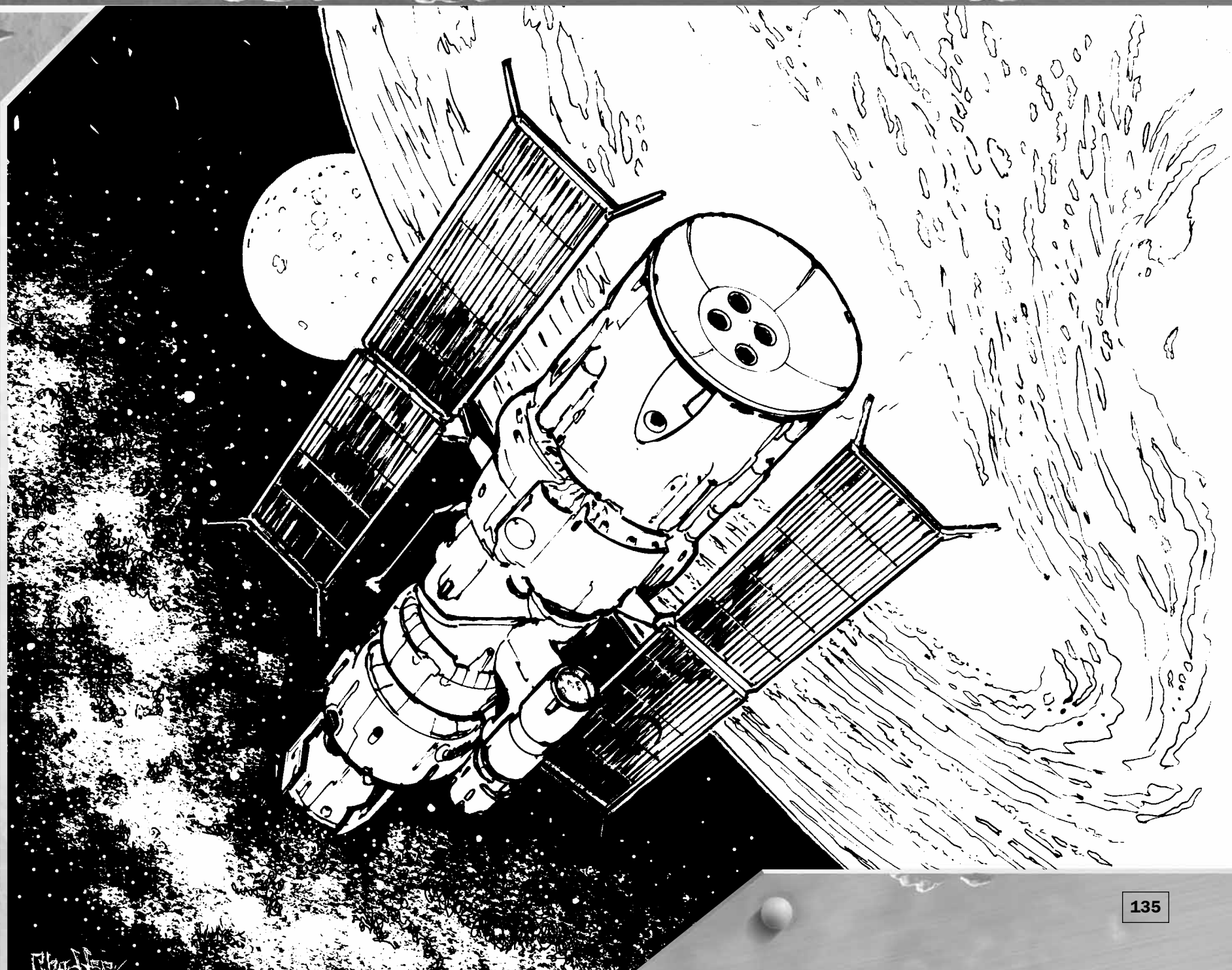
Equipment		**Mass**
Chassis/Controls:		3.5
Engine/Trans:	Electric (Solar)	11
Station-Keeping Thrust:	0.1G (0.2 Thrust)	
Structural Integrity:	1	
Heat Sinks:	0	0
Armor Factor (BAR 2):	0	0
	Armor Value	
Nose	0	
R/L Side	0/0	
Aft	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Cargo
None

Notes: Features high-res image camera (2.5 tons, Front), and infrared imager camera (5 tons, Front).

FIGYEL II SCIENCE SATELLITE



POWERSAT

In an age of compact fusion power, the PowerSat would appear to be a completely redundant concept. However, the policies of the First Star League (not to mention the devastation of the Succession Wars that followed) have prompted many worlds to resurrect the idea in the modern age.

Following the defeat of the Periphery powers by the newly formed Star League at the end of the twenty-sixth century the victorious Inner Sphere actively pursued a policy of making the conquered territories dependent on the League for vital technologies, such as water purification and power generation. Vital components would be produced only at select locations—often within the Terran Hegemony itself.

In many respects the League planners succeeded beyond their wildest dreams. When the Star League collapsed, the Periphery worlds were suddenly without access to spare parts that were desperately needed to keep their societies functioning. Though spared the destruction visited upon the worlds that hosted those vital manufacturing plants and stockpiles of components, the Periphery was nonetheless hit badly. Whole worlds became uninhabitable as the large commercial fusion power stations upon which environmental management systems depended began to fail. On Pinard the slide into a pre-industrial society was halted by the ingenuity of Taurian engineers. Their solution was archaic—even crude—and raised serious safety concerns among the public. But it worked. The idea dated back to the brief pre-fusion era of twenty-first century Terra. Solar power was a clean and almost limitless form of energy, but attempts to build ground-based "solar farms" the previous century had proven disappointing. The solar arrays only worked during the day, and even then varied in efficiency with local weather conditions. Putting the solar arrays in orbit solved these issues, but introduced another: how to transmit the collected power. The solution to that was to convert the energy collected by the array into a beam of microwaves aimed at a ground station. These microwaves would be unaffected by weather conditions, while the right orbit (usually a geosynchronous one) would ensure the satellites were always in position to receive solar power. The drawback of such systems was primarily economic, in that by the time the Terran technology was able to construct a mammoth satellite capable of powering a city, the Fusion Age had dawned and fusion engines were substantially less expensive than an equivalent solar power satellite.

The Taurians' reintroduced solar satellites suffered from similar problems, but this time there was no near-lostech fusion alternative waiting in the wings to replace it. Their perseverance ultimately paid off, and they even deployed small solar satellites like the PowerSat for small colonies in desperate need of power (and communications) due to the ravages of the Succession Wars. However, the Inner Sphere powers remained slow to introduce their own PowerSats, preoccupied as they were with the First Succession War and looting the equipment they needed from a growing number of dead worlds. Only after the continuing destruction of the Second Succession War did the Great Houses look into solar satellite technology. The Capellan Confederation even came to accept the inherent risks posed by high-density microwave power transmission into population centers. The other states chose to limit deployment of such high-density technology to remote industrial use only.

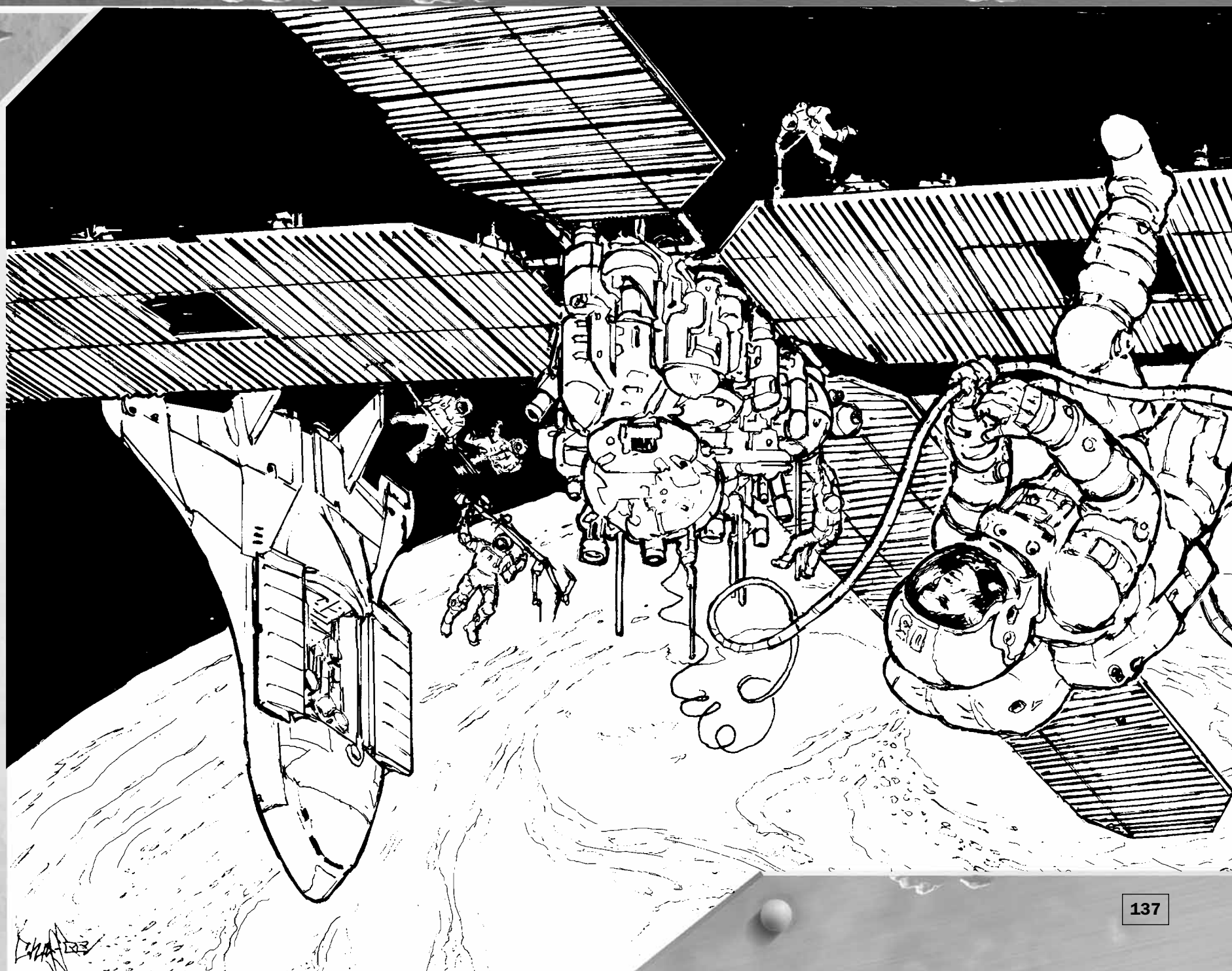
Type: **PowerSat**
Chassis Type: Satellite (Medium)
Mass: 45 tons
Equipment Rating: C/X-D-D/D

Equipment		**Mass**
Chassis/Controls:		6.5
Engine/Trans:	Electric (Solar)	22.5
Station-Keeping Thrust:	0.1G (0.2 Thrust)	
Structural Integrity:	1	
Heat Sinks:	0	0
Armor Factor (BAR 3):	21	.5
	Armor Value	
Front	6	
R/L Wing	5/5	
Rear	5	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Cargo
.5 tons standard

Notes: Features communications equipment (1 ton) and solar collection & microwave power transmitter (14 tons)



BLANKENBURG CASSION PAYLOAD SATELLITE

There have long been two schools of thought when it comes to hiding items one doesn't want found: hide them in plain sight, or hide it where no one will ever think to look. Almost since its inception, ComStar has taken the second school of thought to heart. Space is vast and mostly empty, and unless someone knows exactly where to look, you can hide almost anything anywhere you want. Containers hidden at precise points in uninhabited systems or even in deep space allow ComStar to move supplies around freely, away from the prying eyes of the Successor States.

Just before the Word of Blake treacherously stole Terra away from ComStar, Blankenburg Technologies had begun to field the latest incarnation of the payload satellite. The Cassion is a 200-ton satellite, fusion-powered, with enough armor to protect even the most vital cargoes from the ravages of space. The lack of massive solar panels makes visual identification difficult. Even the pair of radiator vanes mounted along the Cassion's spine are hard to spot unless an observer is right on top of them.

Over seventy-five percent of the Cassion's mass is devoted to cargo storage. Sealed entry doors at three points along the Cassion's body allow access to individual bays, which can be pressurized once closed by bringing in heat and air from the outside. Two remote-activated searchlights, one each at fore and aft, act as beacons when ComStar supply ships broadcast the correct code to an onboard communications suite.

The few Cassions shipped out of the Terran system prior to the Schismatic invasion were deployed with the Explorer Corps to aid in their search for the Clan Homeworlds. Precentor O Bhaoil ordered these few Cassions filled with supplies and placed into orbit at Explorer Corps cache systems, so that far-reaching exploration patrols could resupply further from Columbus and extend their range. After much lobbying, one Cassion was devoted to the greatly-diminished science program. It releases its cargo of sensor satellites into the maw of the black hole V4641 once every three months, recording the resultant data for downloading once every two years by the ECV *Curie*, a *Magellan*-class JumpShip.

ROM reports from Terra since the Word of Blake took control inidicate that the Blankenburg facility is operating at full capacity, turning out Cassions as quickly as possible. No one knows where all these payload satellites are being deployed, or why the Blakists are so intent in seeding supply caches across known space and beyond. Recent events have cast some suspicions, but no Blakist caches have yet been discovered. Until recently ROM was directing considerable effort to locate a Word of Blake Cassion, but those resources have been diverted.

A few examples of Star League-era payload satellites still exist. The Conestoga satellite in the Galax system, for example, is maintained as a museum for Star League technology, where it hangs in direct view of the MegaPlex.

Type: **Blankenburg Cassion Payload Satellite**
Chassis Type: Satellite (Large)
Tonnage: 200 tons
Equipment Rating: E/X-X-E/E

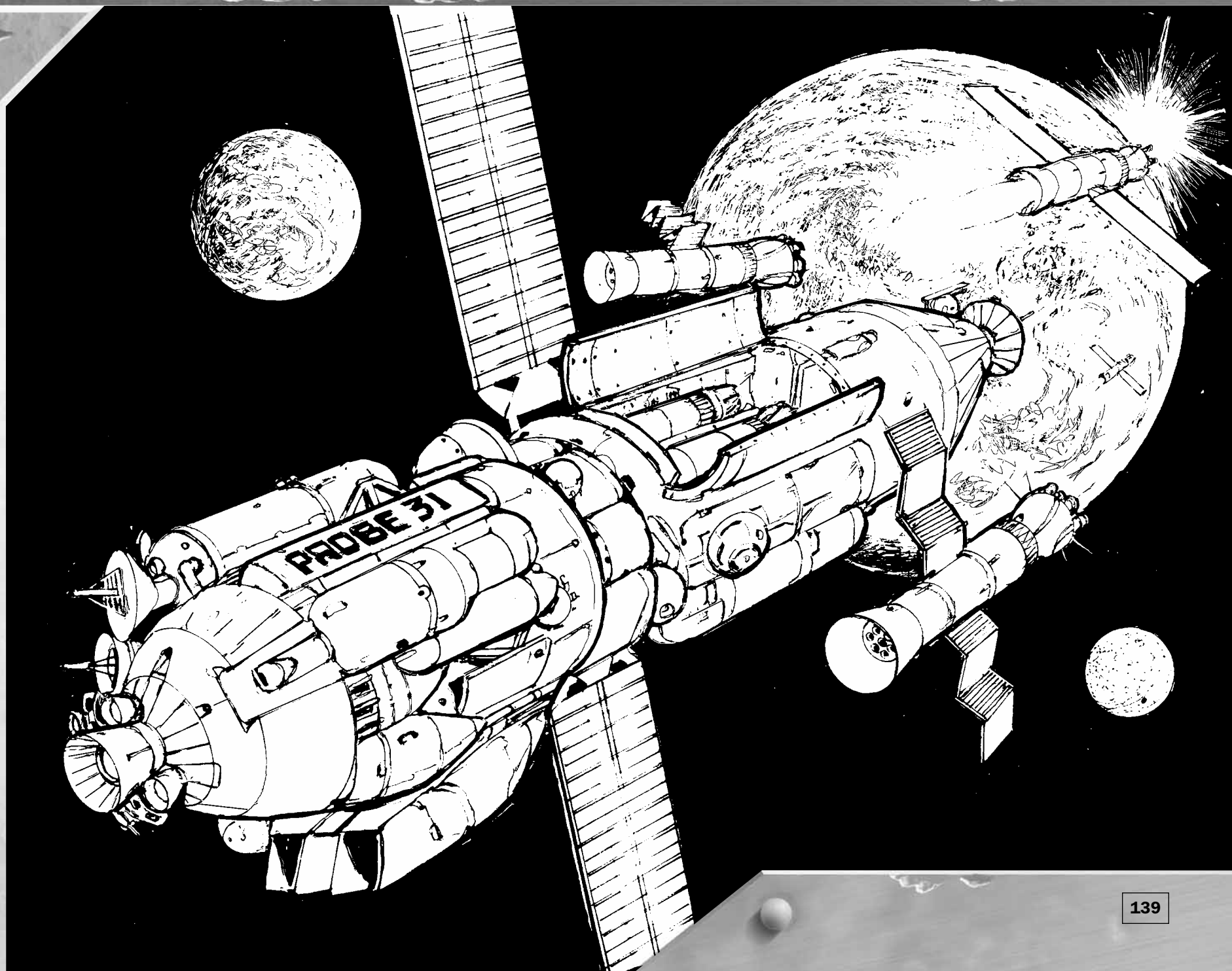
Equipment		**Mass**
Chassis/Controls:		27.5
Engine/Trans:	Fusion	15
Station-Keeping Thrust:	0.1G (0.2 Thrust)	
Structural Integrity:	1	
Heat Sinks:	0	0
Armor Factor (BAR 7):	100	4
	Armor Value	
Front	25	
R/L Wing	25/25	
Rear	25	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Cargo
151.5 tons standard — 3 Doors (Front/RW/LW)

Notes: Features communications equipment (1 ton) and 2 mounted searchlights (1 ton, Front)

BLANKENBURG CASSION PAYLOAD SATELLITE



RAIL SUPPORT VEHICLES

Sigmund:

There's nothing here. And I'm getting really sick of this pressure suit.

I'll agree with your analysts and say the St. Bernard Express was one of the best examples of Star League ingenuity applied to harsh environments. I'll even agree that in all the time that we've been fighting these Succession Wars, no one's really ever come out here to Sirius V and done a survey. And now I can tell you why that is.

There's nothing here.

The atmosphere is remarkably caustic. I pity those poor damned fools who died in Tiantan when the dome blew. It must have been like trying to breathe bleach or ammonia or maybe both at once...

Anyway. There's nothing left of the train or its tracks. We found an old map in one of the library domes that showed us the route, and we've tracked 300 kilometers of it. Without the GPS we'd have been lost in two klicks. The tracks have been gone for years. There's nothing here but standing pools of things that should be gaseous. We're not going to learn anything from this planet, unless it's about the folly of looking for three-hundred-year-old relics in a sea of methane.

We're coming home. Don't try to divert us.

—Dr. Freidrich Sachs

The movement of rail cars is still one of the most efficient ways to move passengers and cargo across continental distances. The motive system is so reliable and cost-effective that intracity subways and elevated trains filter through almost every metropolis within and without the Inner Sphere. As technology has evolved to meet the needs of diversified populations and environments, the train has remained at the forefront of that evolution. Old-fashioned steam engines still move cargo on rural worlds; high-speed commuter monorails whisk suburbanites into the massive cities of the core worlds; fusion-powered locomotives draw valuable ores across the airless surfaces of moons and asteroids. There are even railcars beneath the unknown seas, moving people though the second-most-familiar environment in the universe.

Enclosed are several prominent examples of the rail system's shining moments. Encompassing all the varied types of rail transportation, and spanning hundreds of years of history and experience, these vital, vibrant machines emerge victorious from the crucible of innovation. They carry more than a truck, farther than an airplane, and with greater reliability than an airship. Urban transit tramcars are often so reliable that people set their clocks by the whistles at each stop. In a universe where the flag may change more than once in a lifetime, where war will often sunder the surest bonds, the security of the railcar is a welcome feeling.

Although the majority of rail-mounted vehicles are civilian, several Inner Sphere militaries maintain combat locomotives, used to support logistical needs on important worlds. The long-established colonies of the Periphery nations, reliant on tried and true technologies, have embraced rail transportation as a way of life. While reports are inconclusive, it is almost impossible not to believe that even the Clans use trains in whatever fashion they deem necessary.


105

ADELANTE PASSENGER/CARGO TRAIN

In the early 3060s, Alstom Rail Corporation entered into a partnership with Blackwell Corporation to design a multiple-use rail platform. By designing a modular system, a land train could be reconfigured in a matter of minutes rather than hours. Previously, train cargos had to be swapped around using the millennia-old rail switchyards, coupling and decoupling groups of cars to send hurtling from one end of the continental mass to the other. By designing a base platform and utilizing the modular design that the omni configurations allowed, cargo turnaround times were halved and efficiency ratings soared.

Alstom designed a standard 150-ton trailer that could use several configurations, ranging from first-class passenger suites to basic cargo modules. Headed by one or more of Alstom's venerable Adelante tractors, these new Omni trailers simply needed to be pulled into a long concrete channel equipped with overhead magnetic cranes that could swap out modules within minutes, even with passengers still aboard. Cargo and passengers could be loaded and offloaded on a separate timetable.

Military applications of such a rail system became evident during the recent FedCom Civil War. Using the distant Alsace depot, the Davion Heavy Guardson New Avalon were able to transport several squads of battle armor troops and light hovercraft to the outskirts of Avalon City in record time, blocking a key flanking maneuver by the Loyalists. By using a modified mobile command base and fitting it to one Omni railcar, the Heavy Guards command staff could remain mobile on the massive rail network that covered the continent. Despite repeated air strikes to disrupt the rail lines across New Avalon, enough track remained that the Heavy Guards could still deliver strike groups and supplies across sixty percent of the planet's landmass.

Type: **Adelante Passenger/Cargo Train**
Chassis Type: Rail (Large)
Mass: 600 tons
Equipment Rating: D/X-E-D/C

Equipment			**Mass**
Chassis/Controls:			216
Engine/Trans:	Fusion		312
Cruise MP:	12		
Flank MP:	18		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 7):	200		9
	Internal Structure	*Armor Value*	
Front	60	40	
Front R/L Side	60	35/35	
Rear R/L Side	60	35/35	
Rear	60	20	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 3
Cargo
28 tons standard — 1 Door (Right)

Notes: Features Tractor Chassis and Controls Modification, 5 crew quarters (35 tons)

Type: **TGV Omni Railcar**
Chassis Type: Rail (Medium)
Mass: 120 tons
Equipment Rating: F/X-X-E/D

Equipment			**Mass**
Chassis/Controls:			15.5
Engine/Trans:			0
Cruise MP:	N/A		
Flank MP:	N/A		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 9):	79		3.5
	Internal Structure	*Armor Value*	
Front	12	20	
R/L Side	12	20/20	
Rear	12	19	

Primary Configuration
Crew: 0
Cargo
4 tons standard — 1 Door (Left)

Notes: Features Tractor, Trailer, Omni Chassis and Controls Modifications, 9 first class passenger quarters (90 tons), one second class quarters (7 tons)

Configuration A
Crew: 2
Cargo
1 ton standard — 1 Door (Left)

Notes: Features Tractor, Trailer, Omni Chassis and Controls Modifications, 10 second class passenger quarters (70 tons), 6 steerage passenger quarters (30 tons)

Configuration B
Crew: 11 (2 officers + 5 mobile field base, + 4 bay personnel)
Cargo
50 tons light vehicle bay — 1 Door (Right)
30 tons 3 battle armor infantry bays — 1 Door (Left)

Notes: Features Tractor, Trailer, Omni Chassis and Controls Modifications, 1 mobile field base (20 tons)

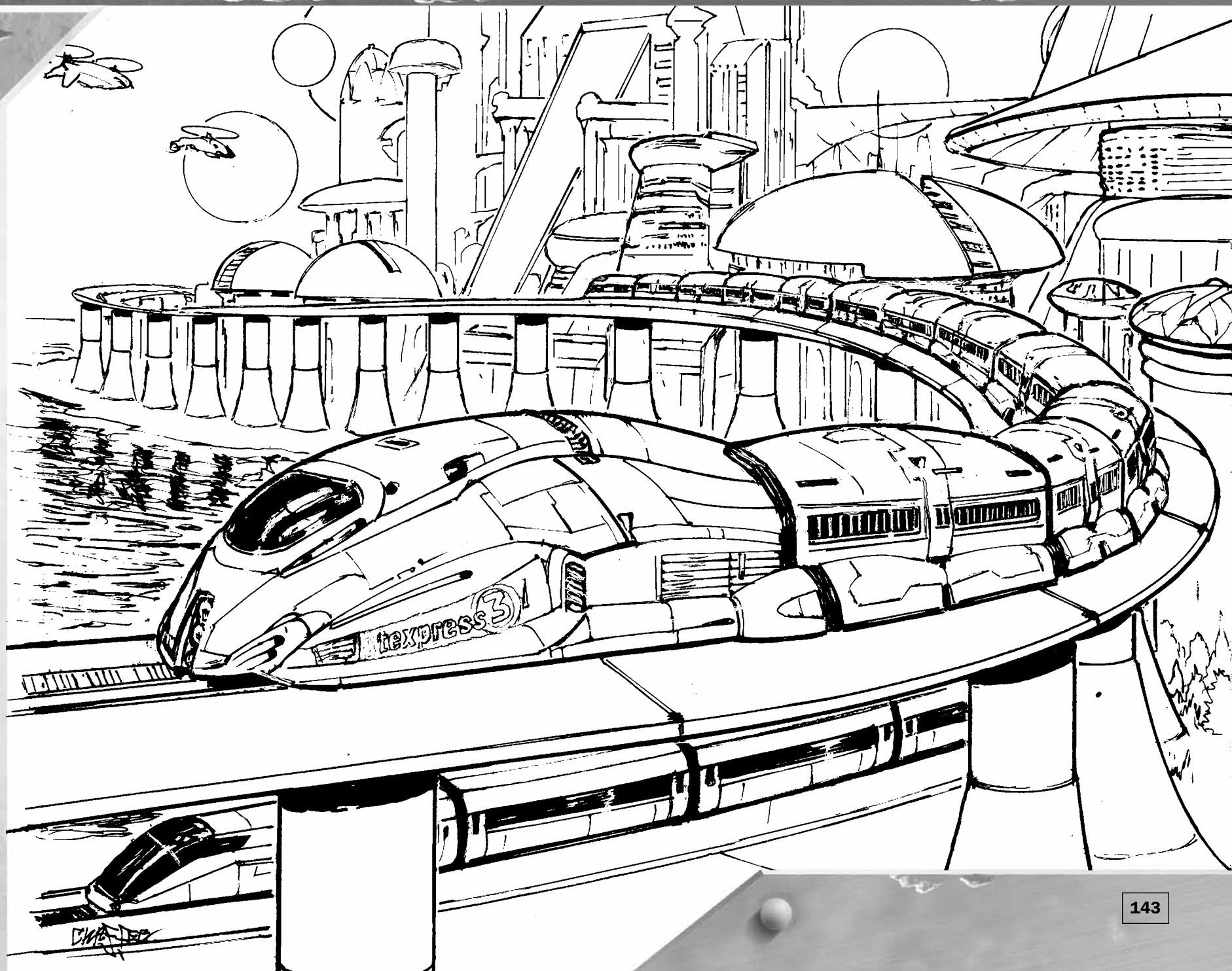
Configuration C
Crew: 2
Cargo
80.05 tons standard (open bed) — 1 Door (Right)

Notes: Features Tractor, Trailer, Omni Chassis and Controls Modifications, 4 lift hoists (12 tons), dumper (4 tons), wrecking ball (4 tons), 1 mounted searchlight (.5 tons), 6 seats (450 kg)

Configuration D
Crew: 45 (8 officers + 5 mobile field base, + 3 comms, +25 MASH, +4 bay personnel)
Cargo
50 tons light vehicle bay — 1 Door (Right)
8 tons standard — 1 Door (Left)

Notes: Features Trailer, Omni Chassis and Controls Modifications, communications equipment (3 tons), mobile field base (20 tons), 2 mounted searchlights (.5 tons), 2 crew quarters (14 tons), 5 berth MASH units (7.5 tons)

ADELANTE PASSENGER/CARGO TRAIN



ST. BERNARD EXPRESS

During the height of the Star League, the SLDF maintained several training and garrison posts on Sirius V. The planet provided a perfect landscape for training the SLDF troopers to operate in harsh environments. The domed cities, governed by the megadome of Tiantan, were connected by a series of maglev lines. The SLDF used these lines to move troops and supplies between the cities and the various training centers. The most famous of these trains was the St. Bernard Express, a custom-built SLDF maglev vehicle that operated until just before the fall of the Camerons.

A massive 600-ton locomotive provided thrust for the massive train. It normally pulled between ten and twenty of its custom-designed railcars, varying in composition depending on the mission. The locomotive itself was a self-contained unit that was constantly on the move. It dropped off and picked up cars across (and sometimes below) Sirius V. It carried an integral turret-mounted cannon, intended to clear track obstacles. The escort cars were meant to discourage attackers. The locomotive carried medical and food facilities to feed the passengers and crew, and extra living spaces were included so that the train would never have to stop: one crew could rest while the other operated the train.

The most common configuration for the St. Bernard Express was one locomotive (only two were ever built), three escort cars, six officer cars, a passenger module, and ten cargo railcars. The escort cars were built to engage attackers while the train moved out of range. The missile turrets, while not capable of sustained barrages, could lay down an incredible wall of fire, and their turrets allowed them to track targets from any bearing.

The officer railcars were designed to carry high-ranking officers in comfort between the domes. Accommodations for eight officers to travel in comfort were standard. The cargo cars were simple sealed cargo vessels, capable of transporting any material desired.

Of special note were the extended passenger cars, each of which were capable of transporting over a thousand people. Operation Heaven Sent, an evacuation scenario, proved that the two St. Bernard locomotives could move just under 20,000 people quickly in the event of a dome's depressurization. The operation was deemed a success, but the funds were never allocated to manufacture the extra-long passenger cars in quantity.

The first St. Bernard locomotive was lost during a particularly explosive solar flare, when it was caught out of shelter and irradiated. The second was lost to an accident, when its cannon misfired just months before Amaris usurped the First Lord's throne. The cannon destroyed the track in front of the locomotive. Inertia did the rest, pulling each of the massive cars off the tracks and onto the poisonous rocks below.

The only other notable military train was a short-lived light cargo maglev the Draconis Combine built on Al Na'ir in 3027. The maglev was used to move material from the Scarborough factories to the spaceport, but a freak DropShip accident in 3029 cut the maglev line. It was never repaired.

Type: **St. Bernard Express Tractor**
Chassis Type: Rail (Large)
Mass: 600 tons
Equipment Rating: D/F-X-X/E

Equipment			**Mass**
Chassis/Controls:			475
Engine/Trans:	MagLev		42
Cruise MP:	6		
Flank MP:	9		
Heat Sinks:	0		0
Fuel:			0
Turret:			1
Armor Factor (BAR 7):	88		4
	Internal Structure	*Armor Value*	
Front	60	14	
Front R/L Side	60	13/13	
Rear R/L Side	60	13/13	
Rear	60	12	
Turret	60	10	

Weapons and Ammo	**Location**	**Mass**
Autocannon/5	Turret	8
Ammo (AC) 40	Body	2
Advanced Fire Control	Body	1

Crew: 11 (3 + 2 officers, + 3 field kitchen, +3 gunners)
Cargo
21 tons standard — 2 Door (Left/Right)

Notes: Features Tractor, External Power, Environmental Sealing Chassis and Controls Modifications, 2 Paramedic Stations (.5 tons, Body), 1 field kitchen (3 tons, body), 1 mounted searchlight (.5 tons, Front), 6 crew quarters (42 tons, Body)

Type: **St. Bernard Express Trailer**
Chassis Type: Rail (Trailer)
Mass: 150 tons
Equipment Rating: D/D/D

Equipment			**Mass**
Chassis/Controls:	Rail (Trailer)		63.5
Engine/Trans:	MagLev		0
Cruise MP:	N/A		
Flank MP:	N/A		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 2):	44		.5
	Internal Structure	Armor Value	
Front	15	11	
Front R/L Side	15	11/11	
Rear R/L Side	15	11/11	
Rear	15	11	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 0

Cargo Variant
Cargo
84.5 tons standard — 2 Door (Left/Right)

Notes: Features External Power, Environmental Sealing, Tractor, Trailer Chassis and Controls Modifications

Officer Variant
Cargo
4.5 tons standard — 2 Door (Left/Right)

Notes: Features External Power, Environmental Sealing, Tractor, Trailer Chassis and Controls Modifications, 8 first-class passenger cabins (80 tons, Body)

Passenger Variant

Notes: Features External Power, Environmental Sealing, Tractor, Trailer Chassis and Controls Modifications, 1,120 seats (84 tons, Body)

Escort Variant

Weapons and Ammo	**Location**	**Tonnage**
6 LRM 20	Turret	60
Advanced Fire Control	Body	6
Ammo (LRM) 36	Body	6

Crew: 29 (5 officers + 24 gunners)
Cargo
14 tons standard — 2 Door (Left/Right Sides)

Notes: Features External Power, Environmental Sealing, Tractor, Trailer Chassis and Controls Modifications

MORAY TRANSFER MONORAIL

One of the many religious communities settled on the Free Rasalhague Republic world of Tukayyid is hidden from the eyes of the rest of the planet's inhabitants. Triton hides beneath the waves of the Crucible Sea, allowing its inhabitants a reclusive and peaceful oasis in which to live, pray, and worship as they please. Their only link with the outside world is a single monorail line cut to a coastal city, and only a single train travels along that line: the Moray.

The Moray is a mid-sized monorail train. The fusion-powered locomotive was chosen for its resilience after repeated failures of energized tracks. The corrosive and turbulent Tukayyid seawater repeatedly defeated any insulation the Tritons could invent, and so they settled for a self-contained unit to draw their train. The Moray locomotive is swift and powerful. The angled hull slides through the water with little resistance, and a sheath of armor protects the vehicle from the seawater and the deep-sea pressures.

Although minimally crewed, the Moray is capable of long-term operations. Storms and other aquatic issues have often forced the Moray to hold on the track until the weather passes. For this purpose crew quarters and facilities, including food preparation and medical berths, were included in the locomotive. Sealed compartments provide access to the linked railcars, allowing the facilities of the locomotive to service those passengers as well. In case of disaster, two maritime escape pods are mounted along the flanks of the vehicle.

The passenger cars of the Moray are simple overnight cars, with four four-person compartments. Each compartment has a viewport, allowing the passengers to enjoy the sea life during their passage. In addition to those mounted on the locomotive, each passenger car also carries an escape pod.

Depending on need, there are two types of cargo railcars designed for use with the Moray. A simple bulk-goods car can transport just under ninety tons of equipment, while an insulated car for perishables or fragile items fits just under eighty tons of cargo. These cars are primarily used to transport foodstuffs, although the cargo cars have been known to transport machinery and light equipment. On the outbound trip, the Moray is usually stuffed with seafood and other goods from the sea. Triton is Tukayyid's prime supplier of luxury fish and exotic deep sea products.

During the latter part of the Draconis Combine's "occupation" of the Rasalhague worlds, an attempt was made to militarize the Moray, but the inhabitants of Triton rejected such weapons on a philosophical basis. When the local DCMS commander ignored their philosophies, they resorted to sabotage. The single laser-equipped locomotive was lost when all of its hatches opened while it was in the deepest trench of the Crucible Sea. The fact that the DCMS officer was aboard the train when it was lost was not coincidental.

Few other worlds in the Inner Sphere bother with undersea trains, content instead to use cargo submarines and tunnels. The undersea population of Blue Hole maintains a few light monorails, but their capacity is so light that they're more curiosities than actual cargo vehicles.

Type: **Moray Transfer Monorail**
Chassis Type: Rail (Medium)
Mass: 300 tons
Equipment Rating: D/E-E-E/C

Equipment		**Mass**
Chassis/Controls:		144
Engine/Trans:	Fusion	48
Cruise MP:	8	
Flank MP:	12	
Heat Sinks:	0	0
Fuel:		0
Turret:		0
Armor Factor (BAR 5):	31	1

	Internal Structure	*Armor Value*
Front	30	10
R/L Side	30	7/7
Rear	30	7

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 6 (2 + 1 officer, + 3 field kitchen)
Cargo
54 tons standard (54 tons) 2 Door (Left/Right)

Notes: Features Environmental Sealing, Tractor Chassis and Controls Modifications, 2 maritime escape pods (14 tons), 2 paramedic stations (.5 tons), field kitchen (3 tons), mounted searchlight (.5 tons, Front), and 7 crew quarters (49 tons)

Type: **Moray Railcar**
Chassis Type: Rail (Medium)
Mass: 150 tons
Equipment Rating: D/E-E-E/C

Equipment		**Mass**
Chassis/Controls:		58
Engine/Trans:	Fusion	0
Cruise MP:	N/A	
Flank MP:	N/A	
Heat Sinks:	0	0
Fuel:		0
Turret:		0
Armor Factor (BAR 5)	31	1

	Internal Structure	*Armor Value*
Front	15	8
R/L Side	15	8/8
Rear	15	7

Crew: 0
Cargo
Varies 2 Doors (Left/Right)

Notes: Features Environmental Sealing, Tractor, Trailer Chassis and Controls Modifications

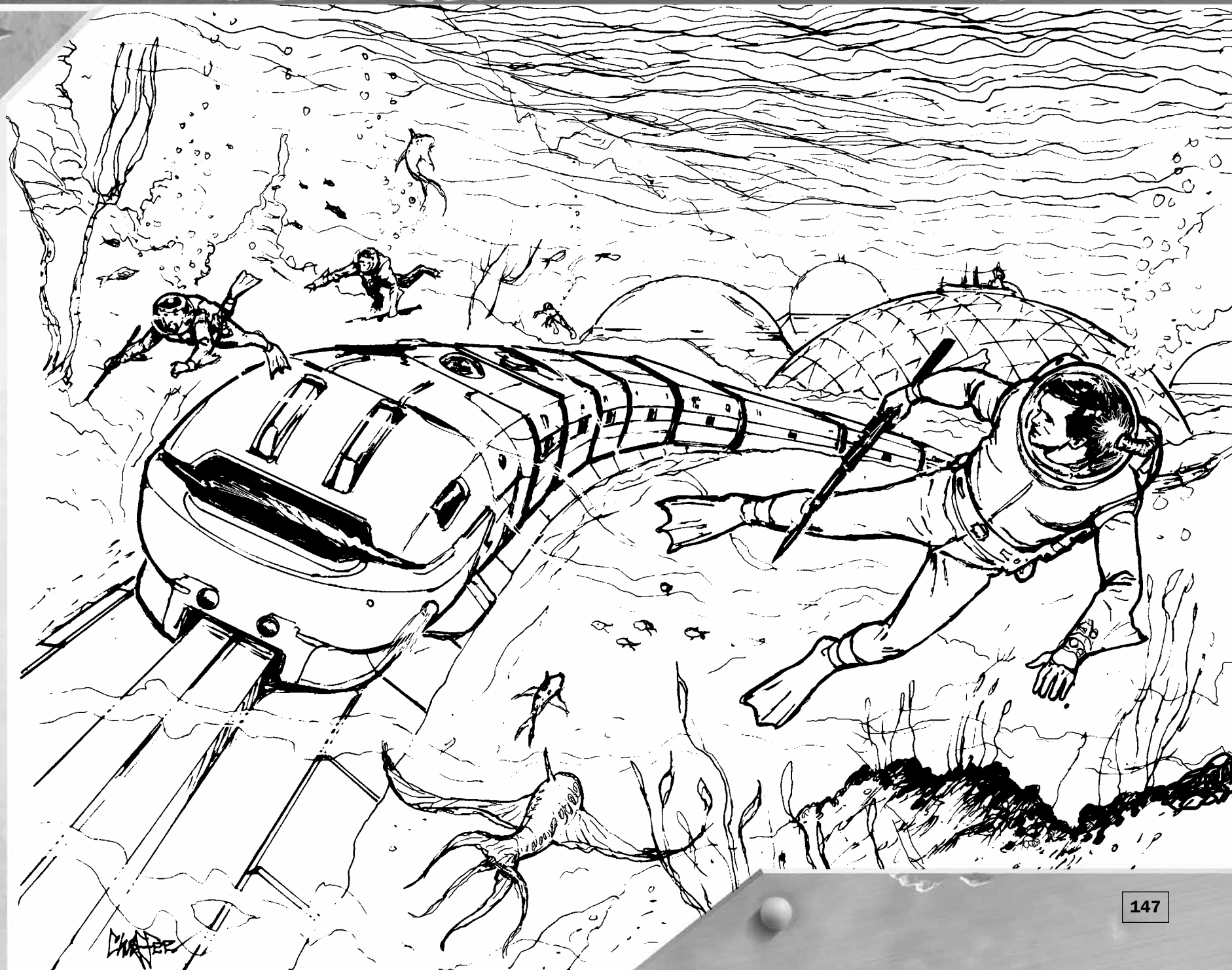
Cargo Variant 1
Cargo
91 tons standard

Cargo Variant 2
Cargo
79 tons Insulated (91 tons)

Passenger Variant
Cargo
4.5 tons standard

Notes: Features 16 steerage passenger cabins (80 tons), 7 maritime escape pod (7 tons)

MORAY TRANSFER MONORAIL



PRESSURIZED TRAIN

Humanity has settled many different kinds of worlds and has not limited itself only to planets with near-Terran environments. Atmospheric taints, low and high pressures, or even vacuum environments—such things have been no deterrent where humanity has found natural resources worth exploiting. Invariably, settlements on these extreme worlds are industrial in nature. As such, they rapidly developed the need for mass transport networks to move people and cargo quickly and economically. Time and again the answer has been a railway network. Precise details vary from world to world. Some worlds, such as Glasgow in the Capellan Confederation, construct networks of underground tunnels through which they run the rails. Others lay the rails across the surface, as seen on some of the larger asteroids at Al Na'ir. Regardless of how the tracks are laid, the locomotives and rolling stock are environmentally sealed, and sometimes even heavily armored, to protect passengers and cargo.

The example shown here is produced by Buda Imperial Vehicles and can be found in service across the Draconis Combine. Using an overhead monorail track system that is perfect for rough terrain and tunnels alike, the Buda design can safely achieve speeds in excess of one hundred sixty kph. Operating in environments where an I.C. power plant would be useless, the locomotive is powered via the electrified monorail track. Buda rejected the idea of creating a MagLev monorail—instead opting for a conventional friction drive. Less efficient but less expensive to construct and maintain, this choice has served the Combine well throughout the Succession Wars. With endurance effectively unlimited, these trains can travel non-stop from one side of a planet to another. The rolling stock is based on a standard model that the manufacturers outfit for specific purposes. With a capacity of nearly thirty tons, versions of these wagons normally can carry seated passengers or freight. Tanker wagons (often transporting vital water) or long-distance passenger accommodation carriages also operate on many worlds.

Across known space other manufacturers independently arrived at designs similar to that produced by Buda Imperial Vehicles. The sheer variety of designs serves to underline a problem that has bedeviled the Inner Sphere for centuries—specifically the lack of a standardized specification for track systems. It has proven impossible to get any of the major manufacturers to agree on any standards that apply beyond their native borders. For House Marik this has proven to be extremely costly, even on worlds where the Capellan Confederation had not engaged in scorched earth tactics. Where rolling stock was destroyed and the tracks had been ripped up, the Free Worlds League had to ship in all the equipment to rebuild the shattered infrastructure on the worlds that ultimately became the Zion and Ohren Provinces. On worlds that had escaped such damage, the League tried to use Capellan rolling stock, but they were frustrated by lack of spares. It became necessary to undertake a costly program to replace entire rail networks to allow standard League rolling stock to be used.

Type: **Pressurized Train (Tractor)**
Chassis Type: Rail (Medium)
Mass: 50 tons
Equipment Rating: D/X-D-C/D

Equipment			**Mass**
Chassis/Controls:			26.5
Engine/Trans:	Electric (External)		17
Cruise MP:	12		
Flank MP:	18		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 7):	29		1.5
	Internal Structure	*Armor Value*	
Front	5	8	
R/L Side	5	8/8	
Rear	5	5	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 2
Cargo
4.5 tons standard — 2 Doors (Right/Left)

Notes: Features Environmental Sealing, External Power Pickup, Tractor Chassis and Controls Modifications, searchlight (.5 tons, Front)

Type: **Pressurized Train (Trailer)**
Chassis Type: Rail (Medium)
Mass: 50 tons
Equipment Rating: D/X-D-C/D

Equipment			**Mass**
Chassis/Controls:			21.5
Engine/Trans:	Electric (External)		0
Cruise MP:	N/A		
Flank MP:	N/A		
Heat Sinks:	0		0
Fuel:			0
Turret:			0
Armor Factor (BAR 7):	29		1.5
	Internal Structure	*Armor Value*	
Front	5	6	
R/L Side	5	9/9	
Rear	5	5	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 0
Cargo
27 tons standard — 2 Doors (Right/Left)

Notes: Features Environmental Sealing, External Power Pickup, Tractor, Trailer Chassis and Controls Modification

Passenger Configuration 1:
Cargo
9 tons standard

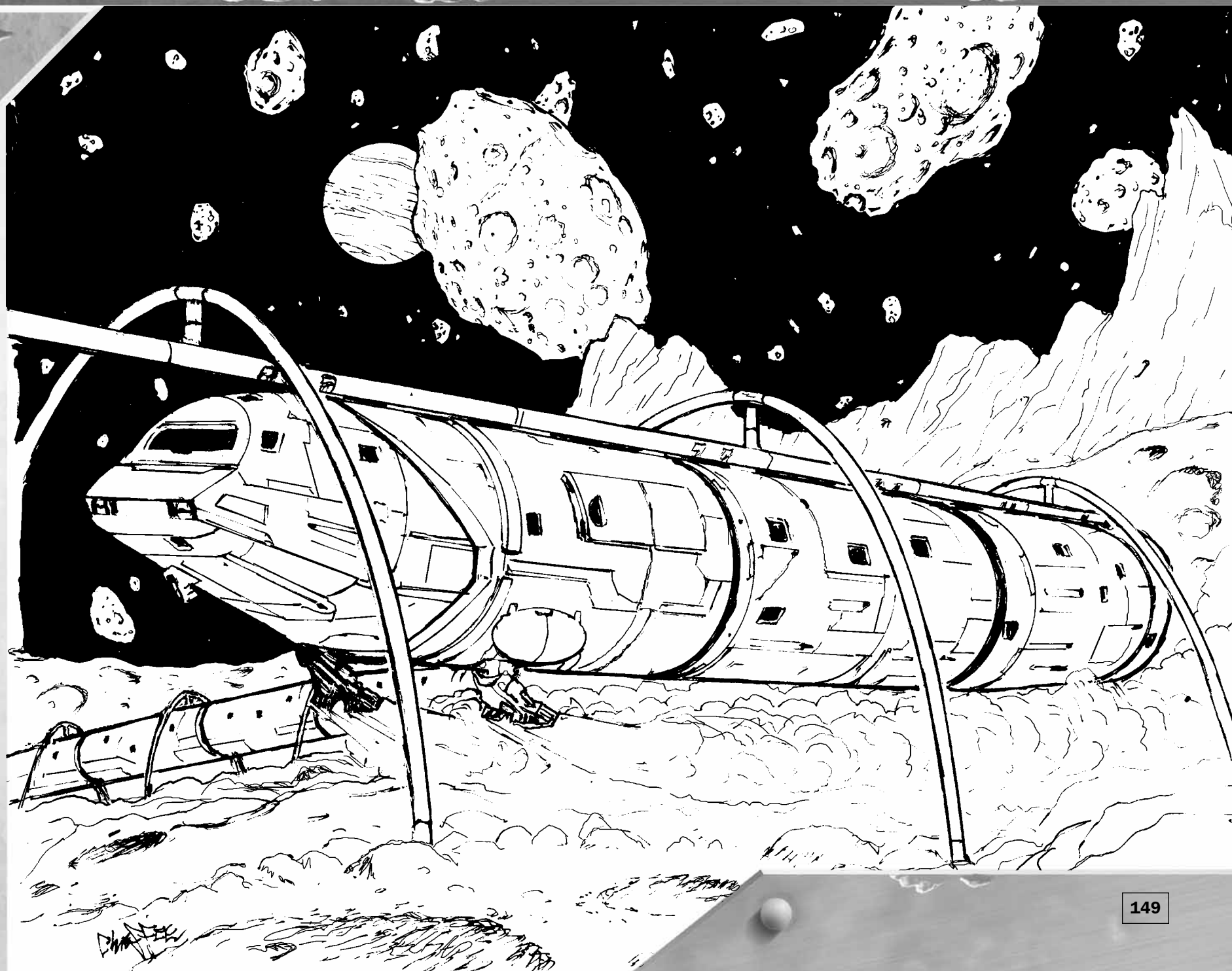
Notes: Features 3 21-man jump infantry transport bays (18 tons)

Passenger Configuration 2:
Cargo
1 ton standard

Notes: Features 3 second class quarters (21 tons), 1 steerage class quarters (5 tons)

Liquid Cargo Configuration:
Cargo
24.5 tons liquid (27 tons) — 2 Doors (Right/Left)

PRESSURIZED TRAIN



KALLON RML-447C NOLAN/RMC-3050 LEVCAR

Large military operations, be they major multi-regimental invasion forces or simply a planetary militia, require a great deal of support to run—support in the form of supplies, replacement equipment and new personnel. That support can be delivered on-world in a number of different ways, but when immediacy is not an issue and the world possesses even a moderate infrastructure, rail is one of the most efficient ways to make those deliveries.

For more than twelve centuries, mankind has relied upon rail transport to move heavy cargo across whole continents. Though the equipment has evolved considerably in that time, the process has changed very little.

The Nolan, and its accompanying LevCar, is Kallon Industries' entry into the modern military rail transport system. Utilizing existing MagLev infrastructure, the combination of several Nolan locomotives and a long string of LevCars can easily move thousands of tons of military cargo rapidly, while also providing a great deal of security for that cargo. Each locomotive is protected by the heaviest armor plating possible and armed with twin LB-X autocannon mounted in a turret along with four anti-personnel machineguns—more than enough to give any potential attacker pause. Likewise, all LevCars mount heavy armor protection and a turret-mounted weapon. A dual LRM-15 rack is the standard, though other weapon configurations are also mounted. Five SRM-6 racks or a single Gauss rifle, Ultra AC/20 or even Arrow IV launcher all are common. Searchlights mounted at strategic positions on each car light up darkened areas to aid in the defense of the train or loading/unloading operations at a standstill. Cramped quarters are provided for all crew members, which they share with the infantry forces typically assigned to help defend these high-value trains.

Of course, all this defensive capability would do little good if there was nothing to protect. The Nolan locomotives have a modest cargo capacity of 75 tons, but the real haulers are the LevCars, each with a 200-ton capacity. Since pallets of supplies or tanks of liquid are not the only cargo to be carried, Kallon manufactures a number of different types of LevCar models, each with a different purpose. Two passenger car designs exist, one solely for dignitaries and other important passengers and another for more "regular" passengers. Three other designs provide important services to military forces in the field. The command variant is a mobile command post for important generals, the services variant mates a field kitchen with an aid station/MASH, and the repair variant puts a mobile repair bay into the field.

Kallon also makes a standard rail version utilizing a fuel cell electric drive, allowing use on less modern worlds. Though slower by some 25 percent, this "conventional" train nevertheless mounts the same level of protection and carries the same cargo loads.

Type: **Kallon Industries RML-447C Nolan**
Chassis Type: Rail (Large)
Mass: 475 tons
Equipment Rating: E/X-X-E/E

Equipment			**Mass**
Chassis/Controls:			218.5
Engine/Trans:	MagLev		123.5
Cruise MP:	12		
Flank MP:	18		
Heat Sinks:	0		0
Fuel:			0
Turret:			2.5
Armor Factor (BAR 10):	229		13
	Internal Structure	*Armor Value*	
Front	48	45	
Front R/L Side	48	31/31	
Rear R/L Side	48	31/31	
Rear	48	25	
Turret:	48	36	

Weapons and Ammo	**Location**	**Mass**
4 Machine Guns	Front	2
Ammo (MG) 200	Body	1
2 LB 10-X AC	Turret	22
Ammo (LB-X) 40	Body	4
Advanced Fire Control	Body	2.5

Crew: 18 (3 + 3 officers, + 12 gunners)
Cargo
76 tons standard — 2 Doors (Rear R/L Side)
6 tons 2 foot infantry platoons

Notes: Features Armored, Tractor Chassis and Controls Modifications

Type: **Kallon Industries RMC-3050 LevCar**
Chassis Type: Rail (Medium)
Mass: 300 tons
Equipment Rating: E/X-X-E/E

Equipment		**Mass**
Chassis/Controls:		73.5
Engine/Trans:	MagLev	0
Cruise MP:	N/A	
Flank MP:	N/A	
Heat Sinks:	0	0
Fuel:		0
Turret:		1.5
Armor Factor (BAR 10):	143	8.5
	Internal Structure	*Armor Value*
Front	30	36
R/L Side	30	29/29
Rear	30	26
Turret:	30	21

Weapons and Ammo	**Location**	**Mass**
2 LRM 15	Turret	14
Ammo (LRM) 48	Body	6
Advanced Fire Control	Body	1.5

Crew: 8 (2 officers + 6 gunners)
Cargo
Standard (variable) — 4 Doors (2 Right/2 Left)
Foot Infantry Platoon Bay

Notes: Features Armored, Tractor, Trailer Chassis and Controls Modification, 4 mounted searchlights (2 tons, Front/Sides/Rear), turret can handle up to 15 tons of non-energy weapons, plus up to 6 tons of ammunition can be mounted in the body.

Cargo Variant
Cargo
188 tons standard

Passenger/Infantry Variant
Cargo
40 tons standard

Notes: Features 24 steerage passenger quarters (120 tons), 4 motorized infantry platoon (28 tons)

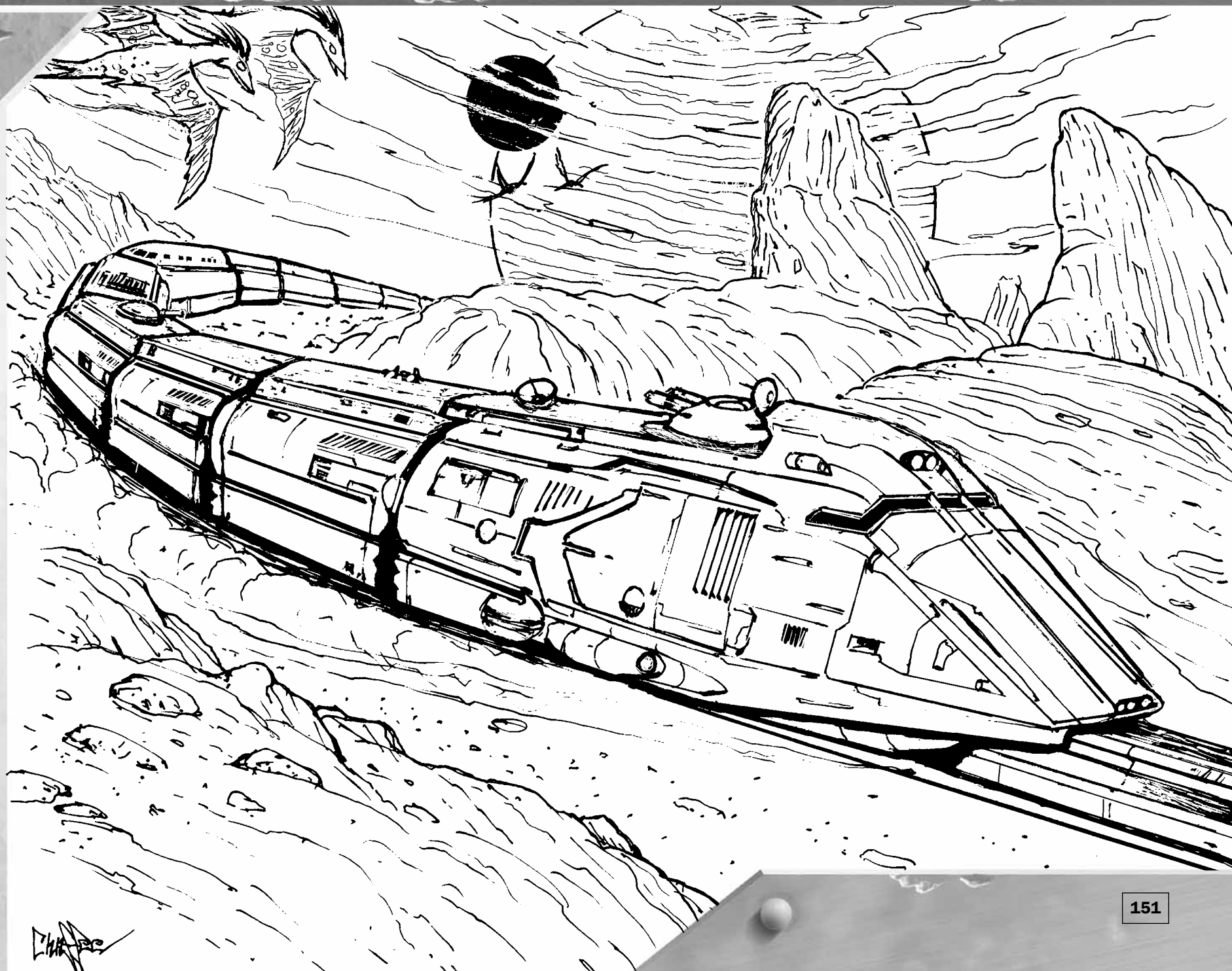
Luxury Passenger Variant
Cargo
8 tons standard

Notes: Features 18 first-class passenger quarters (180 tons)

Command Variant
Crew: 10 (3 officers + 7 gunners)
Cargo
42 tons standard

Notes:4 first-class passenger quarters (40 tons), 7 crew quarters (49 tons), communications equipment (7 tons), light vehicle bay (50 tons)

KALLON RML-447C NOLAN/RMC-305O LEVCAR



NAVAL (SURFACE) VESSEL SUPPORT VEHICLES

Mr. Hughes, greetings. As requested, my staff has completed our analysis of the current state of the transport market. Our yearlong projection indicates that demand for low cost bulk transport is set to increase. Interstellar commerce is currently suffering as a result of the demands the military is placing on the Inner Sphere's JumpShip fleet. As a result, local industries have started to look to local sources of supply that previously were uneconomical to exploit. Therefore, we anticipate an upswing in surface vessel construction—not only of civilian cargo hulls, but also of paramilitary and military vessels.

My staff is currently working on a profit/cost analysis to determine where we can maximize return on potential investment. One promising scenario would be for one of our affiliated companies to buy into local shipyards and then offer Skyrail preferential rates on new construction, while hindering completion of hulls destined for competitors. Skyrail could then undercut established carriers in both cost and volume and dominate the local bulk transport market. A few judiciously placed "incidents" could eliminate the most stubborn of our competitors and maintain demand for armed escorts. The following excerpts from Skye Watercraft provide an overview of a range of construction options we should consider for future investment.

The arm is healing well, thanks again for the card. I guess it was my own fault, but that JetSki is just so much fun.

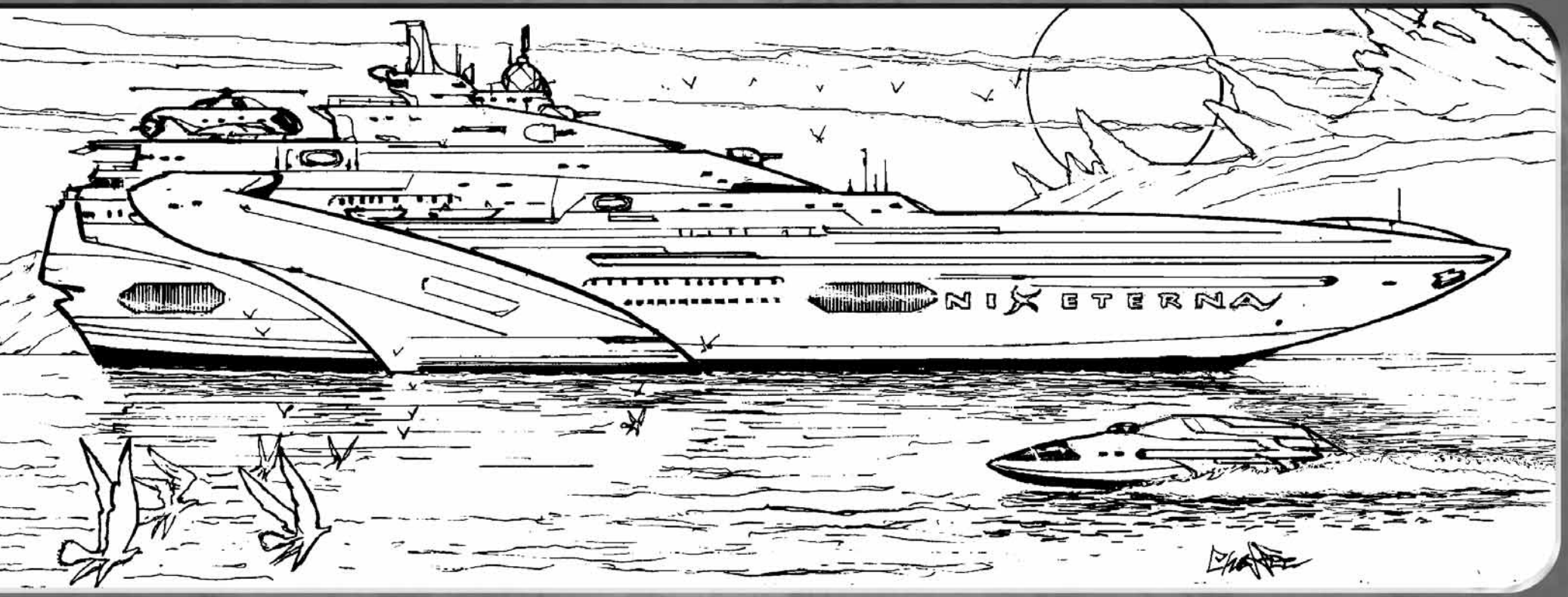
—Benjamin Weibel

Welcome once more to Skye Watercraft. In a change from our usual format this spring we will be taking a look at an exciting cross section of old and new watercraft from across the Inner Sphere. Mike Weldon, our resident technical writer, offers fascinating insights into a range of vessels from light pleasure craft up to the awesome Supercarriers of Tharkad.

Mori Stroud sails the stormy waters of Oriente to take us on a tour of the luxurious Atlantia yacht on page 159.

For our regular readers the third and final part of our competition to win your very own Whitestreak Speedboat can be found on page 157. For those of you who missed any of our previous issues don't worry. You still have a chance to win a fabulous Whitestreak JetSki.

—Skye Watercraft, Spring 3067 Issue


NIX ETERNA

AHAB WHALER

Although the rest of Helm is often described as desolate and bleak, the Equatorial Sea off the western coast of the main continent is home to one of the delicacies of the Marik Commonwealth: the Helm deep blue whale.

A serious fishing concern exists on Helm to harvest the deep blues once a year, when the large cetaceans rise from the depths of the Equatorial Sea to mate. Although they are fearsome-looking, with tentacles like a monster from deep sea holovid, the deep blues are largely peaceful creatures. They use their tentacles while they feed on the seafloor, pulling apart the large mollusks that serve as their primary source of food.

Early efforts to harvest the whales failed when the fisherman underestimated the strength and resiliency of the deep blues. Several light craft were lost after harpooning a whale when the massive creatures pulled the ships underwater before they could be cut free. In 3066 Ishmael Hulls of Gloucester, a small port city on the Equatorial Sea, launched the first of its Ahab-class whalers. Martin "Ishmael" Wynne, a former executive with Irian, used his connections to bring advanced technology and know-how to the craft.

Displacing over three hundred tons, the Ahab is not a small boat. Powerful Kallon Sea Sprite fuel cell engines give the Ahab more thrust than it needs, ensuring that no cetacean will pull the mighty craft under the water. With enough fuel to cruise for more than 4,000 kilometers, the Ahab can afford to wait out the reclusive deep blues. On the off chance that one of the creatures attacks, the hull is relatively well-armored for fending off attacks by sea creatures.

A modified Hovertec short-range missile launcher, with the warheads replaced by harpoon heads, is mounted on a turret forward of the forecastle. Each harpoon is backed by three hundred meters of cable.

Once the hunt is underway, each Ahab is built to work in concert with larger processing vessels. Full-grown deep blues are towed to a processing ship or facility, but smaller catches can be handled aboard ship. Paired stations on both port and starboard sides use heavy lift hoists to bring the carcass clear of the water, where the meat and oil products are processed by matching kitchens. The bowels of the ship contain enough refrigerated storage area to accommodate almost one hundred and fifty tons of refined whale byproducts.

In the unlikely event that disaster strikes, three lifeboats are ranged around the outside of the hull. A full-service communications suite keeps the Ahabs in touch with planetary authorities in Helmdown and Newport, on the inland Yehudan Sea.

There are currently six Ahabs in service on the Equatorial Sea. Ishmael Hulls is currently considering offers from three other Free Worlds League firms to license-build the craft off-world. Other water-rich planets with large cetaceans may just turn this new craft into an interstellar favorite.

Type: **Ahab-class Whaler Yacht**
Chassis Type: Naval Vessel (Large, Template A)
Mass: 310 tons
Equipment Rating: D/X-X-E/E

Equipment			**Mass**
Chassis/Controls:			63.5
Engine/Trans:	Electric (Fuel Cell)		36.5
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:	4,658 km		25.5
Turret:			.5
Armor Factor (BAR 4):	105		3
	Internal Structure	*Armor Value*	
Front	31	21	
Front R/L Side	31	14/14	
Rear R/L Side	31	14/14	
Rear	31	14	
Turret	31	14	

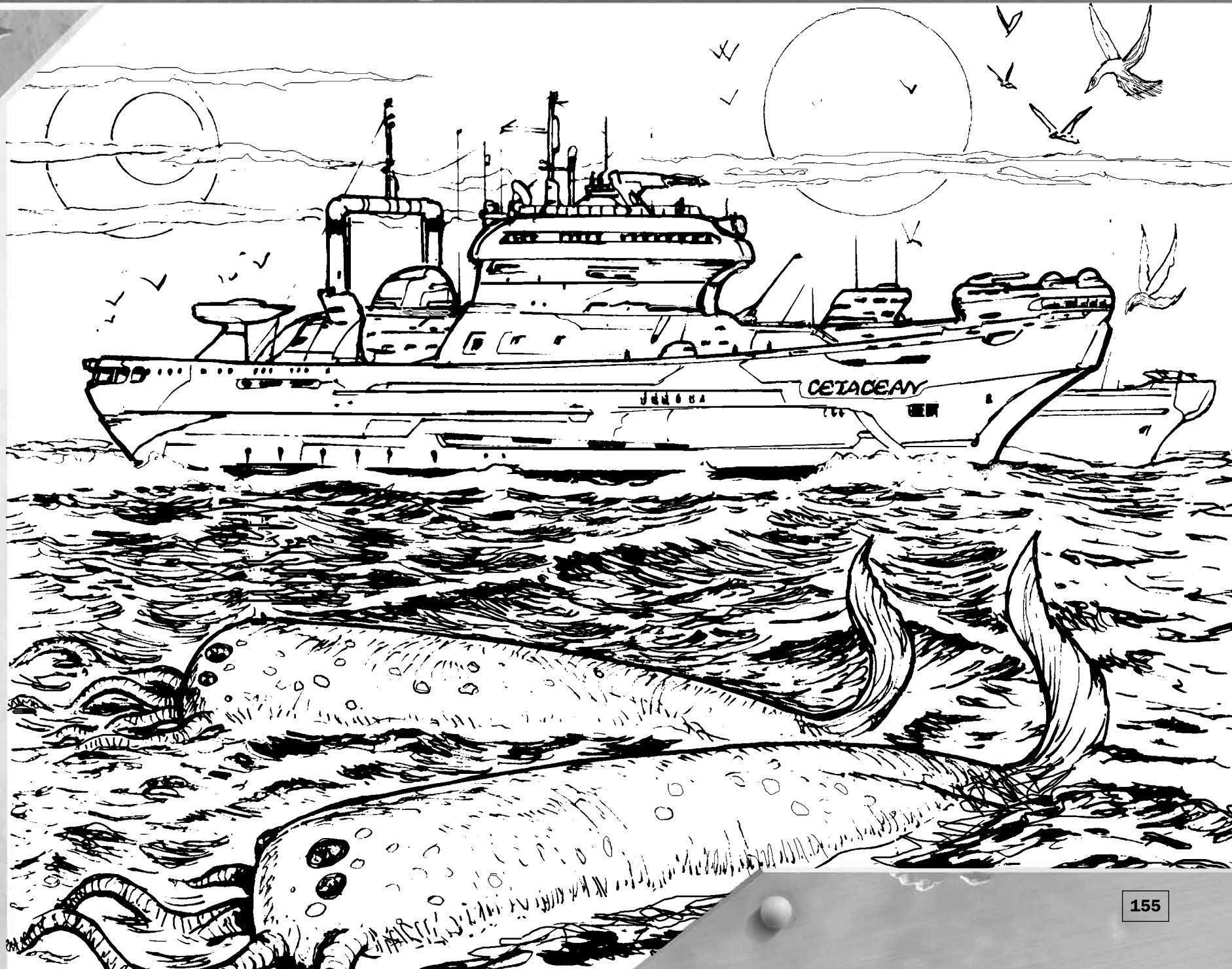
Weapons and Ammo	**Location**	**Mass**
SRM 2	Turret	1
Ammo (SRM) 50	Body	1

Crew: 2 officers, 9 enlisted/non-rated, 1 gunner
Cargo

4 ton standard	1 Door (Top)
160 tons refrigerated (139 tons)	1 Door (Top)

Notes: Features Tractor Chassis and Controls Modification, 2 field kitchens (6 tons), 2 lift hoists (6 tons), 3 lifeboats (3 tons)

AHAB WHALER



WHITESTREAK SPEEDBOAT / JETSKI

Every year across the Inner Sphere, despite the raging wars, cataclysmic invasions, or even natural disasters, millions of people take to the water to try and shake their fears by confronting them with high speeds. Many are killed when they climb into overpowered leisure craft, but the hobby remains strong, even after a thousand years, especially in the Magistracy of Canopus.

Whitestreak, Inc., based on Marantha, offers a line of speedboats and jetskis that are representative of pleasure craft across the Inner Sphere. The Whitestreak Speedboat is a two-hundred-thirty kilogram rocket on the water. With speeds over one hundred and ninety kilometers per hour, the Whitestreak gives tens of thousands of Canopian citizens (and no small number of tourists) the ability to control something as fast as a race car. Annual races held on Marantha's Oblivion Sea determine best racers, despite the fact that each year at least one racer manages to kill him or herself.

At less than half the mass of the Speedboat, the Whitestreak JetSki allows more adrenaline-minded customers to strap themselves to a jet motor and take off across the waves. The JetSki carries up to two people at speeds of just under a hundred and twenty kph. While much slower than the Speedboat, most Jetski customers enjoy being closer to the water. The ample fuel cell allows hours and hours of operation, and Whitestreak has included a hefty cargo compartment in the rear of the current model JetSki. This feature makes the JetSki popular with campers or river enthusiasts, who carry camping gear along and travel hundreds of kilometers upriver.

There are persistent but unsubstantiated reports that Whitestreak also builds an infiltration hull Speedboat for the Magistracy Intelligence Ministry. Rumor-mongers report seeing MIM Special Forces using Whitestreak-style speedboats to rapidly approach coastal targets. So far the MIM has denied all such reports, but the allegations remain. In the Inner Sphere there are far too many manufacturers of pleasure craft to assemble any kind of list. In Davion space the Corean Poseidon is prized. This half-ton hydrofoil carries several passengers at speeds comparable to the Whitestreak, but at many times the cost. Both Lyran and Free Worlds boaters enjoy the StarCorps Sundiver, which features the ability to travel underwater for short periods of time, although at greatly reduced speeds. Whatever the hull, speed enthusiasts across known space continue to clamor for newer and faster speedboats.

Type: **Whitestreak Speedboat**
Chassis Type: Naval Vessel (Small, Template A)
Mass: 230 kg
Equipment Rating: D/C-E-D/D

Equipment			**Mass**
Chassis/Controls:			14 kg
Engine/Trans:	Electric (Fuel Cell)		137 kg
Cruise MP:	12		
Flank MP:	18		
Heat Sinks:	0		0 kg
Fuel:	194 km		4 kg
Turret:			0 kg
Armor Factor (BAR 2):	0		0 kg
	Internal Structure	*Armor Value*	
Front	1	0	
R/L Side	1	0/0	
Rear	1	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
None

Notes: Features Ultra-light Chassis and Controls Modification, 1 passenger seat (75 kg, Body)

Type: **Whitestreak JetSki**
Chassis Type: Naval Vessel (Small, Template A)
Mass: 100 kg
Equipment Rating: C/C-D-C/D

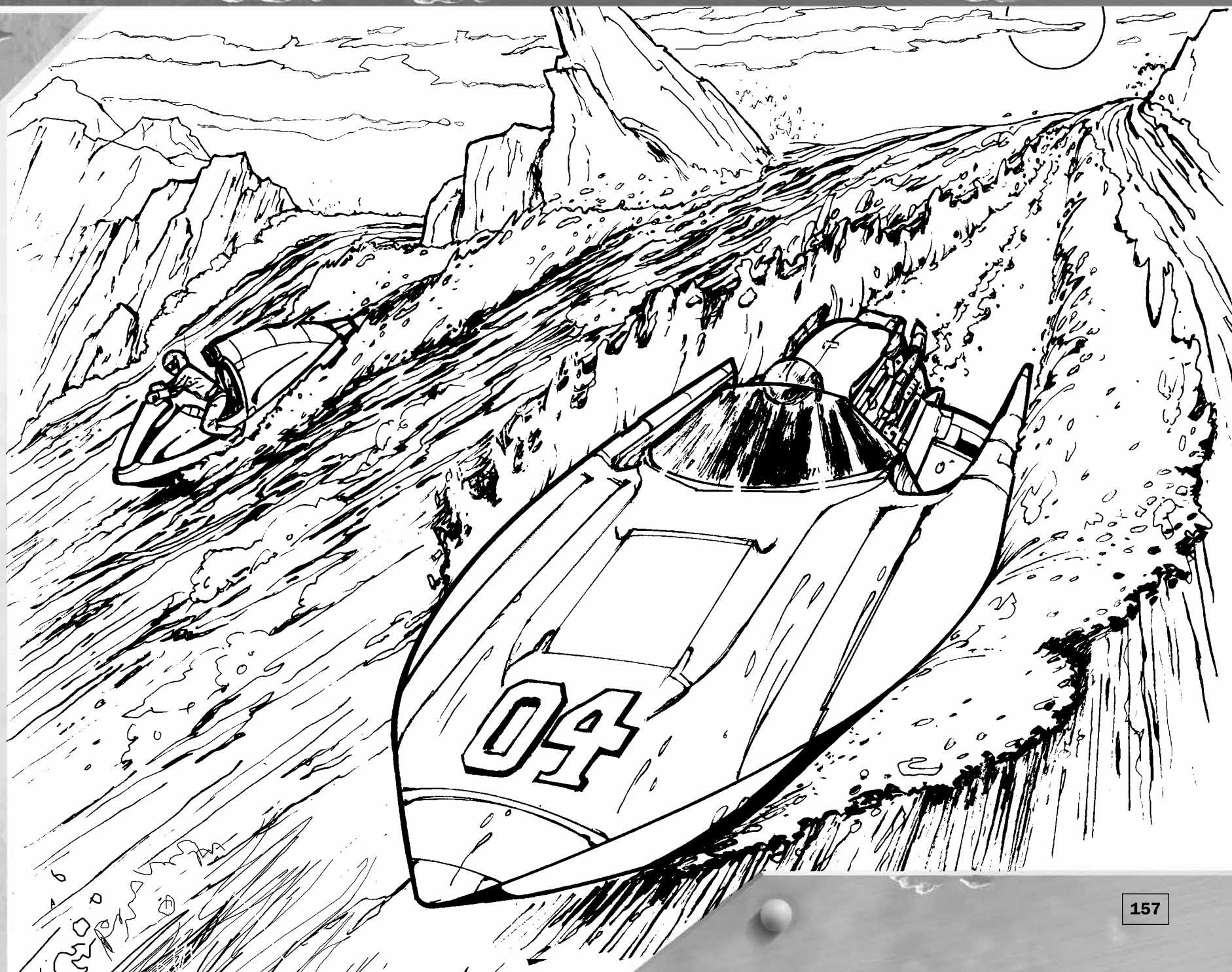
Equipment			**Mass**
Chassis/Controls:			14 kg
Engine/Trans:	Electric (Fuel Cell)		26 kg
Cruise MP:	7		
Flank MP:	11		
Heat Sinks:	0		0 kg
Fuel:	256 km		1 kg
Turret:			0 kg
Armor Factor (BAR 2):	0		0 kg
	Internal Structure	*Armor Value*	
Front	1	0	
R/L Side	1	0/0	
Rear	1	0	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1
Cargo
9 kg standard (under seat)

Notes: Features 2 pillion passenger seats (50 kg, Body).

WHITESTREAK SPEEDBOAT / JETSKI



ATLANTIA-SERIES LUXURY YACHT

Produced by the Hamilton Consortium for wealthy clients vacationing in Oriente's equatorial archipelagos, the Atlantia series has sold well to luxury clients throughout the Free Worlds League and has also netted Hamilton a number of export contracts. The combination of luxury, practicality and resilience has helped sales of the Atlantia, as has the two-year waiting period from order to delivery. With this enforced scarcity, owning an Atlantia has made them a prized status symbol.

Each of the thirty-meter boats is built to order. There is a core design schematic, but part of the construction fee—a cool 575 thousand C-bills—includes the development of custom features on each hull laid down, resulting in no two Atlantias having exactly the same configuration. The core design has facilities for six crew in addition to eight luxury berths, but custom orders may increase or decrease these capacities as needed. Buyers who wish a greater passenger capacity may reduce the vessel's speed or range (notionally 1,100 kilometers on a full tank of fuel). The standard model Atlantia comes equipped with a petrochemical engine, suitable for use on most worlds, but Hamilton offers alternative power systems for those willing to pay for installation; a handful of fusion-powered vessels have been built at significant additional expense. Other optional features of the Atlantia include top-deck jacuzzis, fishing decks and a sliding roof for the dining salon, as well as a choice of trims.

Designed to weather Oriente's harsh equatorial storms, the core design employs a high-strength polymer hull with equally resilient decking and paneling. A common modification, however, employs rich Oriente caoba timber over decking and panels for a warm and sophisticated look, without compromising the structure or strength. The quality of fittings on the vessel can clearly be seen in the passenger staterooms on the upper deck, as well as in the dining salon, lounge and kitchen areas. Even the crew quarters and bridge are well appointed, though here practicality rather than luxury is normally the order of the day. Nonetheless, the compact bridge is well appointed with cutting-edge electronics, including satellite navigation and communications equipment that mean the vessel and its passengers can remain in touch with the outside world.

Though designed for leisurely sailing, the sleek hull of the Atlania series—combined with its formidable engines—can deliver passengers to their destinations swiftly. With a top speed of almost 55 kph, and capable of sustained cruising at just over 30 kph, the core design of the Atlantia is one of the fastest motor yachts in production. Models with enhanced power plants and reduced masses can go much faster; the planing-hull model built for media mogul Elliot Ikegami was capable of over 100kph and competed in the Halberstan endurance race on New Olympia in 3065. Ikegami placed third, but the success of the Atlantia helped net Hamilton a number of new orders that look set to keep the company busy for the foreseeable future.

Type: **Atlantia Luxury Yacht**
Chassis Type: Naval Vessel (Medium, Template A)
Mass: 190 tons
Equipment Rating: D/X-D-C/C

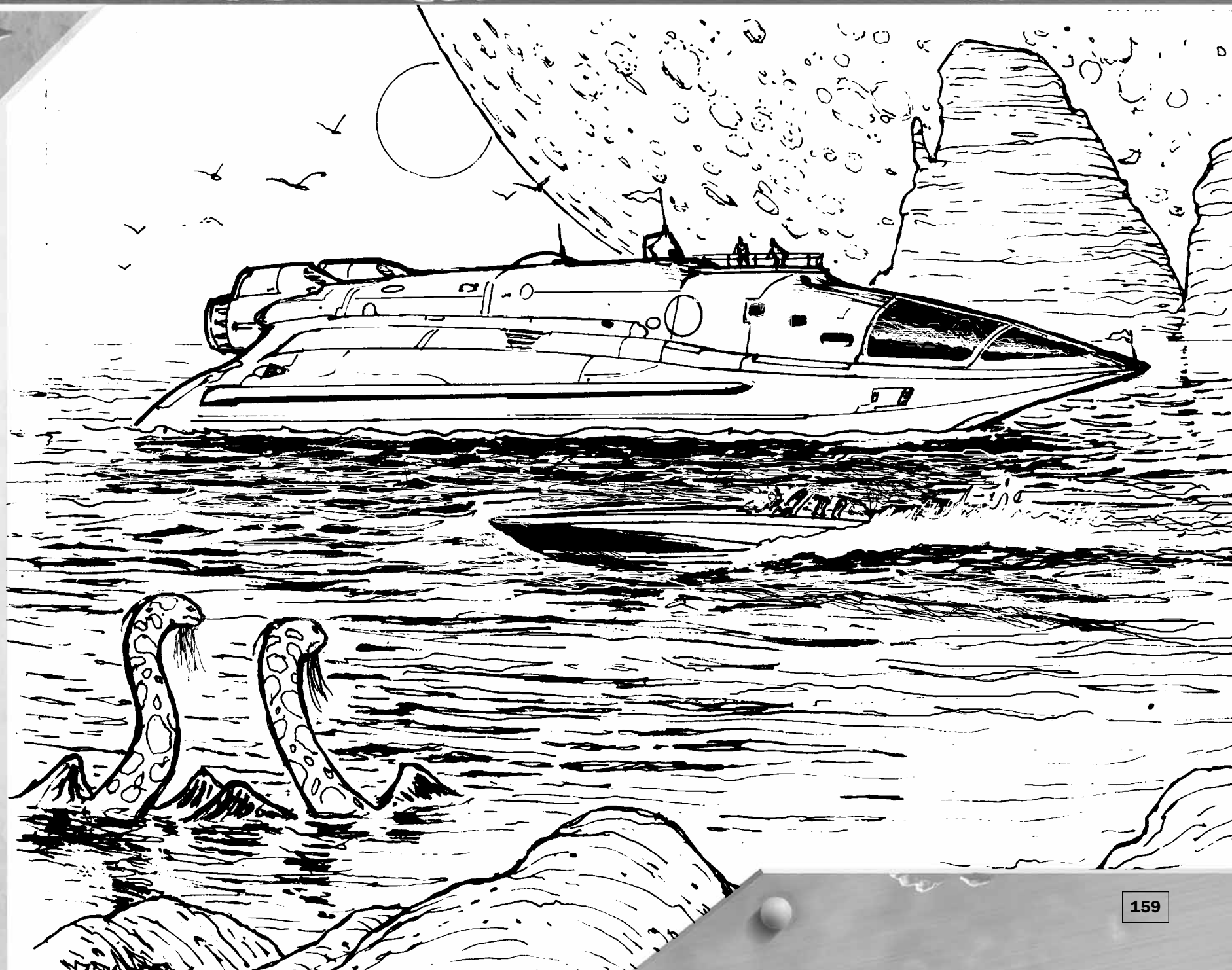
Equipment			**Mass**
Chassis/Controls:			28.5
Engine/Trans:	ICE		26
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:	1,153 km (Petrochemicals)		3
Turret:			0
Armor Factor (BAR 3):	68		1.5
	Internal Structure	*Armor Value*	
Front	19	25	
R/L Side	19	16/16	
Rear	19	11	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1 officers, 6 enlisted/non-rated
Cargo
4 tons standard 1 Door (Rear)

Notes: Features 8 first-class quarters (80 tons), 6 crew quarters (42 tons), field kitchen (3 tons), 2 lifeboats (2 tons)

ATLANTIA-SERIES LUXURY YACHT



SILVERFIN / SILVERBACK COASTAL CUTTERS

Faced with near-bankruptcy in 2302, Terra's Windancer Marine Technologies took a wild gamble on a new hydrofoil frame designed by the eccentric naval architect Tyler Raymonds. Constructed of an extremely strong polymer composite, the thin wings were able to maintain a high speed during heavy gales without warping or snapping. Windancer put every conceivable asset on the line and partnered with the Tadaki Company (a private venture capital firm based out of Japan) to produce a working prototype. When the Silverfin returned from a widely-broadcast two-day journey into and out of a Class 3 Typhoon in the Sea of Japan, the corporate executives knew the company was saved.

The Silverfin-class of cutters has changed little over the intervening centuries. The only major changes are the newer torpedo launchers installed in 2423 and a complete overhaul of the cutter's communications suite every fifty years. Though the HUNTER suite's electronics have changed little, the harsh vibrations from constant use of the foils as well as the continual corrosion of salt-heavy seas usually degrade the HUNTER's performance.

Armed with a Magnum-Sperry Class 9 rotary machine gun—designed for maritime use—and a Sky Raven torpedo launching system, the Silverfin can easily put down a pirate gunboat with few problems. For heavier ships, those coastal guardsmen units with several Silverfins have found that working in packs enables their quicker ships to overwhelm most armored vessels—and light BattleMechs—with swarms of torpedo salvos.

Almost every water-rich world among the Great Houses has at least one Silverfin cutter assigned to their coast guard or planetary militia. The hydrofoil's quick speed and hardier endurance allow them to patrol important sea and river approaches in case of a surprise naval assault.

Though the main Silverfin design remains practically unchanged, some blue water navies in the Lyran Alliance customize their patrol boats by removing the SRT-2 system and installing an ECM suite. The Silverback, as it is known on the LAAF wet navy roles, adds two more machine guns and moves the weapons array to the fore-mounted turret. The Silverback has met critical acclaim among many naval militia units such as the Blue Hole Navy, which utilizes at least three ECM-equipped Silverfins on permanent assignment to safeguard the BHS Brynhild, the planet's lone Jormungand-class battleship.

Type: **Silverfin Coastal Cutter**
Chassis Type: Naval Vessel (Medium, Template A)
Mass: 40 tons
Equipment Rating: D/D-D-D/E

Equipment			**Mass**
Chassis/Controls:			10.5
Engine/Trans:	ICE		17
Cruise MP:	6 [8]		
Flank MP:	9 [12]		
Heat Sinks:	0		0
Fuel:	2,058 km (Petrochemical)		3.5
Turret:			.5
Armor Factor (BAR 7):	18		1
	Internal Structure	*Armor Value*	
Front	4	4	
R/L Side	4	4/4	
Rear	4	3	
Turret	4	3	

Weapons and Ammo	**Location**	**Mass**
Machine Gun	Front	.5
Ammo (MG) 100	Body	.5
2 SR Torpedo 2	Turret	2
Ammo (SR-T) 50	Body	1
Advanced Fire Control	Body	.5

Crew: 1 officer, 2 enlisted/non-rated, 3 gunners
Cargo
1 ton standard — 1 Door (Rear)

Notes: Features Hydrofoil Chassis and Controls Modification, lifeboat (1 ton), one searchlight (.5 ton, Turret), one searchlight (.5 ton, Front).

Type: **Silverback Coastal Cutter**
Chassis Type: Naval Vessel (Medium, Template A)
Mass: 40 tons
Equipment Rating: E/X-X-D/E

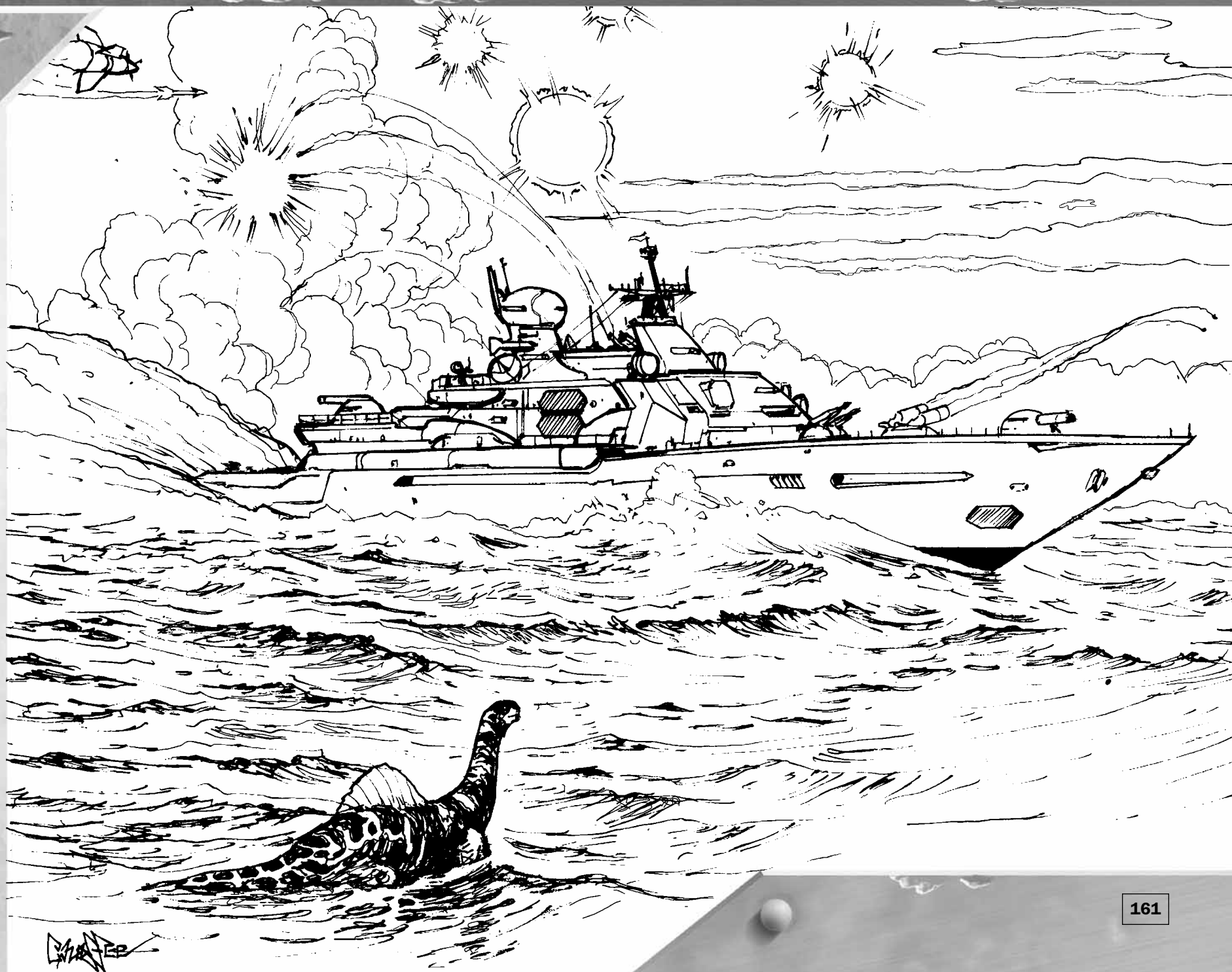
Equipment			**Mass**
Chassis/Controls:			10.5
Engine/Trans:	ICE		17
Cruise MP:	6 [8]		
Flank MP:	9 [12]		
Heat Sinks:	0		0
Fuel:	2,352 km (Petrochemical)		4
Turret:			.5
Armor Factor (BAR 7):	18		1
	Internal Structure	*Armor Value*	
Front	4	4	
R/L Side	4	4/4	
Rear	4	3	
Turret	4	3	

Weapons and Ammo	**Location**	**Mass**
3 Machine Guns	Turret	1.5
Ammo (MG) 100	Body	.5
Guardian ECM suite	Body	1.5
Advanced Fire Control	Body	.5

Crew: 1 officer, 2 enlisted/non-rated, 3 gunners
Cargo
1 ton standard — 1 Door (Rear)

Notes: Features Hydrofoil Chassis and Controls Modification, lifeboat (1 ton), one searchlight (.5 ton, Front)

SILVERFIN / SILVERBACK COASTAL CUTTERS



KALEEN BAY TANKER / ANASTASKA MARO SEAFREIGHTER

Even before mankind's expansion across the stars, great oceangoing vessels kept the lines of trade and communications open between far-flung lands and distant nations. The advent of air travel and—with the deep space age—massive DropShips could not erase these mammoth, oceangoing ships from their role, as new worlds—and new oceans—presented obstacles for local merchants to cross in the ongoing effort to keep humanity connected.

Today, untold thousands of variations on the seafaring tanker and the freighter are known to exist on the thousands of worlds humanity calls home, with the largest of their kind dwarfing all but a handful of other mobile structures built by mankind. Even on worlds where water is relatively scarce, bodies of water present readymade highways for great cargo ships to ply the waters, laden with the fuels and goods needed to keep the local economy healthy.

The Kaleen Bay-class tanker ship and the Anastaska Maro-class freighter—both originally built by Tikonov-based shipbuilder Lebedev Nautical Enterprises (LNE)—represent just two of the smaller tanker and bulk cargo (grain, ore, etc.) vessels in use today. Though both ship classes date back to the original Star League, their simplistic, low-tech design and straightforward approach to transporting and transferring cargo has been easily adapted throughout the centuries. Today, numerous manufacturers around the Inner Sphere produce both classes of vessel (especially since the loss of LNE during the ravages of the Second Succession War), with only minor cosmetic variations between them. For instance, the Kilkenny Falls-class oil tanker, produced by Skye Pleasure Craft, differs from the Kaleen Bay tanker only in its unique divided superstructure style, which places all control and communications facilities on the port side of the vessel while crew quarters and onboard recreational facilities are located in the starboard. Likewise, the Ashigaru-class freighter produced by Nav Hull of New Samarkand differs from the baseline of the Anastaska Maro only in its blockier lines, minimized crew and crew facilities, and use of a petrochemical fuel engine, features that have earned the Combine variation the dubious nickname of "Ash Barge".

The Kaleen Bay and the Anastaska Maro class match each other in overall performance and design integrity. Using lift hoists (or pumps) and a small squad of attached vehicles to haul cargo from shores lacking decent cargo handling facilities, both can carry over eight thousand tons of cargo apiece. Though specialized toward fuels, the Kaleen Bay's liquid storage cells are insulated as well, and designed for ease of cleaning and sterilization that enable the vessel to haul a wide variety of bulk liquids from fuels to chemicals to potable water. With each cell divided up into smaller sub-tanks, interconnected by a series of internal pumps, the Bay can transfer a variety of liquid cargo among its cells and into the light vehicles for off-vessel transport—or even directly to stores at its port of call. The Anastaska Maro's holds, based on similar principles, are also subdivided, using a system of interlocking doors and ramps to link its disparate bays and facilitate internal handling and external loading and unloading of bulk goods.

Type: **Kaleen Bay-class Tanker / Anastaska Maro-class Freighter**
Chassis Type: Naval Vessel (Large, Template D)
Mass: 30,000 tons
Equipment Rating: C/C-E-D/D

Equipment		**Mass**
Chassis/Controls:		5,865
Engine/Trans:	ICE (Natural Gas)	7,020
Cruise MPs:	3	
Flank MPs:	5	
Heat Sinks:	0	0
Fuel:	8,000 km (Natural Gas)	7,020
Turret:		0
Armor Factor (BAR 6):	854	41
	Internal Structure	*Armor Value*
Front	45	144
Front R/L Sides	45	142/142
Rear R/L Sides	45	142/142
Rear	45	142

Weapons and Ammo	**Location**	**Mass**
None	—	—

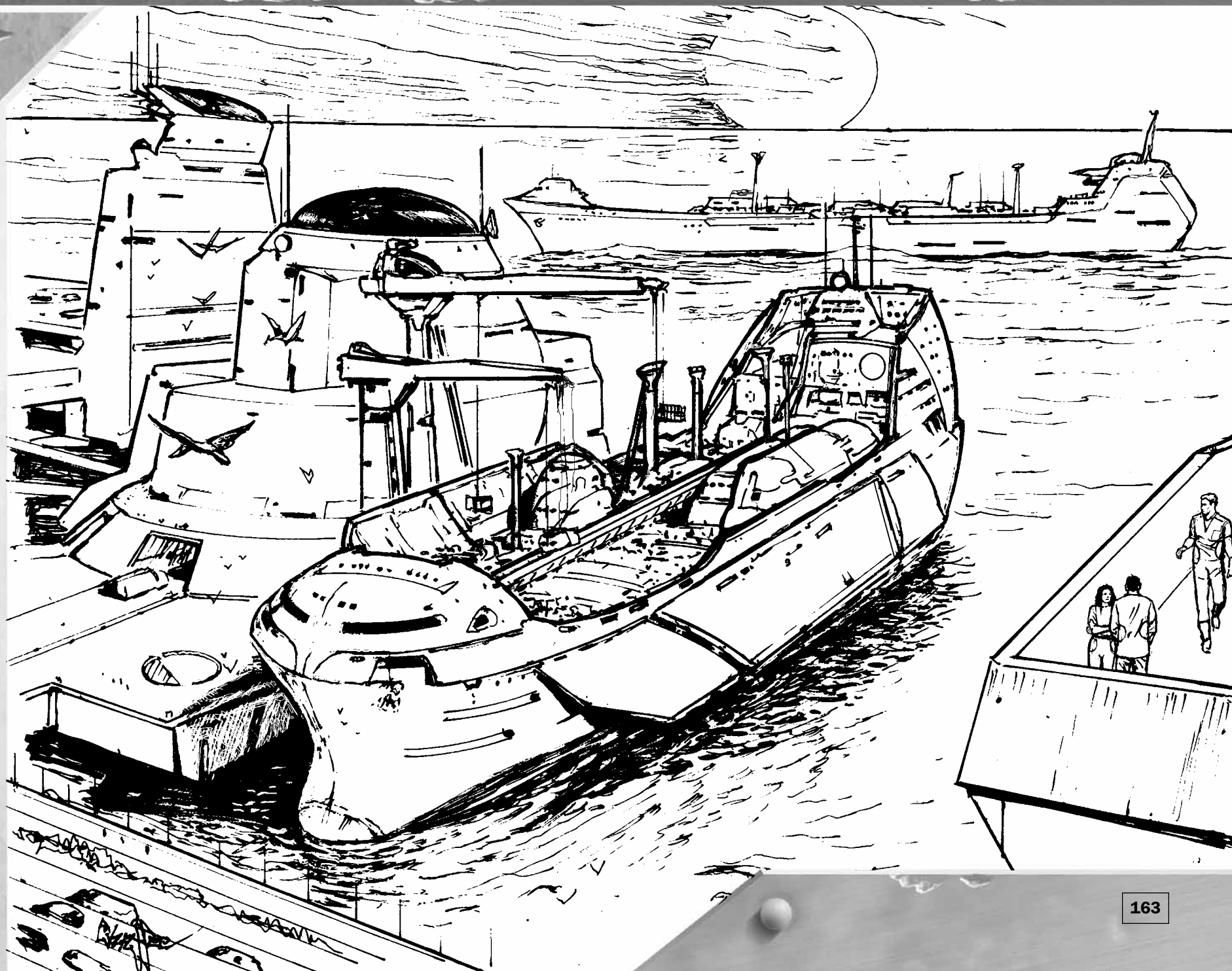
Crew: 3 officers, 5 enlisted/non-rated, 20 bay personnel (32 bay personnel for Anastaska Maro)

Cargo (Kaleen Bay)	
8,000 tons insulated liquid (9,200 tons, Body)	6 Doors (2 Front/2 per Side)
200 tons 4 light vehicle bays	2 Doors (Rear)
298.5 tons standard	
Cargo (Anastaska Maro)	
9,292.5 tons standard (Body)	6 Doors (2 Front/2 per Side)
400 tons 4 heavy vehicle bays	2 Doors (Rear)

Notes: Features 12 mounted searchlights (6 tons, 4 Left/4 Right/4 Rear), 1 MASH Unit (3.5 tons, Body), 20 lifeboats (20 tons), 40 second-class passenger quarters (280 tons, for bay personnel and passengers), and 4 first-class passenger quarters (40 tons)

Kaleen Bay features 2 lift hoists (6 tons, 1 Left/1 Right)
Anastaska Maro also features 4 lift hoists (12 tons, 2 Front/1 Left/1 Right)

KALEEN BAY TANKER / ANASTASKA MARO SEAFREIGHTER



MEABH HEAVY CRUISER

Remnants of the Star League's Golden Age when peace, technology and funds in abundance allowed for excessive military installations, underwater command posts are rare at best in the present. As a mix of technological marvel, perfect protection and constructed madness these bunkers were very safe and extremely vulnerable at the same time, demanding several interlacing layers of different protection methods, one of them being naval escorts for supply convoys.

While the standard SLDF cruisers performed admirably in that role, they quickly fell into disrepair after the fall of the Star League. Even more so than other top-notch equipment of that era, those ships needed extensive and costly maintenance due to their constant use in the aggressive saltwater environment. Such was that by the end of the First Succession War, the LCAF saw itself forced to organize replacements if they wanted to retain some kind of bluewater fleet—which at least most of the social generals who didn't want to lose their "personal pleasure yachts" did. It was not until 2807, after much courtly bickering and lobbying, that Lyran High Command finally ordered the new Meabh-class into production.

Unlike other pet projects of a conglomerate of nobles though, the Meabh-class heavy cruisers proved to be quite well-constructed and to have acceptable performance. Designed with the original classification of this type in mind, namely "to outgun every ship they could not outrun and to outrun every ship they could not outgun", Meabh-cruisers quickly became the LCAF standard in its size and profile range. Constant modifications (mostly in streamlining and automation) kept the line technologically on the level and so it stayed in production well into the 2870s.

Its downfall came as swift as its rise to fame, thanks to two circumstances. One being the LCAF deciding to put most naval assets into planetary hands in 2932, shifting costs off Tharkad's budget. The other being the revelation that protection of the fewer and fewer remaining underwater bases could be better executed by a new tool on the market: Neptune subs and emerging copies becoming widely available in the late 2950s.

Some of the last Meabh-class heavy cruisers being operated by the LCAF were the Sarah Steiner and Stadt Fischingen which provided escort duty on Czarvowo, along with their supporting Cliona-class frigates Cliona, Tethya and Axinella. While the Sarah Steiner and two of the frigates were scrapped, her sister ship became somewhat of a tragic celebrity. The Stadt Fischingen—never having been in any notable engagement—still met a violent end. Hijacked right off her museum dock alongside the Cliona by fanatical environmental activists intent on shutting down the underwater command post, she sunk far off the coast under circumstances still unclear. Circumstances that might come to light in the near future, as the wreck has recently been rediscovered by deep-sea resource prospectors. Overjoyed by the news, private investors have already voiced plans to raise the derelict ship and to put her and her story on museum display once more.

Type: **Meabh-class Heavy cruiser**
Chassis Type: Naval Vessel (Large, Template C)
Mass: 10,000 tons
Equipment Rating: D/X-E-E/E

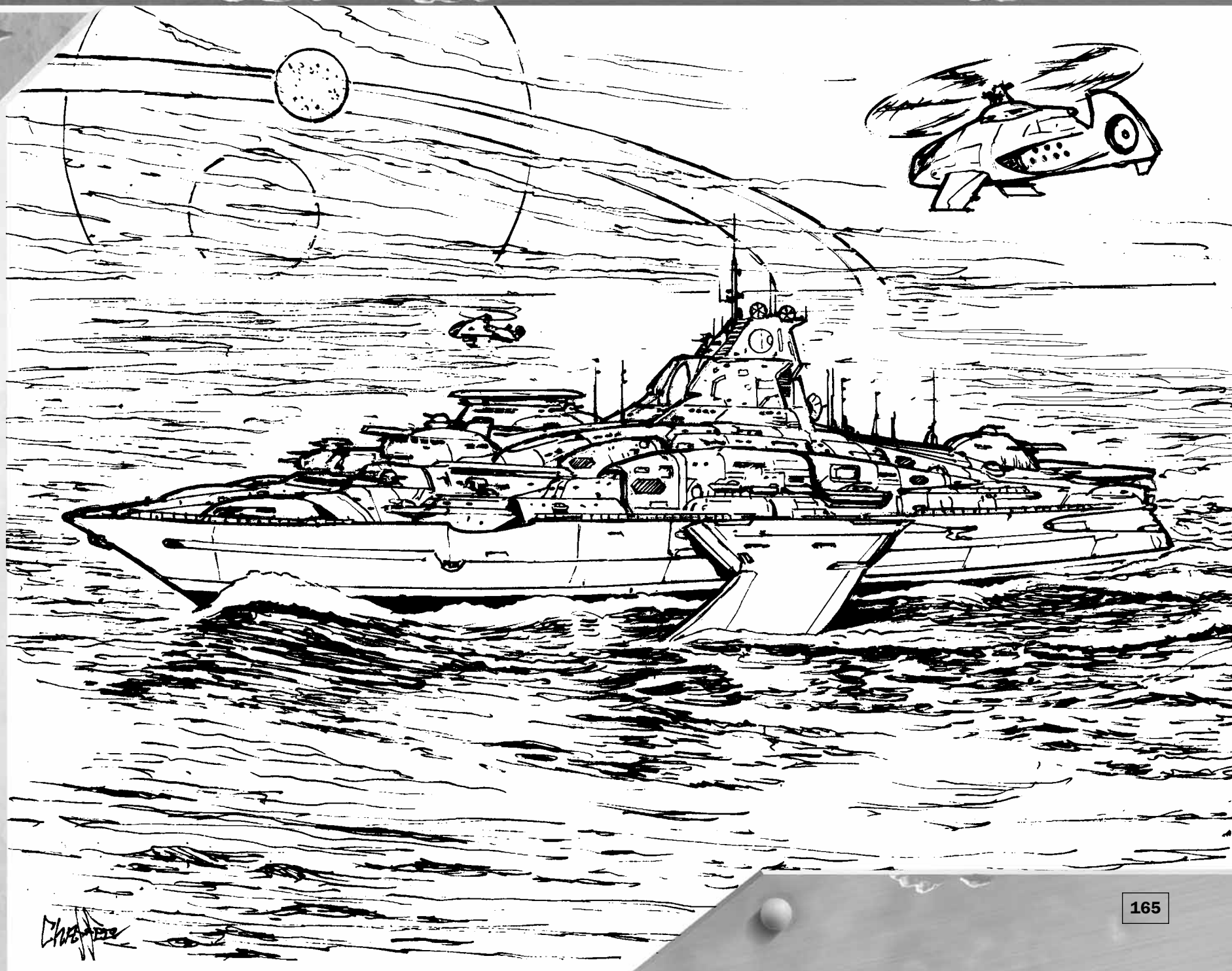
Equipment			**Mass**
Chassis/Controls:			1,700
Engine/Trans:	Fusion		6,120
Cruise MP:	8		
Flank MP:	12		
Heat Sinks:	118		118
Fuel:			0
Turrets (2):			6
Armor Factor (BAR 7):	589		27
	Internal Structure	*Armor Value*	
Front	35	74	
Front R/L Side	35	74/74	
Rear R/L Side	35	74/74	
Rear	35	73	
Turret (x2)	35	73	

Weapons and Ammo	**Location**	**Mass**
3 PPC, 1 Large Laser	Turret (2)	26
3 PPC, 1 Large Laser	Turret (4)	26
2 AC/5, 2 Medium Laser	Fore Left	18
2 AC/5, 2 Medium Laser	Fore Right	18
2 AC/5, 2 Medium Laser	Aft Left	18
2 AC/5, 2 Medium Laser	Aft Right	18
2 Medium Laser	Fore	2
2 SR Torpedo 6	Fore/Aft	6
2 Medium Laser	Aft	2
2 LR Torpedo 10	Fore/Aft	10
Ammo (AC/5)	Body	16
Ammo (SR-T)	Body	10
Ammo (LR-T)	Body	12
Basic Fire Control	Body	7.5

Crew: 19 officers, 28 enlisted/non-rated, 66 gunners, 20 bay personnel.
Cargo
968 tons standard — 2 Doors (Aft Right/Aft Left)

Notes: Features communications equipment (2 tons), MASH unit (+1 additional operation theater, 4.5 tons), 6 mounted searchlights (3 tons, Front/Sides/Aft/Turret 1/Turret 2), helipad (500 tons), 2 field kitchens (6 tons), 14 lifeboats (14 tons), 4 light vehicle bays (200 tons, VTOLs), 20 crew quarters (140 tons, passengers and bay personnel). Part of cargo frequently converted to liquid (fuel) use for VTOLs and to refrigerated (food) for crew.

MEABH HEAVY CRUISER



LUFTENBURG SUPERCARRIER

Ever since the ascent of modern space travel and the supremacy of BattleMechs, aerospace fighters and DropShips in the strategic game of interplanetary warfare, the role of wet naval forces has become little more than a sidebar in the annals of military history. But even though the primacy of bluewater forces has waned over the centuries, the persistence of small time seafaring pirates, the occasional use of off-shore and underwater bases, and even the occasional strategic need—not to mention surprise value—of large, mobile, and relatively inconspicuous support units has kept the mighty seagoing capital ship in play even today across the Inner Sphere. Built to make the most of their strategic niche, these vessels often center on aerospace and artillery support, with carriers often dominating the largest of modern naval formations.

Of these potent, yet often overlooked, ships, by far one of the largest carriers known to exist today is the Luftenburg-class, the 100,000-ton floating city built in 2741 by Tatyana Trans-Oceanic Shipyards of Tharkad.

Designed to handle as many as 140 airborne vehicles—including 100 aerospace or conventional fighters, 20 VTOLs, and 20 additional conventional fighters or medium support aircraft—the TNS Luftenburg (and her sister ships) sails under the power of a massive hydrogen fuel cell engine, and boasts an armored hide strong enough to weather almost any attack for minutes on end. Luftenburgs bristle with missile and torpedo launchers for anti-fighter and –submarine defense, backed up by an assortment of lasers in the event any attacker comes within "knife-fighting" range. A pair of Long Tom artillery weapons in the bow even allow Luftenburgs to provide minimal fire support for ground forces.

Operating this vessel, and maintaining security and technical support for both the ship and her cargo of fighters and vehicles, takes a crew complement of almost a thousand sailors, fighter pilots, technicians, and marines, necessitating substantial personnel support facilities including surgical theaters that can handle up to 22 beds at once, thousands of tons of consumables for the air wing, a thousand tons of potable water for the crew on worlds with polluted/toxic water, and elaborate firefighting systems that feature a dozen high-powered sprayer arrays that dispense various extinguishing agents, the most plentiful being seawater (often enhanced with foam).

The thirteen Luftenburg-class vessels built on Tharkad (and on-site for a dozen other Lyran worlds between 2741 and 2806) represent some of the Inner Sphere's largest supercarriers in active service today. Their usage declined in the Succession Wars as the means to maintain them grew more and more limited, ultimately leading to the mothballing of the last vessel, the Donegal navy's DNS Steadfast, in 2920. In 3055, however, the Tharkan navy's TNS Gerthr became the first Luftenburg to sail again after a lengthy refit made possible by recovered technologies.

While the Luftenburgs may count as the largest of their kind, many aircraft carriers still sail blue-green waters across the Inner Sphere. Lighter and more distinctive examples include the submersible, 30,000-ton Argo-class seen in the Free Worlds League or its Combine-made equivalent, the 26,000-ton Lysander-class, and the 15,000-ton Lucius Zhao-class escort carrier employed by Capellan militia forces even today.

Type: **Luftenburg-class Supercarrier**
Chassis Type: Naval Vessel (Large, Template E)
Tonnage: 100,000 tons
Equipment Rating: E/X-E-E/E

Equipment		**Mass**
Chassis/Controls:		21,675
Engine/Trans:	Electric (Fuel Cell)	10,530
Cruise MPs:	3	
Flank MPs:	5	
Heat Sinks:	90	90
Power Amplifiers:		5.5
Fuel:	9,497 km	15,001
Turret:		0
Armor Factor (BAR 10):	5,089	285

	Internal Structure	*Armor Value*
Front	80	850
Front R/L Sides	80	850/850
Rear R/L Sides	80	850/850
Rear	80	839

Weapons and Ammo	**Location**	**Tonnage**
2 Long Tom Artillery	Front	60
Ammo (Long Tom) 100	Body 1	20
3 LR Torpedo 10	Front	15
Ammo (LR-T) 120	Body 1	10
6 Large Lasers	Front 2	30
2 LRM 20	Front 2	20
Ammo (LRM) 60	Body 2	10
2 Medium Lasers	Front Left/Right 3	2
2 LRM 20	Front Left/Right 3	20
Ammo (LRM) 60	Body 3	10
2 Medium Lasers	Front Left/Right 4	2
2 LR Torpedo 10	Front Left/Right 4	10
Ammo (LR-T) 96	Body 4	8
2 LR Torpedo 10	Rear Left/Right 5	10
Ammo (LR-T) 96	Body 6	8
2 Medium Lasers	Rear Left/Right 5	2
2 LRM-20s	Rear Left/Right 6	20
Ammo (LRM) 60	Body 7	10
2 LRM 20	Rear 7	20
Ammo (LRM) 60	Body 8	10
3 Large Lasers	Rear	15
2 LR Torpedo 10	Rear	10
Ammo (LR-T) 96	Body 9	8
Advanced Fire Control	Body	24.5

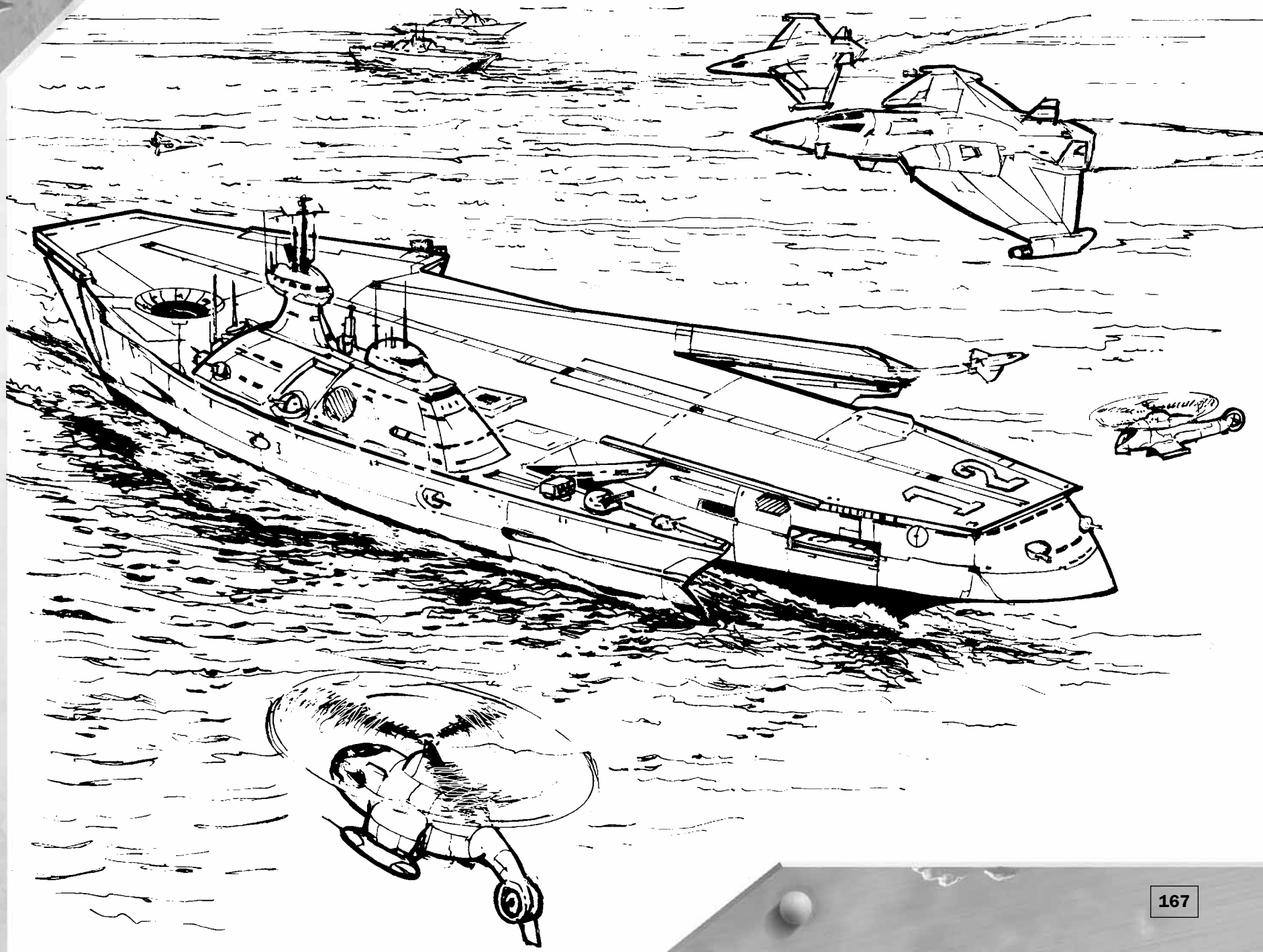
Crew: 65 officers, 228 enlisted/non-rated, 94 gunners, 460 bay personnel, 140 marines

Cargo

15,000 tons 100 fighter bays	6 Doors (2 Front/2 per Side)
1,000 tons 20 light vehicle bays	2 Doors (Rear)
2,000 tons 20 heavy vehicle bays	2 Doors (Rear)
8,119 tons standard (Body)	4 Doors (2 Left/2 Right)
11,500 tons insulated liquids (10,000 tons aircraft fuel, Body)	2 Doors (Rear)
1,150 tons insulated liquid (1,000 Potable water, Body)	2 Doors (Left/Right)

Notes: Features Armored Chassis and Controls Modification, 3 flight decks (7,500 tons), 9 CASE (4.5 tons), 12 mounted searchlights (6 tons, 4 Front/2 Left/2 Right/4 Rear), 1 minesweeper equipment (3 tons, Front), 12 sprayers (.5 tons, 4 Front/2 Left/2 Right/4 Rear), 4 lift hoists (12 tons, 2 Front/1 Left/1 Right), 7 field kitchens (21 tons), 2 MASH Units (11 theaters each, 27 tons), communications equipment (14 tons), 140 lifeboats (140 tons), 320 first-class pilots' quarters (3,200 tons), 140 second-class technicians' quarters (980 tons), 140 second-class marine quarters (980 tons), and 40 first-class passenger quarters (400 tons).

LUFTENBURG SUPERCARRIER



NAVAL (SUBMARINE) VESSEL SUPPORT VEHICLES

Siggy:

I know you hate being called that. Guess what? I don't care.

I know it was you who ordered the seals sabotaged. What I don't know is why you think someone like me would be stupid enough to submerge without checking his seal integrity first!? I've been on and under this ocean longer than you've been alive. Just because you're some high and mighty Irian executive these days doesn't mean that you're better than me. If you've got problems with the job I did for you, then you come out here and deal with me. Don't send your stupid landsmen to malf it up for you.

Anyway, here's the report you requested. I lifted it from the FWL Navy (the *real* Navy, not those pukes in pretty uniforms in outer space) server a few months back. It seems old Tommy wanted to know about the feasibility of establishing fixed underwater command structures. We disabused him of that notion, don't you worry. What kind of idiot would put himself in a steel can stuck on the bottom of a thousand kilotons of water?

This sales pitch is a cover, of course. SAFE had the Sea Wraith commissioned as an undersea scout and picket craft. The original spec has a pair of torpedo tubes in place of all that luxury. I don't know why they scrapped it. Maybe they haven't. You should look into that, Mr. Corporate Goon.

I'll deal with you and your seals later. In the meantime, I expect those parts to keep showing up on time.

Or else later might become sooner, you get me?

—Anse

They're called the silent service, and for good reason. You can't hear them when they're underwater.

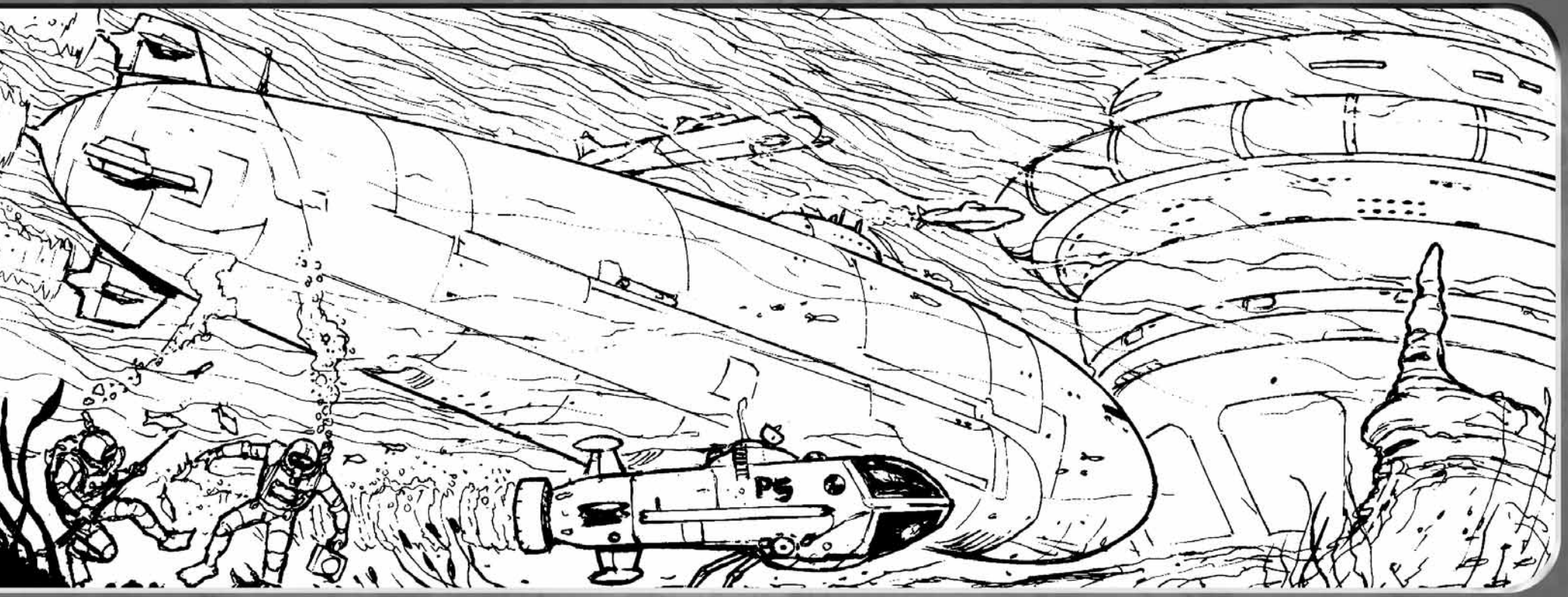
Submersible watercraft have carved themselves a lasting niche in waterborne transportation, and Andurien Watercraft's new line of personal submersibles is the perfect vehicle to fill that niche. Let the common man enjoy his raucous speedboat. Let the pedantic pine for the past with their sailboats. You can rise beneath all of them.

By gliding below.

The Andurien Watercraft Sea Wraith personal submersible is the first of its kind, offering Sadurni's wealthiest nobles the chance to relax in the most serene and uninterruptible space to be found: embraced beneath the waves of the sea. With space for six and a fuel cell powered for six days' sailing, the Sea Wraith is the ultimate getaway craft. Gone are the cumbersome yachts and overpriced cabin cruisers. The Sea Wraith takes you places you've never been before, in the comfort of a five-star hotel.

Order yours today!

Of course, our complete line of Andurien Watercraft recreational vehicles is available for purchase. Simply visit your nearest AW dealer and mention the Sea Wraith. Salesmen are waiting now to give you a free test dive!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JN-002 JONAH SUBMARINE

Ryan Systemics began as a small oceanographic research branch of the once-mighty Ryan Cartel. Its assets were stationed on Ryan Cartel water worlds in order to carry out further testing of a system's water supply. Using such studies, Ryan Systemics developed new enzymes and other processes that could be applied to water that, in its original state, would be poisonous to human consumption. As funding increased from the parent Ryan Cartel, the firm began branching into localized exploration, testing a deep-water submarine that could be used in almost any combination of atmosphere, gravity, and liquid environment to carry out exploration and research studies.

As new filtration technology—often developed by the Cartel itself—hammered Ryan Cartel profits, the Cartel began liquidating subsidiaries like Ryan Systemics. With Systemics almost went the working prototype of a new minisubmarine (affectionately called the "Jarvis"), which had just been put through its qualification trials. Fortunately, one Trevor Stefanis managed to steal the prototype from Ryan's labs before the property was foreclosed.

In 2714, Unger Stefanis—Trevor's great grandson—walked into Napa Tidal Research on Blue Hole with an offer that the executives snapped up in a heartbeat. For the rights to the Cokery Island chain—a series of naturally flat limestone islands large enough to handle Ryan Cartel tanker DropShips during the Cartel's heyday—Unger would deliver a working prototype of a mini submarine capable of withstanding depths of over ten kilometers. Called the "Jonah," the sub was a compact design that resembled the lost Jarvis prototype. The Jonah barely squeezed in a pilot with two assistants and had a life support system good for dives of over ten days long. With a simple conversion process, the sub could even be fitted with small micro-thrusters (at the expense of half its storage capacity) to be used in exploring low-gravity bodies such as asteroids and comets.

NTR jumped at the chance, even though at the time they had no facilities for manufacturing such a vehicle. Forging a partnership with Branson United, the two firms began to manufacture the submersible, only to find that because of the delicately precise instrumentation and the unique casting process of the frame, it took one assembly line over eight months to produce one vehicle. Sales outstripped production, and the NTR-BU partnership failed within ten years. The Jonah factory fell into disuse until 3032, when Interplanetary Expeditions bought the land containing the factory ruins. After fifteen years and over 1.6 billion Kroner, the factory began building Jonahs once more—exclusively for IE member corporations.

Shortly after the initial deal with NTR, Unger Stefanis "discovered" several underwater grottos deep underneath the Cokery Isles, one of which contained a purification plant that could be hooked up to several of the main landing pads on the surface, allowing docked DropShips to purify and desalinate their water cargo onsite, rather than taking it elsewhere. Stefanis resuscitated the plant and formed Blue Hole Bottling, which boosted the planetary economy to new heights and catapulted the Stefanis name into planetary power.

Type: **JN-002 Jonah Submarine**
Chassis Type: Naval Vessel (Small, Template A)
Mass: 2,000 kg
Equipment Rating: E/D-E-D/C

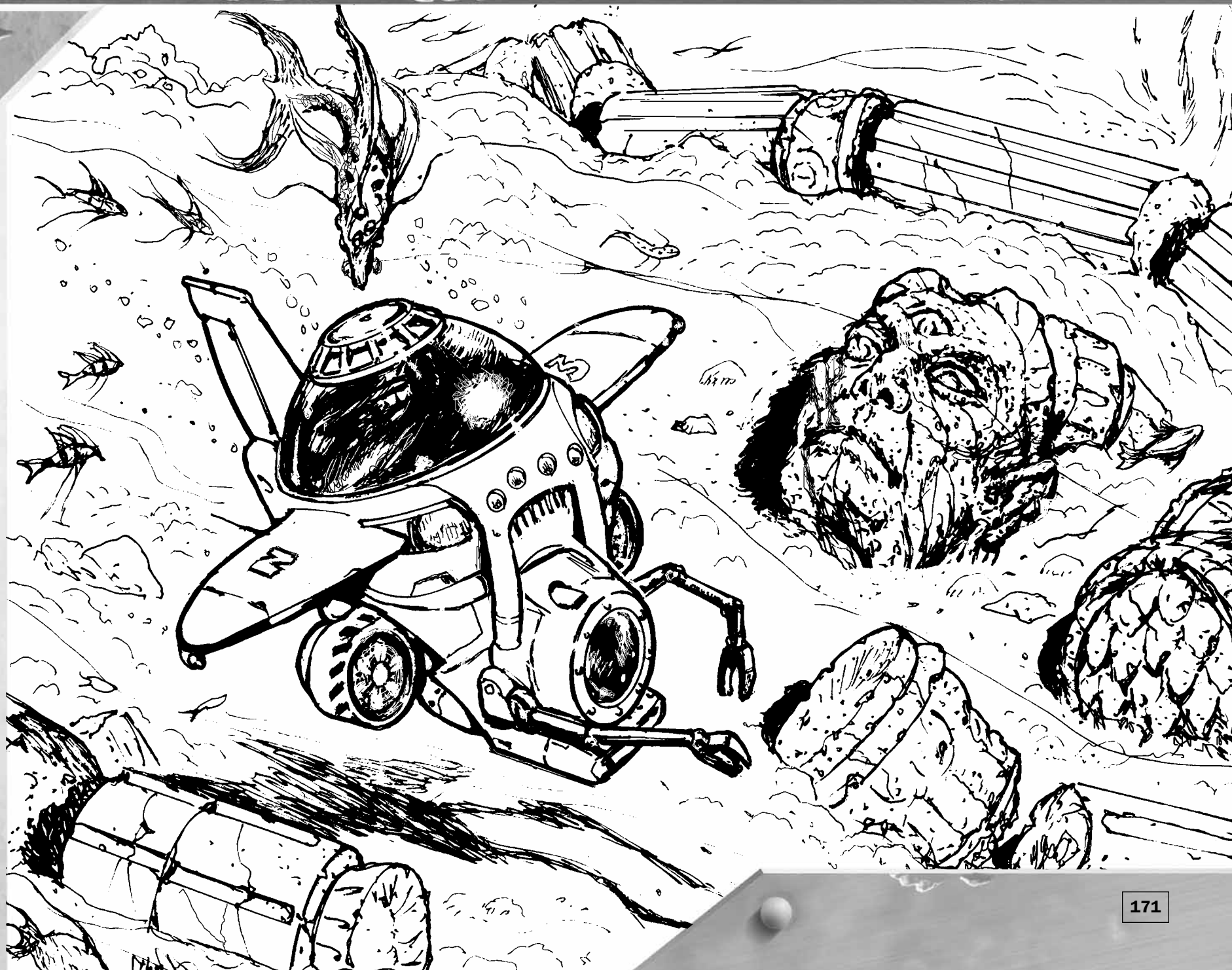
Equipment			**Mass**
Chassis/Controls:			216 kg
Engine/Trans:	Fusion		160 kg
Cruise MP:	4		
Flank MP:	6		
Heat Sinks:	0		0 kg
Fuel:			0 kg
Armor Factor (BAR 3):	5		95 kg
	Internal Structure	*Armor Value*	
Front	2	2	
R/L Side	2	1/1	
Rear	2	1	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1 officer, 2 enlisted/non-rated
Cargo
284 kg standard 1 Door (Front)

Notes: Features Submersible, Ultra-light Chassis and Controls Modifications, 3 crew/passenger seats (225 kg), 2 manipulators (20 kg, Front), one remote dispenser (500 kg, Rear), 1 mounted searchlight (500 kg, Front)

JN-002 JONAH SUBMARINE



BALEENA PASSENGER SUBMARINE

Not uncommon among the civilized worlds across the Inner Sphere, underwater cities have always maintained a mystique to the average citizen. Expensive to maintain due to the high amount of technology required to maintain the underwater domes and filtration equipment, it is rare in the thirty-first century to see the construction of a new subsurface city. Before war wracked the universe, however, the Star League built several underwater facilities that grew into a sprawling collection of domes and connecting tubes. The most famous is the city of Fiji under the Pacific Ocean, located near the underwater remains of the former Fiji Islands. Made popular in the cult-classic "Dead Awakened" from 2203—a bad murder-mystery that has undergone over one hundred "revisions" over the ensuing centuries—the underwater metroplex still retains much of the pristine landscaping and buildings featured in the movie.

While subsurface environments have many practical uses, one of the chief obstacles is transporting people and goods to and from such sites to surface ports. Recognizing the importance of such a specialized transportation need, Bluefin Technologies developed a cheap submersible frame that could be utilized in a variety of configurations. While the more popular models were passenger-oriented, the plastic polymer sheeting could also be pre-formed to create modular cargo storage to transport heavier goods such as building supplies, large cargo containers, and even small vehicles. The company did so well, in fact, that when Bluefin went public on the Donegal Exchange in 2540, the initial stock doubled in value eighty times over.

Infused with a large amount of stockholder capital, Bluefin began to design and produce larger submarine vessels capable of transporting heavy industrial equipment, large amounts of people, and immense cargo loads. The Baleena-class introduced a dedicated vehicle bay that could support either dry or wet equipment. Several Baleenas in use on Tharkad, for example, retain a smaller luxury sub or surface schooner that can be used to supplement the popular ice cap cruises—for an extra fee, of course. Others use the vehicle bay for additional container space.

Efficient airlock systems allow the Baleena to effect cargo transfers to other deeper-running cargo subs (such as the Rimrunner class that services the mines in the Marianas Trench on Terra) while underwater. Top-loading cargo doors allow the Baleena to easily load and unload straight from a seaside DropPort as well, if the dock site is equipped with the proper cargo loading equipment.

Though primarily a standard cargo and passenger ferry, some Baleenas have been purchased by corporate concerns in the Free Worlds League and Lyran Alliance to be used for more luxurious uses. Reconfigured on the inside, these underwater liners circumnavigate several worlds in million-bill cruises. Rumor has it that Prefect Thames Fogerty on Tchamba actually owns a custom-built Baleena for family excursions, no doubt to the consternation of his taxpayers.

Type: **Baleena Passenger Submarine**
Chassis Type: Naval Vessel (Medium, Template A)
Mass: 200 tons
Equipment Rating: C/C-E-D/C

Equipment			**Mass**
Chassis/Controls:			62.5
Engine/Trans:	Fusion		27.5
Cruise MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:			0
Armor Factor (BAR 2):	93		1.5
	Internal Structure	*Armor Value*	
Front	30	27	
R/L Side	30	22/22	
Rear	30	22	

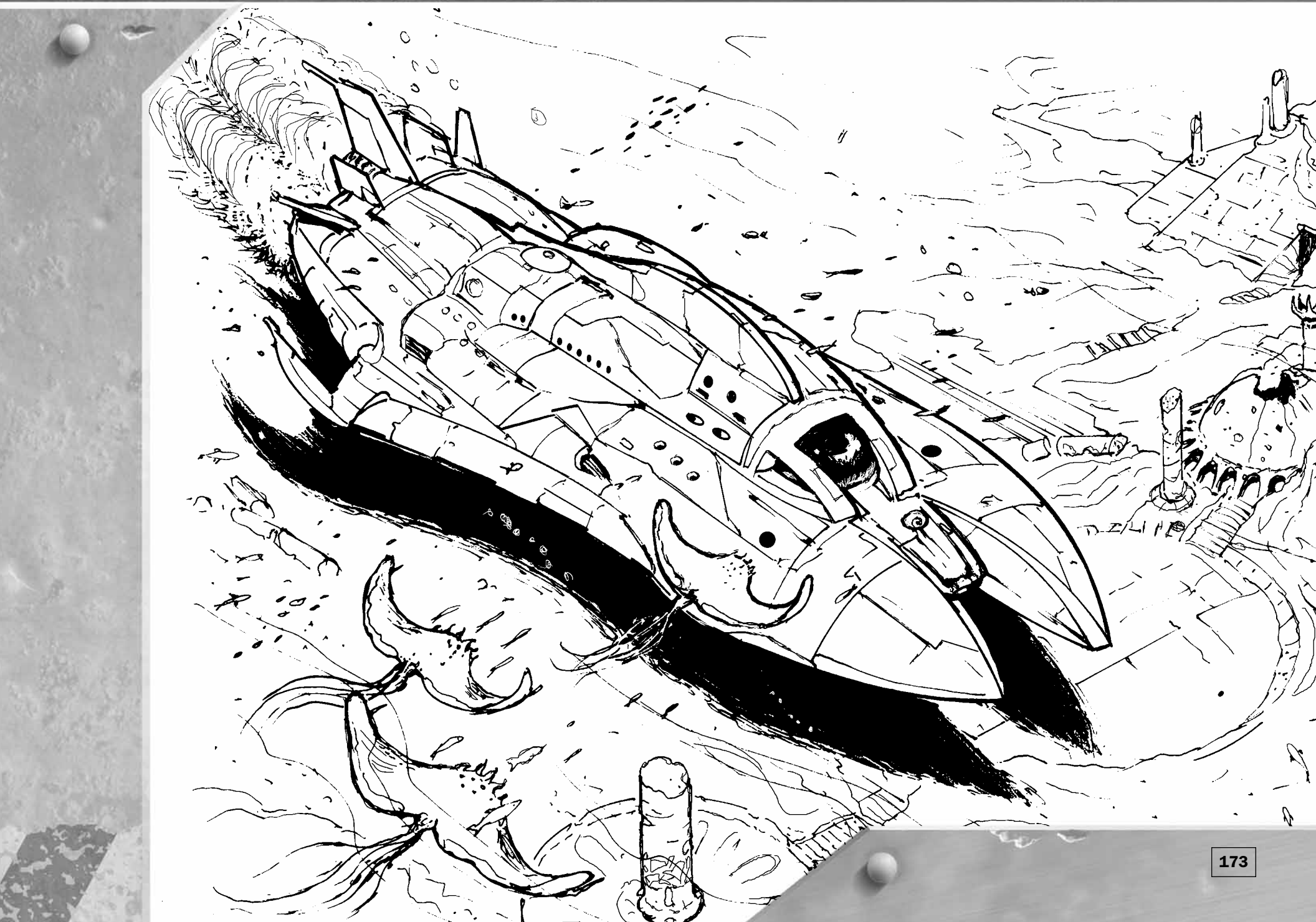
Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1 officers, 4 enlisted/non-rated, 5 bay personnel
Cargo

40 tons standard (container)	2 Doors (Left/Right)
3 tons standard	1 Door (Rear)
50 tons light vehicle bay	1 Door (Front)

Notes: Features Submersible Chassis and Controls Modification, 20 passenger seats (1.5 tons), 2 steerage passenger quarters (10 tons), two mounted searchlights (1 ton, Front), 3 lifeboats (3 tons)

BALEENA PASSENGER SUBMARINE



SEAHORSE / VERNE CARGO SUBS

Typical of the kind of small submersible cargo carriers used to support underwater operations across the Inner Sphere and beyond, the Seahorse cargo sub is a workhorse design. Designed by the Galtor Naval Yards, variants of the Seahorse have been in production since the golden years of the First Star League. The most recent version (detailed here) is produced on their construction slips on New Ivaarsen.

The destruction of the Succession Wars brought with it fear and uncertainty. Even if a world escaped raids or invasion by an opposing state, there was still the constant threat of freebooters and pirates. Responding to this culture of fear, GNY began to equip the Seahorse with light torpedo launchers—though the poor fire control systems made their effectiveness questionable. Some skippers ultimately stripped out the weaponry—leaving the weapons ports visible to act as a deterrent, but using the space this frees to carry more fuel and cutting back on crew requirements.

Diving endurance for a Seahorse is limited to twelve hours, after which it must surface to run its petrochemical-fueled engines. This is usually more than sufficient for the vessel to make call at the kind of submerged habitats, farms, and factories that it is used to service. Often a nervous captain will stand out to sea while recharging his batteries before making a submerged run through coastal waters where the risk of attack on surface shipping is greater.

Dwarfing vessels like the Seahorse, the Verne is a freighter for specialty cargos. Boasting a capacity of 3,500 tons and with basic passenger accommodations for forty, this design dates back to the last years of the Terran Alliance. The Verne is an expensive vessel to operate due to its narrow market niche; much larger container and bulk freighters (submersible and surface) get most of the cargos. The installation of docking units makes the Verne surprisingly nimble. Small cargo skiffs are often carried in the vessel's two vehicle bays to allow cargo transfers at ports that cannot accommodate the Verne.

The Verne's cargo bay can accommodate large cargoes. DropShip engines, civilian fusion generators, and super-sized vehicles—all have been transported by these vessels. Probably the most famous cargo ever transported by the Verne was the Eiffel Tower. Purchased from a bankrupt French Government by the Japanese in 2289, the dilapidated tower was dismantled and transported to Japan aboard two Verne cargo subs.

Unlike the Seahorse, the Verne can remain submerged for extended periods—thanks to its use of fuel cells. These air-independent power plants run on stored hydrogen and oxygen, and the large oxygen tanks can easily replace oxygen lost to the crew for far longer than they can fuel the power plant. The downside to all of this is that maintenance is more costly in both time and money. While the Seahorse can usually be found in the hands of independent owner/operators, the Verne is commonly on the books of one of the larger corporations—such as Earthwerks or Defiance Industries.

Type: **Seahorse Cargo Sub**
Chassis Type: Naval Vessel (Medium, Template A)
Mass: 250 tons
Equipment Rating: D/C-D-C/E

Equipment			**Mass**
Chassis/Controls:			67.5
Engine/Trans:	ICE		52.5
Safe Thrust:	4		
Maximum Thrust:	6		
Heat Sinks:	0		0
Fuel:	5,047 km (Petrochemical)		26.5
Turret:			0
Armor Factor (BAR 7):	88		4
	Internal Structure	*Armor Value*	
Front	25	25	
R/L Side	25	21/21	
Rear	25	21	

Weapons and Ammo	**Location**	**Mass**
LR Torpedo 10	Left	5
LR Torpedo 10	Right	5
Ammo (LR-T) 24	Body	2
Basic Fire Control	Body	.5

Crew: 2 officers, 4 enlisted/non-rated, 4 gunners
Cargo
84.5 tons — 3 Doors (Front/Left/Right)

Notes: Feature Submersible Chassis and Controls Modifications, 2 lifeboats (2 tons), 6 passenger seats (.5 tons)

Type: **Verne Cargo Sub**
Chassis Type: Naval Vessel (Large, Template C)
Mass: 10,000 tons
Equipment Rating: C/C-E-D/D

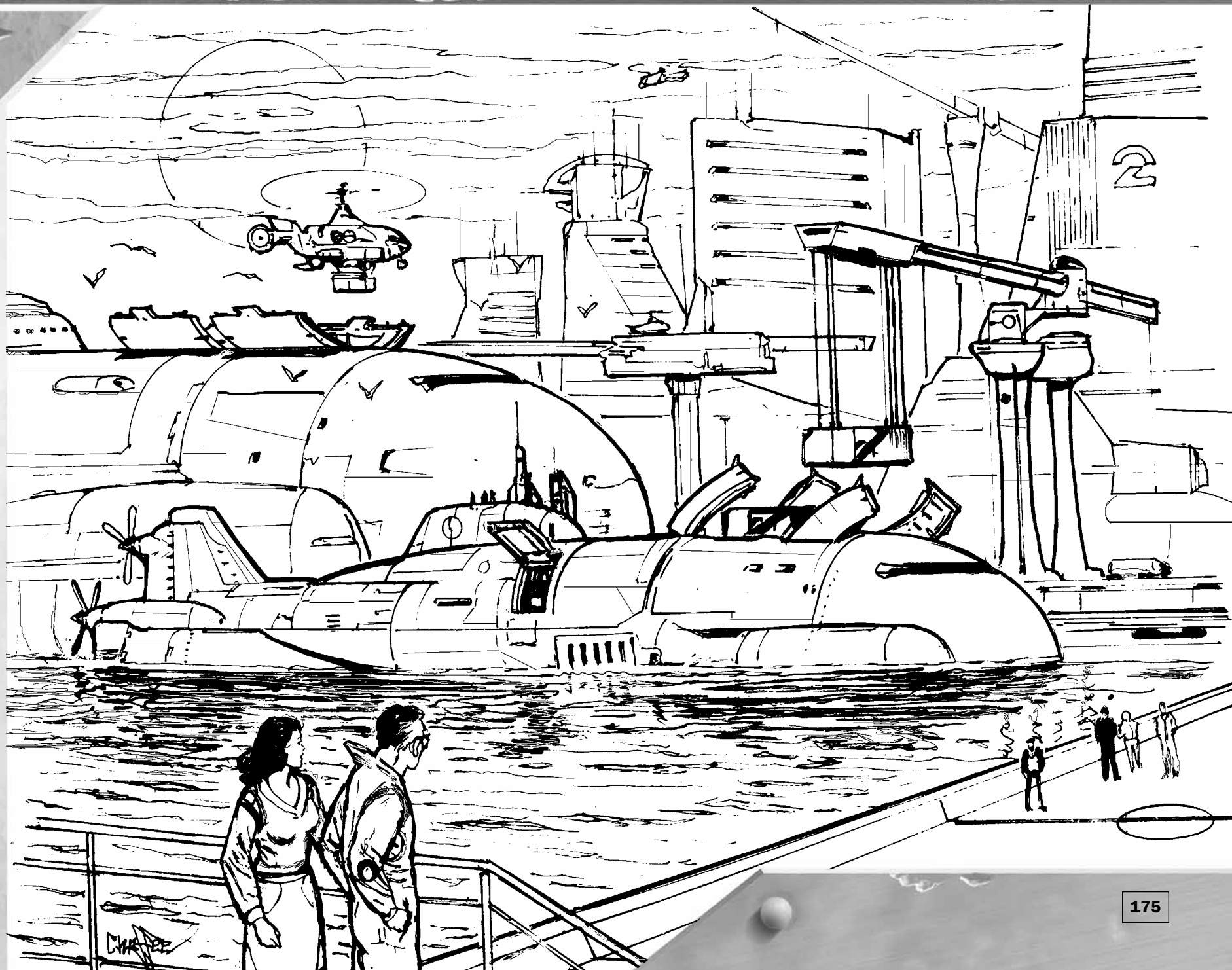
Equipment			**Mass**
Chassis/Controls:			3,519
Engine/Trans:	Electric (Fuel Cell)		1,404
Cruse MP:	3		
Flank MP:	5		
Heat Sinks:	0		0
Fuel:	5,056 km		1,065
Turret:			0
Armor Factor (BAR 6):	500		24
	Internal Structure	*Armor Value*	
Front	35	100	
Front R/L Side	35	75/75	
Rear R/L Side	35	75/75	
Rear	35	100	

Weapons and Ammo	**Location**	**Mass**
None	—	—

Crew: 1 officer, 5 enlisted/non-rated, 16 bay personnel
Cargo
3,300 tons standard — 6 Doors (1 Front/2 Left/2 Right/1 Rear)
200 tons 2 heavy vehicle bays

Notes: Features Submersible Chassis and Controls Modification, docking units (200 tons), 40 second-class passengers (280 tons), 8 lifeboats (8 tons)

SEAHORSE / VERNE CARGO SUBS



TRITON MISSILE SUBMARINE

Because they recognize that the Clans are a continuing threat, the officers of the Draconis Combine Mustered Soldiery are always on the lookout for new technologies or new ideas to fight this implacable enemy. This impetus has furthered Theodore Kurita's reforms to the point that many DCMS officers have little trouble looking outside the norm. Soon after recapturing Jeanette during Operation Bulldog, the DCMS High Command ordered the construction of a test-bed missile submarine, based on historical models from ancient Terra. Although they initially wanted to create a mobile Space Defense submarine, capital weapons proved impractical for submarines. The Triton-class missile submarine was downgraded to a tactical support vehicle, and a prototype was built.

The Triton-class was intended to provide irregular forces with heavy fire support. The working model would be for a Triton to surface, fire a barrage of missiles, and submerge. Infantrymen on the ground could designate targets for the incoming missiles, while the Triton slipped away undetected, waiting to be called on again.

Six Shigunga Arrow IV missile artillery batteries were built into the hull of a converted cargo submarine. Three each are mounted along the sides of the Triton's hull, and each battery carries a fifteen-round ready magazine. For defense, the Tritons mount six long-range torpedo systems, although ready-ammunition is limited for these. DCMS designers considered these loads adequate, however, since the Triton is not built to engage in direct combat.

Recognizing that a 12,000-ton vessel is in itself a sizable investment, designers provided the Tritons with the maximum amount of armor possible. A heavily-reinforced hull supports almost forty tons of armor. This reinforcement also allows the Tritons to act as icebreakers, which is always an important consideration on Jeanette.

A full-service communications suite was installed in the hulls to provide DCMS officers with a fully-functional underwater command post, if necessary. The Arm of the Dragon learned many things during the Clan Invasion, and most of those lessons went into the Triton.

Although the Triton was commissioned as a warship, its hull came from cargo vessels. Over half the submarine's mass is still devoted to cargo space, ensuring that the Triton can earn its keep during peacetime as a transport vessel. Its massive cargo capacity, combined with integral mess and medical facilities, leave it free of port dependency. Research universities across the Combine have petitioned for one of the Tritons to be dedicated to deep-sea research, but with the current military situation, that seems unlikely.

There are currently three Triton-class missile submarines patrolling the waters of Jeanette. The DCS Triton, DSC Polaris, and DCS Athens are currently on active patrol. The High Command is evaluating both the military and economic impact of these vessels before deciding whether or not to commission similar vessels on other threatened Combine worlds.

Type: **Triton-class Missile Submarine**
Chassis Type: Naval Vessel (Large, Template D)
Mass: 12,000 tons
Equipment Rating: E/X-X-E/E

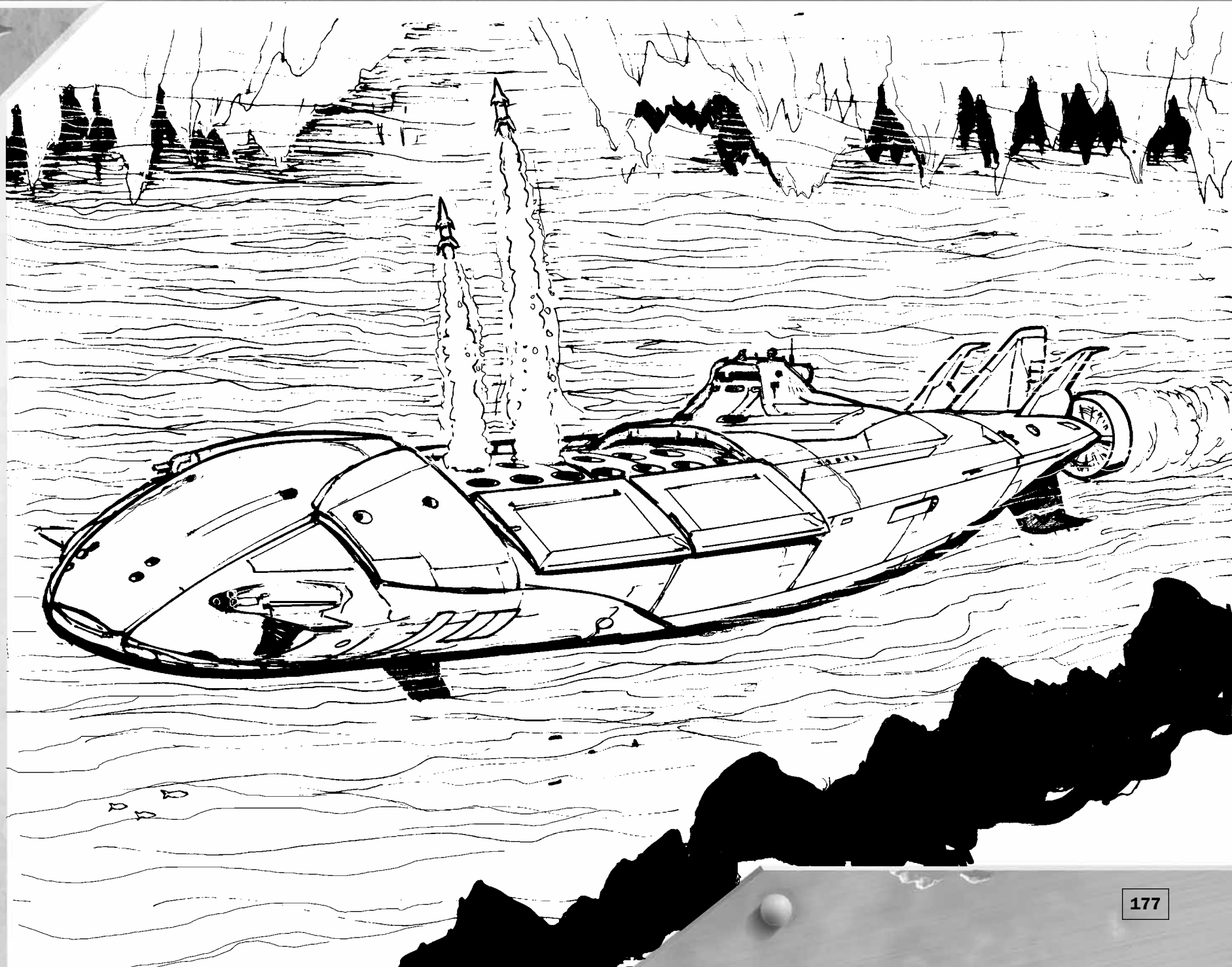
Equipment			**Mass**
Chassis/Controls:			4,682
Engine/Trans:	Fusion		648
Cruise MP:	2		
Flank MP:	3		
Heat Sinks:	0		0
Fuel:			0
Armor Factor (BAR 10):	689		39
	Internal Structure	*Armor Value*	
Front	36	130	
Front R/L Side	36	115/115	
Rear R/L Side	36	115/115	
Rear	36	99	

Weapons and Ammo	**Location**	**Mass**
3 Arrow IV System	Right	45
Ammo (Arrow IV) 45	Body	9
3 Arrow IV System	Left	45
Ammo (Arrow IV) 45	Body	9
3 LR Torpedo 20	Front	30
Ammo (LR-T) 36	Body	6
LR Torpedo 20	Right	10
LR Torpedo 20	Left	10
LR Torpedo 20	Rear	10
Advanced Fire Control	Body	15

Crew: 16 officers, 24 enlisted/non-rated, 54 gunners
Cargo
6,011 tons standard 4 Doors

Notes: Features Submersible, Armored Chassis and Controls Modifications, field kitchen (3 tons),communications equipment (10 tons), docking units (240 tons), 20 second-class passenger quarters (140 tons), 10 maritime escape pods (70 tons), MASH (1 theater, 3.5 tons), mounted searchlight (.5 tons, Front)

TRITON MISSILE SUBMARINE



LYSANDER CARRIER SUBMARINE

The difficulty of fighting on water-covered worlds like Athenry in the War of 3039 persuaded the DCMS under Theodore Kurita to investigate a number of ways of bolstering their "blue water" naval presence. Traditional displacement hulls and hydrofoils were their first consideration, and a number of such vessels were produced across the Combine, but their vulnerability to aerospace craft (and in more recent years orbital weapons platforms) prompted the authorities to look at alternatives. The ability of aircraft carriers to project their firepower over a vast radius made them the preferred naval vessel, but their size and lack of speed made them vulnerable to the very forces they sought to avoid. Employing the environment to protect the carriers was the natural progression, and though far from unique in concept, the Lysander-series carrier-submarines came into use in the late 3040s.

Displacing the same mass as roughly three regiments of assault 'Mechs, each Lysander is a behemoth whose ability to inflict damage has few rivals. Its main weapons are its fighters; a ramp-equipped flight deck allows for the swift launching and recovery of the carrier's fighter squadrons, while four helipads allow for VTOL and aerospace vertical operations. Each Lysander has capacity for five squadrons, the norm being for four of fighters (aerospace or conventional) with the fifth comprising VTOLs (which are stored in the versatile fighter cubicles), including search-and-rescue and airborne-early-warning VTOLs. The aircraft are not the Lysander's only armaments, however. A dozen short- and long-range torpedo arrays allow the submarine to engage underwater attackers, while a massive array of turret-mounted lasers allow it to discourage enemies when surfaced. An octet of box-launched Arrow IV launchers provides additional long-range firepower, capable of being fired while surfaced or when loitering a few meters under the waves. Advanced fire control systems manage these weapons, while a sophisticated ECM system helps cloak the vessel. An advanced composite hull originally meant for Atherny's sulfurous oceans helps minimize the Lysander's maintenance in more benign environments.

With a huge fusion plant providing enough power for a city, the Lysander can remain at sea indefinitely. Advanced recycling facilities for water and air mean the main limitations on the Lysander deployment are its stores of consumables (which, at around 3,000 tons, are more than most transport DropShips) and the endurance of its crew. Well-equipped surgical facilities allow any wounded to be treated. Additional quarters are provided for bay personnel and occasional infantry detachments, and recreation facilities (primarily computer- and VR-related, suiting the cramped quarters) cater to the crew's off-duty hours. But even so the close confinement within the vessel places the occupants under significant psychological stress and in peace-time few deployments exceed 45 days. During the Clan war, however, and more recently the clashes with the Ghost Bears, some Lysanders were at sea in excess of six months.

The size of the Lysander means it cannot be transported aboard DropShips and as such must be built *in situ* on worlds that desire their protection. As a consequence, a wide variety of companies have built the design over the last twenty years, each paying a significant licensing fee but also standing to make considerable profits on the quarter-billion C-bill vessels.

Type: **Lysander Carrier Submarine**
Chassis Type: Naval Vessel (Large, Template D)
Mass: 26,000 tons
Equipment Rating: E/X-E-E/E

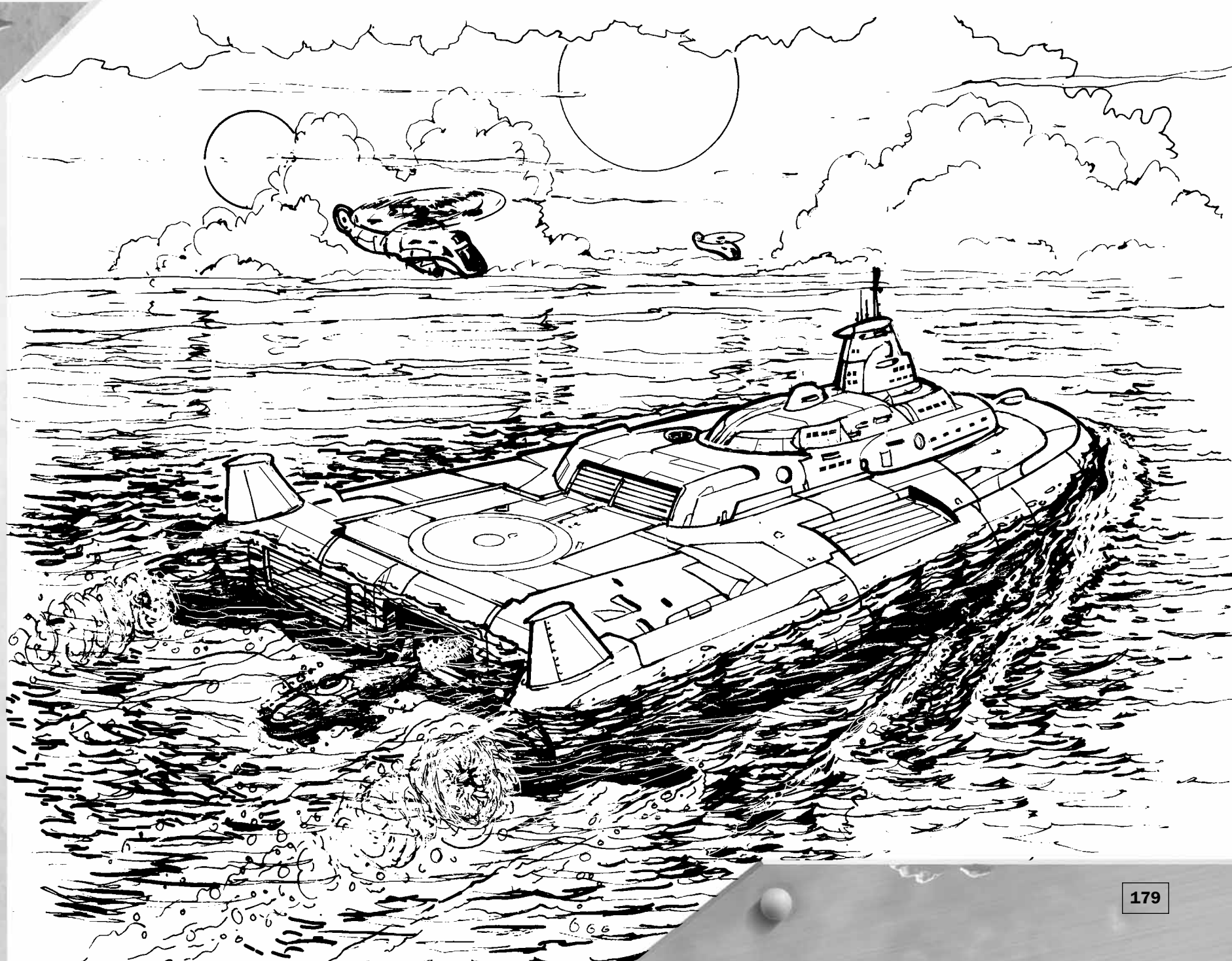
Equipment		**Mass**
Chassis/Controls:		10,144
Engine/Trans:	Fusion	1,404
Cruise MP:	2	
Flank MP:	3	
Heat Sinks:	174	174
Fuel:		0
Turret:		5
Armor Factor (BAR 10):	1,389	78
	Internal Structure	*Armor Value*
Front	43	278
Front R/L Side	43	185/185
Rear R/L Side	43	185/185
Rear	43	139
Turret	43	232

Weapons and Ammo	**Location**	**Mass**
8 ER Large Lasers	Turret	40
6 ER Medium Lasers	Turret	6
4 ER Large Lasers	Front	20
4 LR Torpedo 20	Front	40
Ammo (LR-T) 24	Body	4
4 SR Torpedo 6	Front	9
Ammo (SR-T) 60	Body	4
4 SR Torpedo 6	Rear	9
Ammo (SR-T) 60	Body	4
8 Arrow IV System	Body	120
Ammo (Arrow IV) 40	Body	8
Guardian ECM Suite	Body	1.5
Advanced Fire Control	Body	25

Crew: 26 officers, 70 enlisted/non-rated, 106 gunners, 60 bay personnel
Cargo
2,549 tons standard
900 tons 3 Heavy Vehicle Bays 3 Doors (Rear)

Notes: Features Submersible, Armored Chassis and Control Modifications, flight deck (2,500 tons), 4 helipads (2,000 tons), 2 field kitchens (6 tons), 30 lifeboats (30 tons), 30 fighter bays (4,500 tons), 40 second-class passenger quarters (280 tons), 200 crew quarters (1,400 tons), MASH unit (1 theater, 3.5 tons), communications gear (10 tons)

LYSANDER CARRIER SUBMARINE



EXOSKELETONS

As part of this briefing I felt it significant to report that the spike in sales of the Gorilla and Salrilla exoskeletons in 3068-69 in the Arc-Royal Theater was eventually traced back to Arc-Royal itself. Whether that event can be further linked to rumors of the Dragoons venturing off-world for the first time after their encounters with the Blakists, or even to the more far-fetched rumor that a DropShip ran the blockcade *toward* Outreach, is unknown. However, my gut reaction tells me we should be watching these developments closely, as the sales potential from this situation (based upon outcome, of course) are considerable.

Attached is some background reading that you may find interesting.

—Gavinson

From the dawn of history mankind has used machines to accomplish tasks that are beyond human strength and endurance. However, these forklifts, cranes, and other machinery were bulky and unwieldy. The development of the exoskeleton came from the need for equipment that could maneuver as easily as a human.

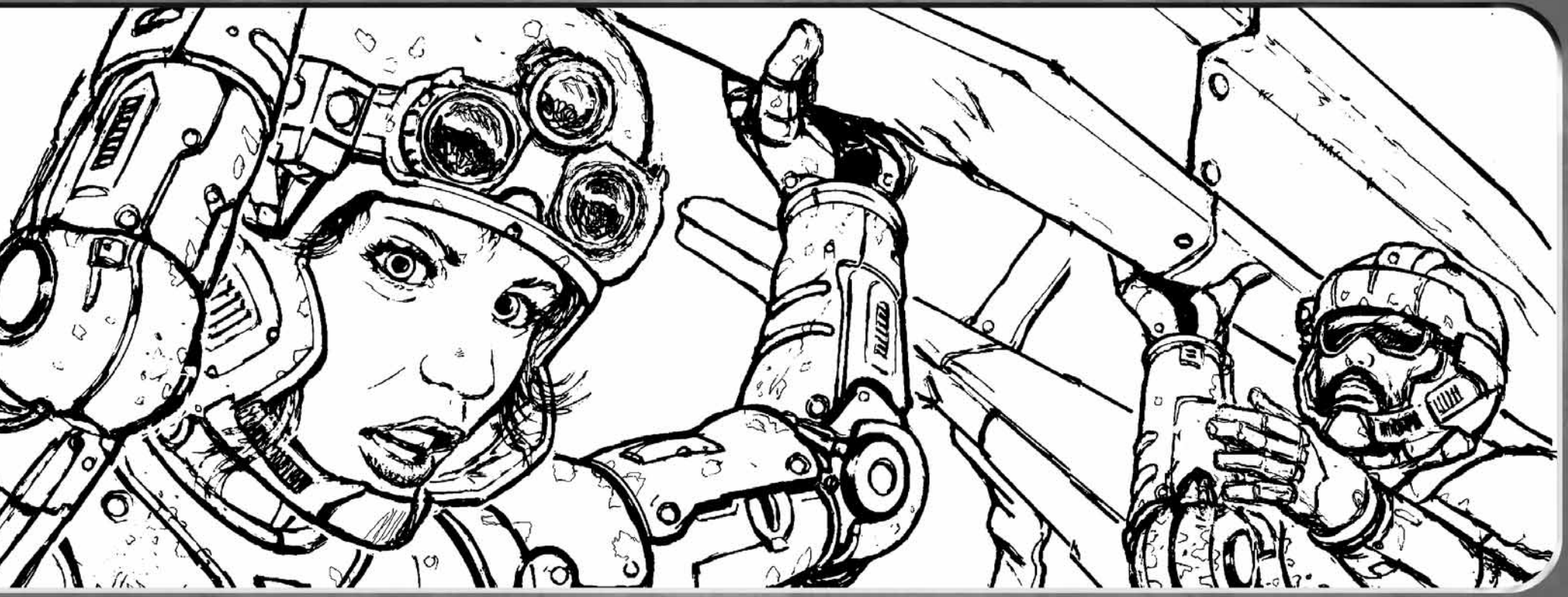
Primitive exoskeletons used hydraulics, but these high-maintenance systems were both slow and clumsy. Exoskeleton construction was revolutionized at the end of the twenty-fourth century by the introduction of myomer technology. It had taken decades to shrink IndustrialMech technology down to the point where it could be mounted on a human-sized chassis, but the result sparked an explosion in the adoption of exoskeletons in the civilian sector. The First Star League continued to develop exoskeleton technology, refining the control systems that directed the myomer musculature. Using various sensors to detect the motion of the user, the on-board computer then translated these into signals that controlled the exoskeleton's movements. As the technological hurdles were cleared, exoskeletons progressed from the more prosaic roles of cargo handling, construction, and mining. Search and rescue, combat engineering, firefighting—the possibilities appeared almost endless.

As ever, the military were quick to see potential in exoskeletons, and they have served in a support role since their introduction. But it would take the technological wizardry of the Terran Hegemony to develop the first true combat exoskeleton. The existence of the Nighthawk remained one of the SLDF's most closely guarded secrets and the Inner Sphere remained ignorant of the technology. Faced with the harsh conditions of the Pentagon Worlds and the Kerensky Cluster, the Clans have used exoskeletons extensively. One of these—a submersible exoskeleton used by the Goliath Scorpions—would serve as inspiration for the first battle armor designs.

Today the ubiquitous exoskeleton is a part of everyday life. Easy to operate and with low maintenance requirements, exoskeletons can be found on even the most impoverished of worlds. Apparently proving that people will bet on anything, the Solaris VII Class I fight circuit pits modified exoskeletons against one another. More then one "Pit Fighter" has gone on to claim the coveted title of Solaris Champion.

Included here is a small selection from the many exoskeleton types that can be found across known space.

—Man and Machine, New Avalon Press, 3065



CEX-205 "GROUNDHOG" EXOSKELETON

The CEX-205 combat engineer exoskeleton debuted in 3062 as the latest in a line of industrial exo-suits intended for use in the controlled battlefields of the Solaris arenas. Drawing on the relatively recent advent of Inner Sphere battle armor technology, however, the CEX-205 was light years beyond its commercial-grade exoskeleton progenitors in strength, durability, flexibility, and performance. These radical enhancements allowed Blue Shot Weapons to break free of the niche market that their previous exo-suit products had been consigned to (the majority of past suits went to arena management companies, for use in routine maintenance and emergency MechWarrior extractions), and finally offered military and mercenary line units access to one of the first truly battlefield-ready engineering exoskeletons.

The CEX-205, nicknamed Groundhog (or simply Hog by some operators), was developed first and foremost for the twin goals of flexibility and durability. Heavily armored for an exoskeleton—though scarcely able to resist more than the lightest of anti-'Mech weapons—it makes use of modular equipment adaptors and an on-board mission equipment mini-bay for extra gear. These enable technicians to quickly configure the suit for field operations based on the mission needs. Indeed, alongside new CEX-205s, Blue Shot sales representatives often offer the complete line of manipulator configurations in full "two-hand" sets, including standard manipulators for heavy labor, mine clearance gear for the battlefield, a salvage arm kit for technician support, cargo lifting gear rated for a one-ton maximum lifting capacity per suit, and even paired industrial drills for use in the construction (or destruction) of infantry field works and other industrial operations.

Though typically unarmed, the modular adaptors allow a Groundhog to even be configured with armored gloves, enabling this suit to carry infantry weapons. When operating in a hostile battlefield, in fact, it is not uncommon for at least one member of a Groundhog squad to be so armed, providing at least some fire support for the rest of the team. To aid in nighttime operations, CEX-205s even feature an integral searchlight, equipment that—according to some accounts—even allowed troops to use these suits for "tunnel rat" operations during the FedCom Civil War.

According to reports, Blue Shot Weapons is currently working on a jump-capable version of the Groundhog as well. Though this model would limit some of the CEX-205's modular flexibility, the rumored variant (identified in company brochures as the CEX-250 Leapfrog) would feature a number of compatible components with its predecessor, allowing for ease of maintenance and cross-marketing of the two designs to all of Blue Shot's Sphere-wide customers.

Type: CEX-205 "Groundhog" Exoskeleton
Manufacturer: Blue Shot Weapons
Primary Factory: Solaris VII
Equipment Rating: E/X-X-C/C

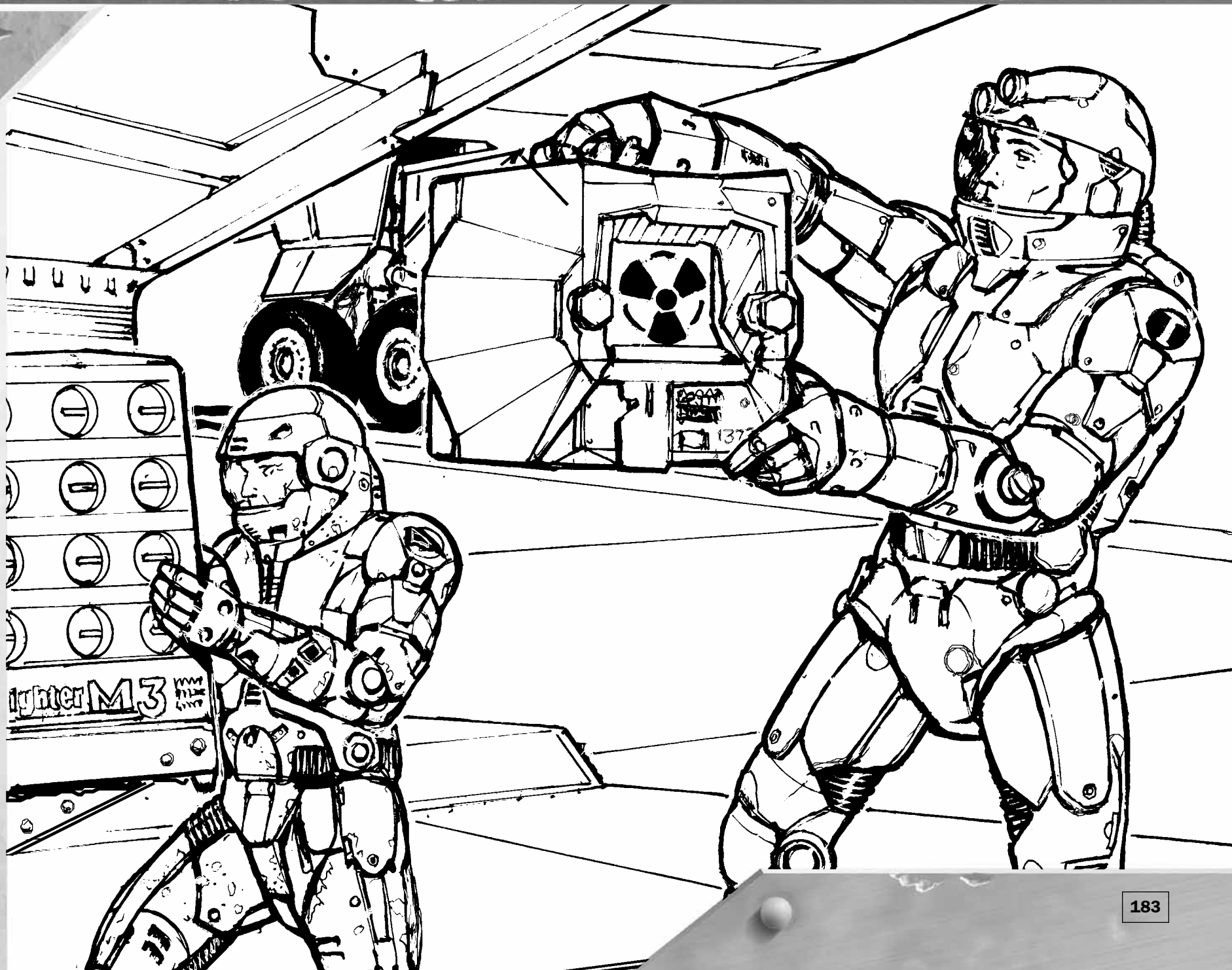
Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: Yes/Yes/Yes/No*
Notes: May only conduct infantry weapons in armored glove configuration. May only conduct leg/swarm attacks or use Mechanized Battle Armor rules if equipped with armored gloves or basic manipulators. May not operate in hostile environments or underwater (open construction).

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP:	3		50 kg
Jump MP:	0		0 kg
Manipulators:			
Left Arm:	Modular Adaptor	2	10 kg
Right Arm:	Modular Adaptor	2	10 kg
Armor:	Standard	0	100 kg
Armor Value:	2 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Modular Equipment Adaptors	LA/RA	4	20 kg
Armored Gloves	LA/RA	0	0 kg
Basic Manipulator	LA/RA	0	0 kg
Mine Clearance	LA/RA	0	30 kg
Salvage Arm	LA/RA	0	60 kg
Cargo Lifters (1-ton cap.)	LA/RA	0	120 kg
Industrial Drill	LA/RA	0	60 kg
Searchlight	Body	1	5 kg
Mission Equipment Storage	Body	1	25-145 kg

*Depending on manipulator configuration

CEX-205 "GROUNDHOG" EXOSKELETON



GLADIATOR EXOSKELETON

Those who fill the ranks of the warriors fighting in the arenas of Solaris VII come from an amazing range of different backgrounds. Some have come to Solaris in search of a more assured future that can be found as a mercenary. Others hail from the armies of the Great Houses. Many more are a product of the Game World itself—drawn to Solaris VII by the promises of riches and glory portrayed by incessant media coverage. Initially, very few of these naive hopefuls will get to pilot a BattleMech, let alone fight in the high profile Class Six arenas the viewing public is most familiar with. Most must start at the bottom.

Known locally as "Pit Fighters," the throngs of hopefuls inhabiting the Class One fight circuit use powered exoskeletons (and in more recent years even battle armor). Clinging to the edge of Solaris society, these modern-day gladiators live a hand-to-mouth existence as they try to catch the eye of one of the pack of talent scouts who frequent the fight venues. A lucky (and skilled) few advance to Class Two, but the majority will be forever doomed to obscurity.

A Pit Fighter must make do with industrial exoskeletons sporting a bewildering array of modifications that are intended to suit them to their new role. In most contests the combatants are restricted to physical weapons. Not only does this improve the fighter's chances of survival, but (as the more cynical are quick to point out), it makes for a longer and more exciting match. Recently, local manufacturers have begun to produce exoskeletons tailored for Class One. Solaris Arms (better known for design and manufacturing of BattleMechs tailored for use in the Solaris arenas) have been producing their Gladiator exoskeleton since 3056.

Ilsa Laszlo is an atypical success story from the ranks of Solaris VII's Pit Fighters. A relative newcomer to the Game World, Laszlo jumped at the chance of instant fame by agreeing to try out Solaris Arm's prototype exoskeleton. Achieving a string of victories, Ilsa caught the eye of a freelance talent scout who brokered a contract with Gemini Stables and, in doing so, boosted the Gladiator into the limelight.

Weighing in at 200 kilograms, the basic Gladiator can be outfitted with an array of manipulators, claws, clubs, maces, hatchets, drills, and blades. Cheap to build and easy to maintain, the exoskeleton is perfect for the rough and tumble of the fight circuit—thanks to the use of military-grade armor.

Although not exceptionally fast or mobile, the Gladiator is remarkably agile. Seeking new markets, Solaris Arms played on this aspect when it demonstrated that the exoskeleton could successfully perform in an anti-'Mech infantry role. The added expense of equipping troops with exoskeletons has so far prevented the Inner Sphere militaries from experimenting with the concept; they prefer to fund the expansion of their more powerful Battle Armor formations. For the foreseeable future, the Gladiator will be restricted to the arenas of Solaris.

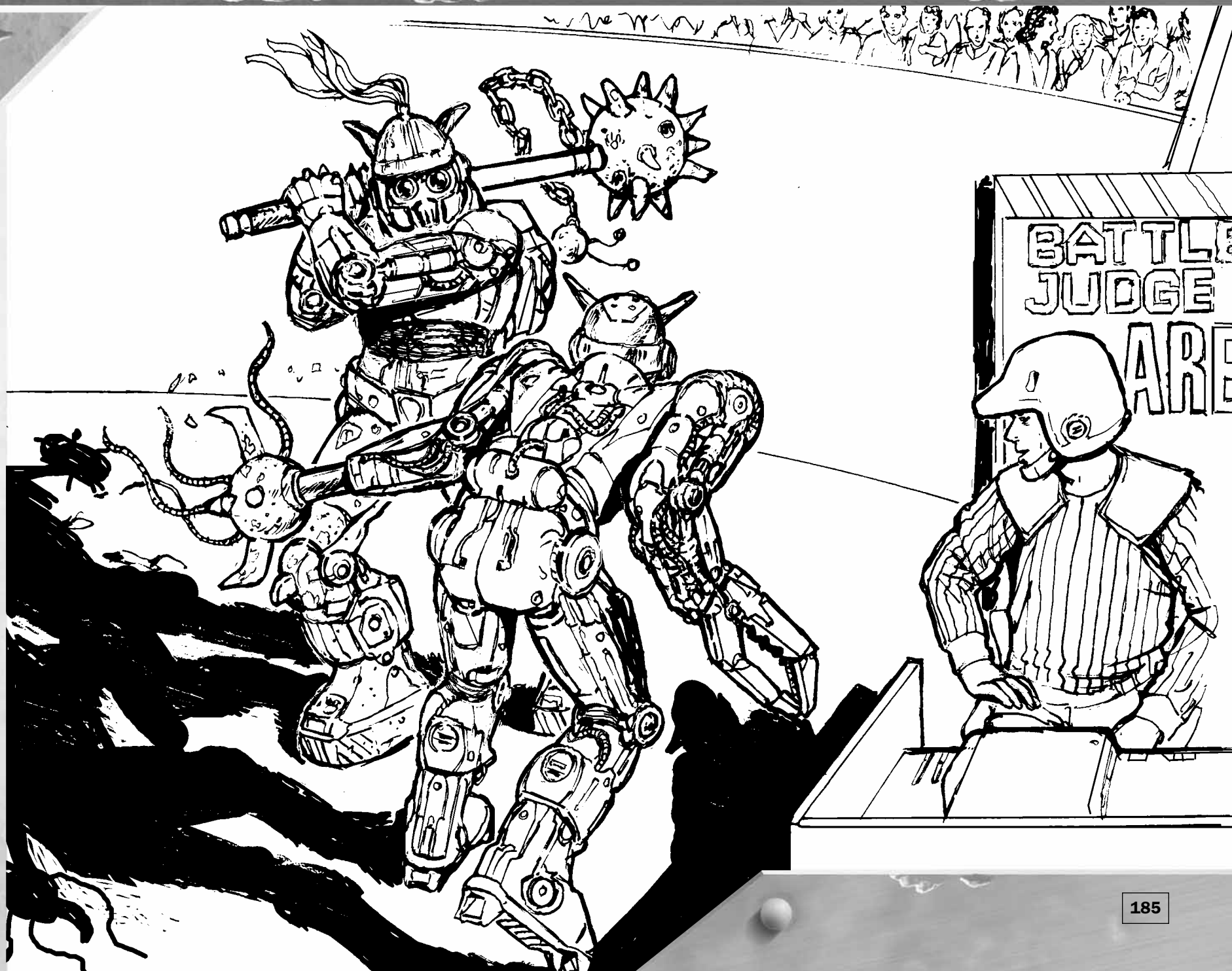
Type: Gladiator Exoskeleton
Manufacturer: Solaris Arms
Primary Factory: Solaris VII
Equipment Rating: E/X-X-C/E

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: Yes/Yes/Yes/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	1		0 kg
Jump MP	0		0 kg
Manipulators:			
Left Arm:	Armored Glove, Modular	2	10 kg
Right Arm:	Armored Glove, Modular	2	10 kg
Armor:	Standard		100 kg
Armor Value:	2 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
None	—	—	—

GLADIATOR EXOSKELETON



AILETTE ZERO-G ENGINEERING EXOSKELETON

Industrial exoskeletons have seen widespread use in industrial applications, augmenting humans and allowing them to work harder and longer without resorting to full-fledged vehicles or 'Mechs. In particular, space operations have benefited from exoskeletons, combining the vital equipment to protect the worker and maintain his life with systems that bolster the ability to function effectively in space.

The Ailette is one such design, built in the Galax yards and used extensively by untethered workers. From a distance, it appears very similar to the hardened space suits used by astronauts when there is danger of collision with loose objects. However, closer examination reveals a number of enhancements in the suit, bolstering the wearer's functionality and survivability. Servos at the major joints are the only visible sign of the artificial musculature within the suit that enhances the engineer's strength significantly, allowing them to manipulate objects easily. Attitude control thrusters dotted around the suit serve a dual role—to facilitate movement (the thrusters can generate up to a full g of thrust in short bursts) and to stabilize the wearer when working. A specialized "attitude maintenance mode" allows wearers to compensate for their movements, allowing them to manipulate objects as if they were braced. However, limited reaction mass usually restricts the use of this mode to countering small-scale forces such as the torque of using a spanner or the firing of a bolt gun—to move or restrain large objects requires a dedicated tug unit. Many operations can be carried out with the mark I dexterous manipulator—the wearer's hand—but a plethora of automated tools controlled via a servo-link to the left arm allow the wearer to carry out precision tasks such as cutting and welding with minimal risk.

A reinforced high-visibility faceplate gives the wearer of the Ailette a clear view of surroundings, while an optical mesh built into the visor serves as both heads-up display and control interface for a hybrid voice/eye-recognition system. Based on advanced battle armor systems employed by the Clans, the wearer of the Ailette can activate the suit's functions—such as movement or tool selection—by either speaking commands or looking at them on the HUD menu system. Both systems require advanced training but most orbital workers cross-trained on the Ailette have adapted well to the advanced suit.

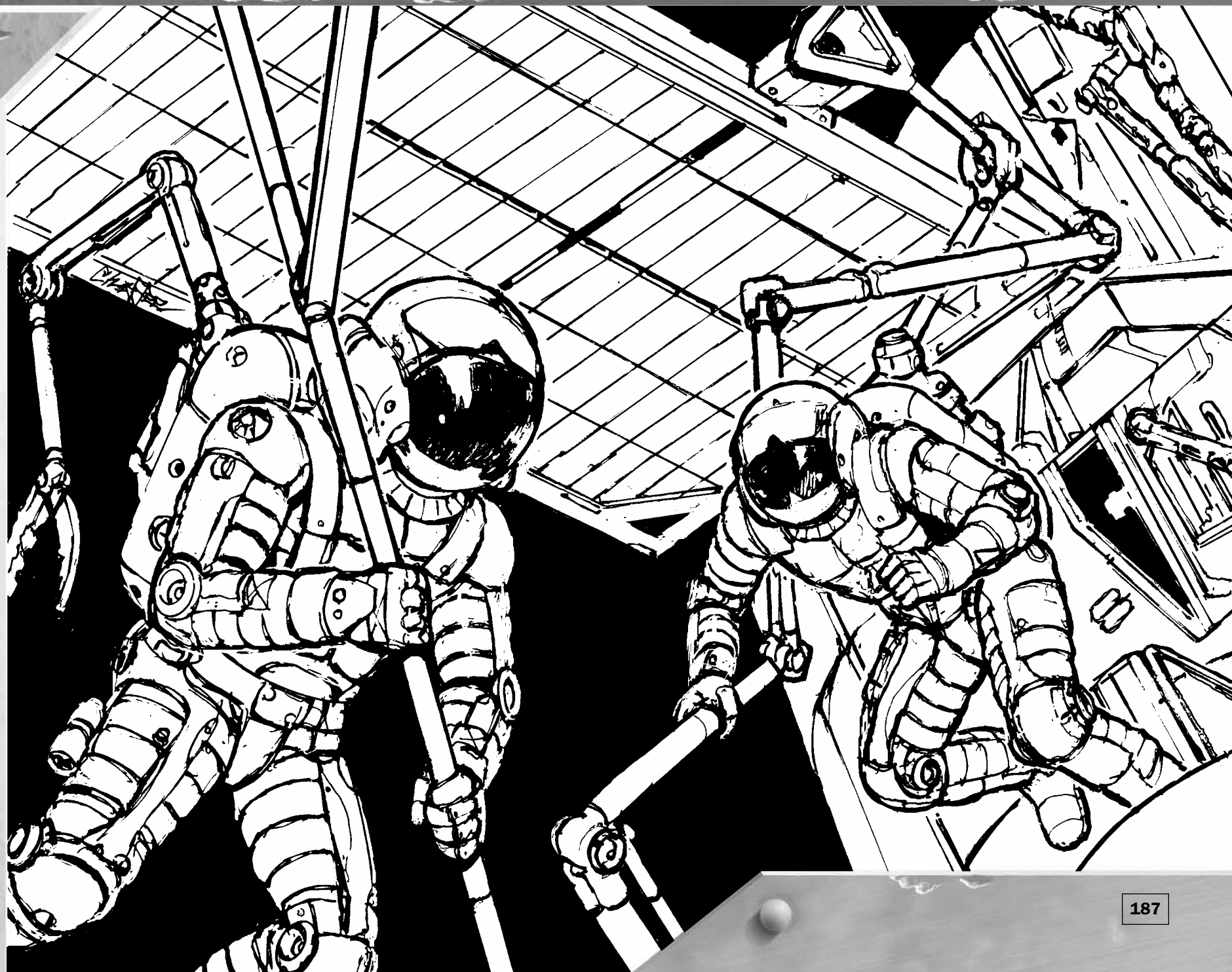
Type: Ailette Zero-G Exoskeleton
Manufacturer: Federated Boeing
Primary Factory: Galax
Equipment Rating: E/X-X-D/C

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	1		0 kg
Jump MP	0		0 kg
Manipulators:			
Left Arm:	Armored Glove	0	0 kg
Right Arm:	Salvage Arm	2	30 kg
Armor:	Standard		50 kg
Armor Value:	1 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Extended Life Support	Body	1	25
Space Adaptation Gear	Body	1	100

AILETTE ZERO-G ENGINEERING EXOSKELETON



GM TUNNEL RAT MINING EXOSKELETONS

The recovery of the Star League memory core earlier in this century opened up doors that had remained closed for centuries. The military industry may have been the first and most prominent recipient of the advances uncovered—and recovered—but it didn't take long before many of those same technologies found their way into the civil sector, especially as the same companies that produced high-tech weapons for the militaries of the Inner Sphere were also the ones that manufactured tech items for the civilian markets.

Since the dawn of civilization, the extraction of raw materials from first the Earth and then the various celestial bodies man traveled has been among the most dangerous of pursuits. Despite its inherent danger, mining not only was necessary for man's technological revolutions, it has also long been one of the most lucrative prospects available, one that General Motors has been deeply interested in for centuries. GM's first lines of mining exoskeletons debuted during the Star League era, but the Succession Wars all but put an end to those pursuits. It wasn't until the middle of this century that the company's once-impressive exoskeleton lines opened back up, producing the same quality—and better—industrial units than it had three centuries earlier.

The Tunnel Rat series of exoskeletons was designed specifically for the mining industry, which itself had spawned a long list of specialized equipment and uniquely skilled personnel. Unfortunately, while that equipment was well suited for large-scale operations, such as strip-mining and sinking massive mine shafts, it still required individual miners working with hand-held tools and explosives to economically pursue the smaller veins. That's where the mining exoskeleton comes into play.

Miners had long possessed hydraulic- and pneumatic-powered equipment, and even some simple exoskeletons powered by large generators and compressors that had to follow them around, but it wasn't until the modern exoskeleton came into existence that they finally got the tool they needed. Small enough to fit into a man-sized shaft without the need for extensive support, a man wearing one of these could work longer and dig faster than ever before, and even work alongside several others without fear of compromising a feed line or getting in each others' way. Moreover, they could have more reliable communications, a rugged life-support system and a modicum of survivability in case of cave-in or accident.

The Mole series debuted in 3052, but it was the Tunnel Rat in 3055 that truly marked the arrival of the dedicated mining exoskeletons. The Tunnel Rat I, massing less than a fifth of a ton, was a revolution. It is pressurized, allowing a miner to forego the usual flimsy space suit in hostile or low-pressure atmospheres, and at the same time is armored, protecting its wearer far better against cave-ins or equipment mishaps that would otherwise shred a suit and seriously injure a miner. It mounts manipulators on each "hand" that allow wearers to use just about every heavy tool they might need (though fine tasks still require a gloved hand to accomplish), as well as universal adapters so that a drill can be mounted directly to one of the suit's arms.

The Tunnel Rat II is a relatively minor upgrade, utilizing a more reliable power source and better electronics. The Tunnel Rat III, however, is a completely reworked design. Heavier, massing just shy of 300 kilos, it is far better armored and has an enhanced life support system—both in response to calls for better survivability in the event of disaster. It also mounts a basic jet system, granting users unheard-of low-g mobility (though in normal gravity, the system is typically disabled to prevent accidents).

All three Tunnel Rats are in wide use throughout the Inner Sphere, primarily in harsh environments and by larger corporations. Unfortunately, while it is among the best pieces of equipment available to mining concerns, it is also among the most costly; small operations, and those that make extensive use of slave or prison labor, will likely continue to use what they already have until the prices come down significantly.

Type: Tunnel Rat I/II Mining Exoskeleton
Manufacturer: General Motors
Primary Factory: Kathil
Equipment Rating: E/X-X-C/C

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	1		0 kg
Jump MP	0		0 kg
Manipulators:			
Left Arm:	Basic Manipulator, Modular	2	10 kg
Right Arm:	Industrial Drill, Modular	2	40 kg
Armor:	Standard		50 kg
Armor Value:	1 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
None	—	—	—

Type: Tunnel Rat III Mining Exoskeleton
Manufacturer: General Motors
Primary Factory: Talcott
Equipment Rating: E/X-X-D/D

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	1		0 kg
Jump MP	1		25 kg
Manipulators:			
Left Arm:	Basic Manipulator, Modular	2	10 kg
Right Arm:	Industrial Drill, Modular	2	40 kg
Armor:	Standard		100 kg
Armor Value:	2 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Extended Life Support	Body	1	25kg

GM TUNNEL RAT MINING EXOSKELETONS

PEX-2B GORILLA / PEX-2F SALRILLA

StarCorps Industries is one of the biggest interstellar corporations in the Inner Sphere. Though it is probably best known for the BattleMechs it constructs for four of the five Successor States, its interests span a wide range, profiting from more than just its military products. After the development of the powered armor suit in the early 3050s, manufacturers across the stars scrambled to be the first to apply the new technologies to the primitive exoskeletons in use in the latter days of the Succession Wars. StarCorps wasn't the first, but its offerings have the dual benefits of extensive R&D testing, as well as perhaps the largest marketing campaign of any exoskeleton manufacturer.

Though the Gorilla didn't reach the market until a number of other power armor-influenced industrial exoskeleton designs did, StarCorps spent the additional time not only perfecting its offering, but also embarking upon a massive marketing campaign. But unlike its competitors, which spent their time marketing toward the largest of potential customers, StarCorps targeted the medium markets, companies who could not afford to spend unlimited money on the top of the line but could nevertheless benefit from this emerging technology.

StarCorps debuted the Gorilla on thirty major worlds across the Inner Sphere at a price far lower than any other modern industrial exoskeleton. The company took the long view and banked that continued sales would soon cover R&D costs and turn a profit. The risk paid off "big time," quoting the corporate literature. Tens of thousands of the company's signature civilian heavy equipment colors of bright orange and yellow Gorillas were in operation on hundreds of worlds around the Inner Sphere and near Periphery within just a few years.

The Gorilla was a veritable overnight hit as a generic industrial exoskeleton, but by and large it found its most popular use in the construction business—especially in high-risk situations and environments where workers had to wear so much protection that they could barely do the work. The Gorilla still maintained the mobility of a person while giving its wearer superior protection against accidents and a significant boost in strength.

It was no surprise that many military and freelance reclamation teams turned to the Gorilla to aid in the process of battlefield salvage. Unfortunately, it wasn't the ideal suit for this purpose, which is why StarCorps debuted the Salrilla—an oft-lampooned bastardization of "salvage gorilla"—in 3058. Listening to the needs of these teams, StarCorps increased not only the suit's mobility but also its protection—welcome changes to those working on still-active battlefields. The suit retains the Gorilla's integral cutting torch and spotlights, but adds modular mounts on its arms, allowing the addition of specialized salvage equipment on either or both arms. Obviously a far more expensive model, the Salrilla is nonetheless a popular design in use with every major military organization in the Inner Sphere today.

Type: PEX-2B Gorilla
Manufacturer: StarCorps Industries
Primary Factory: Crofton, Emris IV, Loburg, St. Ives
Equipment Rating: D/X-X-C/C

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	1		0 kg
Jump MP	0		0 kg
Manipulators:			
Left Arm:	Salvage Arm		30 kg
Right Arm:	Basic		0 kg
Armor:	Standard		50 kg
Armor Value:	1 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Cutting Torch	Body	1	5 kg
Searchlight	Body	1	5 kg

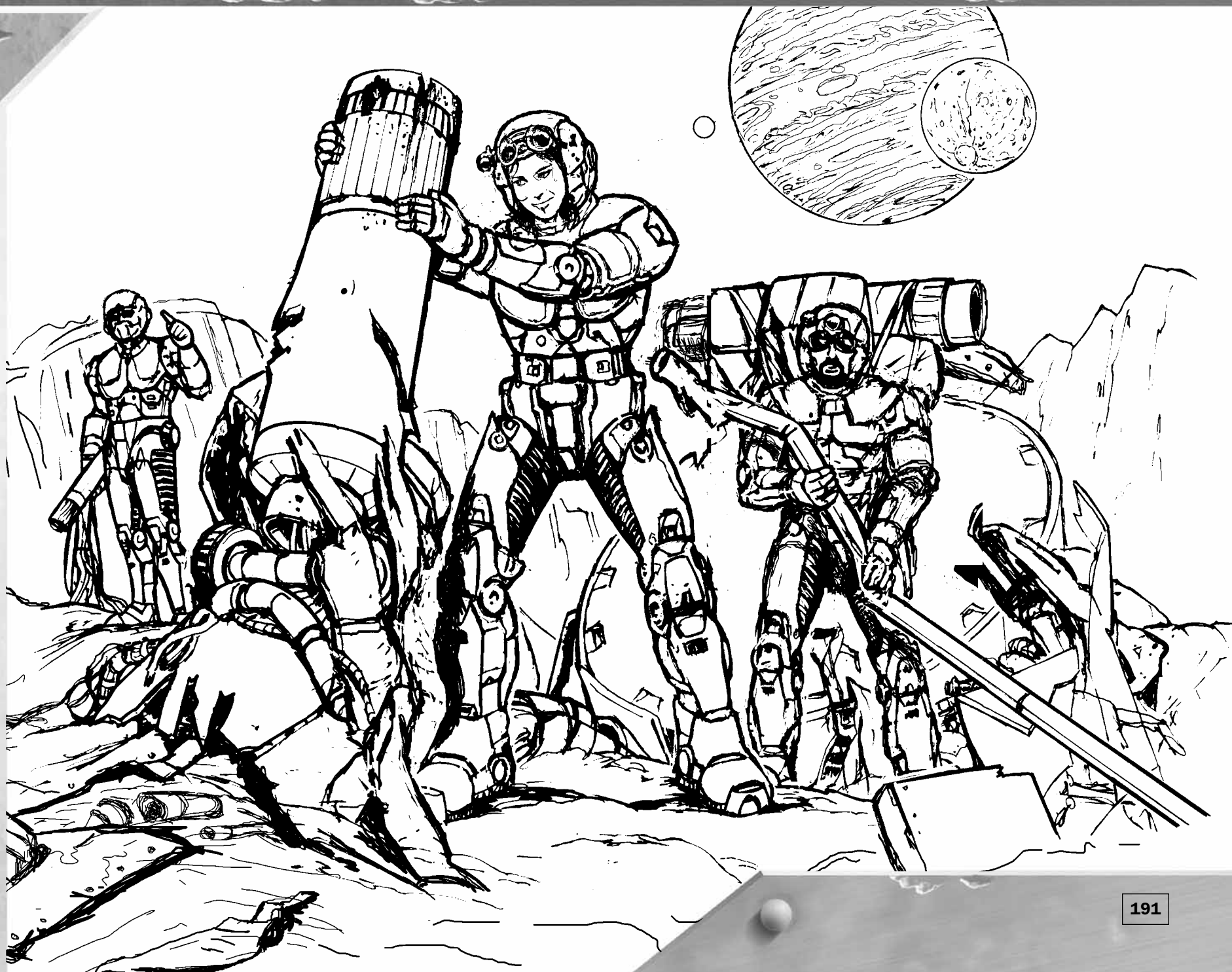
Type: PEX-2F Salrilla
Manufacturer: StarCorps Industries
Primary Factory: Crofton, Emris IV, Loburg, St. Ives
Equipment Rating: E/X-X-C/D

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	3		50 kg
Jump MP	0		0 kg
Manipulators:			
Left Arm:	Salvage Arm, Modular	2	40 kg
Right Arm:	Basic Manipulator, Modular	2	10 kg
Armor:	Standard		100 kg
Armor Value:	2 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Cutting Torch	Body	1	5 kg
Searchlight	Body	1	5 kg

PEX-2B GORILLA / PEX-2F SALRILLA



HEAVYHAULER / P-5000 POWERLOADER

Industrial exoskeletons can be used in a number of different applications, but one of the most popular certainly has been cargo loading. The first exoskeletons to hit the commercial markets were generic devices; though providing their wearers a significant strength increase, they still were unable to rival motorized lifts and hoists for sheer lifting power. That changed with the introduction of the HeavyHauler and the PowerLoader.

General Motors' entry into this category, though not the first to market, had the benefit of GM's reputation and marketing power to ensure its widespread acceptance. It is not particularly mobile, and provides its wearer almost no additional protection against accidents beyond its basic structure. On the other hand, it doesn't particularly need to provide a great deal of speed or heavy protection. Instead, it focuses on one thing and one thing only: lifting power. Able to lift a full two metric tons and maneuver it into any position, the HeavyHauler became an easy favorite of cartage companies and large manufacturers across the Inner Sphere. That GM immediately put the HeavyHauler into service in each of its factories—and gave potential customers the opportunity to see them in action and even test drive them under realistic, if controlled, circumstances—went a long way to proving its value, both winning the company many early converts and generating many long-term purchase orders.

The PowerLoader, on the other hand, came to the market from a completely different venue. Waytani, Inc. is a Free Worlds League corporation that apparently formed solely to manufacture and market the PowerLoader, which found willing markets in the League as well as the Capellan Confederation. Though its entry into the loader exoskeleton category did not have the same capacity as GM's HeavyHauler, it had a leg up in both mobility and protection for its wearer while still carrying a 1500-kilogram load. Taking the unique tactic of placing its products in a slew of holovid productions in the mid-3050s paid off handsomely for the company, which saw its business soar. This allowed Y-W to build another factory on Pollux in 3060 and expand its operations in several additional directions.

Though other loader designs have since hit the market, the HeavyHauler and PowerLoader are the grandaddies—the suits by which all others are compared. Both feature unique lifter arm designs that many have tried to copy, right along with their general lines. That has brought both GM and Waytani into civil courts in every nation, each fighting rabidly to protect their designs. Though local courts have not always protected their rights, courts within both the Free Worlds League and Federated Commonwealth have ruled in each company's favor in every valid lawsuit, awarding significant damages—payable in the form of cargos seized and fines imposed.

Despite these two companies' hold over the loader market, their signature suits have recently proved lacking. There is still a pressing need for suits that can lift and move much heavier loads, typically in situations where WorkMechs or multiple loaders working together are unable to operate. Until that role can be filled, however, the HeavyHauler and PowerLoader will continue to be seen on almost every transfer station, spaceport, cargo ship and major loading dock in the Inner Sphere.

Type: HeavyHauler
Manufacturer: General Motors
Primary Factory: Kathil
Equipment Rating: D/X-X-C/C

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	1		0 kg
Jump MP	0		0 kg
Manipulators:			
Left Arm:	Cargo Lifter*		120 kg
Right Arm:	Cargo Lifter*		120 kg
Armor:	None		0 kg
Armor Value:	0 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Cutting Torch	Body	1	5 kg
Searchlight	Body	1	5 kg

*2 Tons Capacity Total for both manipulators

Type: P-5000 PowerLoader
Manufacturer: Waytani, Inc.
Primary Factory: Pollux and Marik
Equipment Rating: D/X-X-D/C

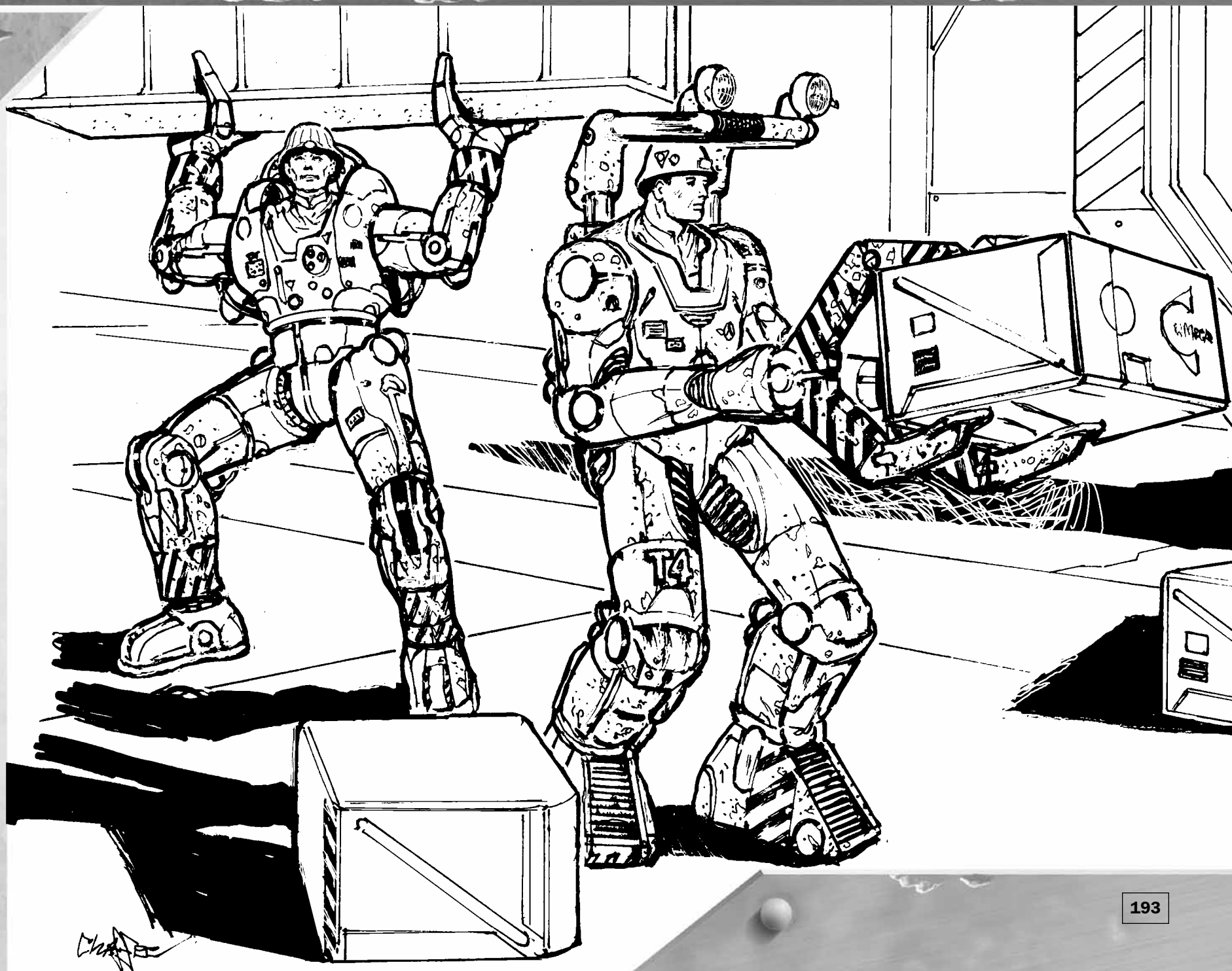
Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: Exoskeleton
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	2		25 kg
Jump MP	0		0 kg
Manipulators:			
Left Arm:	Cargo Lifter*		90 kg
Right Arm:	Cargo Lifter*		90 kg
Armor:	None		50 kg
Armor Value:	0 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Cutting Torch	Body	1	5 kg
Searchlight	Body	1	5 kg

*1.5 Tons Capacity Total for both manipulators

HEAVYHAULER / P-5000 POWERLOADER



RESGATE / KRISE PA(L) EXOSKELETONS

In the late part of the thirtieth century, the Cloud Cobra enclave on Homer suffered a massive earthquake, plunging over a quarter of the city into chaos and confusion. The catastrophe killed over eight hundred labor and merchant caste members. Ill-equipped to handle such a massive disaster, the Warrior Council of the Clan vowed to spend some of their own research and development efforts into devising new emergency services tools. Utilizing some castoff battle armor prototypes, the scientist caste was able to build a compact light exoskeleton that could handle most basic types of situations. The suit was fitted with an internal jump pack for increased mobility, an improved sensor suite for locating life signs through up to ten meters of dense material, and a compact salvaging system attached to the left arm. Stripped of the more advanced systems needed for battle armor combat, the light exoskeleton consisted of everything necessary to assist the operator to find and rescue a trapped or injured subject. When Clan Fire Mandrill developed their Salamander battle suits utilizing fire-resistant armor, the Cobras saw the potential in their armor design. In a trial between scientist castemen, Scientist Carl (Baugh) defeated Mandrill Scientist Michael (Behe) in a magnetic belt experiment, winning the Cobras the use of the fire-resistant armor weave for their Resgate exoskeleton. With some reverse engineering, the Cobras developed a fire-resistant armor that could protect the operator from intense heat for a short period of time. Not intended for combat use, the Resgate armor performed superbly in emergency tests. When the Cobra DropShip *Dresden* crashed on Babylon, members of the Resgate-equipped 849th Fire Response Unit were able to save all but one of the crewmen from the fiery inferno.

In the Inner Sphere, the explosion of battle armor designs after the discovery of the Helm memory core led to breakthroughs in the lighter exoskeleton frames usually used for heavy lifting and stevedore work. By using the rediscovered technical information, Gortex Multi-E—the Federated Suns' primary manufacturer of emergency services equipment—designed a light exoskeleton suit they christened the Krise. Simple to use, the Krise contained the tools needed to help in rescuing victims from rubble, cave-ins, and other natural disasters. The suit isn't fireproof, however, and even brief exposure to concentrated heat can permanently damage internal systems. Nevertheless, the suit had been snapped up by eager emergency response teams across the Suns, with the next three years of production runs already pre-sold at capacity.

Type: Resgate PA(L) Exoskeleton
Manufacturer: Clan Cloud Cobra
Primary Factory: Homer
Equipment Rating: F/X-X-E/D

Tech Base: Clan
Chassis Type: Humanoid
Weight Class: PA(L)
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None.

Equipment		Slots	Mass
Chassis:			130 kg
Motive System:			
Ground MP:	3		50 kg
Jump MP:	3		75 kg
Manipulators:			
Left Arm:	Salvage Arm		30 kg
Right Arm:	Basic Manipulator		0 kg
Armor:	Fire Resistant		60 kg
Armor Value:	2 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Improved Sensors	Body	1	45 kg

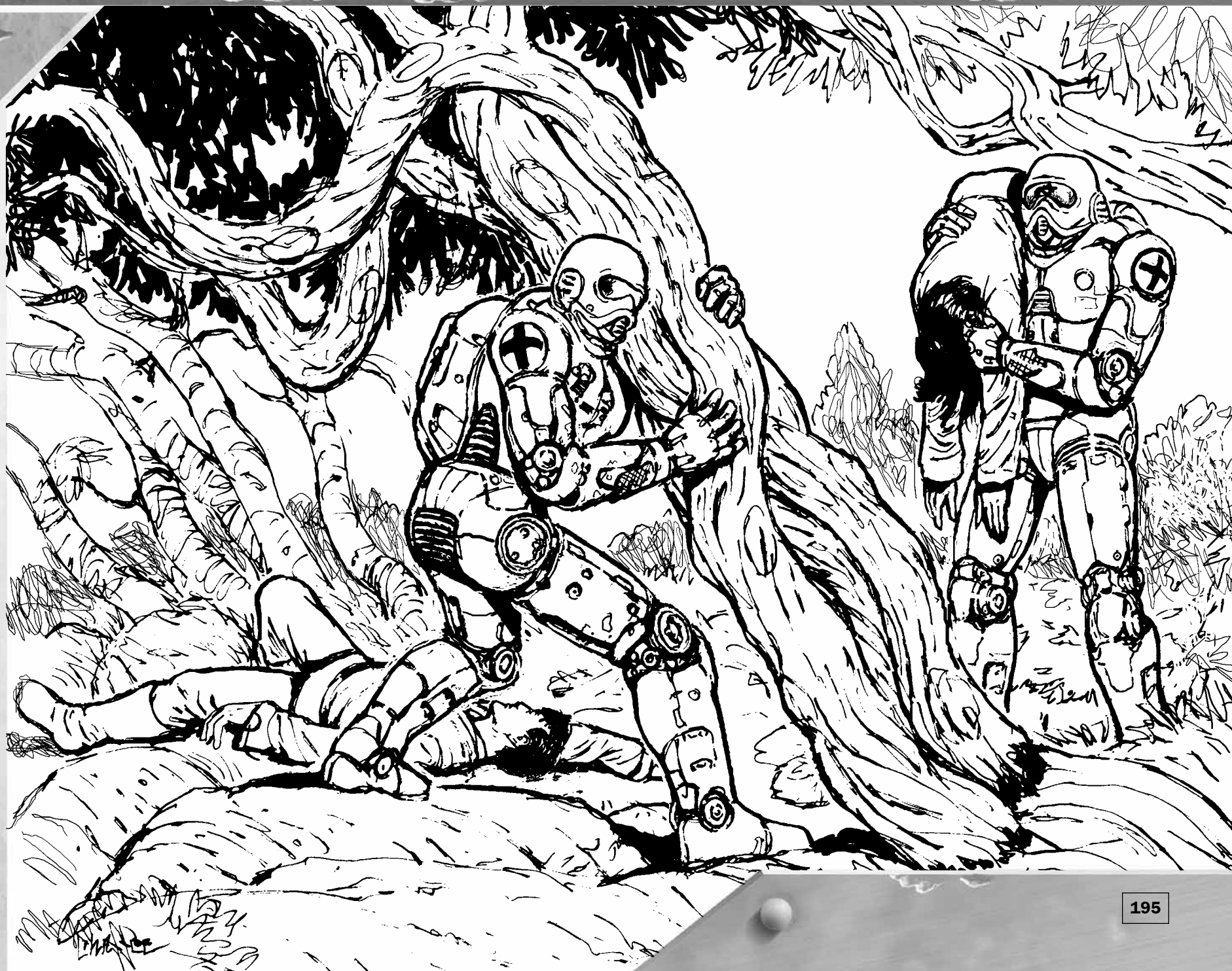
Type: Krise PA(L) Exoskeleton
Manufacturer: Gortex Multi-E
Primary Factory: Kittery
Equipment Rating: E/X-X-E/F

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: PA(L)
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: No/No/No/No
Notes: None.

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP	3		50 kg
Jump MP	3		75 kg
Manipulators:			
Left Arm:	Salvage Arm		30 kg
Right Arm:	Basic		0 kg
Armor:	Standard		50 kg
Armor Value:	1+1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Cutting Torch	RA	1	5 kg
Improved Sensors	Body	1	65 kg
Searchlight	LA	1	5 kg
Extended Life Support	Body	1	25 kg

RESGATE / KRISE PA(L) EXOSKELETONS



SMOOTHDAVID II / SMOOTHGOLIATH II

In the early 3050s, jealous police forces everywhere focused on the increasing number of infantry units getting equipped with modern battle armor. Those suits offered the kind of protection and increased strength response teams and riot detachments had always dreamed of. Alas, those metal wonders still stayed far out of reach—too costly, too rare and thus supplied only to the armies of the Successor States. With new models appearing and battle armor seeing more widespread use about a decade later, the availability issue somewhat faded, and several prestigious security organizations immediately began to evaluate possible investments.

However, field tests quickly uncovered major problems that rendered battle armor nearly useless in everyday police duties. Basically, they were too heavy and ungainly, and often overarmed. Police officers found themselves trapped in stairways, stuck in doorframes and generally complained about hindered fields of vision. Hand-to-hand combat usually ended with a suspect pulped instead of knocked out or, on rare occasions, the armored officer lying on his back, playing turtle. The mounted standard weapons proved too powerful as well, while using conventional handguns somewhat missed the point—especially on those suits without precise hand-actuators. In short, besides prestige, there was no apparent reason for police forces to use battle armor. Only Lohengrin filed a rather large letter of demand for "anti-terrorist crowd control" purposes. It was promptly and unanimously rejected by the Estates General on the grounds of Lohengrin's controversial past in exactly such activities.

Relief arrived in autumn of 3064 in the form of TharHes Industries, which finally heeded the call and bridged the gap between robotic industrial exoskeletons and their flexible battlefield brethren. Drawing heavily from prototype techniques field-tested on Solaris VII, the Smoothdavid proved to be an instant success—despite a designation that hopefully cost the responsible PR office their jobs.

What made the Smoothdavid such a hit with governmental customers was its open construction. A light-weight frame comes with so-called "Snap-On" hardpoints on all the right spots. Additional gear and gadgets like armor vests, manipulator gloves or filtering breathers are thus easily attachable in the nick of time. (TharHes initially delivered a fully equipped version called the Smoothgoliath, as well). And the thing looks good too, making it a favorite in junior high schoolyards and recruitment holovids.

Now that the ice was broken—technologically—several other suppliers started to show up over the following years with similar products. Some were cheap copies, but some rivaled the original in quality and performance. TharHes itself landed a product-placement deal par excellence when they were allowed to outfit the 3067 Whitting Conference guards with Smoothdavids. Doing a splendid job of keeping the assembly of Lords and Ladies safe from protesters and assassins, they still ultimately failed as the unimaginable happened. A few kilos of endosteel simply do not protect from orbital strikes.

Type: Smoothdavid II PA(L) Exoskeleton
Manufacturer: TharHes Industries
Primary Factory: Tharkad
Equipment Rating: E/X-X-E/F

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: PA(L)
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: Yes/Yes/No/Yes*
Notes: TharHes leaves the armament open to the customer.

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP:		3	50 kg
Jump MP:		0	0 kg
Manipulators:			
Left Arm:	Armored Glove		0 kg
Right Arm:	Armored Glove		0 kg
Armor:	Standard		50 kg
Armor Value:	1 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
(Anti-Personnel Weapon Mount)	LA	0	5 kg
(Anti-Personnel Weapon Mount)	RA	0	5 kg
Searchlight	Body	1	5 kg
Mission Equipment	Body	1	205 kg

*Depending on manipulator configuration

Type: Smoothgoliath II PA(L) Exoskeleton
Manufacturer: TharHes Industries
Primary Factory: Tharkad
Equipment Rating: E/X-X-E/F

Tech Base: Inner Sphere
Chassis Type: Humanoid
Weight Class: PA(L)
Maximum Weight: 400 kg
Swarm/Leg Attack/Mechanized/AP: Yes/Yes/No/No
Notes: Initially a fully equipped version of the Smoothdavid, TharHes later changed the Smoothgoliath to a specialized explosives defuser.

Equipment		Slots	Mass
Chassis:			80 kg
Motive System:			
Ground MP:		3	50 kg
Jump MP:		0	0 kg
Manipulators:			
Left Arm:	Armored Glove		0 kg
Right Arm:	Armored Glove		0 kg
Armor:	Standard		100 kg
Armor Value:	2 + 1 (Trooper)		

Weapons and Equipment	Location	Slots (Capacity)	Mass
Heat Sensor	LA	1	20 kg
Cutting Torch	RA	1	5 kg
Searchlight	Body	1	5 kg
Mission Equipment	Body	1	130 kg

SMOOTHDAVID II / SMOOTHGOLIATH II

INDUSTRIALMECHS

The arrival of the Clans and their superior weapons heralded a subtle shift in the BattleMech market as the Inner Sphere experienced an increased demand for heavier (and better armored) 'Mechs. Although these big ticket items have always been the source of our highest profit margins, the change in the market has also resulted in underutilization of our light 'Mech production lines. The resulting reduction in turnover has hit our gross profits and we need to look closely at ways to realize our investment in upgrading those production lines. We could convert them to produce heavier BattleMech designs, but my colleagues have voiced concerns that such a move could create a glut in the market. It is far better that we keep supply far beneath demand.

Instead, I suggest we investigate the possibility of increasing our presence in the IndustrialMech market. Our least profitable production lines could be converted to produce civilian 'Mech designs relatively easily. I have included an extract from a recent article from 'Mech Monthly that summarizes the current market conditions.

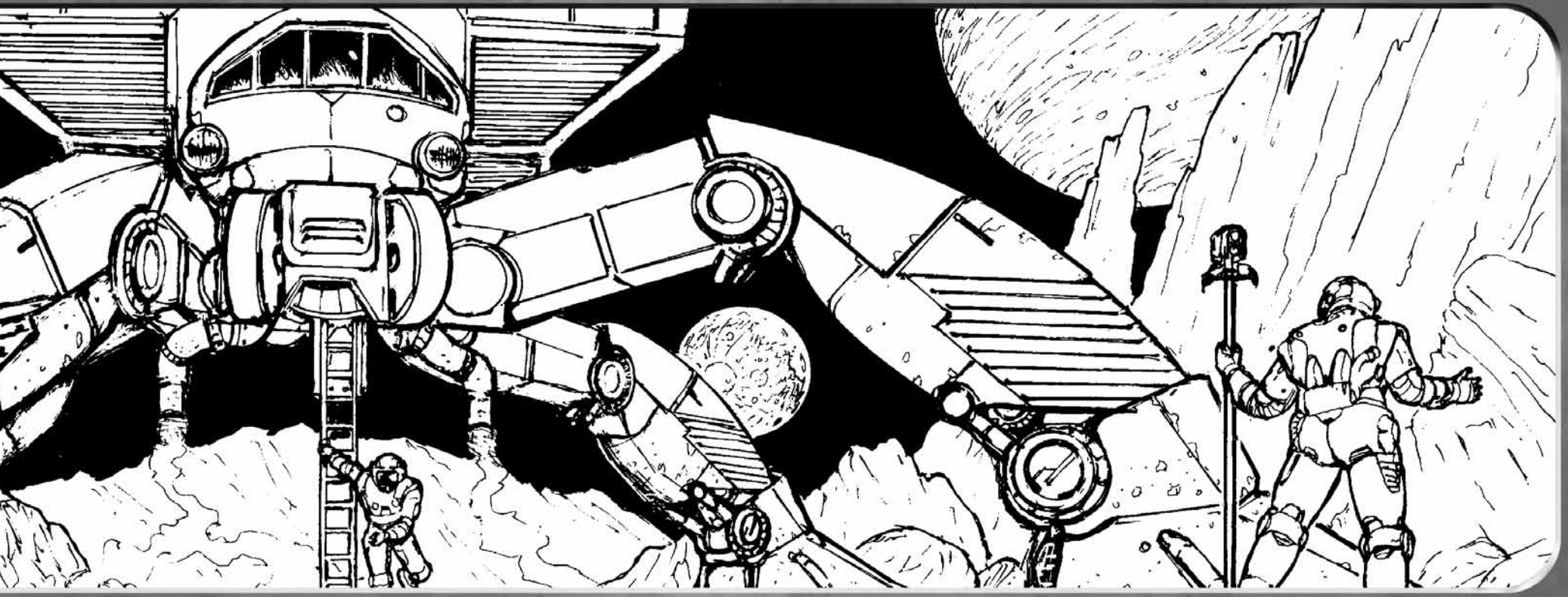
—Nathaniel Rivarez, Division Head, Irian BattleMechs, Unlimited

Although crude by today's standards, the myomer bundles and actuators developed in 2350 paved the way for the creation of the IndustrialMech (or WorkMech, as it was often called in the twenty-fourth century). A key technology in the transformation of colony worlds critically short of skilled labor, the IndustrialMech served as an invaluable "force multiplier." As the technology was refined, it was inevitable that the military would also show an interest. IndustrialMechs had served the Hegemony Armed Forces in a rear-area support role almost since their inception, but in 2439 Hegemony scientists finally perfected the first true BattleMech (though primitive by the standards of the modern 'Mechs that began appearing by 2470)—the *Mackie*. For the next three hundred years the BattleMech overshadowed its civilian brother but, in truth, records indicate that IndustrialMechs outnumbered their martial brethren by at least twenty to one.

As bad as the technological and industrial losses of the Succession Wars were for BattleMechs, they proved even more devastating for IndustrialMechs. The unceasing demand for spare parts forced the Successor States to divert their dwindling manufacturing capacity to support their armies. When even this proved insufficient, the Inner Sphere began to strip IndustrialMechs for parts. Some desperate attempts were made to press IndustrialMechs into service on the battlefield, but these were invariably unmitigated disasters. By the end of the Third Succession War, the IndustrialMech had become almost as rare as the BattleMech.

The technological renaissance that followed the recovery of an intact Star League memory core was initially focused on updating military equipment. Following the Truce of Tukayyid, some of the recovered technology began to filter down to the civilian sector. While many of the established BattleMech producers were slow to act, a host of smaller firms have stepped in to fill demand in this growing market. What follows is just a cross-section of the bewildering array of IndustrialMech designs currently in production across the Inner Sphere and beyond.

—'Mech Monthly, December 3068 Issue, Galatea Press



HVR-99 "HARVESTER" AGROMECH

Mass: 30 tons
Chassis: Iroquois Machinery Medium
Power Plant: Junkers 120 ICE
Cruising Speed: 43.2 kph
Maximum Speed: 64.8 kph
Jump Jets: 0
Jump Capacity: No
Armor: LaborHeavy /1
Equipment:
1 SteelTek Cargo Lift Hoist
1 Case/International Combine
Manufacturer: Iroquois Machinery Limited
Primary Factory: Shawnee
Communications System: T-300 Dual Wave
Targeting and Tracking System: None

Overview

When the Helm Memory Core was finally cracked by the NAIS, a wealth of information was discovered detailing Star League-era knowledge about advanced agricultural technology, among other things. Chief among the data were prototype schematics for new combine and threshing equipment and structural modifications needed to mount such machinery onto exoskeleton and compact IndustrialMech frames. Once the data was released to the general public, several Federated Commonwealth companies snapped up the information for their own research and development firms.

Within five years, over three hundred new patents were registered with the Federated Patent Office on New Avalon. One of those was from Iroquois Machinery Limited, a small manufacturing firm on Shawnee that specialized in harvesting and threshing machinery. Its newly designed *Harvester* AgroMech could harvest as much as three of their own Comanche Tracked Combines, reducing corporate overhead by a significant margin. Additionally, because of the heavier LaborHeavy /1 armor weave (installed to protect the machine from the massive bufaali herds that roamed the plains), the *Harvester* could step in as a last-ditch backup against pirate attacks.

Their design overwhelmingly approved by the Minette Farming Concern, the *Harvester* entered full production in 3049. Within ten years, the IM design was found on almost every agrarian world in the Suns.

Capabilities

Often painted bright yellow—the better to stand out in the vast *seluguwesa* fields of the Asdaya Unule Plains—the *Harvester* can easily thresh flatlands and hillside crops. The massive carbide blades of the Case-International combine can easily cut the *seluguwesa* stalks without jamming, saving time and expense. The fifteen-ton rated cargo hoist can then gather the massive stalks and easily move them into a trailing container truck. The flaw in the design is the high-maintenance Junkers engine, as it requires a higher fuel flow than similar engines and is prone to breakdown if not maintained every thirty work-hours. IM is currently in negotiations with the GM plant on Mermentau but no deal is yet in sight.

A different use for the *Harvester* has recently come to light. During a pirate raid in 3061, *Harvester* pilot Graham "Bandit Killer" Brisbani scored the only recorded kill by an AgroMech in the Federated Suns. Conveniently ignoring the fact that it was garnered against a Goblin tank with a busted track, Brisbani drinks for free at any establishment he visits. An average farmhand, Brisbani is slowly letting his exploits go to his head and has recently gained the ear of Joseph "Ten Ton" Whipcort, head of R&D at Iroquois Machinery. Rumor has it that Graham is now considering a run for planetary governor, despite the fact that he lacks any political—or social—acumen whatsoever.

Variants

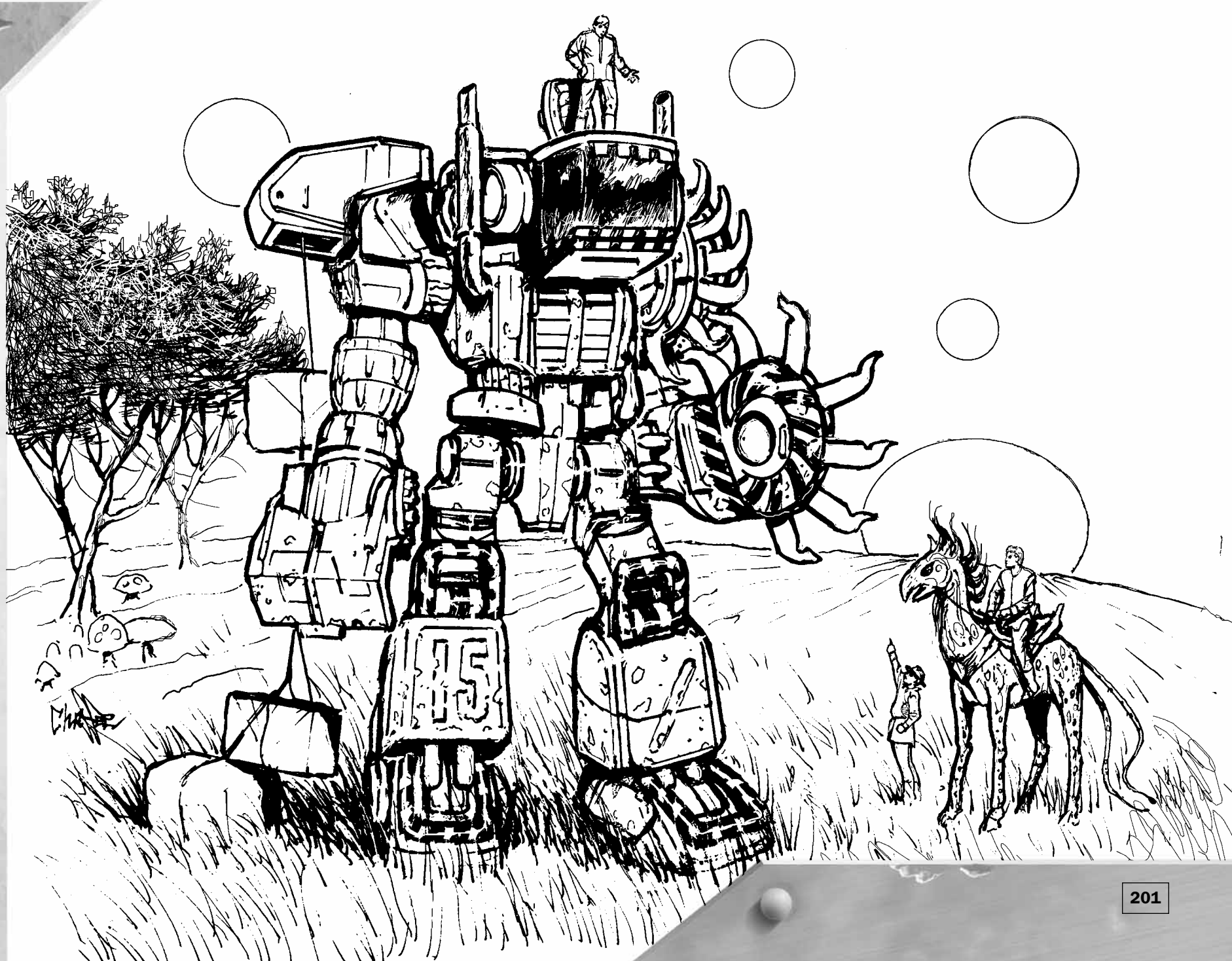
Though there is currently no need for variants to this workhorse design, some wild imaginations at IM think that heavier BattleMech weapons could be mounted onto the *Harvester*'s frame as a stopgap military solution. These corporate thinkers neglect to consider the ramifications of such modifications, such as the fragility of the chassis in combat situations, not to mention needing to reinforce the inner structure to handle the recoil and weight of such weapons. Fortunately, these corporate renegades have failed to materialize much beyond their "crazy talk" around the corn-wine cooler.

Type: **HVR-99 "Harvester" AgroMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 30
Equipment Rating: D/X-D-C/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		6
Engine:	120 (ICE)		8
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro:			2
Cockpit:	IndustrialMech		3
Armor Factor:	80 (Heavy Industrial)		5
	Internal Structure	*Armor Value*	
Head	3	5	
Center Torso	10	10	
Center Torso (rear)		5	
R/L Torso	7	9	
R/L Torso (rear)		3	
R/L Arm	5	8	
R/L Leg	7	10	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Cargo Lift Hoist	RA	3	3
Combine	LA	4	2.5
Cargo Bin	CT	1	.5

HVR-99 "HARVESTER" AGROMECH



SC-V-1 "VAMPYR" SCAVENGERMECH

Mass: 80 tons
Chassis: Bristol Quadina-5E
Power Plant: Nissan 320 Fuel Cell
Cruising Speed: 43.2 kph
Maximum Speed: 64.8 kph
Jump Jets: 0
Jump Capacity: No
Armor: Humphries Heavy Industrial
Equipment:
1 Radial FlexiSprayer
Manufacturer: Bristol SalvageWorks
Primary Factory: Canopus
Communications System: Channel 80 Short
Targeting and Tracking System: None

Overview

Though loathe to admit it, the Magistracy of Canopus has benefited greatly from their inclusion in the Trinity Alliance with the Capellan Confederation (and to a lesser extent, the Taurian Concordat). One area of scientific boon has been in the area of salvage technology—an area often neglected or even ignored by most military scientists. Because the Canopian military doesn't see the level of replacements that a Great House does, the Periphery realm has perfected the fine art of salvage. Thus, the enhancement of the aging Vampyr ScavengerMech has only enhanced the oft-ignored Canopian Salvage Corps.

The Corps' main focus is to reclaim as much useable material from a war-shattered landscape as possible. Though most MechWarriors may think of reconstituted weapons or bent armor plates when asked about salvage, they sadly show their ignorance. The ruins of war often leave half-full fuel tanks, liters upon liters of heat sink coolants, functional (or mostly so) engine cores, kilometers of myomer strands and tons of tires and tracks. A Corps mission can take up to several weeks reclaiming useable and repairable equipment from a large battlefield, of which the equipment is then tagged, logged, repaired and introduced into the MAF's Quartermaster Corps.

Capabilities

One of the hardest jobs of a dedicated salvage team is reclaiming the smaller, delicate electronics as well as unused (and often hazardous) liquids in military hulks. Until the Vampyr's introduction, teams usually used a combination of conventional cargo haulers, hand pumps, and hazmat suits to properly drain and divest salvageable vehicles of their fluids. Prisoners were usually used for such hazardous duties and the job became known as the "piss patrol" among many Corps veterans.

The *Vampyr* comes equipped with two liquid storage containers and a complex pumping mechanism. A ground team member inserts the hose (with a variety of adapters and hookups) into the proper position and using a vacuum system, the *Vampyr* sucks the liquids from the bin. Standard procedure has one storage tank used to contain petrochem fuels and oils for later refining, with the other dedicated solely to coolant storage (though care must be taken to collect only one type of liquid coolant at a time; some heat sink coolants, like liquid nitrogen and almost any other liquid coolant, do not mix well).

During the draining process, ground team members disassemble any useable equipment and place them into one of the *Vampyr*'s eight cargo bins. If larger vehicles need to be moved or shifted, the *Vampyr* is equipped with Industrial TSM, allowing it to move even massive assault-class BattleMechs. In a pinch, the Vampyr can even drag a BattleMech carcass for a distance, though the increased weight does stress the actuators, necessitating premature replacement.

The *Vampyr* ScavengerMech takes advantage of recent environmental sealing technology developed by the Confederation. Using a dual-layered sealing system around the 'Mech's actuators and critical systems, the *Vampyr* is able to function in vacuum, hostile atmospheres, and underwater.

The *Vampyr* also has a sprayer that can be directed by the pilot. The sprayer is connected to one of the liquid storage tanks (often the one designated for coolant) and can be used to combat fires, hose down hazardous spills, or even cool off overheated BattleMechs.

Variants

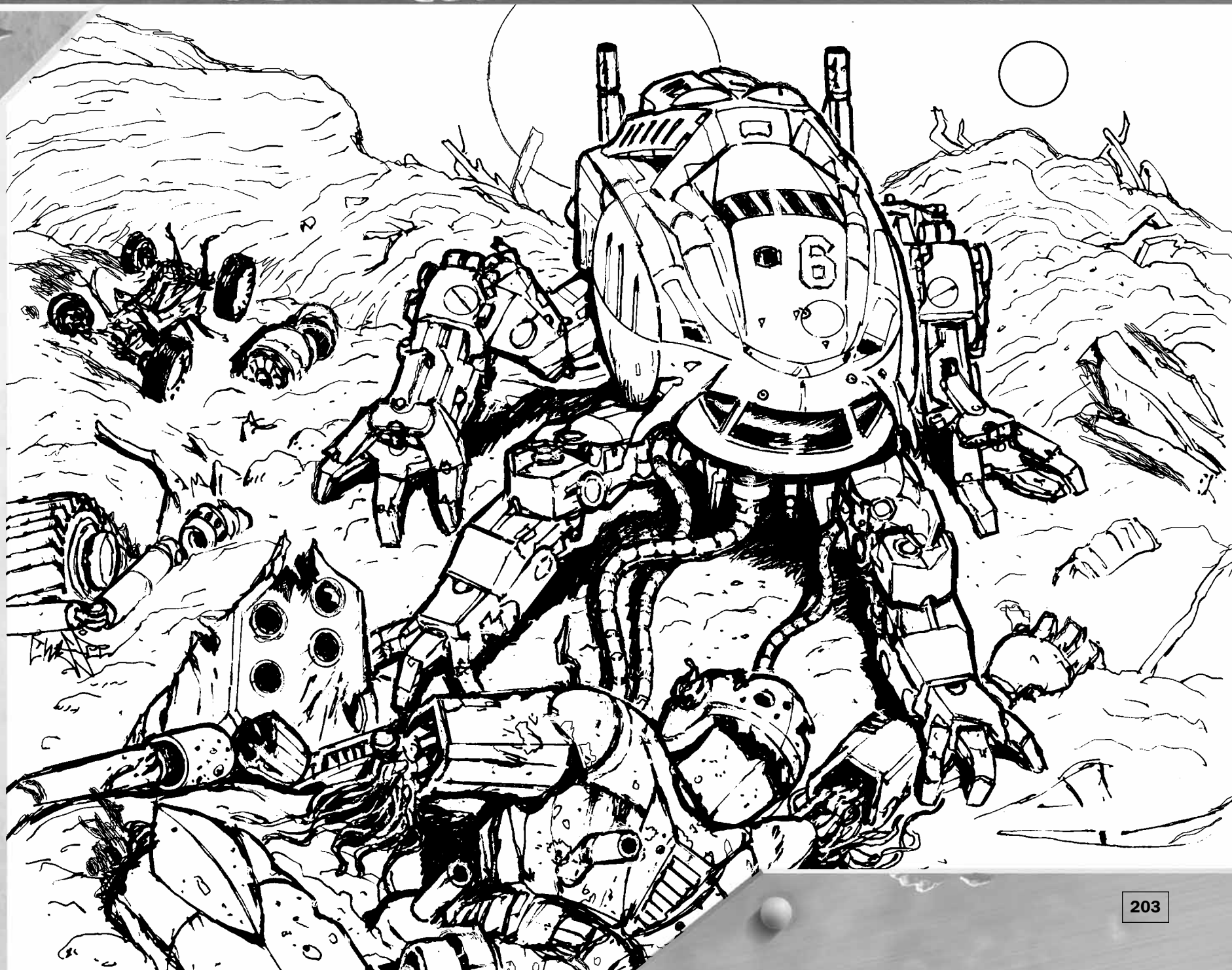
The *Vampyr*'s predecessor, the SC-V *Scavenger*, is in use by a number of groups including the (late) Gray Death Legion. It lacks the environmental sealing and TSM of the Trinity Alliance version.

Type: **SC-V-1 "Vampyr" ScavengerMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 80
Equipment Rating: E/X-X-D/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		16
Engine:	320 (Fuel Cell)		27
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	2		1
Gyro:			4
Cockpit:	IndustrialMech		3
Armor Factor:	112		7
	Internal Structure	*Armor Value*	
Head	3	8	
Center Torso	25	15	
Center Torso (rear)		5	
R/L Torso	17	10	
R/L Torso (rear)		6	
R/L Front Leg	17	13	
R/L Rear Leg	17	13	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Searchlight	RT	1	.5
2 Liquid Cargo Bins	RT	2	2
2 Standard Cargo Bins	RT	2	2
Light Fluid Suction System	LT	1	.5
6 Standard Cargo Bins	LT	6	6
Extra Fuel Tank	LT	1	3
Environmental Sealing	All	1/location	8
Industrial TSM	LT/RT	4/4	0
Industrial TSM	RFL/LFLL	1/1	0
Industrial TSM	RRL/RLL	1/1	0

SC-V-1 "VAMPYR" SCAVENGERMECH



KIC-3 HARVESTER ANT

Mass: 20 tons
Chassis: Kong Industrial
Power Plant: Leenex 60 ICE
Cruising Speed: 32 kph
Maximum Speed: 54 kph
Jump Jets: None
Jump Capacity: None
Armor: Commercial/Star Slab
Equipment:
2 Thresher Combine Units
Manufacturer: Kong Interstellar Corporation
Primary Factory: Connaught
Communications System: Bassix 100
Targeting and Tracking System: None

Overview

During the golden years of the Star League, new terraforming techniques and inexpensive Jamerson-Ulikov water purification systems opened up a new frontier within the Inner Sphere. Previously those searching for land to claim as their own had to push ever outward into the Periphery and beyond. Now a wave of colonization targeted systems previously passed over as unsuitable.

The new generation of colonists faced the same problems as their predecessors—securing food, water and shelter while battling threats from natural elements and manmade bureaucracy. And the Star League's generation had access to advanced technology, like IndustrialMechs benefiting from centuries of design experience and cutting-edge Star League technology. Ideally suited to the rugged conditions of undeveloped worlds, a man with one of these machines could perform the work of many and not be hindered by a lack of transport infrastructure. Equipped with IndustrialMechs, a small workforce could cultivate huge tracts of land. Amongst the many IndustrialMech designs introduced during this era was Kong Interstellar Corporation's highly successful *Harvester Ant*.

Capabilities

A quad design, the *Harvester Ant* can be piloted with safety by even the most inexperienced of operators. Twin combine units mounted ahead of the forelegs allow the IndustrialMech to cut a ten-meter wide swath through crops while storing the harvested material in an internal bay. When dealing with a high bulk harvest (such as wheat), the Harvester Ant must depend on other IndustrialMechs or farm vehicles to unload its two-ton capacity cargo bay. For other lower yield crops, such as Kiffnuts (a mountain fruit native to Midkiff and prized for its oils), a *Harvest Ant* can scour a field without unloading.

Although not powerful or particularly efficient, the Leenex power plant is a rugged and reliable unit that can burn a wide variety of fuels—refined and unrefined petrochemicals, alcohol, or even oils extracted from plants or animals. Though not as clean or efficient as a fusion power plant, ICE proved a very practical solution for colonies or even individuals who lacked access to the tech-base necessary to maintain more advanced equipment.

Deployment

The brutality of the Succession Wars cut deeply into Kong's profitability. The manufacturing plants on Connaught were damaged extensively, reducing them to the status of a repair facility and ending production of IndustrialMechs. Over the centuries, *Harvester Ant* numbers dwindled as they fell victim to mechanical failure or were stripped of parts to keep BattleMechs operational. Throughout the Succession Wars, desperate individuals have attempted to arm the *Harvester Ant*. Not having been built with combat in mind—lacking as it does proper armor or targeting systems—the results have been universally disappointing.

The recent technological renaissance allowed Kong to put their *Harvester Ant* back into production; a new factory opened in 3058. Initially sales were strong during the Sphere-wide economic upswing that accompanied the formation of the Second Star League. The subsequent inter-member state conflicts and the dissolution of the new Star League is seriously curtailing demand as military spending receives priority.

Variants

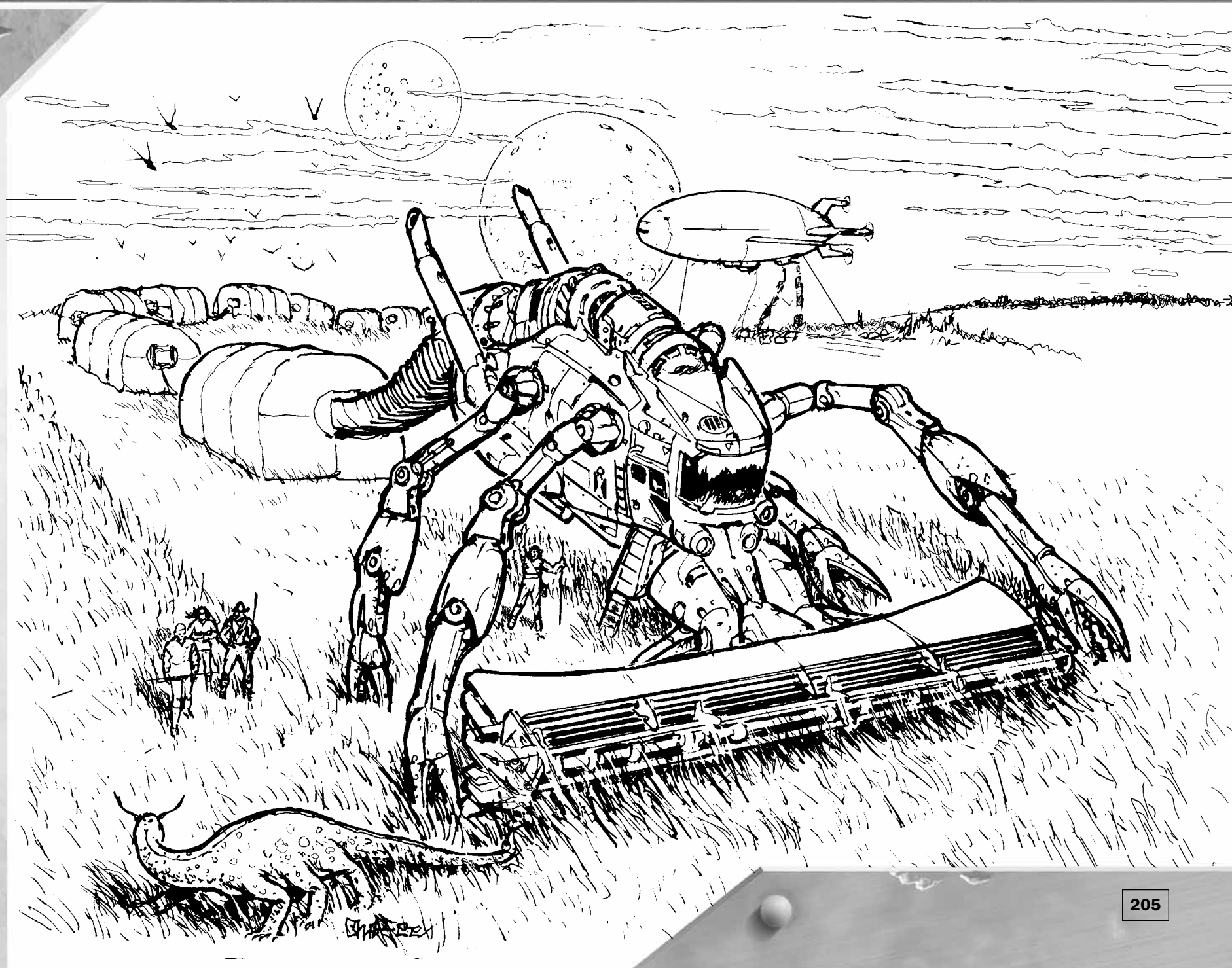
As customers have been satisfied with the standard *Harvester Ant*, in conjunction with a slipping market, Kong has not produced any variants of the 'Mech.

Type: **Harvester Ant**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 20
Equipment Rating: D/D-E-D/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		4
Engine:	60 (ICE)		3
Walking MP:	3		
Running MP:	5		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro:			1
Cockpit:	IndustrialMech		3
Armor Factor (BAR 5):	48 (Commercial)		2
	Internal Structure	*Armor Value*	
Head	3	8	
Center Torso	6	8	
Center Torso (rear)		2	
R/L Torso	5	7	
R/L Torso (rear)		2	
R/L Front Leg	4	3	
R/L Rear Leg	4	3	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Combine	RT	4	2.5
Cargo Bay	CT	2	2
Combine	LT	4	2.5

KIC-3 HARVESTER ANT



SC POWERMAN LOADERMECH / BC BUSTER HAULERMECH

Mass: 35 tons / 50 tons
Chassis: PowerLift CXV / Bluth-50S
Power Plant: Skobel 140 ICE / GM 150 ICE
Cruising Speed: 43.2 kph / 32.4 kph
Maximum Speed: 64.8 kph / 44 kph
Jump Jets: None
Jump Capacity: None
Armor: Hughes CommerWeave II
Equipment:
2 GripperTech Lift Hoists / 2 Bluth KargoKlamp-1107 Lift Hoists
Manufacturer: Sitwell Corporation / Bluth Corporation
Primary Factory: Saiph / Terra
Communications System: SineWave 5000 / Doering Hi-Def Mk II
Targeting and Tracking System: None

Overview

Formed by disgruntled Richard Sitwell after he was released in a series of massive cutbacks in 2795, Sitwell Corporation's internal mission statement was solely focused on burying their former employers in Bluth Corporation. Having stolen the blueprint plans through a series of events—along with convincing one of Bluth's executives to jump ship—Sitwell sank every personal dollar into building a prototype LoaderMech that could compete with Bluth's venerable but ungainly *Buster*-class HaulerMechs.

The *Buster* dominated the marketplace at the time, with several factories across the Hegemony producing hundreds of the fifty-ton industrial machine each month. Used on many worlds that had heavy mining industry, the Buster could easily lift twice its weight and haul over fifteen tons of raw ore. With the fine movement control of a 'Mech, the *Buster* could easily perform the small maneuvers necessary to properly align ore containers onto massive railcars or even large cargo craft, such as the Walrus-class cargo planes.

Because of the relatively inexpensive nature of the *Buster*, many DropPorts across the Inner Sphere used the clunky HaulerMech to load and unload cargo. Bluth was able to undercut many other industrial design costs due to their subsidiary relationship with ComStar (thanks to their *Carbine*-class ConstructionMechs). Holding an iron grip on the manufacturing of spare parts for the *Buster*, Bluth Corporation mercilessly gouged their customers.

Sitwell's *Powerman*-class of LoaderMechs changed everything. Utilizing a smaller and lighter frame that gave the *Powerman* a wider stance (and a more stable load-bearing platform), the more agile 'Mech could unload a fully loaded *Mule* DropShip in a quarter less time than the plodding *Buster*. Built with more reliable parts, the *Powerman* came in near the same cost as the *Buster*, but with fewer repairs and downtime necessary to maintain it, it became the preferred utility 'Mech of most freight companies.

Understandably, Bluth Corporation was furious. Igniting a massive legal battle that spanned over thirteen systems and clogged the courts until well after the First Succession War was over, Sitwell finally emerged triumphant after evidence of George Bluth's complicity in several corporate scandals came to the public eye. Charged with treason, embezzlement, conspiracy and over a thousand safety violations, Bluth Corporation dissolved, with only the corporation's *Carbine* plant on Terra surviving the ensuing bankruptcy proceedings.

Capabilities

The key to the *Powerman*'s success in dethroning the *Buster* was the durable nickel-steel alloy used in the frame. Coupled with the more efficient Skobel 140 ICE power plant and the newly released GripperTech lift hoists, the *Powerman* can easily transport seven tons of cargo at over forty kph. While the *Powerman* couldn't match the *Buster* in sheer carrying capacity, the fuel savings, higher speed, and more compact frame made the *Powerman* an instant hit with several freight companies on Saiph, Caph, Capolla, New Earth, and Thorin.

Variants

Sitwell recently unveiled a new modification package for the *Powerman*. By replacing the 'Mech's left hoist with a salvage arm apparatus and adding more cargo bays (to balance out the loss of weight), the *Powerman* XVI can be used by salvage companies to augment their more massive machinery. So far, the new modification package has been a huge hit for Sitwell.

Type: **Powerman XV LoaderMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 35
Equipment Rating: D/X-D-C/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		7
Engine:	140 (ICE)		10
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro:			2
Cockpit:	IndustrialMech		3
Armor Factor (BAR 5):	60 (Commercial)		2.5
	Internal Structure	*Armor Value*	
Head	3	2	
Center Torso	11	12	
Center Torso (rear)		2	
R/L Torso	8	8	
R/L Torso (rear)		2	
R/L Arm	6	5	
R/L Leg	8	7	

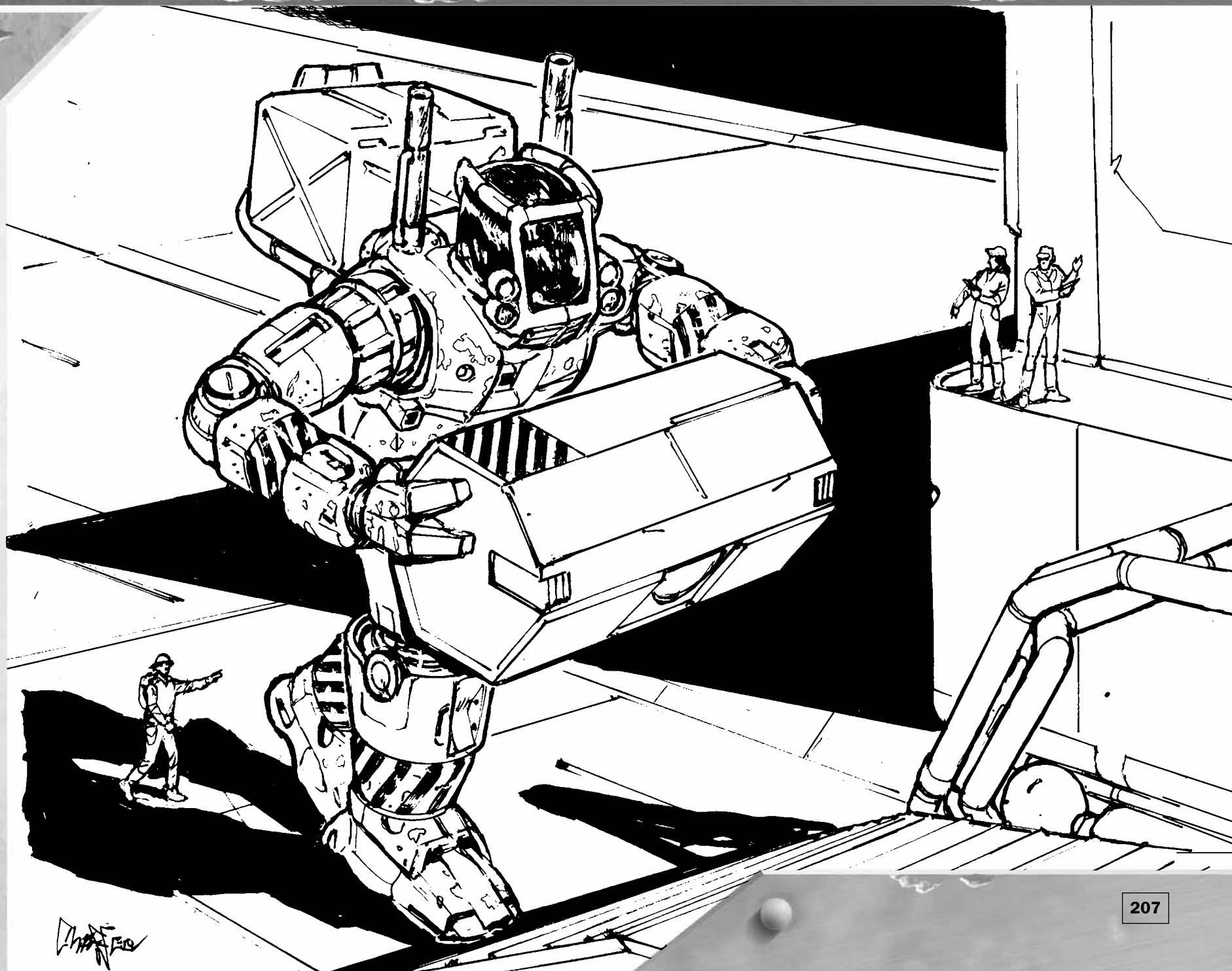
Weapons and Ammo	**Location**	**Critical**	**Mass**
Lift Hoist	LA	3	3
Lift Hoist	RA	3	3
Cargo Bay	LT	2	2
Cargo Bay	RT	2	2
Cargo Bay	CT	1	.5

Type: **Buster Class XXI HaulerMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 50
Equipment Rating: E/X-X-D/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		10
Engine:	150 (ICE)		11
Walking MP:	3		
Running MP:	5		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro:			2
Cockpit:	IndustrialMech		3
Armor Factor (BAR 5):	48 (Commercial)		2
	Internal Structure	*Armor Value*	
Head	3	5	
Center Torso	16	5	
Center Torso (rear)		4	
R/L Torso	12	5	
R/L Torso (rear)		2	
R/L Arm	8	5	
R/L Leg	12	5	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Track Unit	RL	1	2.5
Track Unit	LL	1	2.5
Lift Hoist	RA	3	3
Lift Hoist	LA	3	3
Cargo Bay	CT	1	1
Cargo Bay	LT	5	5
Cargo Bay	RT	5	5
Industrial TSM	LT/RT/RL/LL/RA/LA	3/3/1/1/2/2	0

SC POWERMAN LOADERMECH / BC BUSTER HAULERMECH



ED-X4 CROSSCUT LOGGERMECH

Mass: 30 tons
Chassis: Eden Quad Multi-Flex
Power Plant: GM 60 Turbine (typical)
Cruising Speed: 42.6 kph
Maximum Speed: 64.4 kph
Jump Jets: None
Jump Capacity: None
Armor: Durallex Commercial Light (typical)
Equipment:
1 Chainsaws (various manufacturers)
1 Bluth Kargo Klamp Lift Hoist (typical)
Manufacturer: Numerous
Primary Factory: Various (Terra, Kathil, New Avalon, Skye, and so on)
Communications System: Doering Hi-Def Mk II (typical)
Targeting and Tracking System: None

Overview

LoggerMechs like the *Crosscut* dominate commercial forestry in woodlands across the Inner Sphere, being one of the few vehicles capable of operating effectively in the combination of rugged terrain and the close confines of massive trees. Indeed, the use of crude forestry walkers predates modern 'Mechs by several centuries, with multi-legged versions having been in experimental use since the early twenty-first century.

Capabilities

Designed to both fell trees and to transport them to a central point for processing, the *Crosscut* is a hybrid design built for small-scale independent operations rather than the lumber—farming concerns of some worlds that field dedicated felling and transportation vehicles. Initially designed by the Eden Corporation of Terra during the Star League, the *Crosscut* was licensed throughout the Inner Sphere and this prevalence allowed the design to survive Eden's demise in the Amaris Coup and the war that followed.

Though many BattleMech pilots deride IndustrialMechs and their operators, the *Crosscut* and its siblings require considerable pilot skill and those who master them have proven to be competent MechWarriors. Indeed, some regional training academies in the Free Worlds League use the *Crosscut* as a training and familiarization platform before graduating cadet-pilots to dedicated BattleMech trainers like the *Chameleon*. Furthermore, some worlds have employed *Crosscuts* in a military role, either using their twin chainsaws as unwieldy weapons or jury-rigging weaponry to the arms and torso. Despite this, the slow and lumbering 'Mech is not well protected—its four tons of armor are a mid-grade industrial composite, designed to protect the chassis and drive train from the bumps and scrapes associated with logging rather than defending against hostile action.

Deployment

At least two dozen factories across the Inner Sphere produce the *Crosscut* today, each following the original plans closely, though utilizing local components and adding unique (but often cosmetic) touches. The only significant modification to the Star League version is the replacement of the original fusion power plant (found on a few very old *Crosscuts* that have escaped military scavenger operations during the Succession Wars) with an IC engine. That the design has remained effective and popular despite this change is a testament to its design and versatility.

Variants

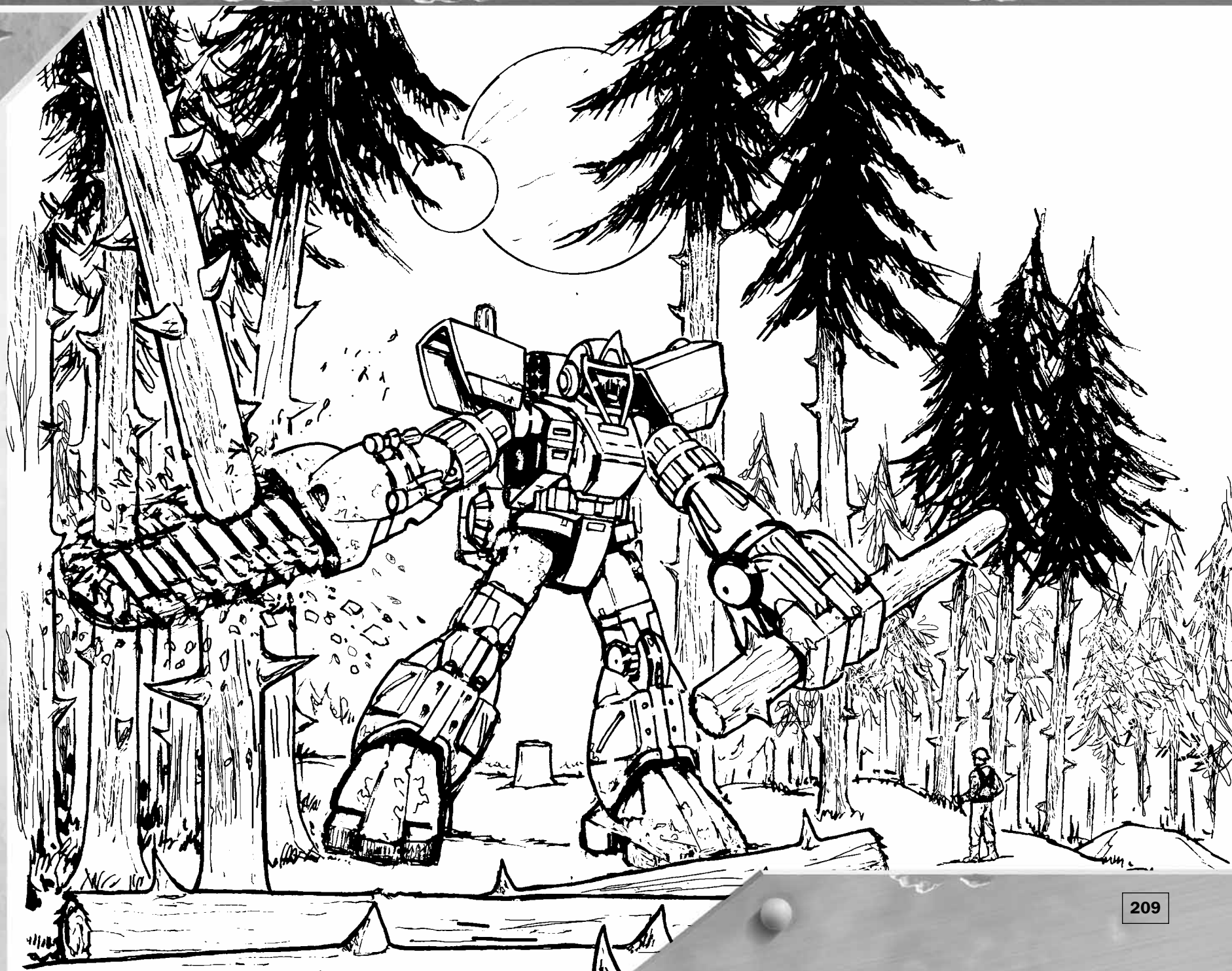
The *Crosscut*'s chainsaw-and-lift-hoist configuration has changed little over the years, being ideally suited to forestry operations. Occasionally two-saw variants have appeared, but for the most part these are custom orders for pilots or companies who favor the additional efficiency of two cutting blades. In addition to forestry work, some *Crosscut* variants have been used as part of demolition teams, usually trading the lift-hoist and some armor in favor of twin Dual Saws that can cut through ferrocrete and girders as easily as the standard *Crosscut* fells trees.

Type: **Crosscut LoggerMech**
Chassis Type: Inner Sphere (IndustrialMech)
Tonnage: 30
Equipment Rating: D/E-E-E/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		6
Engine/Trans:	60 (ICE)		8
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro:			1
Cockpit:	IndustrialMech		3
Armor Factor:	42 (Industrial)		4
	Internal Structure	*Armor Value*	
Head	3	4	
Center Torso	10	5	
Center Torso (rear)		3	
R/L Torso	7	5	
R/L Torso (rear)		3	
R/L Arm	5	3	
R/L Leg	7	4	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Chainsaw	RA	5	5
Lift Hoist	CT (R)	3	3

ED-X4 CROSSCUT LOGGERMECH



ATAE-70 "UNI" CARGOMECH

Mass: 70 tons
Chassis: N&D Universal Ultraload w/ Environmental Sealing
Power Plant: Defiance 210 HydroCell
Cruising Speed: 32.4 kph
Maximum Speed: 54 kph
Jump Jets: None
Jump Capacity: None
Armor: Nashan LD (Commercial)
Equipment:
2 GripperTech Lift Hoists
Manufacturer: N&D WorkMechs
Primary Factory: Furillo
Communications System: Doering Hi-Def Mk II
Targeting and Tracking System: None

Overview

Donegal-based Nashan Diversified has been around since well into the heady days of the original Star League. But it wasn't until after the Fourth Succession War that the interstellar conglomerate—long identified with everything from consumer electronics and personal computers to mining, architecture, and freight services—decided to invest in the design of its own line of IndustrialMechs. Thanks in no small part to the alliance between Nashan and Hesperus-based Defiance Industries, N&D WorkMechs of Furillo entered the realm of commercial 'Mech manufacturing in the early 3030s with its first WorkMech, the 80-ton "*Lugger*" battlefield salvage 'Mech. Based on a Defiance Industries design, the *Lugger* was little more than a stripped-down BattleMech, fusion-powered and virtually lacking in external protection. However, the principles behind it would eventually lead to the development of the "*Uni*", its modern, 70-ton cousin, which today represents the standard in industrial-grade CargoMechs across the Inner Sphere.

Capabilities

The ATAE-70 *Uni* derives its name (shorthand for "*Universal*") from its primary features. As a quadruped, powered by a Defiance Motors fuel cell engine, and featuring a thick, commercial-grade hide designed with environmental sealing technology, this CargoMech can traverse virtually any type of terrain in any type of environment, almost as well as a BattleMech. Its generic, 17-ton onboard cargo bay features a top-opening flatbed design that may be closed (when possible) to completely internalize its weight load, or left open when the cargo is too bulky or merely overloaded. Its spidery legs are capable of walking either low to the ground—to better distribute the weight of a full load—or at full extension—for maximum ground clearance. This latter feature, combined with the twin, rear-mounted lift hoists, enables the *Uni* to even serve as a battlefield salvage vehicle in a pinch capable of carrying external loads as big as an assault-class BattleMech under its belly, using the lift hoists as a sling.

Deployment

The N&D ATAE-70 *Uni* became popular throughout the Federated Commonwealth when it first debuted in 3050. Its production by N&D of Furillo alleviated the WorkMech demands placed on Defiance at a time when that company had to scramble to fill military orders. The machine has seen widespread use in the commercial, industrial, and even military sectors of many of the former FedCom's more developed planets. Even mercenary forces and corporations—both within and beyond the Alliance's borders—have placed orders for complete runs of ATAE-70s, which N&D's assembly plants presently manufacture by the dozen.

Variants

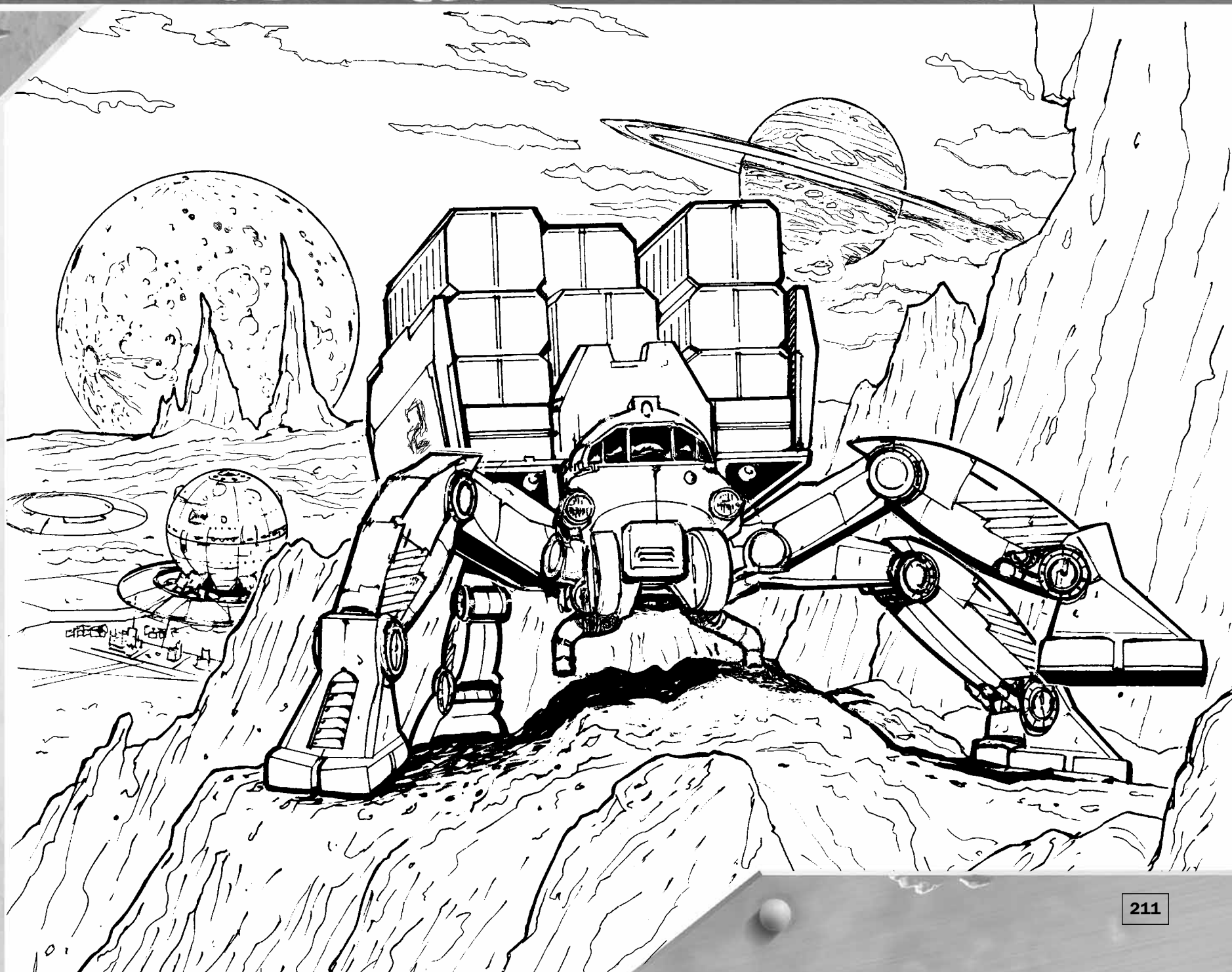
Competition in the IndustrialMech industry is fierce, even though it often takes a distant backseat to BattleMech design and the less costly conventional industrial vehicle markets. While strong in its niche, thanks largely to the dominance of Nashan in the Lyran economy, the *Uni* faces stiff competition from other typical CargoMech designs, such as the 90-ton "*King*"-class CargoMech offered by Kong Interstellar (which dominates the Marik markets). Another competitor is the 60-ton "*Heavy Lifter*," the recently developed fusion-powered CargoMech developed by Achernar BattleMechs for customers throughout the Federated Suns, which uses industrial-grade triple-strength myomers to maximize its carrying capacity. The advent of the *Heavy Lifter* has single-handedly undercut an estimated 40 percent of N&D's sales to the Federated Suns in just the last four years, a fact that has had company executives considering their own enhanced-myomer version of the *Uni*.

Type: **Uni CargoMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 70
Equipment Rating: D/X-E-D/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		14
Engine:	210 (Fuel Cell)		11
Walking MP:	3		
Running MP:	5		
Jumping MP:	0		
Heat Sinks:	1		0
Gyro:			3
Cockpit:	IndustrialMech		3
Armor Factor (BAR 5):	216 (Commercial)		9
	Internal Structure	*Armor Value*	
Head	3	9	
Center Torso	22	31	
Center Torso (rear)		10	
R/L Torso	15	20	
R/L Torso (rear)		9	
R/L Front Leg	15	27	
R/L Rear Leg	15	27	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Cargo	LT	8	8
Cargo	RT	8	8
Cargo	CT	1	1
Lift Hoist	LT (R)	3	3
Lift Hoist	RT (R)	3	3
Environmental Sealing	All	1/location	7

ATAE-70 "UNI" CARGOMECH



RA-4 CATTLEMASTER (HUNTER / HERDER)

Mass: 25 tons
Chassis: Rastaban Agro
Power Plant: Jones 100 ICE
Cruising Speed: 43.2 kph
Maximum Speed: 64.8 kph
Jump Jets: None
Jump Capacity: None
Armor: ArcShield Indi
Equipment:
[Hunter]
3 Defiance A5L Small Lasers
2 Coventry Light Autoguns
1 Davy Mk. X Searchlight
[Herder]
1 Klingenthal Retractable Blade
1 Davy Mk. X Searchlight
Manufacturer: Rastaban Agricultural
Primary Factory: Duran
Communications System: Neil 90b
Targeting and Tracking System: [Hunter] TharHes Mars-1, [Herder] None

Overview

When mankind traveled to the stars, one of his primary concerns was to secure reliable sources of nutrition. Experts feared that alien ecosystems would prove either too hostile or just incapable of providing something that humans could digest. The doomsayers were wrong. A number of garden worlds capable of sustaining intrepid colonists with ease were discovered. Others could be adapted to the needs of humanity with relatively little effort. While important, these bread-basket worlds soon discovered that humanity did not want to live by bread alone. The desire for protein was strong, and other worlds across human space grew rich on the livestock raised to meet this demand. While many worlds contented themselves with farm stock derived from Terran breeds, others turned to native species. Some of the tastier life forms were large and difficult to manage. The answer was the IndustrialMech introduced in the late twenty-fourth century. Big enough and strong enough to face down a Ranger Bull, IndustrialMechs opened the door for ranching on a colossal scale.

Free from the crippling labor costs and able to exploit the economies of scale, small groups—often families—were able to manage the large (and sometimes violent) animals that people wanted to eat. Whole generations grew up in the saddle on the prairies of worlds like Cerillos, Galisteo, and Sierra. Soon it became common for young adults who had grown up piloting IndustrialMechs on the family hacienda to later pursue a military career.

Capabilities

Rastaban Agriculture's CattleMaster is a popular IndustrialMech design that has been sold across the Inner Sphere for several decades. The Jones 100 power plant is legendary for its ability to use even the most unrefined of fuels. Herders have become adept at rendering down their stock to produce an inexpensive (and fragrant) fuel source. Ground speed is sufficient to keep pace with the creatures under its charge. Heavy industrial plates protect the chassis from damage at the hands of an inexperienced operator—or from a charging bull Filtvelt Thunderbeast. The cockpit layout is based on that of the *Chameleon*, though without the military-grade electronics or ejection seat.

Deployment

Built on Duran in the Lyran Alliance, the *CattleMaster* finds its way across the wealthy Lyran nation to many agricultural worlds until they can dominate herding operations on planets. Though Rastaban does not manufacture any BattleMechs, the success of its *CattleMaster* makes it one of the most prolific 'Mech manufacturers in the Inner Sphere even though its market is primarily limited to the Lyran Alliance.

Variants

There are two main versions of the *CattleMaster* in common use. The *Herder* can transport all the stores and equipment needed to sustain its operator out on the range. This model is equipped with a powerful searchlight and retractable utility tool. The *Hunter* model is something of a curiosity—for it is quite heavily armed. Indigenous predators are an omnipresent threat to any herd, and when that herd consists of two-and-a-half-ton Odessan raxx, the predators are invariably on a similar scale. Small arms are woefully insufficient to deal with multi-ton predators but military-grade lasers and machine guns are another matter. Few ranches own the armed variant, but many reside in the hands of freelance hunters who travel the wilderness to claim the bounty posted by local authorities on troublesome species.

Type: **CattleMaster (Hunter)**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 25
Equipment Rating: D/X-E-D/E

Equipment			**Mass**
Internal Structure:	IndustrialMech		5
Engine:	100 (ICE)		6
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	1		1
Gyro:			1
Cockpit:	IndustrialMech		3
Power Amplifier			0.5
Armor Factor:	53 (Industrial)		5
	Internal Structure	*Armor Value*	
Head	3	9	
Center Torso	8	6	
Center Torso (rear)		2	
R/L Torso	6	6	
R/L Torso (rear)		2	
R/L Arm	4	4	
R/L Leg	6	6	

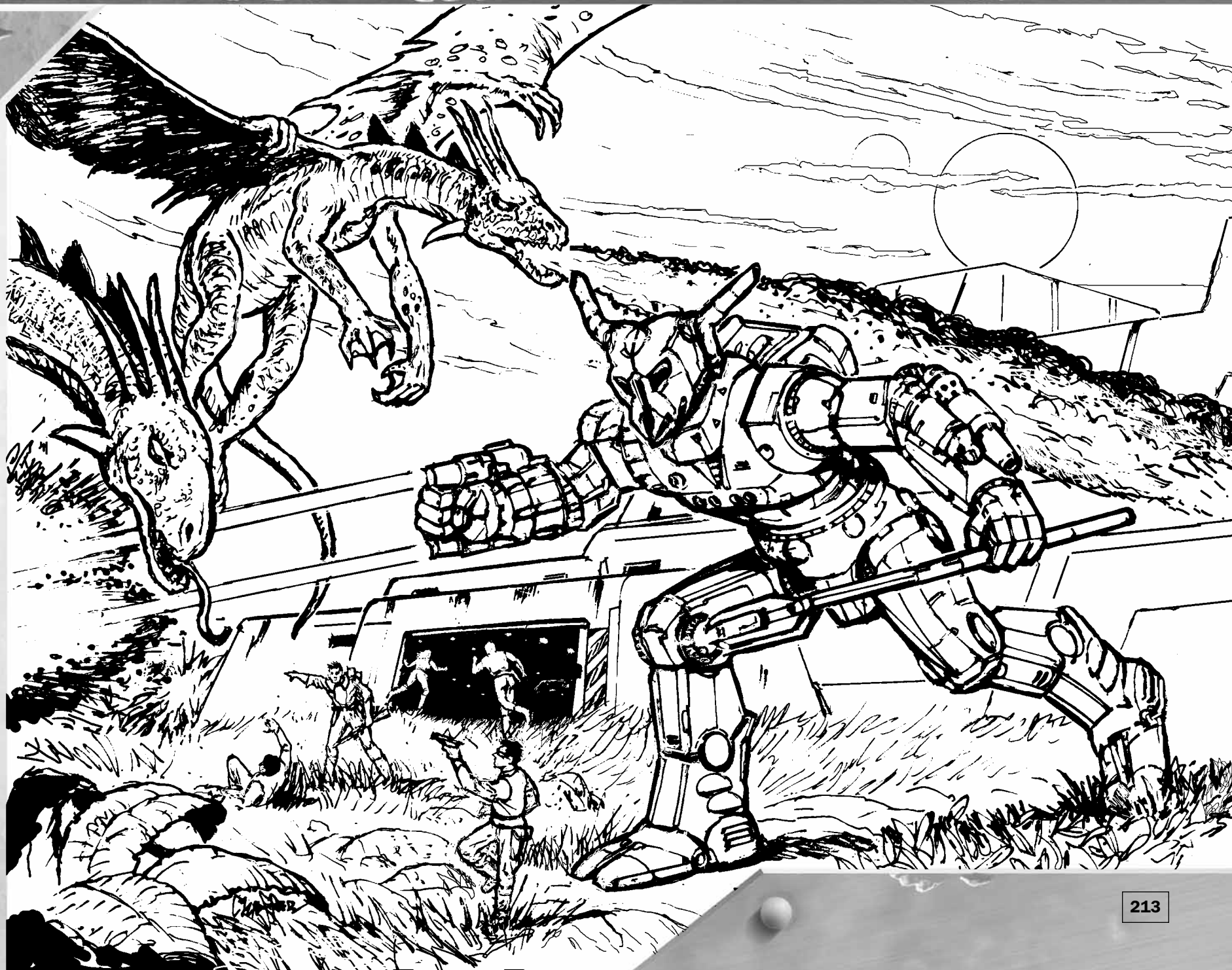
Weapons and Ammo	**Location**	**Critical**	**Mass**
Machine Gun	LA	1	.5
Ammo (MG) 100	CT	1	.5
Searchlight	LA	1	.5
2 Small Lasers	RA	2	1
2 Machine Guns	RA	2	1

Type: **CattleMaster (Herder)**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 25
Equipment Rating: D/X-D-D/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		5
Engine:	100 (ICE)		6
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro:			1
Cockpit:	IndustrialMech		3
Armor Factor:	48 (Industrial)		4.5
	Internal Structure	*Armor Value*	
Head	3	8	
Center Torso	8	6	
Center Torso (rear)		2	
R/L Torso	6	4	
R/L Torso (rear)		2	
R/L Arm	4	4	
R/L Leg	6	6	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Retractable Blade	RA	3	2
Searchlight	RA	1	.5
Cargo Bay	LT	3	3

RA-4 CATTLEMASTER (HUNTER / HERDER)



RCL-4 DIG LORD

Mass: 65 tons
Chassis: Dorwinion Industrial 65T
Power Plant: Defiance 210 HydroCell
Cruising Speed: 32.4 kph
Maximum Speed: 54 kph
Jump Jets: None
Jump Capacity: None
Armor: Nashan LD (Commercial)
Equipment:
Achernar Granite-Series Rock-Cutter
GE Cermet Mining Drill
4 Achernar High-Capacity Fluid Guns
Manufacturer: Achernar BattleMechs
Primary Factory: Achernar
Communications System: Achernar Electronics GEO-11
Targeting and Tracking System: None

Overview

The military industry was not the only one to benefit from the discovery of the Star League Memory Core and the unlocking of lostech. Though BattleMechs have been the most visible reminders of the great strides humanity has made these last few decades, those same technologies that made possible endosteel and the Gauss rifle have also made more pedestrian equipment far more capable.

Despite its name, Achernar BattleMechs makes far more than just those machines of war. Its IndustrialMechs have ensured the company has been able to keep its doors open throughout the Succession Wars.

Capabilities

Just one of the company's recent crop of high-tech civilian offerings, the *Dig Lord* is built to handle the stresses and difficulties of mining. Able to operate in atmosphere or vacuum, aboveground or underground equally, it is replacing centuries-old and often barely functioning WorkMechs, giving operators the best tools available to them.

Though the *Dig Lord* is the cutting edge of MiningMech technology, its basic chassis harkens back to that of the *Dig King* which premiered during the original Star League. As such, a variety of similar MiningMechs are produced around the Inner Sphere, from the MiningMech *Imperial II* sold by Hellespont Industrials to the *Gargantua* produced by Nashan Diversified.

While those designs based around the Dig King chassis are by far the most popular and versatile, MiningMechs come in a wide variety dependent on customer needs, product to be extracted, local environment, and so on. MiningMechs range from the ultra-light *MicroTitan* developed for the heavy-gravity world of Gulf Breeze by Nashan Diversified to the GM "*MuckRaker*", to what is perhaps the most unusual IndustrialMech ever produced, the *Three-Man Digging Machine*.

In late 2920, under a special Free Worlds League government contract, Brooks began experimenting with attempts to create IndustrialMechs that massed greater than one hundred tons; rumors circled that the League government hoped such experiments would lead to BattleMechs that could out-class assault 'Mechs. Most considered the project an extravagant waste of money, but the perseverance of then head scientist George Hamilton allowed the *Three-Man Digging Machine* (nicknamed the hedgehog after a similar, yet failed experiment by the original Star League) to see the light of day twenty years later. Three-legged and piloted by three miners, the machine was cutting edge technology for such lostech times as the end of the Third Succession War. However, the height and mass of the machine (taller than an assault 'Mech and massing well more than a hundred tons), combined with radical three-legged locomotion—perfect when locked into place for drilling, but difficult to move—meant it could only operate on worlds with Terran-standard gravity or less, such as Dahar IV; the product was even shipped disassembled. With all of these limitations and a dropping economy, Brooks discontinued production of the unique IndustrialMech in the early years of the thirty-first century, concentrating instead on upgrading and expanding its military vehicle production.

Deployment

Achernar debuted the *Dig Lord* in 3057 to much fanfare, and since then has been building them non-stop for Lyran and Federated Suns customers, save for a two-year period during the FedCom Civil War when Archon Katherine ordered the shut-down and retooling of its lines in favor of military designs. Achernar did comply with the forced shut-down, though the retooling never actually occurred. To have done so would have been far too costly a prospect for the company in the long run.

Variants

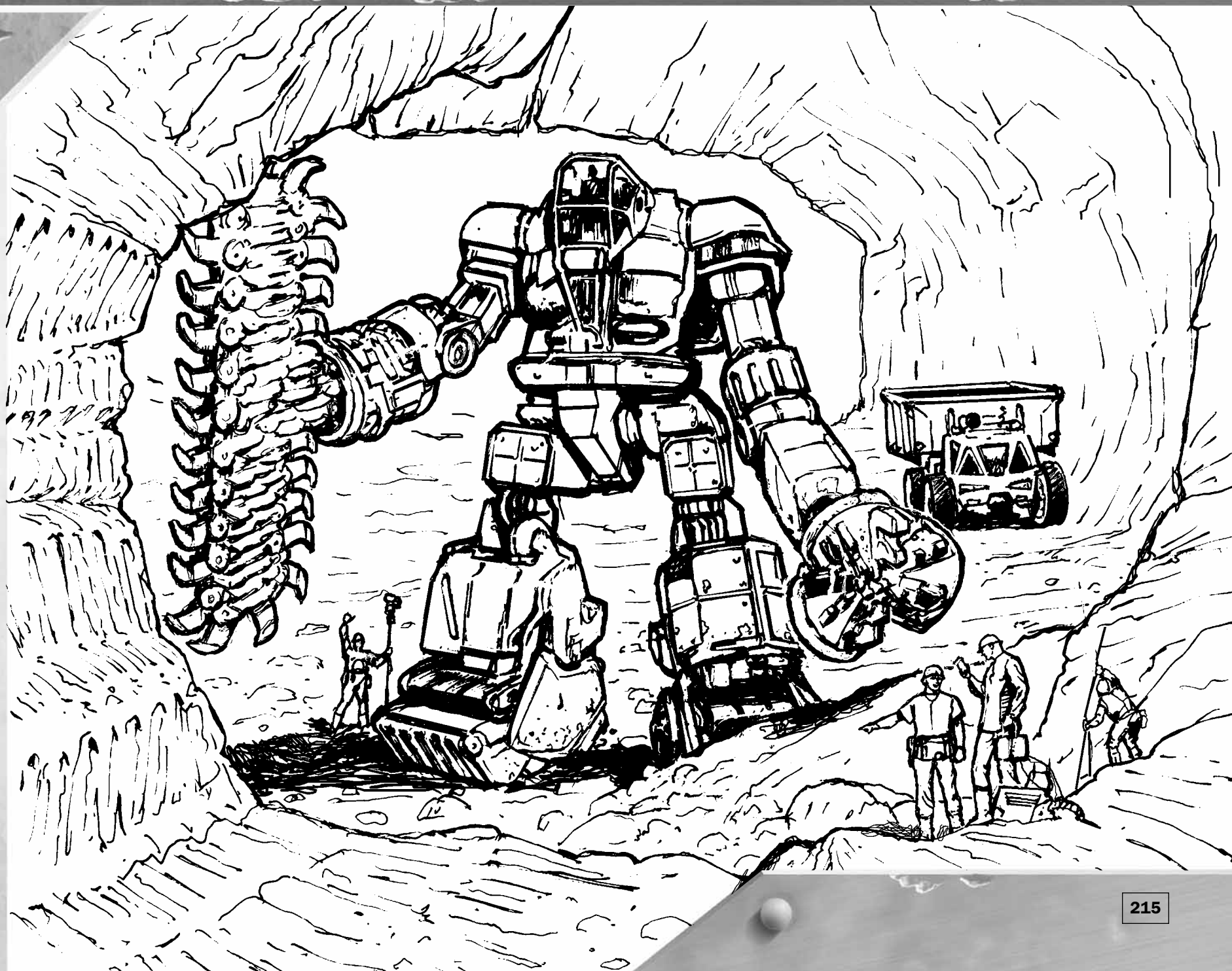
The *Dig Lord* is relatively new at this time, and thus no significant variants have been produced to date.

Type: **Dig Lord**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 65
Equipment Rating: D/X-X-E/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		13
Engine:	195 (Fuel Cell)		10
Walking MP:	3		
Running MP:	5		
Jumping MP:	0		
Heat Sinks:	3		2
Gyro:			2
Cockpit:	IndustrialMech		3
Armor Factor:	128 (Heavy Industrial)		8
	Internal Structure	*Armor Value*	
Head	3	9	
Center Torso	21	16	
Center Torso (rear)		5	
R/L Torso	15	14	
R/L Torso (rear)		3	
R/L Arm	10	16	
R/L Leg	15	16	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Rock-Cutter	RA	5	5
Mining Drill	LA	4	3
2 Fluid Gun	RT	4	4
Ammo (Fluid Gun) 100	RT	5	5
2 Fluid Gun	LT	4	4
Ammo (Fluid Gun) 100	LT	5	5
Extended Fuel Tank	CT	1	1

RCL-4 DIG LORD



CON-7 "CARBINE" CONSTRUCTIONMECH

Mass: 30 tons
Chassis: Bluth Industrial Magnum-9
Power Plant: Renault 120 ICE
Cruising Speed: 43.2 kph
Maximum Speed: 64.8 kph
Jump Jets: 0
Jump Capacity: No
Armor: Caterpillar IndusWeave
Equipment:
1 SteelTek Cargo Lift Hoist
1 Lonca Backhoe
Manufacturer: Bluth Corporation
Primary Factory: Terra
Communications System: Marconi 63-T
Targeting and Tracking System: None

Overview

The first CON-1 *Carbine* ConstructionMech walked off the production line in 2691 after over ten years of development. While the overall design process was relatively simple, corporate and judicial patent battles kept the project wrapped in red tape for several years. The Bluth Corporation's law teams prevailed in the end and the primary factory based in Little Rock (on Terra's North American continent) began churning out CON-1s by the dozens weekly.

The *Carbine* underwent several technical modifications over the intervening centuries, usually with a newer design unveiled every fifty years. The most recent release—the CON-7—was unveiled by Bluth Corporation in 3028, timed to debut during the attendance of all the Great Houses for the marriage of Hanse Davion and Melissa Steiner. Unfortunately, other events overshadowed Bluth's newest debut and sales suffered for a time until after the Fourth Succession War ended.

*Carbine*s have been exported from Terra (through ComStar approved channels) up until the Word of Blake's takeover in 3058. At that time, Bluth Corporation informed their clients that all shipments would cease and that replacement parts were also being removed from the market. However, new CON-7s have been spotted on several Chaos March worlds (usually ones involved with the Word) with registry numbers that postdate the 3058 timestamp.

Capabilities

Designed more for urban construction needs, the *Carbine*'s longer bucket reach is more flexible than a standard tracked machine. With the delicate fifteen-ton rated lift hoist "claw," the *Carbine* can easily crush ferrocrete rubble as well as place fragile fiber-optic tubing. The thicker, low-to-ground legs and torso design gives the *Carbine* a lower center of gravity that helps brace the 'Mech during more intense digging projects.

The main drawbacks to the *Carbine* are the mid-grade industrial armor and its high fuel consumption rate. The armor, while cheaper, does not protect the machine if it is subjected to accidental falls or a sudden avalanche of debris. While these types of accidents are rare, it is a concern to workers who use the *Carbine* in more extreme construction jobs. The ICE-driven power plant consumes a large amount of fuel, limiting the *Carbine* to short distances and forcing companies to usually dedicate some sort of transportation platform to it.

Variants

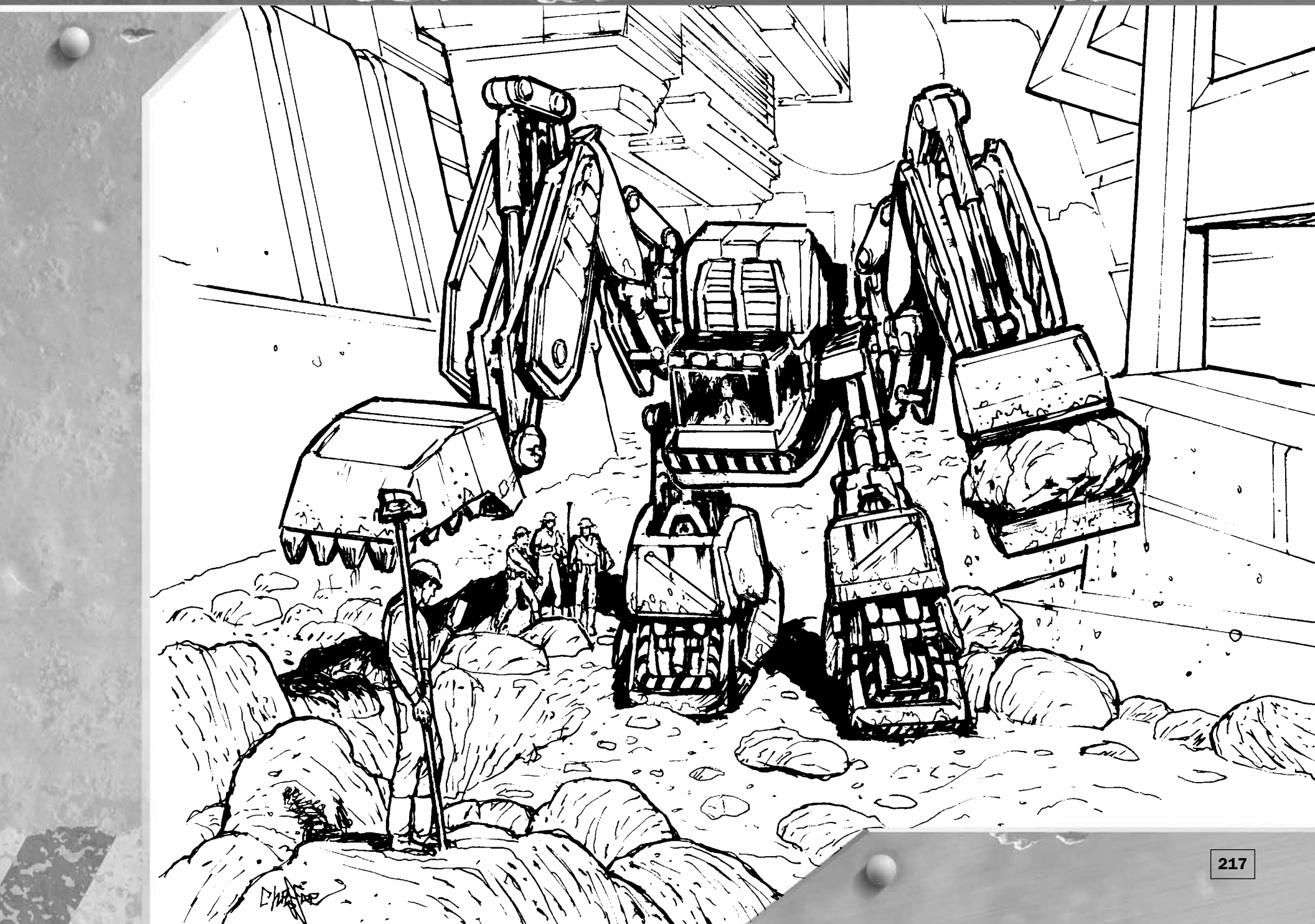
Several *Carbine*s on worlds in the Chaos March have been noted sporting heavier industrial-grade armor and a form of industrial TSM. These CON-8s are capable of lifting almost double the CON-7's load and may also contain an extra fuel tank, as their operational time seems to be longer than the standard *Carbine*.

Type: **"Carbine" ConstructionMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 30
Equipment Rating: D/X-D-C/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		6
Engine:	120 (ICE)		8
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro:			2
Cockpit:	IndustrialMech		3
Armor Factor:	32 (Industrial)		3
	Internal Structure	*Armor Value*	
Head	3	4	
Center Torso	10	4	
Center Torso (rear)		2	
R/L Torso	7	4	
R/L Torso (rear)		1	
R/L Arm	5	4	
R/L Leg	7	4	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Lift Hoist	LA	4	3
Backhoe	RA	6	5

CON-7 "CARBINE" CONSTRUCTIONMECH



MR-8C MARCO

Mass: 30 tons
Chassis: StarCorps HD-5
Power Plant: 120 GM Fusion
Cruising Speed: 43 kph
Maximum Speed: 65 kph
Jump Jets: HildCo L5
Jump Capacity: 90m
Armor: ArcShield CHIL
Equipment:
StarCorps Salvage Systems
Harmon Light Laser
Manufacturer: StarCorps Industries
Primary Factory: Menke
Communications System: Astar 5
Targeting and Tracking System: None

Overview

As is generally known, the number of breakthroughs in civilian technology not immediately surveyed for possible military capabilities is nearly nil. Somewhat less quickly, but still guaranteed, development also flows the other way. Sometimes ideas meet in the middle, merge, complement each other and allow for huge advancements in both fields. And on all too frequent occasions, someone with too much money on hand comes up with a convergence of creativity—like ExplorerMechs.

Appearing sound and useful at first, the concept of mating an explorer's needs with military-grade tech to create the ultimate expeditionary vehicle just doesn't hold up to closer scrutiny. Yes, it is extremely nimble in terrain. Yes, it carries sophisticated sensor equipment. Yes, it is adequately protected against whatever it might come across. But it also has to run on a reliable, powerful enough engine. And it has to be fitted with the most sensible, yet rugged control mechanisms. And, of course, it needs a sturdy frame to lug all that stuff around.

So this is about where the whole plan starts to fall apart, as StarCorps Industries' development team found out pretty quickly. Starting out with the Amundsen prototypes in 2666, which were astoundingly agile but had an internal structure that collapsed spectacularly every few kilometers, the program was—in retrospect—one grand, single failure. If it hadn't been for some wealthy club-buddies pulling strings on the board, StarCorps would have pulled the plug no later than the DaGama-series. Back then, several test-pilots died irradiated in their cockpits, after their insufficiently shielded 'Mech systems had simply ceased functioning. The two short-lived Burtons that spewed out their gyroscopic entrails all over the test-complex at the most unexpected moments and the fat, little Cook—graceful as a sack of beans—were merely amusing in comparison.

Capabilities

It was not until 2712 and the letter "M" that—apart from several machines specialized for specific environments—StarCorps finally landed the desired jack-of-all-trades: *Marco*, the first specifically built ExplorerMech. Or at least they tried to sell it as such. In truth, the *Marco* was basically nothing more than a customizable BattleMech-frame—without weaponry, and thus moderately priced. The standard package included a two-man cabin (a collapsible rear torso unit only usable when the *Marco* was stationary) and a small observation platform across the shoulders.

Market reaction was less than enthusiastic, of course, especially since there never had been a notable one in the first place. Previously, ExplorerMechs had always been unique pieces—retrofitted BattleMechs that matched the *Marco*'s capabilities on all accounts with the additional advantage of having weaponry.

Deployment

Despite limited interest, StarCorps kept the line in production for the better part of a decade, selling a handful of machines to private parties unable to acquire cheaper options or who just craved the prestige. In what was almost assuredly a not-so-clean deal, StarCorps even delivered two full production runs to the SLDF, which were mostly of the 6- or 7-series.

Variants

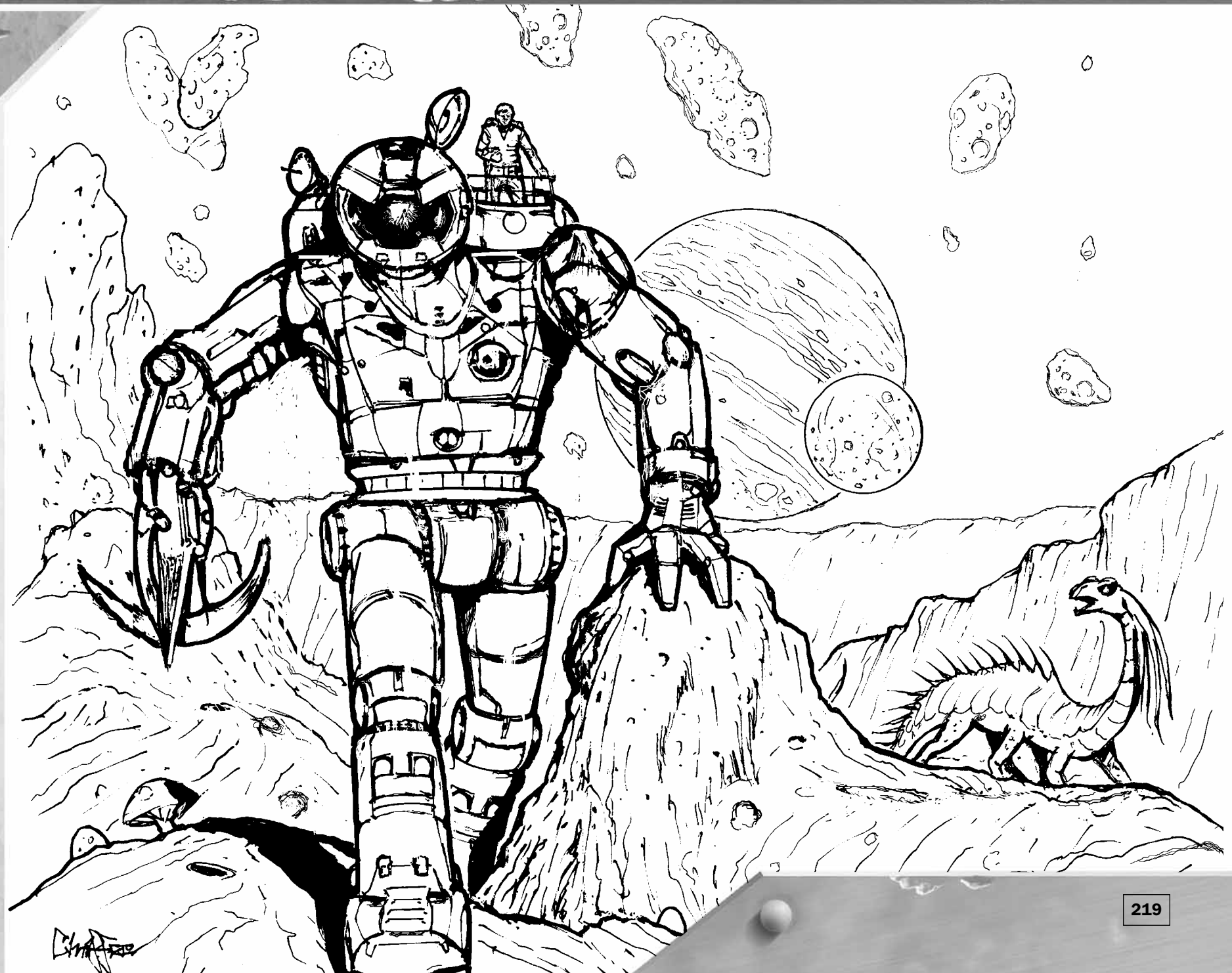
The 6- and 7-series models produced for the SLDF sported an integrated satellite uplink, remote-controlled floodlights and a modular tool-mount on the right arm. The few *Marcos* remaining today are of these models.

Type: **Marco**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 30
Equipment Rating: D/E-F-F/E

Equipment			**Mass**
Internal Structure:	IndustrialMech		6
Engine:	120 (Fusion)		4
Walking MP:	4		
Running MP:	6		
Jumping MP:	3		
Heat Sinks:	0		0
Gyro:			2
Cockpit:	IndustrialMech		3
Armor Factor:	64 (Heavy Industrial)		4
	Internal Structure	*Armor Value*	
Head	3	8	
Center Torso	10	9	
Center Torso (rear)		3	
R/L Torso	6	6	
R/L Torso (rear)		2	
R/L Arm	5	6	
R/L Leg	7	8	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Small Laser	LA	1	.5
Cargo Bay	RT	4	4
Searchlight	CT	1	.5
Salvage Arm	RA	2	3
Environmental Sealing	All	1/location	3

MR-8C MARCO



GM-3A POMPIER FIREMECH

Mass: 15 tons
Chassis: GM Ultralight Industrial
Power Plant: GM 30 Turbine
Cruising Speed: 21.6 kph
Maximum Speed: 32.4 kph
Jump Jets: None
Jump Capacity: None
Armor: Durallex Light
Equipment:
Radial FlexiSprayer
StarCorps Salvage Systems
Manufacturer: General Motors
Primary Factory: Kathil
Communications System: Irian UHF
Targeting and Tracking System: None

Overview

The need to deal with fires has been a preoccupation of urbanized humanity for millennia, from hand-carried buckets progressing to horse-drawn wagons to powered tenders. Where vehicular access has been good, wheeled (or in rare cases tracked) fire engines have been more than sufficient. Though no sooner had the first 'Mechs come into service than the possibilities of a walking fire tender became apparent, in particular given the ability to cross rugged terrain or rubble to reach the heart of a fire.

Capabilities

Built on Kathil by General Motors and utilizing many of the components found in GM's agricultural 'Mechs, the *Pompier* is one of dozens of similar designs built to operate in urban environments and deal with domestic fires. Unlike larger models (e.g., the 90-ton *St. Florian* named for the patron saint of firefighters) that are built to fight industrial conflagrations, the lightweight and small size of the *Pompier* allows it function without compromising roadways. Indeed, any road that can support a commercial truck can support the *FireMech*, though the design's slow speed limits its practical deployment radius.

Equipped with a sprayer and one and a half tons of tankage (for water or fire-retardant foam, as required), the *Pompier* can handle most domestic blazes. Hose adaptors allow the 'Mech to be hooked into the water main if additional water or foam is needed (the latter requiring concentrate canisters, transported by support vehicles). In addition, leg-mounted intakes allow the *Pompier* to refill its own internal tanks from bodies of open water as needed, making the design a valuable weapon against forest fires.

Military-grade armor protects the *Pompier* against the ravages of fire and damage from falling buildings but the lack of a sealed cockpit is seen as the design's key weakness, preventing its use in the most intense fires or those involving chemicals (such as many industrial blazes). However, the salvage arm the *Pompier* mounts helps to midigate such limitation, allowing the *FireMech* to be deployed not only during a fire fighting action, but also afterwards in clean-up operations; the salvage arm also makes the *Pompier* ideal for search and rescue operations in inhospitable terrain.

Deployment

The *Pompier* and its variants have found widespread use in the Capellan March since its 3044 introduction, but the proliferation of competing models has prevented it from spreading to other regions of the Inner Sphere.

Variants

Customer dissatisfaction with the inability of the *Pompier* to handle chemical fires has led GM to deliver the *Pompier HT*, a variant for more hazardous conditions. Unfortunately, in order to accommodate the enhancement, the *FireMech* loses its salvage arm, but increceases its tank capacity. This "high threat" configuration is most commonly found in industrial districts and at air- and spaceports, though many civil fire agencies using the standard *Pompier* have one or two *HT*s available to handle unexpected situations.

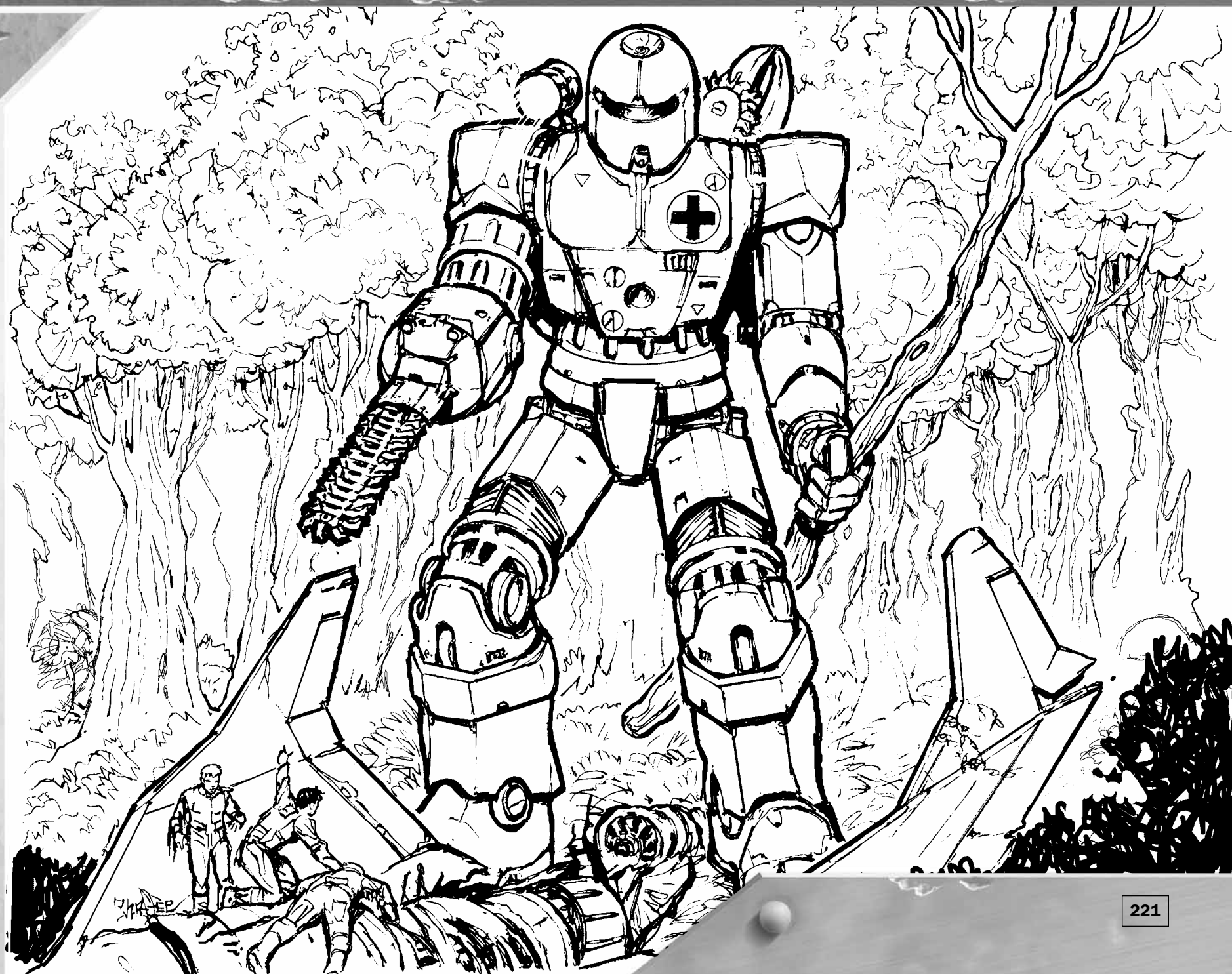
A rare variant, the "*Civil Defense*" or *CD*, was rushed into service in the wake of the Black May attacks as a decontamination vehicle for clients in the Capellan March. Sharing many features with the *HT*, the *CD* carries sophisticated chemical sensors that allow the pilot to test the environment for toxins and its tanks are upgraded to contain the decontaminating agents.

Type: **Pompier FireMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 15
Equipment Rating: D/X-D-C/C

Equipment			**Mass**
Internal Structure:	IndustrialMech		3
Engine/Trans:	40 (Fuel Cell)		1.5
Walking MP:	2		
Running MP:	3		
Jumping MP:	0		
Heat Sinks:	0		0
Gyro			1
Cockpit	IndustrialMech		3
Armor Factor:	24 (Heavy Industrial)		1.5
	Internal Structure	*Armor Value*	
Head	3	3	
Center Torso	5	3	
Center Torso (rear)		2	
R/L Torso	4	2	
R/L Torso (rear)		2	
R/L Arm	2	2	
R/L Leg	3	2	

Weapons and Ammo	**Location**	**Critical**	**Mass**
Sprayer	CT	1	.5
Salvage Arm	RA	2	3
Liquid Cargo Bay	CT	2	1.5

GM-3A POMPIER FIREMECH



CPK-6 "COPPER" SECURITYMECH

Mass: 25 tons
Chassis: Coventry Peacekeeper Series
Power Plant: Coventry Hybrid 100 Fuel Cell
Cruising Speed: 43.2 kph
Maximum Speed: 64.8 kph
Jump Jets: None
Jump Capacity: None
Armor: Lexington Limited
Equipment:
1 Coventry Twin-Tube SRM-2 Launcher
2 Coventry Light Autogun Machine Guns
Manufacturer: Coventry Metal Works (SecurityMech Division)
Primary Factory: Coventry
Communications System: Cyclops P7 Dispatcher
Targeting and Tracking System: Cyclops 8B UrbanTrak (Advanced Fire Control)

Overview

Often referred to as the "poor man's BattleMech," SecurityMechs (also occasionally referred to as RiotMechs or PoliceMechs) are a rare animal, even in the IndustrialMech market. Indeed, on many occasions, police and private agencies willing to look into 'Mechs for their security needs have tended to choose true BattleMechs over these machines most often. The reasons for this are more based on tradition and legalities, rather than in physical reality; in the pre-BattleMech era, armed WorkMechs did exist, but were often seen as ungainly and overpowering for typical urban security work (where they were meant to be employed). Thus, even before the dawn of the BattleMech, such armed IndustrialMechs found themselves limited in size, while their armament was studiously kept at a level military forces could contend with, the reasoning being that no police force should ever be tasked with a military operation (or—some critics noted—be able to interfere in one).

After the rise of the BattleMech, these rules became even more stringent, limiting everything from the maximum weight and armament to the power supply used by armed WorkMechs—to prevent these machines from becoming an underground competitor for the growing BattleMech manufacturers. Of course, as 'Mech technologies evolved in both the civilian and military sectors, many commercial manufacturers quickly found themselves consumed by the larger military 'Mech producers, their products retooled to true BattleMech design or recast as common WorkMechs. Nevertheless, demand for dedicated non-military 'Mechs for security roles remained strong enough in some areas to keep this niche market alive even today.

Capabilities

By interstellar law, few SecurityMechs exist over 35 tons in total mass, which places the 25-ton CPK-65 "*Copper*" SecurityMech of Coventry Metal Works in what amounts to the medium-weight class for its kind. First commissioned in 3065, the *Copper* is actually the latest in a long line of the company's Peacekeeper series, a commercial variation on the famous COM *Commando* BattleMech line. Although, aside from some interchangeable actuators and electronics, similarities between the CPK-65 and the *Commando* end with their identical tonnage ratings.

The CPK, unlike the *Commando*, makes use of an IndustrialMech chassis, powered by a fuel cell engine for modest ground speed, rather than a lighter, more capable fusion plant. These naturally limit the design to lighter weapons, which are often considered excessive even in a full-scale riot (and, indeed, the *Copper*'s weapons load—while consisting of military-grade hardware—is usually rendered even less deadly by the use of rubber bullets and tear gas SRMs over true anti-personnel firepower). The lack of true environmental sealing also prevents the deployment of the CPK in most environments where one may find a BattleMech—a factor that requires pilots who use tear gas to always keep a filter mask or two handy in the cockpit. Such design limitations, however, also lower the *Copper*'s price tag to half that of a *Commando*, and the SecurityMech runs cheaper than virtually every single BattleMech produced today. This single factor, more than any other, has made machines like these a favorite for commercial and corporate security forces across the Inner Sphere—even those that can afford to use true BattleMechs.

Deployment

Produced in various models since the CPK-19 first debuted in the Star League era, *Coppers* may be found in the employ of various corporations, nobles, and police forces across the Lyran Alliance and beyond. The latest *Copper* model, however, is far more prevalent among the larger civilian security forces of the Alliance's Coventry Province than anywhere else.

Variants

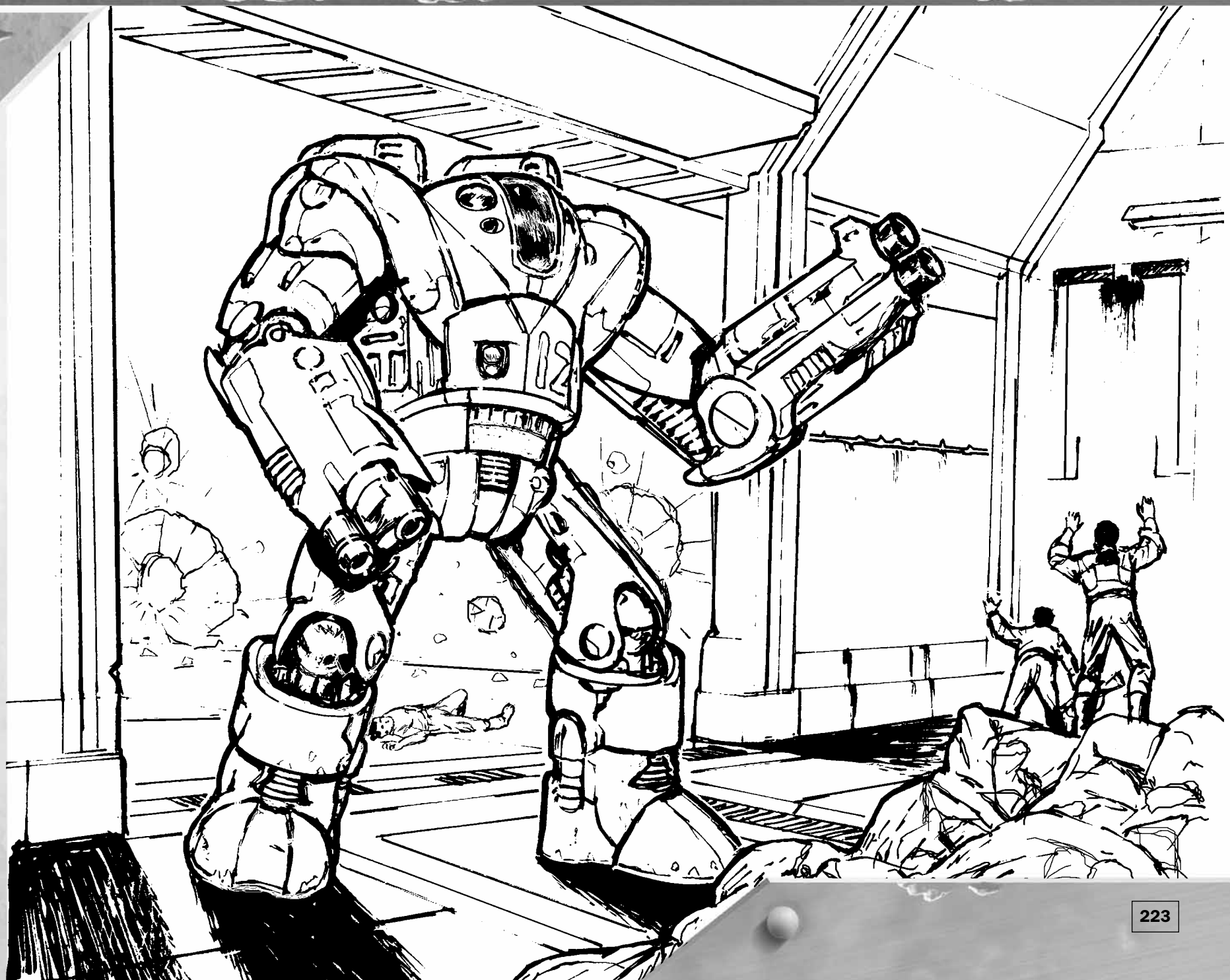
Though rare, commercial-grade SecurityMechs come in broad varieties that can be found today across the Inner Sphere in various forms. Among the most well known is Ceres Metals' 15-ton GS-54 "*Guard*"—a quadrupedal design armed with twin machine guns for riot control on numerous heavily populated Capellan worlds. Also popular are the 30-ton CCU-36 "*Pacifier*" built by Alshain Weapons for Combine-based civilian authorities, and the ultra-heavy 35-ton ITW-80 "*Inquisitor*," created by Irian Technologies, Unlimited exclusively for the defense of all IrTech facilities throughout the Free Worlds League.

Type: **CPK-65 "Copper" Heavy SecurityMech**
Technology Base: Inner Sphere (IndustrialMech)
Tonnage: 25
Equipment Rating: D/X-X-D/E

Equipment			**Mass**
Internal Structure:	IndustrialMech		5
Engine:	100 (Fuel Cell)		4
Walking MP:	4		
Running MP:	6		
Jumping MP:	0		
Heat Sinks:	3		2
Gyro:			1
Cockpit:	IndustrialMech		3
Armor Factor:	80 (Heavy Industrial)		5
	Internal Structure	*Armor Value*	
Head	3	6	
Center Torso	8	10	
Center Torso (rear)		6	
R/L Torso	6	8	
R/L Torso (rear)		4	
R/L Arm	4	7	
R/L Leg	6	10	

Weapons and Ammo	**Location**	**Critical**	**Mass**
SRM 2	LA	1	1
Ammo (SRM) 50	LA	1	1
2 Machine Guns	RA	2	1
Ammo (MG) 200	RA	1	1
Searchlight	LT	1	.5
Searchlight	RT	1	.5

CPK-6 "COPPER" SECURITYMECH



UNSUNG WORKHORSES

MechWarriors receive all the glory; aerospace fighter pilots a close second; vehicles are considered the workhorses of any military; infantry are even given their day in the sun in the minds of the common citizen. But no battle could be waged, nor won, without the mammoth apparatus of support vehicles that feed the war machines of the Great Houses. From cargo trucks to tanker airships, airborne MASH to communication satellites, armored transport rails to coastal patrol boats, hauler exoskeletons to LoaderMechs, even hover and wheeled police cruisers or civilian vehicles onscripted into the military: the support vehicle is the true ackbone of any military machine.

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