This is Free Trader Beowulf,

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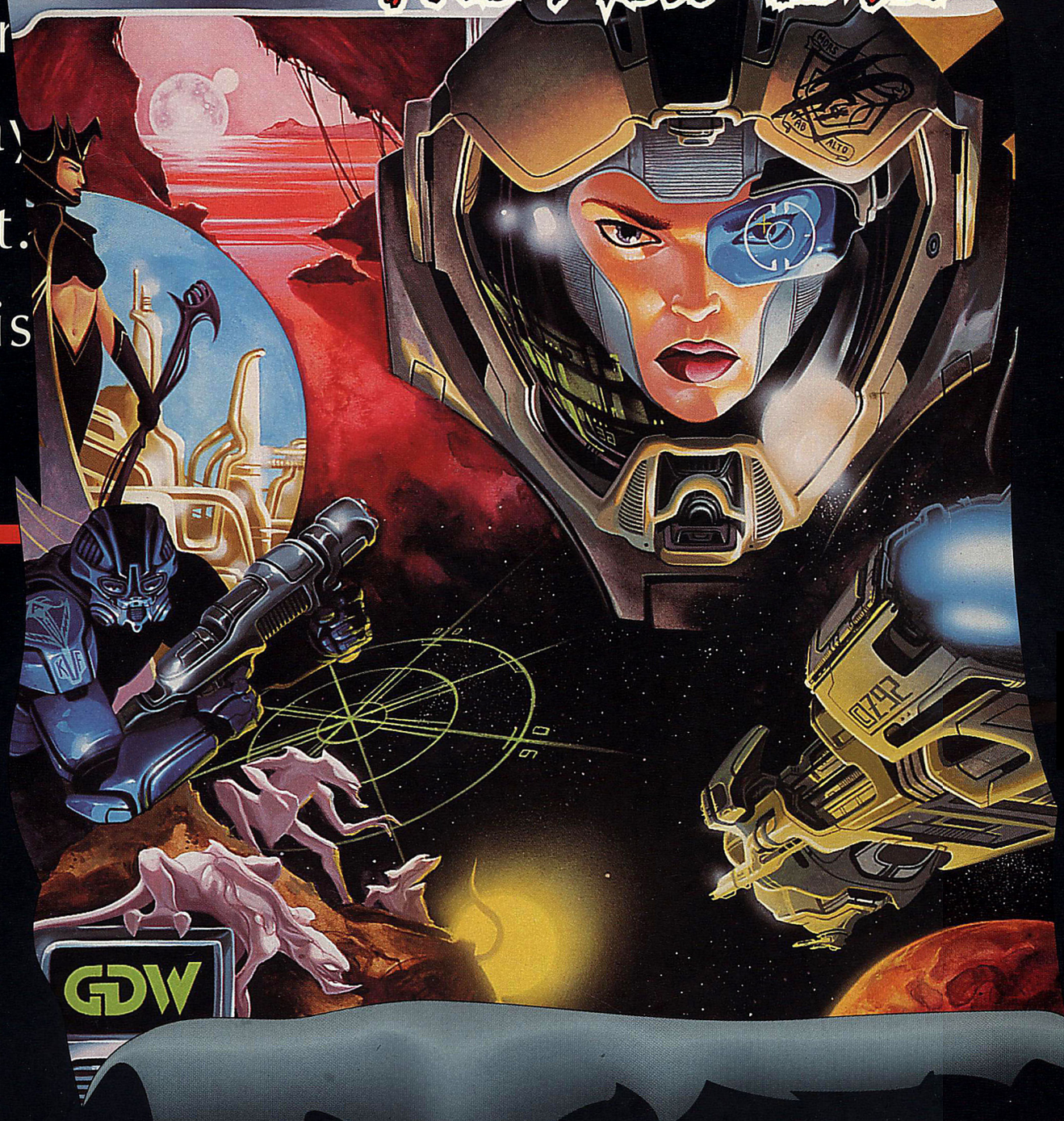
Deluxe Edition

0302

Science Fiction Roleplaying Game

TRAVELLER

The New Era



Game Designers' Workshop

Skills by Skill Clusters

Acrobat
- Acrobatics (AGL)
- Stealth (AGL)
- Thrown Weapon (STR)
- Climbing (CON)

Aircraft
- Pilot (AGL) (cascade)
  - Airship
  - Rotary Wing
  - Fixed Wing
  - Glider
  - Interface/Grav
- RCV Operations (EDU)

Animal Handling
- Riding (CON)
- Guard/Hunting Beasts (CON)
- Farming (INT)

Archaic Weapons
- Thrown Weapon (STR)
- Archery (STR)

Artillery
- Forward Observer (INT)
- Heavy Artillery (STR)
- Energy Artillery (AGL)
- Archaic Artillery (STR)
- RCV Operations (EDU)

Artisan
- Metallurgy (EDU)
- Carpenter (CON)
- Jeweler (AGL)
- Mason (STR)

Charm
- Act/Bluff (CHR)
- Carousing (CHR)
- Persuasion (CHR)
- Recruiting (CHR)
- Service (CHR)

Crime
- Forgery (AGL)
- Pickpocket (AGL)
- Intrusion (AGL)

Determination
- Leadership (CHR)
- Streetwise (INT)
- Willpower (INT)

Economics
- Admin/Legal (EDU)
- Marketing (EDU)

Engineer
- Construction (EDU)
- Combat Engineer (CON)
- Excavation (EDU)
- Starship Architecture (EDU)

Explore
- Climbing (CON)
- Liaison (CHR)
- Map (EDU)
- Navigation (INT)
- Survival (INT)
- Swimming (CON)
- High-G Environment (CON)

Fine Arts
- Act/Bluff (CHR)
- Dance (AGL)
- Disguise (CHR)
- Music (AGL) (cascade: Composition, Strings, Wind, Percussion, Keyboard, Other)
- Painting (INT)
- Sculpture (INT)
- Song (CHR)

Gun Combat
- Energy Weapon (AGL or STR) (cascade)
  - Energy Pistol
  - Energy Rifle
- Slug Weapon (STR) (cascade)
  - Slug Pistol
  - Slug Rifle
- Early Firearms (STR)

Heavy Weapons
- Autogun (STR)
- Heavy Guns (STR)
- Energy Artillery (AGL)
- Grenade Launcher (STR)
- Tac Missile (AGL)

Interaction
- Bargain (CHR)
- Instruction (CHR)
- Interrogation (CHR)
- Language (CHR) (cascade: individual languages and Linguistics)
- Liaison (CHR)
- Recruiting (CHR)

Medical
- Medical (EDU) (cascade)
  - Diagnosis
  - Trauma Aid
  - Surgery

Melee
- Unarmed Martial Arts (STR)
- Armed Martial Arts (STR) (cascade)
  - Large Blade
  - Small Blade
  - Polearm
  - Club

Perception
- Investigation (INT)
- Observation (INT)
- Psychology (INT)
- Research (INT)
- Tracking (INT)

Personal Transport
- Parachute (CON)
- Grav Belt (AGL)
- Muscle Transport (AGL) (cascade)
  - Skates
  - Skis
  - Wheels

Physical Science
- Biology (EDU)
- Chemistry (EDU)
- Farming (INT)
- Genetics (EDU)
- Geology (EDU)
- Meteorology (EDU)
- Physics (EDU)
- Robotocs (EDU)
- Xeno-Biology (EDU)

Social Science
- History (EDU)
- Instruction (CHR)
- Interview (INT)
- Persuasion (CHR)
- Psychology (INT)
- Research (INT)

Spacehand
- Environment Suit (CON)
- Zero-G Environment (CON)

Space Tech
- Communications (EDU)
- Gravitics (EDU)
- Gunnery (EDU) (cascade)
  - Energy Weapon
  - Grav Weapon
  - Missiles
- RCV Operations (EDU)
- Screens (EDU) (cascade)
  - Nuclear Dampers
  - Meson Screens
  - Sandcaster
  - Black Globe
- Ship's Engineering (EDU)

Space Vessel
- Astrogation (INT)
- Pilot (Interface/Grav) (AGL)
- Sensors (INT)
- Survey (INT)

Tactics
- Ground Tactics (INT)
- Fleet Tactics (INT)
- Ship Tactics (INT)

Technician
- Communications (EDU)
- Computer (EDU)
- Electronics (EDU)
- Machinist (AGL)
- Mechanic (STR)

Vice
- Bribery (CHR)
- Disguise (CHR)
- Gambling (INT)
- Streetwise (INT)

Vehicle
- Ground Vehicle (AGL) (cascade)
  - Wheeled Vehicle
  - Tracked Vehicle
- Hovercraft (AGL)
- Riding (CON)
- Pilot (Interface/Grav) (AGL)

Vessel
- Hovercraft (AGL)
- Large Watercraft (CON)
- Small Watercraft (CON)

Career Entry Requirements

All Homeworld/Region requirements must be met to enter the career. Attribute requirements only require that the character meet one of the requirements listed, unless they are underlined. *All* underlined requirements must be met in order to enter the career. See career descriptions for more details. The Prior Career column shows previous education or skills required. Education requirements in parantheses show what is required to enter the career with a commission.

Career	*STR*	*AGL*	*CON*	*INT*	*EDU*	*CHR*	*SOC*	*Homeworld/Region*	*Prior Career*	*Ship DMs Gained*
Education										
Undergrad Univ.					5+			Industrial (4)+		
Military Academy	5+				6+		(9+)	ModPop (6)+, Ind (4)+		
Graduate Univ.				7+	7+			Industrial (4)+	Univ	
Law School				5+	5+			Industrial (4)+	Univ	
Medical School				8+	8+			Industrial (4)+	Univ & Skill1	
Flight Academy		6+			6+		(9+)	Ind/Early Stellar (4/9)+		
Technical School								Industrial (4)+		
Hiver Technical Academy					7+	7+		Old Expanses		
Civilian Occupations										
Athlete	9+	9+	9+					ModPop (6)+		
Attorney									Law School	
Barbarian								Pre-Industrial (3)–		
Belter		6+						Pre-Stellar (6)+	Geology 2+	1 Scout*/T
Bounty Hunter		4+								1 Scout
Bureaucrat					7+			ModLaw (4)+		
Civil Engineer									Master's, Skill2	
Civil Pilot								Industrial (4)+	Tech/Flight, Skill3	
Computer Operator								Pre-Stellar (6)+	Tech/Univ, Skill4	
Construction Worker	4+	5+								
Corsair	6+		6+					Early Stellar (9)+		3 Warship
Criminal										
Diplomat				7+		7+		ModPop (6)+		1 Scout, Yacht/T
Entertainer						8+				1 Yacht
Farmer										
Hunter/Guide		9+	9+					ThinAtmos (4)+/Regency		1 Yacht
Journalist						7+		Industrial (4)+	Univ	
Law Enforcement	6+							LowLaw (1)+	No Prison Terms	
Manager								Industrial (4)+	Univ	1 Trader
Martial Artist										
Mechanic								Industrial (4)+		
Medicine		5+						Industrial (4)+	(Medical School)	
Mercenary	4+								Military Career	1+1 Trader, Warship
Merchant Marine	6+		5+					Ind (4)+, ModPop (6)+, WetHyd (3)+		
Prisoner									Forced by Capture	
Professor									PhD	
Psionic Researcher								Regency	Med, PhD Biology	
Rebel		5+								1 Warship
Scientist				7+				Industrial (4)+	PhD Physical Sci.	1/5 Lab Ship
Scout	7+			7+				Early Stellar (9)+	(Univ/Flight)	1/3 Scout
Tough						3+	5–	ModPop (6)+		
Trader				6+		6+		Early Stellar (9)+	(Flight Academy)	2/5 Trader
Undercover Agent				6+		6+		Industrial (4)+		1 Scout
Wealthy Traveller							9+	Regency		5 Yacht/T
Military Careers										
Army			6+					Ind (4)+, ModPop (6)+ ThinAtm (4)+	(Univ/Acad)	
Aviation	7+	7+						Ind (4)+, ModPop (6)+ ThinAtm (4)+	(Univ/Flight)	
Marines		7+						Pre-Stlr (6)+, ModPop (6)+	(Univ/Acad)	1+1 Trader, Warship/T
Navy				7+	7+			Pre-Stlr (6)+, ModPop (6)+	(Univ/Flight)	2/5 Scout, Warship, Trader/T
Special Operations	5+	5+	5+						Military Career	1+1 Trader, Warship
Wet Navy				7+	7+			Ind (4)+, ModPop (6)+	(Univ/Acad)	

NOTES

Master's: Master's degree from graduate university; **PhD:** Doctorate from graduate university; **Med:** Medical school; **Tech:** Technical school; **Flight:** Flight academy; **Univ:** Undergraduate university; **Acad:** Military academy.

Prior Career Skill Prerequisites

Skill1: Biology 3+, Chem 2+; **Skill2:** Construction 4+; **Skill3:** Pilot 3+; **Skill4:** Computer 2+.

Ship DMs

Number before slash is DMs earned per term as enlisted; after slash is DMs earned per turn as officer; T=May trade 1 Ship DM for membership in Travellers'Aid Society

* Ship DMs received only if character never made a strike.

Skill List by Controlling Attribute

Skill (Cluster)	*Atmos*	*Hydro*	*Pop*	*Law Level*	*Tech Level*
Interview (Social Science)					
Investigation (Perception)					
Navigation (Explore)					
Observation (Perception)					
Painting (Fine Art)					
Psychology (Perception)					
Research (Perception)					
Sculpture (Fine Arts)					
Sensors (Space Vessel)					Industrial (4)+
Ship Tactics (Tactics)					Early Stellar (9)+
Streetwise (Determination, Vice)			Moderate (6)+		
Survey (Space Vessel)					Pre-Stellar (6)+
Survival (Explore)	Thin-Dense (4-9)				
Tracking (Perception)	Thin-Dense (4-9)				
Willpower (Determination)					
Education					
Admin/Legal (Economics)				Low (1)+	
Astrogation (Space Vessel)					Early Stellar (9)+
Biology (Physical Science)					
Chemistry (Physical Science)					
Communications (Space Tech)					Industrial (4)+
Computer (Technician)					Pre-Stellar (6)+
Construction (Engineer)					
Electronics (Technician)					Industrial (4)+
Excavation (Engineer)					
Genetics (Physical Science)					
Geology (Physical Science)					
Gravitics (Space Tech)					Early Stellar (9)+
Gunnery (Space Tech)					Pre-Stellar (6)+
History (Social Science)					
Map (Explore)					
Marketing (Economics)			Moderate (6)+		
Medical (Medical)					
Metallurgy (Artisan)					
Meteorology (Physical Science)					
Physics (Physical Science)					
RCV Operations (Aircraft, Artillery, Space Tech)					Pre-Stellar (6)+
Robotics (Science)					Pre-Stellar (6)+
Screens (Space Tech)					Early Stellar (9)+
Ship's Engineering (Space Tech)					Pre-Stellar (6)+
Starship Architecture (Engineer)					Early Stellar (9)+
Xeno-Biology (Physical Science)					Early Stellar (9)+
Charisma					
Act/Bluff (Charm, Fine Art)					
Bargain (Interaction)					
Bribery (Vice)					
Carousing (Charm)					
Disguise (Fine Arts, Vice)					
Instruction (Interaction, Social Science)					
Interrogation (Interaction)					
Language (Interaction)					
Leadership (Determination)					
Liaison (Explore, Interaction)					
Persuasion (Charm)					
Recruiting (Interaction)					
Service (Charm)					
Song (Fine Arts)					

Skill List by Controlling Attribute

Skill (Cluster)	*Atmos*	*Hydro*	*Pop*	*Law Level*	*Tech Level*
Strength					
Archery (Archaic Weapons)				High (9)–	
Archaic Artillery (Artillery)					Pre-Industrial (3)–
Armed Martial Arts (Melee)				High (9)–	
Autogun (Heavy Weapons)					Industrial (4)+
Early Firearms (Gun Combat)				Moderate (7)–	Pre-Industrial (3)–
Energy Weapon (Gun Combat)				Low (1)–	Pre-Stellar (7)+
Grenade Launcher (Heavy Weapons)					Industrial (4)+
Heavy Artillery (Artillery)					Industrial (4)+
Heavy Gun (Heavy Weapons)					Industrial (4)+
Mason (Artisan)					
Mechanic (Technician)					Industrial (4)+
Slug Weapon (Gun Combat)				Moderate (7)–	Industrial (4)+
Thrown Weapon (Acrobat, Archaic Weapons)					
Unarmed Martial Arts (Melee)					
Agility					
Acrobatics (Acrobat)					
Dance (Fine Arts)					
Energy Artillery (Artillery, Heavy Weapons)					Pre-Stellar (6)+
Energy Weapon (Gun Combat)				Low (1)–	Pre-Stellar (7)+
Forgery (Crime)					
Grav Belt (Personal Transport)					Avg Stellar (B)+
Ground Vehicle (Vehicle)					Industrial (4)+
Hovercraft (Vehicle, Vessel)	Standard (6)+				Pre-Stellar (6)+
Intrusion (Crime, Vice)					
Jeweler (Artisan)					
Machinist (Technician)					Industrial (4)+
Muscle Transport (Personal Transport)					
Music (Fine Art)					
Pickpocket (Crime)					
Pilot (Aircraft, Space Vessel)					
Airship	Standard (6)+				Industrial (4)+
Fixed Wing	Thin (4)+				Industrial (4)+
Rotary Wing	Thin (4)+				Industrial (4)+
Glider	Thin (4)+				Industrial (4)+
Interface/Grav					Early Stellar (9)+
Stealth (Acrobat)					
Tac Missile (Heavy Weapons)					Pre-Stellar (6)+
Constitution					
Carpenter (Artisan)					
Climbing (Acrobat, Explore)					
Combat Engineer (Engineer)					
Environment Suit (Spacehand)	Vacuum (0-3)				Pre-Stellar (6)+
Guard/Hunting Beasts (Animal Handling)					
High-G Environment (Explore)	1.1G+				Early Stellar (9)+
Large Watercraft (Vessel)	Thin-Dense (4-9)	Wet (3)+			
Parachute (Personal Transport)	Standard (6)+				Industrial (4)+
Riding (Animal Handling, Vehicle)	Thin-Dense (4-9)				
Small Watercraft (Vessel)	Thin-Dense (4-9)	Wet (3)+			
Swimming (Explore)	Thin-Dense (4-9)	Dry (1)+			
Zero-G Environment (Spacehand)					Pre-Stellar (6)+
Intelligence					
Farming (Animal Handling, Physical Science)	Thin-Dense (4-9)	Dry (1)+			
Fleet Tactics (Tactics)					Early Stellar (9)+
Forward Observer (Artillery)					Industrial (4)+
Gambling (Vice)					
Ground Tactics (Tactics)					

Skills by Skill Clusters

Acrobat
- Acrobatics (AGL)
- Stealth (AGL)
- Thrown Weapon (STR)
- Climbing (CON)

Aircraft
- Pilot (AGL) (cascade)
  - Airship
  - Rotary Wing
  - Fixed Wing
  - Glider
  - Interface/Grav
- RCV Operations (EDU)

Animal Handling
- Riding (CON)
- Guard/Hunting Beasts (CON)
- Farming (INT)

Archaic Weapons
- Thrown Weapon (STR)
- Archery (STR)

Artillery
- Forward Observer (INT)
- Heavy Artillery (STR)
- Energy Artillery (AGL)
- Archaic Artillery (STR)
- RCV Operations (EDU)

Artisan
- Metallurgy (EDU)
- Carpenter (CON)
- Jeweler (AGL)
- Mason (STR)

Charm
- Act/Bluff (CHR)
- Carousing (CHR)
- Persuasion (CHR)
- Recruiting (CHR)
- Service (CHR)

Crime
- Forgery (AGL)
- Pickpocket (AGL)
- Intrusion (AGL)

Determination
- Leadership (CHR)
- Streetwise (INT)
- Willpower (INT)

Economics
- Admin/Legal (EDU)
- Marketing (EDU)

Engineer
- Construction (EDU)
- Combat Engineer (CON)
- Excavation (EDU)
- Starship Architecture (EDU)

Explore
- Climbing (CON)
- Liaison (CHR)
- Map (EDU)
- Navigation (INT)
- Survival (INT)
- Swimming (CON)
- High-G Environment (CON)

Fine Arts
- Act/Bluff (CHR)
- Dance (AGL)
- Disguise (CHR)
- Music (AGL) (cascade: Composition, Strings, Wind, Percussion, Keyboard, Other)
- Painting (INT)
- Sculpture (INT)
- Song (CHR)

Gun Combat
- Energy Weapon (AGL or STR) (cascade)
  - Energy Pistol
  - Energy Rifle
- Slug Weapon (STR) (cascade)
  - Slug Pistol
  - Slug Rifle
- Early Firearms (STR)

Heavy Weapons
- Autogun (STR)
- Heavy Guns (STR)
- Energy Artillery (AGL)
- Grenade Launcher (STR)
- Tac Missile (AGL)

Interaction
- Bargain (CHR)
- Instruction (CHR)
- Interrogation (CHR)
- Language (CHR) (cascade: individual languages and Linguistics)
- Liaison (CHR)
- Recruiting (CHR)

Medical
- Medical (EDU) (cascade)
  - Diagnosis
  - Trauma Aid
  - Surgery

Melee
- Unarmed Martial Arts (STR)
- Armed Martial Arts (STR) (cascade)
  - Large Blade
  - Small Blade
  - Polearm
  - Club

Perception
- Investigation (INT)
- Observation (INT)
- Psychology (INT)
- Research (INT)
- Tracking (INT)

Personal Transport
- Parachute (CON)
- Grav Belt (AGL)
- Muscle Transport (AGL) (cascade)
  - Skates
  - Skis
  - Wheels

Physical Science
- Biology (EDU)
- Chemistry (EDU)
- Farming (INT)
- Genetics (EDU)
- Geology (EDU)
- Meteorology (EDU)
- Physics (EDU)
- Robotocs (EDU)
- Xeno-Biology (EDU)

Social Science
- History (EDU)
- Instruction (CHR)
- Interview (INT)
- Persuasion (CHR)
- Psychology (INT)
- Research (INT)

Spacehand
- Environment Suit (CON)
- Zero-G Environment (CON)

Space Tech
- Communications (EDU)
- Gravitics (EDU)
- Gunnery (EDU) (cascade)
  - Energy Weapon
  - Grav Weapon
  - Missiles
- RCV Operations (EDU)
- Screens (EDU) (cascade)
  - Nuclear Dampers
  - Meson Screens
  - Sandcaster
  - Black Globe
- Ship's Engineering (EDU)

Space Vessel
- Astrogation (INT)
- Pilot (Interface/Grav) (AGL)
- Sensors (INT)
- Survey (INT)

Tactics
- Ground Tactics (INT)
- Fleet Tactics (INT)
- Ship Tactics (INT)

Technician
- Communications (EDU)
- Computer (EDU)
- Electronics (EDU)
- Machinist (AGL)
- Mechanic (STR)

Vice
- Bribery (CHR)
- Disguise (CHR)
- Gambling (INT)
- Streetwise (INT)

Vehicle
- Ground Vehicle (AGL) (cascade)
  - Wheeled Vehicle
  - Tracked Vehicle
- Hovercraft (AGL)
- Riding (CON)
- Pilot (Interface/Grav) (AGL)

Vessel
- Hovercraft (AGL)
- Large Watercraft (CON)
- Small Watercraft (CON)

Career Entry Requirements

All Homeworld/Region requirements must be met to enter the career. Attribute requirements only require that the character meet one of the requirements listed, unless they are underlined. *All* underlined requirements must be met in order to enter the career. See career descriptions for more details. The Prior Career column shows previous education or skills required. Education requirements in parantheses show what is required to enter the career with a commission.

Career	*STR*	*AGL*	*CON*	*INT*	*EDU*	*CHR*	*SOC*	*Homeworld/Region*	*Prior Career*	*Ship DMs Gained*
Education										
Undergrad Univ.					5+			Industrial (4)+		
Military Academy	5+				6+		(9+)	ModPop (6)+, Ind (4)+		
Graduate Univ.				7+	7+			Industrial (4)+	Univ	
Law School				5+	5+			Industrial (4)+	Univ	
Medical School				8+	8+			Industrial (4)+	Univ & Skill1	
Flight Academy		6+			6+		(9+)	Ind/Early Stellar (4/9)+		
Technical School								Industrial (4)+		
Hiver Technical Academy					7+	7+		Old Expanses		
Civilian Occupations										
Athlete	9+	9+	9+					ModPop (6)+		
Attorney									Law School	
Barbarian								Pre-Industrial (3)–		
Belter		6+						Pre-Stellar (6)+	Geology 2+	1 Scout*/T
Bounty Hunter		4+								1 Scout
Bureaucrat					7+			ModLaw (4)+		
Civil Engineer									Master's, Skill2	
Civil Pilot								Industrial (4)+	Tech/Flight, Skill3	
Computer Operator								Pre-Stellar (6)+	Tech/Univ, Skill4	
Construction Worker	4+	5+								
Corsair	6+		6+					Early Stellar (9)+		3 Warship
Criminal										
Diplomat				7+		7+		ModPop (6)+		1 Scout, Yacht/T
Entertainer						8+				1 Yacht
Farmer										
Hunter/Guide		9+	9+					ThinAtmos (4)+/Regency		1 Yacht
Journalist						7+		Industrial (4)+	Univ	
Law Enforcement	6+							LowLaw (1)+	No Prison Terms	
Manager								Industrial (4)+	Univ	1 Trader
Martial Artist										
Mechanic								Industrial (4)+		
Medicine		5+						Industrial (4)+	(Medical School)	
Mercenary	4+								Military Career	1+1 Trader, Warship
Merchant Marine	6+		5+					Ind (4)+, ModPop (6)+, WetHyd (3)+		
Prisoner									Forced by Capture	
Professor									PhD	
Psionic Researcher								Regency	Med, PhD Biology	
Rebel		5+								1 Warship
Scientist				7+				Industrial (4)+	PhD Physical Sci.	1/5 Lab Ship
Scout	7+			7+				Early Stellar (9)+	(Univ/Flight)	1/3 Scout
Tough						3+	5–	ModPop (6)+		
Trader				6+		6+		Early Stellar (9)+	(Flight Academy)	2/5 Trader
Undercover Agent				6+		6+		Industrial (4)+		1 Scout
Wealthy Traveller							9+	Regency		5 Yacht/T
Military Careers										
Army			6+					Ind (4)+, ModPop (6)+ ThinAtm (4)+	(Univ/Acad)	
Aviation	7+	7+						Ind (4)+, ModPop (6)+ ThinAtm (4)+	(Univ/Flight)	
Marines		7+						Pre-Stlr (6)+, ModPop (6)+	(Univ/Acad)	1+1 Trader, Warship/T
Navy				7+	7+			Pre-Stlr (6)+, ModPop (6)+	(Univ/Flight)	2/5 Scout, Warship, Trader/T
Special Operations	5+	5+	5+						Military Career	1+1 Trader, Warship
Wet Navy				7+	7+			Ind (4)+, ModPop (6)+	(Univ/Acad)	

NOTES

Master's: Master's degree from graduate university; **PhD:** Doctorate from graduate university; **Med:** Medical school; **Tech:** Technical school; **Flight:** Flight academy; **Univ:** Undergraduate university; **Acad:** Military academy.

Prior Career Skill Prerequisites

Skill1: Biology 3+, Chem 2+; **Skill2:** Construction 4+; **Skill3:** Pilot 3+; **Skill4:** Computer 2+.

Ship DMs

Number before slash is DMs earned per term as enlisted; after slash is DMs earned per turn as officer; T=May trade 1 Ship DM for membership in Travellers'Aid Society

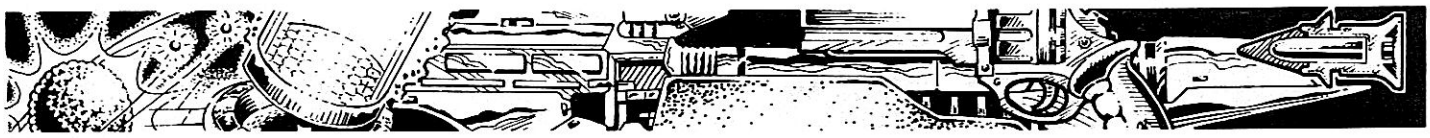
* Ship DMs received only if character never made a strike.

Skill List by Controlling Attribute

Skill (Cluster)	*Atmos*	*Hydro*	*Pop*	*Law Level*	*Tech Level*
Interview (Social Science)					
Investigation (Perception)					
Navigation (Explore)					
Observation (Perception)					
Painting (Fine Art)					
Psychology (Perception)					
Research (Perception)					
Sculpture (Fine Arts)					
Sensors (Space Vessel)					Industrial (4)+
Ship Tactics (Tactics)					Early Stellar (9)+
Streetwise (Determination, Vice)			Moderate (6)+		
Survey (Space Vessel)					Pre-Stellar (6)+
Survival (Explore)	Thin-Dense (4-9)				
Tracking (Perception)	Thin-Dense (4-9)				
Willpower (Determination)					
Education					
Admin/Legal (Economics)				Low (1)+	
Astrogation (Space Vessel)					Early Stellar (9)+
Biology (Physical Science)					
Chemistry (Physical Science)					
Communications (Space Tech)					Industrial (4)+
Computer (Technician)					Pre-Stellar (6)+
Construction (Engineer)					
Electronics (Technician)					Industrial (4)+
Excavation (Engineer)					
Genetics (Physical Science)					
Geology (Physical Science)					
Gravitics (Space Tech)					Early Stellar (9)+
Gunnery (Space Tech)					Pre-Stellar (6)+
History (Social Science)					
Map (Explore)					
Marketing (Economics)			Moderate (6)+		
Medical (Medical)					
Metallurgy (Artisan)					
Meteorology (Physical Science)					
Physics (Physical Science)					
RCV Operations (Aircraft, Artillery, Space Tech)					Pre-Stellar (6)+
Robotics (Science)					Pre-Stellar (6)+
Screens (Space Tech)					Early Stellar (9)+
Ship's Engineering (Space Tech)					Pre-Stellar (6)+
Starship Architecture (Engineer)					Early Stellar (9)+
Xeno-Biology (Physical Science)					Early Stellar (9)+
Charisma					
Act/Bluff (Charm, Fine Art)					
Bargain (Interaction)					
Bribery (Vice)					
Carousing (Charm)					
Disguise (Fine Arts, Vice)					
Instruction (Interaction, Social Science)					
Interrogation (Interaction)					
Language (Interaction)					
Leadership (Determination)					
Liaison (Explore, Interaction)					
Persuasion (Charm)					
Recruiting (Interaction)					
Service (Charm)					
Song (Fine Arts)					

Skill List by Controlling Attribute

Skill (Cluster)	*Atmos*	*Hydro*	*Pop*	*Law Level*	*Tech Level*
Strength					
Archery (Archaic Weapons)				High (9)–	
Archaic Artillery (Artillery)					Pre-Industrial (3)–
Armed Martial Arts (Melee)				High (9)–	
Autogun (Heavy Weapons)					Industrial (4)+
Early Firearms (Gun Combat)				Moderate (7)–	Pre-Industrial (3)–
Energy Weapon (Gun Combat)				Low (1)–	Pre-Stellar (7)+
Grenade Launcher (Heavy Weapons)					Industrial (4)+
Heavy Artillery (Artillery)					Industrial (4)+
Heavy Gun (Heavy Weapons)					Industrial (4)+
Mason (Artisan)					
Mechanic (Technician)					Industrial (4)+
Slug Weapon (Gun Combat)				Moderate (7)–	Industrial (4)+
Thrown Weapon (Acrobat, Archaic Weapons)					
Unarmed Martial Arts (Melee)					
Agility					
Acrobatics (Acrobat)					
Dance (Fine Arts)					
Energy Artillery (Artillery, Heavy Weapons)					Pre-Stellar (6)+
Energy Weapon (Gun Combat)				Low (1)–	Pre-Stellar (7)+
Forgery (Crime)					
Grav Belt (Personal Transport)					Avg Stellar (B)+
Ground Vehicle (Vehicle)					Industrial (4)+
Hovercraft (Vehicle, Vessel)	Standard (6)+				Pre-Stellar (6)+
Intrusion (Crime, Vice)					
Jeweler (Artisan)					
Machinist (Technician)					Industrial (4)+
Muscle Transport (Personal Transport)					
Music (Fine Art)					
Pickpocket (Crime)					
Pilot (Aircraft, Space Vessel)					
Airship	Standard (6)+				Industrial (4)+
Fixed Wing	Thin (4)+				Industrial (4)+
Rotary Wing	Thin (4)+				Industrial (4)+
Glider	Thin (4)+				Industrial (4)+
Interface/Grav					Early Stellar (9)+
Stealth (Acrobat)					
Tac Missile (Heavy Weapons)					Pre-Stellar (6)+
Constitution					
Carpenter (Artisan)					
Climbing (Acrobat, Explore)					
Combat Engineer (Engineer)					
Environment Suit (Spacehand)	Vacuum (0-3)				Pre-Stellar (6)+
Guard/Hunting Beasts (Animal Handling)					
High-G Environment (Explore)	1.1G+				Early Stellar (9)+
Large Watercraft (Vessel)	Thin-Dense (4-9)	Wet (3)+			
Parachute (Personal Transport)	Standard (6)+				Industrial (4)+
Riding (Animal Handling, Vehicle)	Thin-Dense (4-9)				
Small Watercraft (Vessel)	Thin-Dense (4-9)	Wet (3)+			
Swimming (Explore)	Thin-Dense (4-9)	Dry (1)+			
Zero-G Environment (Spacehand)					Pre-Stellar (6)+
Intelligence					
Farming (Animal Handling, Physical Science)	Thin-Dense (4-9)	Dry (1)+			
Fleet Tactics (Tactics)					Early Stellar (9)+
Forward Observer (Artillery)					Industrial (4)+
Gambling (Vice)					
Ground Tactics (Tactics)					



CHAPTER 10
Lifters

By lifters we mean unconventional methods of levitating a craft (conventional means including lifting gasses, airframes, rotors, and conventional thrusters). The standard lifter used in **Traveller** is the contra-gravity device found on most spacecraft. Several alternative lifters are described later in the chapter.

It should be noted that two other alternative lifter technologies—the Dean Drive and thruster plates—are included in the Sublight Drive chapter (Section 9) as they are also useful for interplanetary travel.

Contra-Grav

Many spacecraft have contra-grav (CG) lifters as fuel-efficient means of landing and taking off from a planet surface, and CG lifters are also used on grav vehicles. CG lifters do not provide thrust and so cannot physically lift a craft or vehicle. Instead, they neutralize most of the gravitational attraction of a world (approximately 99% of gravitational force, beyond which power use becomes prohibitive). This, combined with atmospheric pressure, will provide buoyancy in very dense atmospheres and so allow the craft to float at low altitudes, but usually CG is used only as an adjunct to the ship's thrusters. By neutralizing most of a world's gravitational field, a ship with only 1G of thrust can still escape the world's gravity well.

Note that CG does not reduce the mass of the ship, and so a 1G thruster will still only produce 1G of acceleration; CG merely negates the gravitational vector of a world.

Surface area below (used for starships only) includes space for landing gear/skids.

CONTRA-GRAV LIFTERS

Type	*TL*	*MW*	*Kl*	*Mass*	*MCr*	*Min Vol*
Standard	9	0.3	0.5	0.4	.02	1
Improved	10	0.2	0.3	0.3	.025	0.3
High Efficiency	12	0.1	0.3	0.2	.03	0.03

TL: Tech level available.

MW: Power requirement per displacement ton (14 kl) of hull.

Kl: Volume, in kiloliters (cubic meters), per displacement ton (14 kl) of hull.

Mass: Mass, in tonnes, per displacement ton (14 kl) of hull.

MCr: Price, in millions of credits, per displacement ton (14 kl) of hull.

Min Vol: Smallest installation volume allowed.

Surface Area: 10% of total hull surface area, used for spacecraft only. Surface area is not calculated separately for lift vehicles, as it is subsumed into their standard surface area calculation.

ALTERNATIVE TECHNOLOGIES

1. Ducted Fans

Although ducted fans are currently capable of lifting small payloads, the technology presented below relies on material breakthroughs that allow much stronger fan blades as well as some minor bending of aerodynamic laws.

Ducted fan lifters work on principles similar to those used by helicopters. Instead of a single (or sometimes twin) large-diameter rotor, however, ducted fan craft have a larger number of smaller multiple-blade propellers, almost identical to turbine fans, imbedded in the craft's hull. These high-speed fans suck air in from overhead intakes and vent it beneath the craft, providing lift. The power plant also injects fuel directly into the air flow and combusts it, effectively turning the fan assemblies into very large diameter turbofans. As with helicopters some of this lift can be vented for thrust.

Because of the ability to angle atmosphere flow inward from the ducts along the outer edges of the vehicle, ducted fan lifters create a ground effect cushion directly under the vehicle when operating at very low altitude (less than four or five meters), and it is at these altitudes that ducted fan craft are most efficient. Above these altitudes, lift declines dramatically and increasing amounts of engine thrust have to be switched to lift instead of thrust.

Design: Ducted fan technology becomes available at tech level 8, when light composites make stronger fan blades possible. The thrust characteristics of ducted fan assemblies are shown below. Thrust generated by ducted fans may be devoted to either lift or lateral thrust (and may be switched from one to the other during flight). Speed is calculated based on lateral thrust. Thrust devoted to lift must be equal to the mass of the vehicle. All thrust devoted to lift at NOE altitude, however, produces double lift. That is, each tonne of thrust produces 2 tonnes of lift.

Characteristics of ducted fan assemblies are shown below.

TL	*Thrust*	*MCr*
8	1	0.5
10	1.5	0.4
12	2	0.3
14	2.5	0.2

TL: Tech level of first availability.

Thrust: Thrust, in tonnes, is equal to the power plant output devoted to thrust, in megawatts, multiplied by the value shown on the table.

MCr: Price, in millions of credits, per cubic meter of fan assembly.

Vol: Volume, in cubic meters, is equal to the power plant output in megawatts devoted to the ducted fan multiplied by 0.5.

Mass: Mass of the fan assembly in tonnes is equal to its volume in cubic meters.

Afterburn: All ducted fans have the ability to inject fuel and burn it in the air stream, which works similar to the afterburner on a jet. This doubles fuel use for the power plant and increases thrust by 50%. Afterburners are generally used only at high altitudes or for bursts of speed.

2. Maglev

Current magnetic levitation (maglev) research is concentrated on making near-frictionless trains, which ride on (or actually over) magnetized rails. This is not what we are talking about here, however. Maglev here is defined as a means of free levitation by riding the magnetic field of a planet. One obvious limitation of this form of lifter is that it is useless on a world which does not have a magnetic field, or which has a very weak one.

Aside from the fact that they function only in a strong magnetic field, maglev lifters are built and function in the same way as CG lifters.

MAGLEV LIFTERS

TL	*MW*	*Kl*	*MCr*
10	0.3	0.5	.02
12	0.25	0.4	.025
14	0.2	0.3	.03
16	0.15	0.25	.035
18	0.1	0.2	.04
20	0.05	0.1	.05

TL: Tech level available.

MW: Power requirement, in megawatts, per displacement ton (14 kl) of hull.

Kl: Volume, in kiloliters (cubic meters), per displacement ton (14 kl) of hull.

Mass: Mass, in tonnes, is equal to volume in cubic meters.

MCr: Price, in millions of credits, per displacement ton (14 kl) of hull.

3. Gravitic Displacement

The contra-grav lifters described in the game are far from the only imaginable means of manipulating gravity, and of the various types imaginable, one of the more interesting we call a gravitic displacement (GD) field. A GD field displaces the potential energy of a mass toward the closest gravity source without moving the mass itself, thus circumventing gravity with respect to the physical mass. This allows a massive object to rise and hover, and has much the same effect as contra-grav. The technical requirement of GD fields are similar enough to those of contra-grav that the same design procedure can be used. The only important difference is in the actual operation of the lifters.

Since a GD field displaces the potential energy of a mass toward the nearest gravity field, GD lifters have to be used with great care. A ship massing 1000 tonnes and hovering at a dozen meters or so will have the same effect on the ground surface directly beneath it as if it were resting physically on the ground. Light structures, plant life, and animal life alike would be crushed.

Craft at higher altitudes cause less surface disruption as their potential mass is spread over a wider area, but there are strict altitude and traffic regulations for even small craft flying near metropolitan areas. Large craft have very rigidly controlled landing and takeoff patterns, and these are over water whenever possible. (The ship will make a huge depression in the surface as it pulls over the water at low altitude.)

Grav vehicles, such as grav tanks, can again make crushing overrun attacks on enemy personnel, but pressure-sensitive mines (some of which are angled to fire charges directly up at the belly of grav vehicles) will also be triggered by their passing. In short, GD lifters are identical in gross effect to CG lifters, but add a number of interesting additional detailed interactions with a planet surface.

Replacement Pages: A block of text on page 75 was inadvertently covered during printing of this product. Remove pages 75 and 76 from this book and replace them with this sheet.
Please accept our apologies for any inconvenience.

Reformation Coalition Exploratory Service Intelligence Chart
Diaspora Sector
Rev O 12/VIII/1200

GDW

Subsectors within a sector

D	H	L	P
C	G	K	O
B	F	J	N
A	E	I	M

A Narquel
B Libert
C Sufren
D Khavle
E Shadigi
F Kushga
G Alurza
H Pasdaruu
I Ebasha
J Iusea
K The Blight
L Promise
M Hijiri
N Shumisdi
O Madoc
P Khulam

Bases — Gas Giant — World Type — World Name

Last Known Starport Type — No Gas Giant — Last Known Population — Last Known Tech Level — Polity Border

WORLD CHARACTERISTICS
- No Water Present
- Water Present
- Asteroid Belt

BASES
- Scout Base
- Research Station (Greek Letter)
- Scout Way Station
- Naval Base
- Naval Depot

POPULATION
- Secundus — Under one billion
- PRIMUS — Over one billion

Notice: Chart shows last reliable data for worlds of the sector, approximately 1119, early in the Final War. By release of Virus, approximately 1130, many changes had already taken place; however, this data is spotty and unreliable, so is not included. Political boundaries shown had developed by 1130 as result of local power vacuum. Some groups were petty imperial powers, others were self-defense coalitions. Nominal world allegiances as of 1119 are noted in the accompanying Diaspora Sector Briefing Folder.

ALL OF THIS DATA IS 80 OR MORE YEARS OLD. EXERCISE CAUTION.

RCES Intel Chart 2/Rev 0, Aubaine 12/VIII/1200, authority CDR Sayani

Orvon | Cruxway | Conda | Iingar

Ultima | Annari | Suleiman | Shokee | Shimmer | Wescom | Concord | Harlequin | Thoezennt | Syrs | Dethenes | Aubaine

New Order Vigilance Alliance | Confederation of Cumber | Eccleasiasty of Narquel | Union of Sufren | Khavle Accordment | Vassalry Judiciate | Alurzan Cartel | Unity of Promise | Duramnish League

RCES DIASPORA SECTOR BRIEFING FOLDER

Data presented here is accurate as of 1119, early in the Final War. Listed allegiances are Final War faction; these pre-date the petty polities of circa 1130 which are indicated on the accompanying Diaspora Intelligence Chart 2/Rev 0. Note that significant changes to these worlds had taken place by 1130, before the Collapse, but these cannot be systematically documented. The data here is the last hard information available for these worlds, but it is over 80 years old.

NARQUEL SUBSECTOR (Subsector A)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Aladon	0103	B6579CB-F		Hi Cp	404	LI	G0 V
Maxalla	0104	A596444-E		Ni Lo	115	LI	M1 III
Sikora	0108	D874626-9		Ni Ag	104	LI	K2 V
Chipper	0202	B7C0743-E	N	De	803	LI	M3 V
Rann	0206	X89A9AB-8		Hi Wa	R314	LI	K4 V
Justi	0207	B686567-E	W	Ni Ag O:0209	304	LI	K4 V
Soyuz	0209	B300948-F		Hi In Va Na	401	LI	M0 II
Jumar	0303	C000001-E		Ni As Lo	315	LI	A8 V
Jae Mona	0306	B200544-E		Ni Va	A923	LI	K0 V
Bayse	0310	X6859B8-7		Hi	R505	LI	K1 V
Kampala	0401	B645352-F		Ni Lo	104	LI	K6 V M6 D
Apinar	0402	A542310-F		Ni Po Lo	423	LI	K4 V
Gentry	0406	C6A0200-D		Ni De Lo	110	LI	M3 V M0 D
Isaasakhur	0407	C110572-E		Ni	213	LI	M0 V
Vita Levu	0410	B6A38CE-D			A300	LI	M2 V K4 D
Fudge	0501	C9C3534-D		Ni Fl	223	LI	M1 V
Guard	0502	D764686-7		Ni Ri Ag	212	LI	G4 V
Jamnagar	0503	D99A620-9		Ni Wa	601	LI	M0 V M6 D
Neto	0504	A300898-F	N	Va Na	912	LI	M3 V
Chuejou	0510	B253499-F		Ni Lo Po	224	LI	K0 V M3 D
Rakhaasha	0601	B110884-F		Na	100	LI	M1 V
Gasudarsk	0605	B100ABE-F		Hi In Va Na	102	LI	M3 V
Feeble	0607	B473331-D	N	Ni Lo	700	LI	K5 V
Sadiishumar	0608	B8D0685-E		Ni De	910	LI	G0 V
Quelleff	0609	A624753-F			505	LI	G1 V
Laagonaa	0701	C55177A-A		Po	A522	LI	M2 V M4 D
Essen	0705	C666200-D		Ni Lo	324	LI	M1 V M2 D
Narquel	0709	A1109DG-F		Hi In Na	505	LI	K4 V
Likitornot	0805	A252505-F		Ni Po	700	LI	K2 V
Larisa	0807	C588012-A		Ni Lo	504	LI	G1 V

LIBERT SUBSECTOR (Subsector B)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Eckel	0901	B837323-D		Ni Lo	111	LI	K9 V M9 D
Victory	0902	C9A7420-C		Ni Fl Lo	215	LI	M0 V
Toxey	0903	C78A145-E		Ni Wa Lo	310	LI	K4 V M4 D
Otimmatu	0905	D553655-9		Ni Po	604	LI	M0 V
Quafe	1007	C433267-D		Ni Po Lo O:1109	323	LI	K1 V
Yovanne	1102	C200998-B		Hi In Va Na	103	LI	K3 IV
Klenoy	1103	A623532-F		Ni Po	712	LI	M4 V
Khunan	1104	A332554-F		Ni Po	823	LI	M3 III
Laahii	1106	C100644-E		Ni Va Na C:2	A604	LI	M1 II M1 V
Kyzir	1108	C671422-C		Ni Lo	804	LI	M1 V M1 D
Libert	1109	A2109BC-F		Hi In Na Cx	102	LI	K8 III
Taken	1202	D675300-A		Ni Lo	503	LI	K6 V
Stanton	1203	D9898B9-8	S		611	LI	M0 V M9 D
Arkhaapar	1206	D355746-9		Ag	112	LI	M2 V
Kaanu	1207	E321498-B		Ni Po Lo	914	LI	A2 IV K4 D
Gate	1208	B659374-F		Ni Lo	702	LI	M2 V
Ridge	1210	A77A112-F		Ni Wa Lo	514	LI	M8 III
Berlin	1305	D2009BE-B		Hi In Va Na	803	LI	M4 V
Medellin	1306	D645221-8		Ni Lo	704	LI	K5 V
Jesicar	1307	A364486-F	N	Ni Lo	503	LI	K5 V M9 D
Mixem	1308	C685830-9		D:0	804	LI	M4 III
Hakalau	1309	B436400-F		Ni Lo	304	LI	M7 III
Rikhani	1404	A688772-E	N	Ri Ag	114	LI	G3 V
Loud	1405	D894101-A		Ni Lo	904	LI	K1 V
Talca	1407	A100798-F		Va Na	813	LI	M4 V M5 D M4 D
Glenwald	1409	D110340-B		Ni Lo	803	LI	K1 V
Uneshuu	1502	D10088C-C		Va Na	A610	LI	M3 V
Channel	1503	B694557-E		Ni Ag	912	LI	G0 V
Verona	1505	E400112-B		Ni Va Lo	804	LI	M9 V
Puget	1508	C7C89C9-A		Hi Fl	202	LI	M4 V
Cayene	1510	D425338-A		Ni Lo	520	LI	K1 V
Zeeland	1602	E989AA9-E		Hi C:4	A504	LI	K2 V
Unsuited	1610	D0008AE-A		As Na	214	LI	M3 V M1 D

SUFREN SUBSECTOR (Subsector C)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Grourard	1701	A896566-E		Ni Ag O:2004	400	LI	G2 V M4 D
Onliu	1704	C110433-F		Ni Lo	324	LI	M1 V M6 D M0 D
Boyne	1707	B462546-F		Ni C:5	603	LI	M1 V
Erakhuu	1708	B89688C-C			902	LI	G1 II
Navar	1804	C5479DG-B		Hi In	805	LI	F9 V
Maelstrom	1805	B421210-F		Ni Po Lo	903	LI	K3 V
Sturgis	1807	A444203-F	N	Ni Lo	102	LI	K0 V
Tiasle	1901	D656AFF-B		Hi	224	Ma	K9 V
Houstar	1905	C8C4620-C		Ni Fl	113	LI	M0 V M7 D
Haze	2003	B74A689-F		Ni Wa	700	Ma	G0 V M7 D
Sufren	2004	B686973-F	N	Hi An Cp	623	LI	M1 V
Gamov	2104	C0009EF-E		Hi In As Na	811	Ma	K1 V M2 D
Heymac	2105	C300136-D		Ni Va Lo	301	LI	M4 V
Dahl	2201	B100510-F		Ni Va	113	Ma	M0 V
Troy	2203	C622756-C		Po Na	814	Ma	M2 V M1 D
Lassie	2207	A22136A-F		Ni Po Lo O:2405	104	Ma	G0 V M5 D
Naasha	2208	D697576-9		Ni Ag	814	Ma	G0 V M2 D
Backman	2209	B55497B-D	N	Hi	103	BC	K0 V M0 D
Neefi	2210	C66A978-C		Hi Wa	602	BC	G8 II
White Sea	2304	C100537-F		Ni Va	500	Ma	M3 V
Jummy	2309	E100145-B		Ni Va Lo	914	Ma	K3 V M7 D
Hervestia	2310	C554A76-D		Hi	703	BC	K3 V
Korona	2401	B523648-C		Ni Po Na	A713	Ma	K2 V
Mazuun	2402	DA7A630-9		Ni Wa	402	Ma	G0 V
Aazuni	2405	B210463-F	N	Ni Lo C:0 O:2504	211	Ma	M3 V M7 D
Cita	2407	C544412-C		Ni Lo	723	Ma	K4 V

KHAVLE SUBSECTOR (Subsector D)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Medora	2501	A422553-F		Ni Po	403	Ma	K1 V
Tsinan	2503	C472676-C		Ni	904	Ma	M0 V
Forward	2504	C83899A-D		Hi	513	Ma	M2 V M9 D
Fuso	2508	B7B3204-F		Ni Lo Fl	504	Ma	G1 V
Ashiizar	2509	C654868-A		O:2504	711	Ma	K7 II M3 V
Accra	2604	B6877A5-D		Ag	A903	Ma	G0 V
Khavle	2605	B334995-F	W	Hi Cp	705	Ma	M4 V
Daasha	2606	B62A445-F		Ni Wa Lo	403	Ma	K4 V M0 D
Shareduu	2609	D231574-C		Ni Po	A121	Ma	M2 V
Matunuck	2701	C853724-9		Po	912	Ma	K3 IV
Hike	2707	B782432-E		Ni Lo	525	Ma	F4 V
Gorakpur	2709	C000325-F		Ni As Lo	914	Ma	M4 V M0 D
Voss	2802	C867226-C		Ni Lo	903	Ma	M6 III
Raazu	2806	D445575-B		Ni Ag	815	Ma	A2 V
Blanket	2807	C224578-E	S	Ni	601	Ma	M3 V M1 D
Lar	2901	B331479-F		Ni Po Lo	104	Ma	M2 V M8 D
Muuze	2905	C792033-B		Ni Lo	513	Ma	F5 V M0 D M4 D
Dordogne	2906	A454578-F		Ni Ag	404	Ma	M3 V
Nihesi	2908	A7B1344-F	N	Ni Lo Fl	804	Ma	M4 V
Toggle	2910	A100335-F	N	Ni Va Lo	503	Ma	K1 V M7 D M5 D
Sanborn	3001	C483141-C		Ni Lo	304	Ma	F7 V M8 D
Tommot	3003	E210101-B		Ni Lo	612	Ma	M1 V
146-685	3004	X794423-4		Ni Lo	R600	Ma	M2 V
Wake	3005	A652532-F	N	Ni Po	300	Ma	K4 V
Muyudness	3006	D100556-C		Ni Va	500	Ma	G2 V
Ningho	3008	A577110-F		Ni Lo	104	Ma	K5 V M3 D
Rockcaster	3009	A69A424-F		Ni Wa Lo	603	Ma	M0 III M6 D
Dehrapur	3102	B423474-F		Ni Po Lo	901	Ma	G3 V M4 D
Farm	3104	C656622-B		Ni Ag	404	Ma	G4 V
Agaaga	3109	B557320-C		Ni Lo C:4	620	Ma	M3 III M6 D
183-361	3201	X694889-4			R312	Ma	G4 V
Savan	3202	D444637-9		Ni Ag	703	Ma	K4 V
Aight	3203	C752A99-D		Hi Po D:5	701	Ma	G2 V
Ihishi	3204	C541335-A	S	Ni Po Lo D:3	A904	Ma	F7 V
Halle	3206	X626023-6		Ni	R402	Ma	G5 V

SHADIGI SUBSECTOR (Subsector E)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Mosul	0111	C5868B9-9			401	LI	M1 V
Toga	0113	X674200-5		Ni Lo	R812	FD	K8 V M4 D
Ainor Lisea	0114	C777510-B		Ni Ag	704	FD	M3 III M9 D
Karaguuka	0116	D789655-9		Ni Ri C:6	214	FD	G1 V M4 D
Zeranga	0117	B100544-F		Ni Va	204	FD	A1 V
Tomsk	0120	C4247A8-D			A513	FD	M3 V M6 D
Emma	0211	D5A0888-8		De	902	LI	M9 V
Khaavu	0213	C327631-B	S	Ni	404	FD	K4 V
Baanis	0214	C100120-F		Ni Va Lo	903	FD	K5 V
Jalhoun	0215	C210320-B		Ni Lo	704	FD	K9 V M6 D
Yidii	0218	D435577-A		Ni	912	FD	M3 V
Kyzyl	0220	E57649D-9		Ni Lo	103	FD	M2 V M2 D
Chengtu	0315	C537521-D		Ni	313	FD	K1 V
Allenwald	0413	D110400-C		Ni Lo	303	LI	M1 V M8 D M3 D
Kashaashii	0414	D574400-B	S	Ni Lo	703	LI	M1 V
Ninja	0415	C665862-B		Ri C:6 O:0416	A303	LI	K6 III M1 D
Terra Far	0416	A4448BF-F			113	LI	G4 V M5 D
Kosmo	0417	C549799-B			703	FD	K3 V
Cuttack	0418	D275521-B		Ni Ag	810	FD	G3 V
Quota	0511	A100362-F	N	Ni Va Lo O:0512	813	FD	K2 V
Ferry	0512	A647955-F		Hi In Cp	A203	FD	F3 V
Kovuu	0514	D374373-B		Ni Lo	800	LI	G6 V
Gai	0515	C110673-E		Ni Na	A534	LI	M0 V M6 D
Niilushaga	0516	C773559-C		Ni	803	LI	M4 III M7 V
Khuugar	0518	C68758C-A		Ni Ag	615	LI	G2 V M8 D
Futatsu	0519	B442221-F	N	Ni Po Lo	510	LI	K1 V
Sudan	0616	B6A0000-E		Ni De Ba Lo	725	LI	F2 V
Vaasa	0617	B323244-F		Ni Po Lo	105	LI	M3 V
Thea	0712	D100100-E		Ni Va Lo	302	LI	A8 V
Renaasha	0713	D341410-9		Ni Po Lo	204	LI	K8 V K3 D
High Point	0719	C100732-E		Va Na	A210	LI	M3 V
Martina	0813	B11068A-E		Ni Na	514	LI	M4 V M6 D
Millo	0819	E100223-C		Ni Va Lo	504	LI	M5 III M6 D
Beeridashal	0820	C100410-D		Ni Va Lo	910	LI	G3 V M3 D

KUSHGA SUBSECTOR (Subsector F)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Wapiti	0913	B326353-F		Ni Lo	913	LI	M8 V
Byrna	0915	B8A5440-E		Ni Fl Lo	905	LI	K0 IV M3 D
Dasekha	0917	CA65237-B		Ni Lo	835	LI	M4 III
Mohavi	0918	A4567CD-F	W	Ag C:8	122	LI	M0 V
Ramashii	1012	D879554-B		Ni	302	LI	M6 II
Darryl	1017	B7796BB-D		Ni	424	LI	G2 V M1 D
Last Exit	1019	A100776-F		Va Na	103	LI	M4 V M8 D
Fisher	1020	E7B4475-B		Ni Fl Lo	405	LI	K7 II
Messier	1111	B4639AB-E	N	Hi Cp	314	LI	G2 V M6 D M3 D
Arriba	1117	C789537-C		Ni C:2	502	LI	M0 V
Ikhareshu	1118	B42267B-F		Ni Po Na	202	LI	G1 V
Tantelos	1213	C7928B9-9			804	LI	K3 V
Lerun	1216	D67A888-A	S	Wa	302	LI	M2 V
Twinsong	1219	C85A544-B		Ni Wa	110	LI	M0 V
Nilli	1313	C585785-9		Ri Ag	505	LI	G7 V
Pierre	1411	A210654-F		Ni Na	404	LI	G5 IV
Sasli	1412	C9C5640-B		Ni Fl	104	LI	A1 V
Viedma	1415	A200899-F	N	Va Na	203	LI	K3 III
Affuel	1417	A883520-E	N	Ni	402	LI	G2 V
Livermore	1419	B200400-F		Ni Va Lo	504	LI	K1 V M1 D
693-470	1512	X110750-7		Na	R724	LI	M4 II
Iris	1513	D352210-B		Ni Po Lo	112	LI	K8 V M5 D
Aliinashar	1516	B100426-F		Ni Va Lo	804	LI	M4 V
Soar	1518	A386635-F		Ni Ag	801	LI	M3 V M3 D
Atabano	1520	C869673-A		Ni Ri	A304	LI	M2 V M7 D
Teslin	1611	D333687-9		Ni Po Na	214	LI	M1 V
Erobi	1612	B8C39CD-B		Hi Fl	503	LI	M4 V
Accokeek	1613	C548675-A		Ni Ag	212	LI	K1 V
Nike	1614	A6A3677-F		Ni Fl	113	LI	M0 V
Dudenii	1617	B221134-F		Ni Po Lo	200	LI	M7 V
Shelagyote	1620	X5896B9-5		Ni An	R611	LI	M0 V

ALURZA SUBSECTOR (Subsector G)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Avat	1713	D200534-C		Ni Va	123	LI	M4 V M9 D
Weyburn	1717	E437444-A		Ni Lo	701	LI	G7 V
Shaanii	1814	C457002-D		Ni Lo	804	LI	M2 V
Waboni	1815	C672776-A			913	LI	M2 V
Umorphutwyo	1816	C41066B-A		Ni Na D:9 O:1815	121	Dr	M4 V M1 D
Dryden	1818	D75969A-8		Ni	A113	LI	M0 V M5 D
Megelina	1819	D300668-A		Ni Va Na O:1919	104	LI	K3 V
Remington	1820	A8A6565-F		Ni Fl O:1919	202	LI	M4 V M8 D
Ekuur	1911	B658332-D	N	Ni Lo	504	LI	A1 IV F9 D
Raymore	1912	D356842-A			112	LI	M0 V
Khanii	1914	C53A88B-E		Wa	813	LI	M2 V
Daazu	1916	C5A1597-D		Ni Fl	200	LI	M4 V M0 D
Tigo	1918	A41025A-F		Ni Lo	A502	LI	M0 V
Arrow Rock	1919	A110644-F		Ni Na	610	LI	M2 V M5 D
Feeble	2012	A100333-F		Ni Va Lo	A515	LI	M6 V M3 D
Coop	2013	C328687-D		Ni	302	LI	K4 V
Opheim	2015	X787369-5		Ni Lo O:2117	R502	LI	K9 V M4 D
Depot	2018	C000765-D	D	As Na Mr	912	LI	M4 V M5 D
Nuqual	2019	B774385-E		Ni Lo	404	LI	K9 V M1 D
Bifirs	2112	D643976-9	S	Hi In Po	420	BC	M2 V M4 D
Grand Fork	2114	C549599-B		Ni	802	LI	G6 V M3 D M2 D
Gyration	2115	D1006A9-C		Ni Va Na	A404	LI	M0 V
Kandom	2116	B655987-F		Hi Cp	804	LI	G3 V
Princess	2117	A110400-F	N	Ni Lo	203	LI	M3 V M8 D
Hold	2118	B100245-F		Ni Va Lo	524	LI	M1 V
Gilboa	2211	D647974-B		Hi In	410	BC	K3 V
Gecko	2212	D592541-A		Ni	A104	BC	M0 V
Netti	2213	B9B8434-E		Ni Fl Lo	213	LI	M1 V
Yossem	2216	A100465-F		Ni Va Lo O:2117	400	LI	M0 V
Guild	2311	C200459-E		Ni Va Lo	903	BC	M1 V
Oath	2312	C1108BD-E		Na	103	BC	M1 V
Raasara	2314	B679663-E		Ni O:2414	812	LI	K4 V M5 D
Gilgamesh	2317	D100796-A	S	Va Na	101	LI	K0 V
Beep	2411	B310885-F		Na	403	Ma	M2 V
Hewes	2414	A336645-F		Ni	114	LI	K3 V M3 D
Trot	2415	C110464-E		Ni Lo O:2414	301	LI	M4 V M0 D
Chief	2417	B100246-F		Ni Va Lo	814	LI	K0 V
Didinka	2419	D378200-C	S	Ni Lo	803	LI	F7 V
Layne	2420	C796A9C-D		Hi D:7	305	LI	G2 V M3 D

PASDARUU SUBSECTOR (Subsector H)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Clarksphere	2519	D324300-B		Ni Lo	113	LI	G9 V
Westfir	2613	B326841-D			701	Ma	M1 V
Teeque	2614	C545569-C	S	Ni Ag C:2 O:2716	613	Ma	K3 V M3 D
Samar	2615	B476510-E		Ni Ag	803	Ma	M0 V M5 D
Dema	2618	C200431-E		Ni Va Lo	300	LI	M3 V
Feme	2711	C456300-E		Ni Lo	912	Ma	M8 III
Beso	2713	D000301-D		Ni As Lo	321	Ma	K2 IV M9 D
Campobello	2714	A00046A-F		Ni As Lo O:2716	A713	Ma	M1 V M2 D
Jeddel	2716	C4349BC-D		Hi Cp	915	Ma	M4 V
Jodhpur	2717	D332445-C		Ni Po Lo	A304	Ma	M1 V
Riishu	2720	D225333-C		Ni Lo	914	LI	K2 IV
Aarishuu	2814	A995544-F		Ni Ag	800	Ma	M1 V
Icestar	2911	D799000-A		Ba	114	Ma	K5 V
Konya	2914	B200205-F		Ni Va Lo	104	Ma	K4 V
Bail 4	2917	D799755-A	S		505	LI	G7 IV
La Motte	2918	C63A404-F		Ni Wa Lo	604	LI	M0 V
Raziira	2919	C866102-D		Ni Lo C:2	A100	LI	M0 V M6 V
Hice	2920	A795222-E		Ni	A904	LI	M1 II M4 V M8 V
Shamaar	3012	C544335-C		Ni Lo	702	Ma	M1 V
Karroo	3013	A667357-F		Ni Lo	924	Ma	G5 V
Mohler	3015	C8A5588-B		Ni Fl	813	LI	M0 V M1 D
Ifuwana	3016	C59845A-D		Ni Lo	414	LI	G0 V
Asmera	3020	A110653-F	N	Ni Na	A915	LI	M2 V
Khedas	3112	C7A4232-C		Ni Lo Fl	A614	Ma	M6 V
Farris	3115	C536125-C		Ni Lo	324	LI	K7 V M2 D
Cadiz	3116	D799450-C		Ni Lo	902	LI	M4 V
Ephraim	3118	C78977B-C		Ri C:4	710	LI	G8 V M2 D
Gashiila	3211	D879457-B		Ni Lo	614	Ma	G2 V
Serege	3212	AAD647A-F		Ni Fl Lo	720	Ma	K4 V M0 D
Nantes	3219	C200442-C		Ni Va Lo	602	LI	M0 V M6 D

EBASHA SUBSECTOR (Subsector I)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Cod	0121	D553200-9		Ni Po Lo	504	FD	M2 V M3 D
Karakaara	0225	C642356-C		Ni Po Lo	603	FD	G8 V
Waken	0227	D100762-C		Va Na O:0228	602	LI	F0 IV M2 D
Ebasha	0228	A579546-F		Ni Cp	423	LI	M2 V M3 D
Hannah	0323	D979369-9		Ni Lo O:0422	402	FD	K5 V
Kendell	0324	B896664-D		Ni Ag O:0422	803	FD	A4 V
Ebekiigase	0326	C110543-D		Ni	802	LI	M3 V M5 D
Pane	0327	C747676-9		Ni Ag	503	LI	K2 V
Hideous	0422	C222798-D		Po Na	A302	FD	G4 V
Flehemu	0425	B458544-D	N	Ni Ag	914	LI	G4 V M2 D
Laruusalii	0430	C410311-C		Ni Lo	A314	LI	M2 V K6 D M9 D
Vigo	0521	D252664-8		Ni Po O:0621	615	LI	M2 V
Pesuuzu	0524	B766569-E	N	Ni Ag O:0526	204	LI	G1 V
Aahasu	0526	C323100-E		Ni Po Lo	600	LI	M2 II
Jinchi	0529	C581212-A		Ni Lo	523	LI	K5 V
Zokku	0530	B475444-E		Ni Lo	504	LI	K2 V
Hatfield	0621	C100534-F		Ni Va	612	LI	M0 V
Careful	0626	D100757-C		Va Na	304	LI	M1 V M6 D M9 D
531-210	0627	X9BA675-7		Ni Wa Fl	R304	LI	M8 II
Arappa	0628	C110663-C		Ni Na O:0629	811	LI	G1 V
Quioxan	0629	B100534-F		Ni Va	A601	LI	M3 V M2 D
Jene	0721	C655543-A		Ni Ag	700	LI	K2 V M0 D
Zekhesii	0722	B765379-C		Ni Lo	104	LI	G9 V K9 D
Six Gun	0723	D98A868-9		Ri Wa C:2 O:0821	113	LI	K3 V
Oyster	0726	D200568-A		Ni Va O:0526	204	LI	M3 V
Rouen	0729	C382577-C		Ni	120	LI	K2 V
Bones	0821	B778635-B		Ni Ag	603	LI	M8 III
Justabit	0823	D445689-A	S	Ni Ag C:4	804	LI	M2 V M4 D M6 D
Szeged	0828	C9B7335-C		Ni Lo Fl	702	LI	K5 V
572-108	0830	X8C1200-8		Ni Lo	R524	LI	M8 III M3 D

IUSEA SUBSECTOR (Subsector J)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Naknek	0927	DAC9788-A		Fl	602	LI	K1 V
Palastrup	0928	A10077A-F		Va Na	500	LI	K0 V M9 D
Poldepi	0929	E667101-B		Ni Lo	603	LI	G8 V M5 D
Gegaasha	1021	C7647BC-A		Ag	612	LI	K0 V M1 D
Shoehorn	1123	B200322-E		Ni Va Lo	804	LI	G5 V M6 D
Wellun	1124	B99A888-F		Wa	213	LI	F6 III M2 D
Pequot	1128	A767885-F		Ri	A503	LI	M0 V M8 D
Ledge	1223	B658A9B-B		Hi	201	LI	M1 V M0 D
Nani	1229	D657414-9		Ni Lo	512	LI	G1 V M6 D
Helena	1230	D532420-A		Ni Po	703	LI	F4 V M9 D
Birii	1321	D100554-E		Ni Va	202	LI	M0 V M3 D
Chimborazo	1324	C200003-E		Ni Va Lo	700	LI	M7 II
Iusea	1325	A454985-F		Hi Cp	114	LI	M8 III
Hammett	1328	D200512-C		Ni Va	224	LI	M4 V M4 D
Rocha	1422	X6A2022-4		Ni Lo Fl	R103	LI	G3 II
Iqorr	1426	B435488-F		Ni Lo	612	LI	M0 V
St. James	1521	C553410-B		Ni Po Lo RsB	412	LI	K2 V
Cheetah	1522	B100877-F	N	Va Na	310	LI	M5 III
Bezan	1524	A663100-F		Ni Lo	604	LI	K9 V
Martinique	1525	E465314-9		Ni Lo	A312	LI	G6 V
Kennebunk	1530	C69469D-9		Ni Ag	A801	LI	G2 V M6 D
Nilaa	1621	B697733-D	N	Ag	804	LI	M5 III M8 D
Wellfleet	1622	C100533-F		Ni Va	402	LI	G9 III
Whereitsat	1624	C1006B9-D		Ni Va Na	302	LI	K8 V M7 D
Ebekhar	1628	C989642-A		Ni Ri	802	LI	F1 V
St. Denis	1630	C1109CB-F		Hi In Na	902	LI	A3 III

THE BLIGHT SUBSECTOR (Subsector K)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Mogumba	1821	X561410-5		Ni Lo	R203	LI	K9 V
Iiselu	1826	B557563-C		Ni Ag O:1628	802	LI	M1 V
Pugout	1923	E100120-D		Ni Va Lo	323	LI	M5 V
Jump	2022	B665432-E		Ni Lo	211	LI	G0 V
Torngat	2023	E596446-8		Ni Lo	303	LI	K3 V M6 D
Overature	2124	B000541-F		Ni As	713	LI	M3 V
Moncton	2125	D8A3596-A		Ni Fl Rs	D704	LI	M3 V
Fuji	2127	C578544-9		Ni Ag	802	LI	K4 IV
Akko	2129	C300110-E		Ni Va Lo	235	LI	M1 V
Eberly	2130	A686775-E	W	Ri Ag	223	LI	M1 V M6 D M2 D
Maaduura	2221	E554312-A		Ni Lo	604	LI	G8 V M9 D
Tarsale	2224	B200830-D	N	Va Na Cp	100	LI	K2 V
Heart	2225	A978143-F		Ni Lo	513	LI	M4 III
Mason	2226	C441676-C		Ni Po	302	LI	M3 III
One Star	2227	D746599-9		Ni Ag	600	LI	K0 IV
Sivo	2229	C886755-C		Ri Ag	702	LI	K4 V M5 D M6 D
Veejay	2321	BAD3364-F	N	Ni Lo Fl O:2420	503	LI	K6 V M0 D
Wescap	2322	D5738BD-8			A514	LI	M0 V
Ayden	2423	C100312-F		Ni Va Lo	701	LI	G1 V M3 D
Thicket	2424	D45199C-A	S	Hi Po	914	LI	M1 V
Elusive	2426	C11037A-E		Ni Lo	513	LI	K9 V
Daariida	2429	D356443-B		Ni Lo C:0	300	LI	K5 III M6 V
Aaneru	2430	C978875-B			823	LI	K2 V

PROMISE SUBSECTOR (Subsector L)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Seagull	2521	D7B1430-9		Ni Fl Lo	103	LI	G2 V
Amoy	2524	D454634-8		Ni Ag	305	LI	G0 V
Baraduusa	2528	C342231-D		Ni Po Lo	215	LI	G3 V
Ferenira	2724	B100165-F		Ni Va Lo O:2825	123	LI	M3 V
Daaliisa	2725	D7677B8-7		Ag C:1	A114	LI	M1 III
Eloji	2728	B846647-C		Ni Ag	302	LI	M0 V
Exeter	2729	A769895-F		Ri	524	LI	K3 V M9 D
Muni	2825	B3428C9-C		Po	A605	LI	K4 V M6 D
Promise	2827	A542999-F		Hi In Po Cp	502	LI	M1 V
Poznan	2830	C232888-A		Po Na	403	So	M4 V
Orsk	2922	B535321-F	N	Ni Lo D:0	A912	LI	M4 V M9 D
Lot	2925	A245666-F		Ni Ag O:2825	A503	LI	K5 V
Vahana	2926	B65A577-F		Ni Wa	703	LI	K2 V M5 D
Udone	2927	A000599-F		Ni As	314	LI	M0 V
Gorky	2929	A200542-F	N	Ni Va	911	LI	G1 V
Execute	2930	C684588-A		Ni Ag	303	So	G1 V
Asena	3022	C354855-C			114	LI	M7 II
Napiiresha	3023	B559230-D		Ni Lo	623	LI	K6 V M3 D
530-053	3027	X443201-7		Ni Po Lo	R822	LI	K3 V M4 D
Davao	3029	D100677-D		Na Ni Va	113	So	M3 V
Nysorb	3030	C9B6525-C		Ni Fl	733	So	K2 V M4 D
Tenmet	3121	B110725-F		Na	203	LI	K2 III
Tazmania	3123	A456527-F		Ni Ag	104	LI	G1 V M9 D M6 D
Sligo	3126	B878322-D		Ni Lo	703	LI	K7 V
Sittahr	3129	C766530-D		Ni Ag RsΓ	405	So	K0 V M3 D
Ijiwa	3224	B300864-F		Va Na O:2827	202	LI	M2 V M6 D
Lekhaana	3225	E100223-B		Ni Va Lo	424	LI	G6 V
Cosenza	3228	B527485-F		Ni Lo	312	So	K2 V M2 D

HIJIRI SUBSECTOR (Subsector M)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Keeper	0137	C256312-D		Ni Lo	403	So	K9 V
Ranushana	0138	E100586-C		Ni Va	304	So	K3 V
Kiev	0139	A533132-9		Ni Lo	102	So	M8 V
Kimba	0232	C55576A-B		Ag O:0233	301	LI	G5 V M5 D
Siphon	0233	B86A533-F		Ni Wa	204	LI	M4 III M6 D
Doom	0236	X100566-7		Ni Va Pr O:0237	R723	So	M1 V
Sunz	0237	C8679A8-B		Hi	904	So	K9 V
Kashi	0238	C312488-C	S	Ni Ic Lo	600	So	F6 IV
Khaasamiiri	0335	C675468-C		Ni Lo O:0336	222	So	M0 V
Carl's World	0336	B567844-B		Ri	425	So	K2 V M7 D
Vornam	0338	E675979-B		Hi In	604	So	M0 V M5 D
Sequoia	0339	A446548-D		Ni Ag	212	So	G2 V
Vision	0431	A675553-F		Ni Ag	500	LI	M4 V M0 D
Angebo	0432	C200856-E		Va Na	903	LI	M0 V M0 D
Maasii	0440	A240330-B		Ni Po Lo	703	So	G7 V
Attax	0531	B4875BE-D		Ni Ag	A413	LI	K0 V
Cumber	0532	B1109CB-F		Hi In Na Cp	813	LI	F4 V
Sheshene	0533	B100733-F		Va Na	614	LI	M2 V M2 D
Alone	0534	E559532-B		Ni	323	LI	M9 II G2 D
Jue-ni	0535	B756358-D		Ni Lo	512	So	M1 V M5 D
Akureyri	0536	C000555-F		Ni As	714	So	M0 V
Fazed	0537	D110724-C		Na	124	So	K4 V M1 D
Sanzbur	0538	C522743-C		Po Na	A500	So	M4 V
Fuquay	0632	A22316B-F		Ni Po Lo O:0532	103	LI	M5 V
Varina	0633	C769436-D		Ni Lo	904	LI	K1 III M0 V
Tulane	0731	C381100-D		Ni Lo C:1	A814	LI	F6 V
Zee's Place	0732	D100132-C		Ni Va Lo	423	LI	M7 V
Pettelli	0734	B451113-F		Ni Po Lo	504	LI	M3 V M0 D M2 V
Amaani	0740	C100213-8		Ni Va Lo	312	LI	M0 V
Domo	0831	A464536-F		Ni Ag	200	LI	G3 V M4 D
Cunning	0832	C788530-A		Ni Ag	602	LI	M1 V
Isee	0833	C334840-D			112	LI	M0 V
Dunoon	0839	B100488-E		Ni Va Lo	804	LI	K3 V M7 D
Khasiigu	0840	C580331-8	S	Ni De Lo	403	LI	F6 V

SHUMISDI SUBSECTOR (Subsector N)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Frock	0931	D5A49A9-C		Hi Fl	711	LI	K2 V
Nappa	0932	D696754-9	S	Ag	222	LI	F3 V
Emeluura	0935	D200767-9		Va Na O:1136	204	LI	M4 V M5 D
Woken	0936	C998565-A		Ni Ag D:0 O:1136	601	LI	K4 V
Chamawa	0938	C743689-9		Ni Po	302	LI	M3 III
Dilkon	0940	E529675-7		Ni	900	LI	M6 V
Grace	1031	B451510-E		Ni Po D:7	113	LI	M3 V
Gus	1034	D654401-B		Ni Lo	204	LI	K6 V
Cole	1035	A210227-F		Ni Lo	603	LI	M3 V
Frey	1133	B5369B6-E		Hi Cp	204	LI	M5 V
Alki	1136	B100847-E	N	Va Na	704	LI	K8 V
Usheriima	1138	D534333-B		Ni Lo	513	LI	M3 V
Adryanne	1139	D530554-7		Ni De Po	711	LI	F6 V
Musiiba	1233	D344201-C		Ni Lo	924	LI	M3 V
Snoqualmie	1236	B786500-D		Ni	400	LI	M0 V
Chicago	1331	D371403-B		Ni Lo C:3	A504	LI	M3 V M7 D
Duwamish	1336	C466744-B		Ag Ri	225	LI	K5 II
Ica	1338	D000200-E		Ni As Lo	824	LI	M0 V M1 D
Nape	1339	E000695-6		Ni Na As	524	LI	M2 V M4 D
Dawns	1340	B656745-5		Ag	202	LI	F3 V M8 D
Semaachi	1433	C2547B8-9		Ag	503	LI	G0 V
Burien	1435	C201566-E		Ni Va Lo Ic	303	LI	A9 V K8 D
Garaag	1438	D380686-5		Ni De Ri	312	LI	F4 V
Obidos	1440	C000754-A		As Na	822	LI	G9 IV M7 V
Prosser	1536	EA887BB-7		Ag	910	LI	K2 V
Prestwick	1639	C76A558-8		Ni Wa	502	LI	F5 V
Biremeruun	1640	C9867BB-5		Ag	610	LI	G5 V

MADOC SUBSECTOR (Subsector O)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Waverly	1733	BAA7203-E	N	Ni Lo Fl	800	LI	G4 V
Manna	1737	C8D5359-C		Ni Lo Fl	812	LI	M5 V
Galuuda	1739	E79A883-5		Wa	402	LI	K4 V M3 D
Berens	1740	A846143-A		Ni Lo	911	LI	G1 V M3 D
Dinklewater	1838	B98A213-B		Ni Wa Lo	514	LI	F5 V M8 D
Kinos	1840	E55887A-8			723	LI	K5 V
Ruffian	1933	C44858B-D		Ni Ag	314	LI	M1 V
Bellin	1934	C996786-A		Ag	802	LI	K0 V
Tygger	1938	D768321-9		Ni Lo	103	LI	M9 V
Hewlett	2031	A110748-F		Na	603	LI	G2 V
Seben	2037	C694896-A			A103	LI	F4 V M8 D
Epic	2040	E434745-4			912	LI	G6 V
Geonia	2134	D53A110-C	S	Ni Wa Lo	902	LI	M4 V
Tavara	2136	A67A338-F		Ni Wa Lo	412	LI	K0 II
Pekhuraa	2236	A784220-F		Ni Lo	605	LI	M6 III K5 V
Saagii	2333	B444736-E		Ag	514	So	M2 V M0 D
Kiiki	2334	C225666-B		Ni O:2333	A524	So	M9 III
Saratov	2338	D559348-9		Ni Lo	803	LI	M0 V
Kelvin	2340	B6409BB-9		Hi De In Po Cp	604	LI	K6 V M2 D
Lexol	2434	B100664-F		Ni Va Na O:2333	110	So	M3 V M9 D
Forgotten	2438	E630886-5		De Na Po	401	LI	K1 V
Bernens	2440	E5508C8-5		De	500	LI	G2 V M9 D

KHULAM SUBSECTOR (Subsector P)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Kappa	2535	E224444-B		Ni Lo	803	So	M1 V M6 D
Boley	2539	C434745-4			111	LI	F6 V
Egg	2631	C000543-D		Ni As	514	So	G2 V M6 D
Donegal	2632	E100424-C		Ni Lo Va	704	So	M1 V
Bikar	2633	D79A322-A		Ni Wa Lo	913	So	K7 III
Lira	2635	D527222-9		Ni Lo	602	So	M7 V
Ekhapen	2636	E100555-C		Ni Va	404	So	K0 V M6 D
Khesanadu	2731	B788310-D		Ni Lo	700	So	M5 V K2 D
Ryvo	2734	C682425-C		Ni Lo	221	So	K4 IV
Khirekhera	2834	B451464-E		Ni Lo Po O:2835	604	So	M4 V
Acorn	2835	C100400-F		Ni Lo Va C:1	A102	So	M1 V
Montezuma	2836	B562768-B		Ri O:3138	104	So	K4 V
Dijon	2838	A234548-A	N	Ni	634	So	M7 V M9 D
049-949	2839	X620588-5		Ni De	813	So	M8 V M1 D
Suudo	2840	D778535-7		Ni Ag	302	So	F1 V
Quarry	2933	B99A343-F		Ni Wa Lo RsA	104	So	M9 V
Sofar	2939	A8B4575-8	N	Ni Fl	400	So	K9 V
Taumotu	3033	X100436-7		Ni Lo Va	R305	So	F0 V
Mitchell	3034	A10078C-F		Va Na	903	So	M3 V
Agiruur	3036	C9A3565-C		Ni Fl O:3138	803	So	M9 V
Kide	3131	C684675-A		Ni Ri Ag	920	So	M4 V
Lefiguura	3132	C868552-C	S	Ni Ag	A410	So	G2 V M9 D
Kipper	3134	D110110-B		Ni Lo	923	So	M3 V
Gresham	3138	A1109BE-F		Hi In Na Cp	804	So	M1 V
Uppsala	3139	C9795BB-6		Ni	512	So	F4 V M8 D
Futok	3140	B594633-A		Ni	901	So	M1 V M8 V
Desel	3231	C1006BC-D		Ni Va Na	403	So	M3 V M2 D
Lebherz	3236	C657834-9			213	So	G1 V

Base Codes: D: Naval Depot; N: Naval Base; S: Scout Base, W: (X-Boat) Way Station

Trade Codes: Ag: Agricultural; An: Ancients' Site; As: Asteroid; Ba: Barren; Cp: Subsector Capital; Cx: Sector Capital; C:N or D:N indicates that the world was populated in part by Chirpers or Droyne, the number "N" following the colon indicates how many tenths of the world's population consisted of these races; De: Desert; Fl: Fluid oceans; Hi: High population; Ic: Ice-capped; In: Industrial; Mr: Military rule; Ni: Nonindustrial; O:NNNN indicates that the world is owned by the world in the indicated (NNNN) hex; Po: Poor; Pr: Prison camp; Ri: Rich; Rs: Research Station (with Greek letter designation); Va: Vacuum; Wa: Water world;

TPPG indicates Travel Zone, Population Multiplier, Planetoid Belts, and Gas Giants. If Travel Zone digit is empty, it was listed as a Green Travel Zone; A and R indicate Amber and Red zones respectively.

Allegiance Codes: BC: Backman Cluster; Dr: Droyne world; FD: Federation of Daibei; LI: Lucan's Imperium; Ma: Margaret's Faction; So: Solomani Confederation

REFEREES ONLY

This folder contains the post-Collapse, New Era UWPs for the worlds of Diaspora Sector. Players are only allowed access to the "RCES Diaspora Sector Briefing Folder." Access to the current information contained in this post-Collapse folder can only be obtained by visiting and exploring the world in question. Names of depopulated worlds are included for convenience only; a world with no population has no official name.

NARQUEL SUBSECTOR (Subsector A)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Aladon	0103	X657866-1			B904	Wi	G0 V
Maxalla	0104	X596303-0		Ni Lo	315	Wi	M1 III
Sikora	0108	X87456A-4		Ni Ag	404	Wi	K2 V
Chipper	0202	X7C0000-0		Ba De	003	—	M3 V
Rann	0206	X89A88B-8		Wa	B714	Wi	K4 V
Justi	0207	X686446-0		Ni Lo	B404	Wi	K4 V
Soyuz	0209	X300000-0		Ba Va	001	—	M0 II
Jumar	0303	X000000-0		Ba As	015	—	A8 V
Jae Mona	0306	X200000-0		Ba Va	023	—	K0 V
Bayse	0310	X685973-7		Hi	B905	Wi	K1 V
Kampala	0401	X645210-8		Ni Lo	404	Na	K6 V M6 D
Apinar	0402	X542203-0		Ni Po Lo	423	Wi	K4 V
Gentry	0406	X6A0000-0		Ba De	010	—	M3 V M0 D
Isaasakhur	0407	X110000-0		Ba	013	—	M0 V
Vita Levu	0410	X6A3000-0		Ba	000	—	M2 V K4 D
Fudge	0501	X9C3000-0		Ba Fl	023	—	M1 V
Guard	0502	E764633-6		Ni Ag	B412	Wi	G4 V
Jamnagar	0503	X99A669-4		Ni Wa	B501	Wi	M0 V M6 D
Neto	0504	X300000-0		Ba Va	012	—	M3 V
Chuejou	0510	X253313-5		Ni Po Lo	424	Wi	K0 V M3 D
Rakhaasha	0601	X110000-0		Ba	000	—	M1 V
Gasudarsk	0605	X100000-0		Ba Va	002	—	M3 V
Feeble	0607	X473368-4		Ni Lo	200	Wi	K5 V
Sadiishumar	0608	X8D0000-0		Ba De	010	—	G0 V
Quelleff	0609	X624000-0		Ba	005	—	G1 V
Laagonaa	0701	X551777-8		Po	422	Wi	M2 V M4 D
Essen	0705	D666216-8		Ni Lo	224	Na	M1 V M2 D
Narquel	0709	X110000-0		Ba	005	—	K4 V
Likitornot	0805	X25256B-3		Ni Po	200	Wi	K2 V
Larisa	0807	D588010-8		Ni Lo	204	Na	G1 V

LIBERT SUBSECTOR (Subsector B)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Eckel	0901	X837000-0		Ba	011	—	K9 V M9 D
Victory	0902	X9A7000-0		Ba Fl	015	—	M0 V
Toxey	0903	X78A121-8		Ni Wa Lo	110	Wi	K4 V M4 D
Otimmatu	0905	X55366E-3		Ni Po	B504	Wi	M0 V
Quafe	1007	X433000-0		Ba	023	—	K1 V
Yovanne	1102	X200000-0		Ba Va	003	—	K3 IV
Klenoy	1103	X623000-0		Ba	012	—	M4 V
Khunan	1104	X332000-0		Ba	023	—	M3 III
Laahii	1106	X100000-0		Ba Va	004	—	M1 II M1 V
Kyzir	1108	X67148A-0		Ni Lo	B204	Wi	M1 V M1 D
Libert	1109	X210000-0		Ba	002	—	K8 III
Taken	1202	X675300-4		Ni Lo	B203	Wi	K6 V
Stanton	1203	E98997A-8		Hi	B211	Na	M0 V M9 D
Arkhaapar	1206	E355799-6		Ag	212	Wi	M2 V
Kaanu	1207	X321000-0		Ba	014	—	A2 IV K4 D
Gate	1208	X659300-0		Ni Lo	B102	Wi	M2 V
Ridge	1210	X77A122-6		Ni Wa Lo	114	Wi	M8 III
Berlin	1305	X200000-0		Ba Va	003	—	M4 V
Medellin	1306	E645222-7		Ni Lo	304	Wi	K5 V
Jesicar	1307	X364475-7		Ni Lo	103	Wi	K5 V M9 D
Mixem	1308	D685867-8			B904	Wi	M4 III
Hakalau	1309	X436000-0		Ba	004	—	M7 III
Rikhani	1404	X68876C-4		Ag	B114	Wi	G3 V
Loud	1405	E894111-6		Ni Lo	404	Wi	K1 V
Talca	1407	X100000-0		Ba Va	013	—	M4 V M5 D M4 D
Glenwald	1409	X110000-0		Ba	003	—	K1 V
Uneshuu	1502	X100000-0		Ba Va	010	—	M3 V
Channel	1503	X694565-0		Ni Ag	B512	Wi	G0 V
Verona	1505	X400000-0		Ba Va	004	—	M9 V
Puget	1508	X7C8000-0		Ba Fl	002	—	M4 V
Cayene	1510	X425000-0		Ba	020	—	K1 V
Zeeland	1602	X989AB9-9		Hi C:4	B504	Wi	K2 V
Unsuited	1610	X000000-0		Ba As	014	—	M3 V M1 D

SUFREN SUBSECTOR (Subsector C)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Grourard	1701	X896444-4		Ni Lo	500	Wi	G2 V M4 D
Onliu	1704	X110000-0		Ba	024	—	M1 V M6 D M0 D
Boyne	1707	X462566-0		Ni	103	Wi	M1 V
Erakhuu	1708	X896868-7			B802	Wi	G1 II
Navar	1804	X54767B-6		Ni Ag	B305	Wi	F9 V
Maelstrom	1805	X421000-0		Ba	003	—	K3 V
Sturgis	1807	X444103-0		Ni Lo	302	Wi	K0 V
Navarre	1901	D6568AC-9			224	Su	K9 V
Houstar	1905	X8C4211-6		Cm Ni Fl Lo	713	Su	M0 V M7 D
Haze	2003	D74A6A8-9	S	Ni Wa	700	Su	G0 V M7 D
Sufren	2004	C686948-C	N	Hi An	723	Su	M1 V
Gamov	2104	X000000-0		Ba As	011	—	K1 V M2 D
Heymac	2105	X300000-0		Ba Va	001	—	M4 V
Dahl	2201	X100000-0		Ba Va	013	—	M0 V
Troy	2203	X622000-0		Ba	014	—	M2 V M1 D
Lassie	2207	X221000-0		Ba	004	—	G0 V M5 D
Naasha	2208	X697554-5		Ni Ag	314	Wi	G0 V M2 D
Backman	2209	X554869-5			B303	Wi	K0 V M0 D
Neefi	2210	E66A899-6		Wa	902	Wi	G8 II
White Sea	2304	X100000-0		Ba Va	000	—	M3 V
Jummy	2309	X100000-0		Ba Va	014	—	K3 V M7 D
Hervestia	2310	X554879-4			B203	Wi	K3 V
Korona	2401	X523000-0		Ba	013	—	K2 V
Mazuun	2402	XA7A647-7		Ni Wa	B802	Wi	G0 V
Aazuni	2405	X210000-0		Ba	011	—	M3 V M7 D
Cita	2407	X544456-3		Ni Lo	223	Wi	K4 V

KHAVLE SUBSECTOR (Subsector D)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Medora	2501	X422000-0		Ba	003	—	K1 V
Tsinan	2503	X47266B-2		Ni	804	Wi	M0 V
Forward	2504	X838000-0		Ba	013	—	M2 V M9 D
Fuso	2508	X7B3000-0		Ba Fl	004	—	G1 V
Ashiizar	2509	X65486A-4			B711	Wi	K7 II M3 V
Accra	2604	X687827-9		Ag	B303	Wi	G0 V
Khavle	2605	X334000-0		Ba	005	—	M4 V
Daasha	2606	X62A000-0		Ba Wa	003	—	K4 V M0 D
Shareduu	2609	X231000-0		Ba	021	—	M2 V
Matunuck	2701	E853768-8		Po	B912	Wi	K3 IV
Hike	2707	X782453-0		Ni Lo	B225	Wi	F4 V
Gorakpur	2709	X000000-0		Ba As	014	—	M4 V M0 D
Voss	2802	D867200-8		Ni Lo	403	Wi	M6 III
Raazu	2806	X44556D-4		Ni Ag	315	Wi	A2 V
Blanket	2807	X224000-0		Ba	001	—	M3 V M1 D
Lar	2901	X331000-0		Ba	004	—	M2 V M8 D
Muuze	2905	X792001-0		Ni Lo	113	Wi	F5 V M0 D M4 D
Dordogne	2906	X454446-1		Ni Lo	B504	Wi	M3 V
Nihesi	2908	X7B1000-0		Ba Fl	004	—	M4 V
Toggle	2910	X100000-0		Ba Va	003	—	K1 V M7 D M5 D
Sanborn	3001	D483103-5		Ni Lo	104	Wi	F7 V M8 D
Tommot	3003	X210000-0		Ba	012	—	M1 V
146-685	3004	X79447A-1		Ni Lo	B200	Wi	M2 V
Wake	3005	X652432-4		Ni Po Lo	400	Wi	K4 V
Muyudness	3006	X100000-0		Ba Va	000	—	G2 V
Ningho	3008	X577024-1		Ni Lo	304	Wi	K5 V M3 D
Rockcaster	3009	X69A444-0		Ni Wa Lo	B103	Wi	M0 III M6 D
Dehrapur	3102	X423000-0		Ba	001	—	G3 V M4 D
Farm	3104	X65666C-7		Ni Ag	604	Wi	G4 V
Agaaga	3109	X557348-1		Ni Lo C:1	120	Wi	M3 III M6 D
Ashii	3201	X694888-4			B412	Wi	G4 V
Savan	3202	X444656-6		Ni Ag	B803	Wi	K4 V
Aight	3203	X752743-7		Po D:1	B401	Wi	G2 V
Ihishi	3204	D54136B-8		Ni Po Lo D:1	404	Wi	F7 V
Halle	3206	X626000-0		Ba	002	—	G5 V

SHADIGI SUBSECTOR (Subsector E)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Mosul	0111	E5868BB-8			401	Wi	M1 V
Toga	0113	X674269-1		Ni Lo	312	Wi	K8 V M4 D
Ainor Lisea	0114	X77756E-4		Ni Ag	B204	Wi	M3 III M9 D
Karaguuka	0116	D789674-5		Ni C:3	114	Wi	G1 V M4 D
Zeranga	0117	X100000-0		Ba Va	004	—	A1 V
Tomsk	0120	X424000-0		Ba	013	—	M3 V M6 D
Emma	0211	X5A0000-0		Ba De	002	—	M9 V
Khaavu	0213	X327000-0		Ba	004	—	K4 V
Baanis	0214	X100000-0		Ba Va	003	—	K5 V
Jalhoun	0215	X210000-0		Ba	004	—	K9 V M6 D
Yidii	0218	X435000-0		Ba	012	—	M3 V
Kyzyl	0220	X576325-5		Ni Lo	403	Wi	M2 V M2 D
Chengtu	0315	X537000-0		Ba	013	—	K1 V
Allenwald	0413	X110000-0		Ba	003	—	M1 V M8 D M3 D
Kashaashii	0414	X574410-3		Ni Lo	203	Wi	M1 V
Ninja	0415	E6658BE-8		C:5	B303	Wi	K6 III M1 D
Terra Far	0416	X444668-4		Ni Ag	613	Wi	G4 V M5 D
Kosmo	0417	X54976A-4			503	Wi	K3 V
Cuttack	0418	E275599-5		Ni Ag	610	Wi	G3 V
Quota	0511	X100000-0		Ba Va	013	—	K2 V
Ferry	0512	X64776A-6		Ag	B903	Wi	F3 V
Kovuu	0514	X374310-1		Ni Lo	300	Wi	G6 V
Gai	0515	X110000-0		Ba	034	—	M0 V M6 D
Niilushaga	0516	X77358D-4		Ni	B403	Wi	M4 III M7 V
Khuugar	0518	D68756A-6		Ni Ag	215	Wi	G2 V M8 D
Futatsu	0519	X442220-1		Ni Po Lo	110	Wi	K1 V
Sudan	0616	X6A0000-0		Ba De	025	—	F2 V
Vaasa	0617	X323000-0		Ba	005	—	M3 V
Thea	0712	X100000-0		Ba Va	002	—	A8 V
Renaasha	0713	X341368-2		Ni Po Lo	404	Wi	K8 V K3 D
High Point	0719	X100000-0		Ba Va	010	—	M3 V
Martina	0813	X110000-0		Ba	014	—	M4 V M6 D
Millo	0819	X100000-0		Ba Va	004	—	M5 III M6 D
Beeridashal	0820	X100000-0		Ba Va	010	—	G3 V M3 D

KUSHGA SUBSECTOR (Subsector F)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Wapiti	0913	X326000-0		Ba	013	—	M8 V
Byrna	0915	X8A5000-0		Ba Fl	005	—	K0 IV M3 D
Dasekha	0917	DA65225-8		Ni Lo	435	Na	M4 III
Mohavi	0918	X456669-2		Ag Ni	B122	Wi	M0 V
Ramashii	1012	E879588-6		Ni	B302	Wi	M6 II
Darryl	1017	X77966F-4		Ni	B424	Wi	G2 V M1 D
Last Exit	1019	X100000-0		Ba Va	003	—	M4 V M8 D
Fisher	1020	X7B4000-0		Ba Fl	005	—	K7 II
Messier	1111	X46376C-0			B914	Wi	G2 V M6 D M3 D
Arriba	1117	E789555-9		Ni C:0	202	Na	M0 V
Ikhareshu	1118	X422000-0		Ba	002	—	G1 V
Tantelos	1213	D792699-3		Ni	B604	Wi	K3 V
Lerun	1216	E67A858-7		Wa	B802	Wi	M2 V
Twinsong	1219	X85A478-4		Ni Wa Lo	B410	Wi	M0 V
Nilii	1313	X585768-4		Ag	505	Wi	G7 V
Pierre	1411	X210000-0		Ba	004	—	G5 IV
Sasii	1412	X9C5000-0		Ba Fl	004	—	A1 V
Viedma	1415	X200000-0		Ba Va	003	—	K3 III
Affuel	1417	X88356A-8		Ni	102	Wi	G2 V
Livermore	1419	X200000-0		Ba Va	004	—	K1 V M1 D
693-470	1512	X110000-0		Ba	024	—	M4 II
Iris	1513	X352120-7		Ni Po Lo	912	Wi	K8 V M5 D
Aliinashar	1516	X100000-0		Ba Va	004	—	M4 V
Soar	1518	X38666A-3		Ni Ag	701	Wi	M3 V M3 D
Atabano	1520	D869624-6		Ni	804	Wi	M2 V M7 D
Teslin	1611	X333000-0		Ba	014	—	M1 V
Erobi	1612	X8C3000-0		Ba Fl	003	—	M4 V
Accokeek	1613	E548655-8		Ni Ag	812	Na	K1 V
Nike	1614	X6A3000-0		Ba Fl	013	—	M0 V
Dudenii	1617	X221000-0		Ba	000	—	M7 V
Shelagyote	1620	X58968C-4		Ni An	B611	Wi	M0 V

ALURZA SUBSECTOR (Subsector G)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Avat	1713	X200000-0		Ba Va	023	—	M4 V M9 D
Weyburn	1717	X437000-0		Ba	001	—	G7 V
Shaanii	1814	X457004-6		Ni Lo	104	Wi	M2 V
Waboni	1815	X67276E-4			B613	Wi	M2 V
Umorphutwyo	1816	X410000-0		Ba	021	—	M4 V M1 D
Dryden	1818	E759658-8		Ni	413	Wi	M0 V M5 D
Megelina	1819	X300000-0		Ba Va	004	—	K3 V
Remington	1820	X8A6000-0		Ba Fl	002	—	M4 V M8 D
Ekuur	1911	X658300-2		Ni Lo	B104	Wi	A1 IV F9 D
Raymore	1912	E3568AD-8			112	Na	M0 V
Khanii	1914	X53A000-0		Ba Wa	013	—	M2 V
Daazu	1916	X5A1000-0		Ba Fl	000	—	M4 V M0 D
Tigo	1918	X410000-0		Ba	002	—	M0 V
Arrow Rock	1919	X110000-0		Ba	010	—	M2 V M5 D
Feeble	2012	X100000-0		Ba Va	015	—	M6 V M3 D
Coop	2013	X328000-0		Ba	002	—	K4 V
Opheim	2015	X787344-4		Ni Lo	202	Wi	K9 V M4 D
Depot	2018	X000000-0		Ba As	012	—	M4 V M5 D
Nuqual	2019	X774377-6		Ni Lo	B104	Wi	K9 V M1 D
Bifirs	2112	E643768-8		Po	220	Wi	M2 V M4 D
Grand Fork	2114	X549531-5		Ni	302	Wi	G6 V M3 D M2 D
Gyration	2115	X100000-0		Ba Va	004	—	M0 V
Kandom	2116	X65586A-3			B704	Wi	G3 V
Princess	2117	X110000-0		Ba	003	—	M3 V M8 D
Hold	2118	X100000-0		Ba Va	024	—	M1 V
Gilboa	2211	X647769-4		Ag	B710	Wi	K3 V
Gecko	2212	E592499-7		Ni Lo	504	Wi	M0 V
Netti	2213	X9B8000-0		Ba Fl	013	—	M1 V
Yossem	2216	X100000-0		Ba Va	000	—	M0 V
Guild	2311	X200000-0		Ba Va	003	—	M1 V
Oath	2312	X110000-0		Ba	003	—	M1 V
Raasara	2314	X679667-0		Ni	B512	Wi	K4 V M5 D
Gilgamesh	2317	X100000-0		Ba Va	001	—	K0 V
Beep	2411	X310000-0		Ba	003	—	M2 V
Hewes	2414	X336000-0		Ba	014	—	K3 V M3 D
Trot	2415	X110000-0		Ba	001	—	M4 V M0 D
Chief	2417	X100000-0		Ba Va	014	—	K0 V
Didinka	2419	X378244-0		Ni Lo	203	Wi	F7 V
Layne	2420	X796866-3			B305	Wi	G2 V M3 D

PASDARUU SUBSECTOR (Subsector H)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Clarksphere	2519	X324000-0		Ba	013	—	G9 V
Westfir	2613	X326000-0		Ba	001	—	M1 V
Teeque	2614	X545567-1		Ni Ag C:9	113	Dr	K3 V M3 D
Samar	2615	X476554-6		Ni Ag	303	Wi	M0 V M5 D
Dema	2618	X200000-0		Ba Va	000	—	M3 V
Feme	2711	X45636D-0		Ni Lo	B212	Wi	M8 III
Beso	2713	X000000-0		Ba As	021	—	K2 IV M9 D
Campobello	2714	X000000-0		Ba As	013	—	M1 V M2 D
Jeddel	2716	X434000-0		Ba	015	—	M4 V
Jodhpur	2717	X332000-0		Ba	004	—	M1 V
Riishu	2720	X225000-0		Ba	014	—	K2 IV
Aarishuu	2814	X99556A-5		Ni Ag	B300	Wi	M1 V
Icestar	2911	X799000-0		Ba	014	—	K5 V
Konya	2914	X200000-0		Ba Va	004	—	K4 V
Bail 4	2917	E799723-8	S		805	Na	G7 IV
La Motte	2918	X63A000-0		Ba Wa	004	—	M0 V
Raziira	2919	E866002-7		Ni Lo	400	Wi	M0 V M6 V
Hice	2920	X795236-1		Ni	304	Wi	M1 II M4 V M8 V
Shamaar	3012	X544310-5		Ni Lo	202	Wi	M1 V
Karroo	3013	X667355-0		Ni Lo	B224	Wi	G5 V
Mohler	3015	X8A5000-0		Ba Fl	013	—	M0 V M1 D
Ifuwana	3016	E598440-8		Ni Lo	114	Wi	G0 V
Asmera	3020	X110000-0		Ba	015	—	M2 V
Khedas	3112	X7A4000-0		Ba Fl	014	—	M6 V
Farris	3115	X536000-0		Ba	024	—	K7 V M2 D
Cadiz	3116	X799453-5		Ni Lo	302	Wi	M4 V
Ephraim	3118	E789845-7		Ri C:4	210	Na	G8 V M2 D
Gashiila	3211	X879436-1		Ni Lo	B214	Wi	G2 V
Serege	3212	XAD6000-0		Ba Fl	020	—	K4 V M0 D
Nantes	3219	X200000-0		Ba Va	002	—	M0 V M6 D

EBASHA SUBSECTOR (Subsector I)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Cod	0121	X553211-3		Ni Po Lo	204	Wi	M2 V M3 D
Karakaara	0225	X642346-4		Ni Po Lo	203	Wi	G8 V
Waken	0227	X100000-0		Ba Va	002	—	F0 IV M2 D
Ebasha	0228	X579540-6		Ni	123	Wi	M2 V M3 D
Hannah	0323	E979225-6		Ni Lo	502	Wi	K5 V
Kendell	0324	X896631-6		Ni Ag	B803	Wi	A4 V
Ebekiigase	0326	X110000-0		Ba	002	—	M3 V M5 D
Pane	0327	E747667-4		Ni Ag	B503	Wi	K2 V
Hideous	0422	X222000-0		Ba	002	—	G4 V
Flehemu	0425	X45856D-3		Ni Ag	B314	Wi	G4 V M2 D
Laruusalii	0430	X410000-0		Ba	014	—	M2 V K6 D M9 D
Vigo	0521	E252520-7		Ni Po	315	Wi	M2 V
Pesuuzu	0524	X766469-3		Ni Ag Lo	404	Wi	G1 V
Aahasu	0526	X323000-0		Ba	000	—	M2 II
Jinchi	0529	X581200-6		Ni Lo	223	Wi	K5 V
Zokku	0530	X475400-6		Ni Lo	104	Wi	K2 V
Hatfield	0621	X100000-0		Ba Va	012	—	M0 V
Careful	0626	X100000-0		Ba Va	004	—	M1 V M6 D M9 D
531-210	0627	X9BA000-0		Ba Wa Fl	004	—	M8 II
Arappa	0628	X110000-0		Ba	011	—	G1 V
Quioxan	0629	X100000-0		Ba Va	001	—	M3 V M2 D
Jene	0721	X65556B-3		Ni Ag	B200	Wi	K2 V M0 D
Zekhesii	0722	X765232-6		Ni Lo	404	Wi	G9 V K9 D
Six Gun	0723	X98A869-4		Wa	B113	Wi	K3 V
Oyster	0726	X200000-0		Ba Va	004	—	M3 V
Rouen	0729	D382476-8		Ni Lo	920	Na	K2 V
Bones	0821	X77866F-3		Ni Ag	B503	Wi	M8 III
Justabit	0823	E44566A-7	S	Ni Ag	704	Na	M2 V M4 D M6 D
Szeged	0828	X9B7000-0		Ba Fl	002	—	K5 V
572-108	0830	X8C1000-0		Ba Fl	024	—	M8 III M3 D

IUSEA SUBSECTOR (Subsector J)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Naknek	0927	XAC9000-0		Ba Fl	002	—	K1 V
Palastrup	0928	X100000-0		Ba Va	000	—	K0 V M9 D
Poldepi	0929	X667100-3		Ni Lo	203	Wi	G8 V M5 D
Gegaasha	1021	D76487A-7			B212	Na	K0 V M1 D
Shoehorn	1123	X200000-0		Ba Va	004	—	G5 V M6 D
Wellun	1124	X99A769-8		Wa	B913	Wi	F6 III M2 D
Pequot	1128	X76786B-5			B403	Wi	M0 V M8 D
Ledge	1223	C6588BE-7			B501	Wi	M1 V M0 D
Nani	1229	X657436-3		Ni Lo	212	Wi	G1 V M6 D
Helena	1230	X532000-0		Ba	003	—	F4 V M9 D
Birii	1321	X100000-0		Ba Va	002	—	M0 V M3 D
Chimborazo	1324	X200000-0		Ba Va	000	—	M7 II
Iusea	1325	X45476A-6		Ag	214	Wi	M8 III
Hammett	1328	X200000-0		Ba Va	024	—	M4 V M4 D
Rocha	1422	X6A2000-0		Ba Fl	003	—	G3 II
Iqorr	1426	X435000-0		Ba	012	—	M0 V
St. James	1521	X553499-5		Ni Po Lo	112	Wi	K2 V
Cheetah	1522	X100000-0		Ba Va	010	—	M5 III
Bezan	1524	X663103-0		Ni Lo	104	Wi	K9 V
Martinique	1525	X465376-6		Ni Lo	112	Wi	G6 V
Kennebunk	1530	E694653-4		Ni Ag	B901	Wi	G2 V M6 D
Nilaa	1621	X697768-3		Ag	B704	Wi	M5 III M8 D
Wellfleet	1622	X100000-0		Ba Va	002	—	G9 III
Whereitsat	1624	X100000-0		Ba Va	002	—	K8 V M7 D
Ebekhar	1628	D989789-7			802	Wi	F1 V
St. Denis	1630	X110000-0		Ba	002	—	A3 III

THE BLIGHT SUBSECTOR (Subsector K)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Mogumba	1821	X561310-1		Ni Lo	B503	Wi	K9 V
Iiselu	1826	B55756D-2		Ni Ag	B302	Wi	M1 V
Pugout	1923	X100000-0		Ba Va	023	—	M5 V
Jump	2022	B66536B-3		Ni Lo	411	Wi	G0 V
Torngat	2023	X596442-5		Ni Lo	103	Wi	K3 V M6 D
Overature	2124	X000000-0		Ba As	013	—	M3 V
Moncton	2125	X8A3000-0		Ba Fl	004	—	M3 V
Fuji	2127	E5785A6-5		Ni Ag	B602	Wi	K4 IV
Akko	2129	X300000-0		Ba Va	035	—	M1 V
Eberly	2130	X686689-8		Ag	B923	Wi	M1 V M6 D M2 D
Maaduura	2221	X554340-3		Ni Lo	204	Wi	G8 V M9 D
Tarsale	2224	X200000-0		Ba Va	000	—	K2 V
Heart	2225	X978100-3		Ni Lo	B113	Wi	M4 III
Mason	2226	X44159B-7		Ni Po	302	Wi	M3 III
One Star	2227	X746501-3		Ni Ag	B200	Wi	K0 IV
Sivo	2229	X886778-4		Ag	B902	Wi	K4 V M5 D M6 D
Veejay	2321	XAD3000-0		Ba Fl	003	—	K6 V M0 D
Wescap	2322	E573888-8			B514	Wi	M0 V
Ayden	2423	X100000-0		Ba Va	001	—	G1 V M3 D
Thicket	2424	X451576-4		Ni Po	214	Wi	M1 V
Elusive	2426	X110000-0		Ba	013	—	K9 V
Daariida	2429	X356301-1		Ni Lo	500	Wi	K5 III M6 V
Aaneru	2430	X97886B-3			723	Wi	K2 V

PROMISE SUBSECTOR (Subsector L)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Seagull	2521	X7B1000-0		Ba Fl	003	—	G2 V
Amoy	2524	X45466A-5		Ni Ag	305	Wi	G0 V
Baraduusa	2528	X342131-3		Ni Po Lo	415	Wi	G3 V
Ferenira	2724	X100000-0		Ba Va	023	—	M3 V
Daaliisa	2725	E767734-7		Ag C:2	B414	Wi	M1 III
Eloji	2728	D846644-8		Ni Ag	402	Wi	M0 V
Exeter	2729	X769866-8			B824	Wi	K3 V M9 D
Muni	2825	D342640-6		Po	605	Wi	K4 V M6 D
Promise	2827	C542786-9		Po	602	Wi	M1 V
Poznan	2830	X232000-0		Ba	003	—	M4 V
Orsk	2922	X535000-0		Ba	012	—	M4 V M9 D
Lot	2925	X24566C-4		Ni Ag	303	Wi	K5 V
Vahana	2926	X65A56D-0		Ni Wa	B103	Wi	K2 V M5 D
Udone	2927	X000000-0		Ba As	014	—	M0 V
Gorky	2929	X200000-0		Ba Va	011	—	G1 V
Execute	2930	E684577-5		Ni Ag	B103	Wi	G1 V
Isis	3022	X35476D-3		Ag	914	Wi	M7 II
Napiiresha	3023	X559202-2		Ni Lo	B123	Wi	K6 V M3 D
530-053	3027	X443222-5		Ni Po Lo	422	Wi	K3 V M4 D
Davao	3029	X100000-0		Ba Va	013	—	M3 V
Nysorb	3030	X9B6000-0		Ba Fl	033	—	K2 V M4 D
Tenmet	3121	X110000-0		Ba	003	—	K2 III
Tazmania	3123	X45647A-3		Ni Lo	304	Wi	G1 V M9 D M6 D
Sligo	3126	X878344-3		Ni Lo	B203	Wi	K7 V
Sittahr	3129	X766430-4		Ni Lo	B505	Wi	K0 V M3 D
Ijiwa	3224	X000000-0		Ba Va	002	—	M2 V M6 D
Lekhaana	3225	X100000-0		Ba Va	024	—	G6 V
Cosenza	3228	X527000-0		Ba	012	—	K2 V M2 D

HIJIRI SUBSECTOR (Subsector M)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Keeper	0137	X256300-7		Ni Lo	103	Wi	K9 V
Ranushana	0138	X100000-0		Ba Va	004	—	K3 V
Kiev	0139	X533000-0		Ba	002	—	M8 V
Kimba	0232	X55566A-1		Ni Ag	B901	Wi	G5 V M5 D
Siphon	0233	X86A449-6		Ni Wa Lo	404	Wi	M4 III M6 D
Doom	0236	X100000-0		Ba Va	023	—	M1 V
Sunz	0237	X86796A-4		Hi	B904	Wi	K9 V
Kashi	0238	X312000-0		Ba Ic	000	—	F6 IV
Khaasamiiri	0335	X675310-3		Ni Lo	422	Wi	M0 V
Carl's World	0336	X56786E-4			B425	Wi	K2 V M7 D
Vornam	0338	X675968-3		Hi In	B604	Wi	M0 V M5 D
Sequoia	0339	X446486-3		Ni Lo	412	Wi	G2 V
Vision	0431	X67556C-3		Ni Ag	100	Wi	M4 V M0 D
Angebo	0432	X200000-0		Ba Va	003	—	M0 V M0 D
Maasii	0440	X240359-2		Ni Po De Lo	203	Wi	G7 V
Attax	0531	X48756C-5		Ni Ag	113	Wi	K0 V
Cumber	0532	X110000-0		Ba	013	—	F4 V
Sheshene	0533	X100000-0		Ba Va	014	—	M2 V M2 D
Alone	0534	X559478-3		Ni Lo	B123	Wi	M9 II G2 D
Jue-ni	0535	D756368-8		Ni Lo	212	Wi	M1 V M5 D
Akureyri	0536	X000000-0		Ba As	014	—	M0 V
Fazed	0537	X110000-0		Ba	024	—	K4 V M1 D
Sanzbur	0538	X522000-0		Ba	000	—	M4 V
Fuquay	0632	X223000-0		Ba	003	—	M5 V
Varina	0633	E769497-9		Ni Lo	404	Na	K1 III M0 V
Tulane	0731	X381100-6		Ni Lo	314	Wi	F6 V
Zee's Place	0732	X100000-0		Ba Va	023	—	M7 V
Pettelli	0734	X451100-3		Ni Po Lo	104	Wi	M3 V M0 D M2 V
Amaani	0740	X100000-0		Ba Va	012	—	M0 V
Domo	0831	X464434-7		Ni Lo	400	Wi	G3 V M4 D
Cunning	0832	X78856A-5		Ni Ag	B202	Wi	M1 V
Isee	0833	X334000-0		Ba	012	—	M0 V
Dunoon	0839	X100000-0		Ba Va	004	—	K3 V M7 D
Khasiigu	0840	D580336-7		Ni De Lo	203	Wi	F6 V

SHUMISDI SUBSECTOR (Subsector N)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Frock	0931	X5A4000-0		Ba Fl	011	—	K2 V
Nappa	0932	X696753-4		Ag	B422	Wi	F3 V
Emeluura	0935	X200000-0		Ba Va	004	—	M4 V M5 D
Woken	0936	E998547-8		Ni Ag D:0	301	Wi	K4 V
Chamawa	0938	D743645-8		Ni Po	B302	Wi	M3 III
Dilkon	0940	X529000-0		Ba	000	—	M6 V
Yatustuhexna	1031	X451433-3		Ni Po Lo D:9	313	Dr	M3 V
Gus	1034	X654321-8		Ni	504	Wi	K6 V
Cole	1035	X210000-0		Ba	003	—	M3 V
Frey	1133	X536000-0		Ba	004	—	M5 V
Alki	1136	X100000-0		Ba Va	004	—	K8 V
Usheriima	1138	X534000-0		Ba	013	—	M3 V
Adryanne	1139	X530000-0		Ba De	011	—	F6 V
Musiiba	1233	X344235-5		Ni Lo	324	Wi	M3 V
Snoqualmie	1236	X78656C-3		Ni	B300	Wi	M0 V
Chicago	1331	X371445-3		Ni Lo C:2	B104	Wi	M3 V M7 D
Duwamish	1336	X46677C-4		Ag	B225	Wi	K5 II
Ica	1338	X000000-0		Ba As	024	—	M0 V M1 D
Nape	1339	X000000-0		Ba As	024	—	M2 V M4 D
Dawns	1340	D6568A6-3		Ag	202	Wi	F3 V M8 D
Semaachi	1433	X254768-3		Ag	B403	Wi	G0 V
Burien	1435	X201000-0		Ba Va Ic	003	—	A9 V K8 D
Garaag	1438	E380689-3		Ni De	B212	Wi	F4 V
Obidos	1440	X000000-0		Ba As	022	—	G9 IV M7 V
Prosser	1536	XA88866-4			B210	Wi	K2 V
Prestwick	1639	D76A557-7		Ni Wa	202	Na	F5 V
Biremeruun	1640	D986733-3		Ag	B510	Wi	G5 V

MADOC SUBSECTOR (Subsector O)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Waverly	1733	XAA7000-0		Ba Fl	000	—	G4 V
Manna	1737	X8D5000-0		Ba Fl	012	—	M5 V
Galuuda	1739	X79A669-3		Ni Wa	B902	Wi	K4 V M3 D
Berens	1740	C846136-8		Ni Lo	411	Wi	G1 V M3 D
Dinklewater	1838	X98A225-5		Ni Wa Lo	114	Wi	F5 V M8 D
Kinos	1840	X5588AB-5			823	Wi	K5 V
Ruffian	1933	X448487-4		Ni Lo	B314	Wi	M1 V
Bellin	1934	E996765-8		Ag	B902	Wi	K0 V
Tygger	1938	E768221-7		Ni Lo	503	Wi	M9 V
Hewlett	2031	X110000-0		Ba	003	—	G2 V
Seben	2037	D694869-6			103	Wi	F4 V M8 D
Epic	2040	X434000-0		Ba	012	—	G6 V
Geonia	2134	X53A000-0		Ba Wa	002	—	M4 V
Tavara	2136	X67A344-6		Ni Wa Lo	112	Wi	K0 II
Pekhuraa	2236	D784634-9		Ni Ag	205	Wi	M6 III K5 V
Saagii	2333	X444758-8		Ag	B614	Wi	M2 V M0 D
Kiiki	2334	X225000-0		Ba	024	—	M9 III
Saratov	2338	X559333-5		Ni Lo	B303	Wi	M0 V
Kelvin	2340	X64056A-2		Ni De Po	B304	Wi	K6 V M2 D
Lexol	2434	X100000-0		Ba Va	010	—	M3 V M9 D
Forgotten	2438	X630000-0		Ba De	001	—	K1 V
Bernens	2440	X550667-4		Ni De	B500	Wi	G2 V M9 D

KHULAM SUBSECTOR (Subsector P)

Name	Hex	UPP	Base	Trade	TPPG	Alg	Stellar
Kappa	2535	X224000-0		Ba	003	—	M1 V M6 D
Boley	2539	X434000-0		Ba	011	—	F6 V
Egg	2631	X000000-0		Ba As	014	—	G2 V M6 D
Donegal	2632	X100000-0		Ba Va	004	—	M1 V
Bikar	2633	E79A322-7		Ni Wa Lo	413	Wi	K7 III
Lira	2635	X527000-0		Ba	002	—	M7 V
Ekhapen	2636	X100000-0		Ba Va	004	—	K0 V M6 D
Khesanadu	2731	X788310-6		Ni Lo	200	Wi	M5 V K2 D
Ryvo	2734	X682325-7		Ni Lo	421	Wi	K4 IV
Khirekhera	2834	X451489-2		Ni Lo Po	B104	Wi	M4 V
Acorn	2835	X100000-0		Ba Va	002	—	M1 V
Montezuma	2836	D562756-5			B204	Wi	K4 V
Dijon	2838	X234000-0		Ba	034	—	M7 V M9 D
049-949	2839	X620000-0		Ba De	013	—	M8 V M1 D
Suudo	2840	D778568-6		Ni Ag	B102	Wi	F1 V
Quarry	2933	X99A252-3		Ni Wa Lo	B304	Wi	M9 V
Sofar	2939	X8B4000-0		Ba Fl	000	—	K9 V
Taumotu	3033	X100000-0		Ba Va	005	—	F0 V
Mitchell	3034	X100000-0		Ba Va	003	—	M3 V
Agiruur	3036	X9A3000-0		Ba Fl	003	—	M9 V
Kide	3131	D68476A-8		Ag	220	Wi	M4 V
Lefiguura	3132	X86856A-3		Ni Ag	B110	Wi	G2 V M9 D
Kipper	3134	X110000-0		Ba	023	—	M3 V
Gresham	3138	X110000-0		Ba	004	—	M1 V
Uppsala	3139	D97959E-4		Ni	212	Wi	F4 V M8 D
Futok	3140	C594776-7		Ag	201	Wi	M1 V M8 V
Desel	3231	X100000-0		Ba Va	003	—	M3 V M2 D
Lebherz	3236	E657896-5			B213	Wi	G1 V

Base Codes: N: Naval Base; S: Scout Base

Trade Codes: Ag: Agricultural; An: Ancients' Site; As: Asteroid; Ba: Barren; Cm: Cemeteryworld (a world whose original population has died off completely, the current population is all recent settlers); C:N or D:N indicates that the world was populated in part by Chirpers or Droyne, the number "N" following the colon indicates how many tenths of the world's population consisted of these races; De: Desert; Fl: Fluid oceans; Hi: High population; Ic: Ice-capped; In: Industrial; Ni: Nonindustrial; Po: Poor; Ri: Rich; Rs: Research Station (with Greek letter designation); Va: Vacuum; Wa: Water world

TPPG indicates Travel Zone, Population Multiplier, Planetoid Belts, and Gas Giants. If Travel Zone digit is empty, there is no particular meaning, as there is no surviving interstellar organization to assign travel codes to worlds. A B in this column indicates a Balkanized world, the government code in the UPP string describes the predominant government on the world.

Allegiance Codes: Na: Non-aligned, no off-planet allegiance, these worlds use the government types listed on page 188 of the **TNE** rulebook; Su: Covenant of Sufren; Wi: Wilds (no off-world allegiance, and perhaps no off-world contact); these worlds use the Wilds government type from page 191, **TNE** rulebook (in the case of government type 6: "Technologically Elevated Dictator," the world's listed tech level is that of the world as a whole; the tech level of the TED and his or her support structure is higher, up to the world's original tech level); "—" indicates no allegiance because there is no population.

0302/E1

UPGRADE BOOKLET

Science Fiction Roleplaying Game

TRAVELLER®

The New Era

GDW

This upgrade booklet is produced by GDW to be given out free to purchasers of Fire, Fusion & Steel: Traveller Technical Architecture.

TRAVELLER®: THE NEW ERA UPGRADE BOOKLET

This booklet presents valuable material for owners of the **Traveller: The New Era (TNE)** rulebook and **Fire, Fusion & Steel (FF&S)**. For the publication of **FF&S**, we have created design sequences which are much more comprehensive than those we used when designing equipment for the **TNE** rulebook. Much of the **TNE** equipment has therefore been redesigned according to the **FF&S** sequences, and is included in this upgrade booklet. In addition, several rules additions and errrata are included as well.

There are limitations to what can be included in a book of this size. All information on starship upgrades is already available in **Brilliant Lances.**

All of this material will be incorporated into the **TNE** second printing, which can be recognized by the phrase, "Mk I Mod 1 (December 1993)" on its title page.

Load and Initiative (35 and 264)

Characters who are *burdened* (page 35, "Load") have their initiative reduced by 1 (to a minimum of 1) so long as they are carrying that weight. Characters who are carrying four times their basic load (for short distances) have their initiative reduced to 1 so long as they are carrying that load. These are in addition to penalties for wounding, etc.

Special Operations Career (55)

Under "Other Effects," add "+1 to Initiative if more than one term is served."

World Population Table (188)

Codes 0, 1, and 2 should read Incidental population, 4, and 5 should read Low.

World Law Level Table (189)

Code 6 should read, "all firearms except *shotguns* prohibited."

World Government Codes (191)

Use the notation "Wi" in the Allegiance column of the UWP to indicate worlds whose governments are taken from the Government Types in the Wilds table. Use the notation "B" in the Travel Zone portion of the TPPG column to indicate Wilds balkanized worlds.

Satellite Size (194)

When determining satellite size, the roll for worlds is World Size – 1D6.

Travel Movement Table (196)

The vehicle values on this table are incorrect. See the vehicle listings later in this booklet for the correct values.

Animal Damage (212)

First paragraph, replace with:

Damage: This shows the number of damage dice done by the weapon. It is modified by the results of the Animal Size table. A damage 1 halved becomes 1D6+2, and is noted as ½.

Semiautomatic Energy Weapons (273 and 276)

Replace the second and third paragraphs of this page.

Some semiautomatic lasers have the capability to fire their energy in varying numbers of pulses of greater or lesser power. This is shown by multiple lines for each such weapon, showing the damage ratings for each available pulse rate.

For direct energy input (DEI, also called "power pack") lasers, the listing also shows how many shots at these power levels are available in the power pack. This requires players to be careful when keeping track of "ammunition," as one double-powered shot is worth the same amount as two single-powered shots in the laser's power pack.

The Traveller®: The New Era Upgrade Booklet was compiled by Dave Nilsen, Frank Chadwick, and Loren Wiseman, typeset by Stephen Olle, art directed by Kirk Wescom, and illustrated by Bradley K. McDevitt and Allen Nunis.

For chemical (CLC) lasers, the laser energy available in a single cartridge may be allocated as one large pulse, or a burst of several smaller pulses. These multiple pulses from one cartridge are always resolved as bursts of automatic fire, and never as separately aimed shots. Note that, unlike other automatic weapons, these lasers are not necessarily capable of firing five such bursts per fire turn. These lasers, and similarly capable DEI lasers, are listed with the number of bursts possible per five-second combat turn and the number of shots per burst. For example, "3×3" indicates a laser capable of three three-shot automatic bursts per five-second combat turn. Each such burst uses one cartridge for a CLC, or for a direct energy uses energy as indicated on the data chart.

Weapon Damage (285)

Most weapons do the same amount of anti-personnel damage at all ranges. This is true for slug-firing small arms, for large-caliber CPR guns (which have a constant anti-personnel damage value) and high-energy weapons (plasma and fusion weapons whose damage value remains constant but whose penetration ratings do decline over distance).

However, lasers are an exception. The weapons listings show the personnel damage dice done by a laser hit at all four ranges, as these decline with distance (a laser's penetration rating also declines over distance at the same time, but this is not visible with small arms lasers which start with nil penetration).

Laser Penetration (285)

Most small arms lasers have a listed penetration rating of *Nil*, which means they cannot penetrate armor values of 1 or greater. However, this only applies to rigid ceramic or metallic armor. All non-ceramic, non-metallic armor is treated as no armor, so lasers do damage normally to the wearer. Chain mail is also treated as no armor by lasers. Flak jackets include rigid metallic plates, so do protect from laser fire.

Penetration and Damage (285, 297)

Penetration is expressed in two ways: as *penetration value*, and as *penetration rating*.

Penetration value is a measure of the weapon's absolute ability to penetrate armor, and is the measure most often used in vehicle combat.

Penetration rating describes the relationship between a weapon's damage value and its penetration value. Penetration value = Damage value ÷ Penetration rating. Likewise, Damage value = Penetration value×Penetration rating.

Penetration rating is also equal to the number of points of damage value that are lost for each level of armor value that is penetrated (thus the smaller the penetration rating, the better the penetration performance). This is the measure most often used in personnel combat. Penetration ratings become higher (i.e., penetration performance becomes worse) as range increases. Penetration ratings are given by range, short/medium-long-extreme (i.e., penetration rating for medium is the same as for short).

Small arms are usually listed with their damage value and penetration ratings listed separately, while weapons intended primarily for use against vehicles are usually listed with their damage value and penetration ratings combined into their penetration values at the various ranges.

Thus a small arms fusion gun might be described as having a damage value of 10 with penetration ratings of ½-1-4. That same fusion gun, if it were rated as a cradle gun, would have listed penetration values of 20-10-3 (short/medium-long-extreme).

Damage is expressed as damage value which is related to penetration value and penetration rating as described above. Damage value is equivalent to damage dice which are inflicted on personnel (or other creature targets) in all cases but one: lasers. Lasers have damage values which are related by their penetration ratings to their penetration values, as described above. However, their damage values are not used to damage personnel. Each point of a laser's damage value is equal to 20 personnel damage dice. Small arms lasers in the equipment listings already have their damage capabilities listed in terms of personnel damage dice, but if a personnel target were hit by a starship-mounted laser, that laser's damage value (at the appropriate range) would have to be multiplied by 20 to see how many dice of damage was done to the target.

Open Vehicles (294)

Add this rule to the "Firing at Vehicles" section.

Open Vehicles: Some vehicles have their hull front, side, and rear armor listed in brack-

ets, for example, [1]. This indicates that the vehicle is an *open vehicle.* Open vehicles have a slight armor protection provided by their metal bodies, but it is an incomplete cover. Whenever a shot hits an open vehicle, there is a 50% chance of the shot hitting the vehicle's body and a 50% chance of it going through a window or other open portion. If it hits the body, the shot is resolved normally, and the vehicle receives the benefit of its armor value. If it goes in through a window, the shot is always resolved as minor damage, and any damage result is ignored except for crew or passenger (these may also be resolved as cargo damage) result.

Space Combat (311-323)

The following changes are made to bring this section into line with the **Brilliant Lances (BL)** boardgame. Many of the differences between **BL** and the **TNE** Space Combat chapter are due to the two-dimensional nature of the boardgame, but **BL** also adds additional detail to the basic system in **TNE**. The following changes to **TNE** are essential.

Speed Change (313): Each G-turn of acceleration spent by a ship changes the closing velocity for the current turn by 1.

Fire (314): Delete all references to three-minute fire segments. Fire is now resolved one time only per 30-minute turn, as each shot represents 10 shots over the course of the turn (also disregard the Reduced Rates of Fire table on page 325). An Outstanding Success result on the to-hit roll now indicates *two* hits on the target.

Damage Value (319, Clarification): Relative to other long-range beam weapons, lasers have good penetrative performance, but generate less explosive force and damage. Particle accelerators have less penetrative ability than do lasers, but generate greater explosive force. Meson guns do not concern themselves with penetration as their particle beams pass through intervening matter to explode with great force.

•Particle accelerators penetrate armor and inflict damage points with their *Penetration value.* They also do additional Radiation and EMP damage.

•Lasers penetrate armor with their *Penetration value,* but inflict damage points with their *Damage value.*

•Meson guns do not worry about penetrating armor, and inflict damage points with their *Damage value.*

Excess Damage (320): If, after resolving internal damage, the roll on the Excess Damage Location table indicates that the remaining damage points are taken back to a surface location, first expend damage points normally to penetrate the hull (on the way back out). Then apply damage normally to any surface fixtures that may be there (rolling on the Damage Table if these take up less than the full hit location). If any damage points remains after this, they are vented to space and disregarded.

Effects of Damage (321): For hits on a power plant, divide the MW rating of the power plant by the number of hits it can sustain. The result is the number of MW lost per hit or per system reset result. Referees who own **Brilliant Lances** will note the greater detail of damage results in that game, and should feel free to use these results when judging space combat encounters.

Solar Cells (342)

The figures in the MW column are off by a decimal place. Divide all of these values by 10 (e.g., 0.1 becomes 0.01, etc.).

Starship Weapons (348-9)

Use the data on page 153 of **FF&S.**

ERRATA

The following material was made available in the June 30, 1993 **TNE** Errata sheet. It is reproduced here for those who do not have it.

Stellar Regions DMs Table (38)

Wilds line should read: "All value mods applied to wear value (maximum 10), no mortgage."

World Generation (186)

Items 4, 5, 6, 8, and 9 are missing a term. **World Size** should be, "2D6–2," **Atmosphere** should be, "2D6–7 + World Size," **Hydrographics** should be, "2D–7 + World Size," **Government** should be, "2D–7 + Population," and **Law Level** should be, "2D–7 + Government."

Industrial World Trade Class (187, 236)

Atmosphere should be, "2–, 4, 7, 9."

Wounds (288)

Serious Wounds: the roll to avoid losing consciousness every turn in which the character attempts an activity becomes a Difficult roll against Constitution. Characters who have

lost consciousness make a Formidable roll against their Constitution *each turn* to attempt to regain consciousness.

Critical Wounds: The roll to regain consciousness is made each combat turn, and is a D100 (percentile) roll against the Constitution attribute.

Medical Kit (289)

Add this new rule: Use of a personal medical kit (page 334) allows a character with neither Medical skill nor a doctor's medical kit to avoid the unskilled penalty when attempting a first aid task (thus it is a Formidable task using the character's EDU attribute). One such use uses up the medical kit.

Powerboats (292)

The reference to "size one" should read "Micro or SubMicro."

Extinguishing Fires (301)

The task to extinguish a fire (under "Fire") should be Difficult versus CON, not Formidable.

Collision Example (302)

In the example of the collision between the car and truck, the following corrections should be made: "the car is hit with a value of (95×2)+10, or 19," "which means that (19–1=) 18 is referenced," and "As a result, (9–1=) 8 points are taken to the Vehicle Damage Results Table." In the tandem bicycle example, the check versus Agility should be Average, not Difficult.

Sensor Locks (315)

In the second-to-last paragraph, delete the reference to the limit on maximum simultaneous sensor locks.

Starship Combat Charts (325)

Delete Hit Location table in lower left-hand corner of page. Use Ship Facing tables at upper right for hit location.

On **Ship Facing/Beam Weapon Fire** table, "Fore Quarter" line should read: "reroll results of *16* through 20."

Communication Equipment (340)

The in-text range of 500 km for both the Communicator, Laser, and Communicator, Video, should be changed to 300 km, and all references to the term "regional range" should be deleted.

Shotguns

Caliber	*TL*	*Ammo*	*Weight Empty*	*Weight Loaded*	*Ammo*	*Mag*	*Price Wpn*	*Price Ammo*	*Features*
18mm pump shotgun	4	18×70mm-4	3.846	4.217	0.371	7i	578	0.53/3.71	—
18mm auto shotgun	7	18×70mm-4	3.941	4.471	0.53	10i	434	0.53/5.3	—

Round	*ROF*	*Dam*	*Pen*	*Blk*	*Mag*	— Recoil — *SS*	*Brst*	*Rng*
18mm pump shotgun-4 Slug	PA	4	3-Nil	6	7i	4	—	40
18mm pump SG-4 Shot (Short)	PA	9	Nil	6	7i	4	—	40
Medium-Long	PA	1	Nil					
18mm auto shotgun-7 Slug	SA	4	3-Nil	8	10i	4	—	63
18mm auto SG-7 Shot (Short)	SA	9	Nil	8	10i	4	—	63
Medium-Long	SA	1	Nil					
18mm auto shotgun-7 HE-6	SA	6	Nil	8	10i	4	—	47

Pistols

Caliber	TL	Ammo	Weight Empty	Weight Loaded	Ammo	Mag	Price Wpn	Price Ammo	Features
5mm revolver	5	5x22mm	0.658	0.679	0.021	6R	89.7	0.14/0.84	—
7mm revolver	5	7x23mm	0.783	0.832	0.049	7R	107.5	0.28/1.96	—
9mm revolver	4	9x20mm-4	0.816	0.876	0.06	6R	110	0.4/2.4	—
9mm revolver	5	9x20mm-4	0.836	0.896	0.06	6R	114	0.4/2.4	—
9mm magnum rev.	5	9x33mm	1.132	1.234	0.102	6R	158	0.68/4.08	—
10mm snub revolver	8	10x17.5mm	0.915	0.981	0.066	6R	117.8	0.44/2.64	—
10mm snub auto	8	10x17.5mm	1.044	1.198	0.154	14/0.119	160	0.44/8.16	—
5mm body pistol	8	5x27mm	0.55	0.662	0.112	28/0.077	280.8	0.48/16.44	—
7mm autopistol	6	7x30mm	0.884	1.01	0.126	14/0.097	173.6	0.36/6.04	—
9mm autopistol	6	9x20mm-6	0.908	1.018	0.11	11/0.09	169.6	0.4/5.4	—
4mm gauss pistol	13	4x20mm/15	0.768	0.785	0.0175	35/0.207	248.5	0.01/1.35	—

Round	ROF	Dam	Pen	Blk	Mag	Recoil SS	Recoil Brst	Recoil Rng
5mm revolver-5 ball	DAR	–1	Nil	1	9R	3	—	8
7mm revolver-5 ball	DAR	1	Nil	1	7R	3	—	10
9mm revolver-4 ball	SAR	1	Nil	1	6R	4	—	10
9mm revolver-5 ball	DAR	1	Nil	1	6R	4	—	11
9mm magnum revolver-5 ball	DAR	2	1-Nil	1	6R	3	—	13
10mm snub revolver-8 HE	DAR	3	Nil	1	6R	3	—	3
10mm snub revolver-8 HEAP-9	DAR	3	2-2-2	1	6R	3	—	3
10mm snub revolver-8 tranq	DAR	–1*	Nil	1	6R	3	—	4
10mm snub auto-8 HE	SA	3	Nil	1	14	3	—	4
10mm snub auto-8 HEAP-9	SA	3	2-2-2	1	14	3	—	4
10mm snub auto-8 tranq	SA	–1*	Nil	1	14	2	—	4
5mm body pistol-8 DS	SA	1	Nil	0	28	3	—	5
7mm autopistol-6 ball	SA	1	Nil	1	14	3	—	11
9mm autopistol-6 ball	SA	2	Nil	1	11	3	—	13
4mm gauss pistol-13 dart	5	2	Nil	1	35	5	11	11
4mm gauss pistol-13 HEAP	5	3	2-2-2	1	35	5	11	8
4mm gauss pistol-13 tranq	5	–1*	Nil	1	35	4	9	7

Lasers

Type	Pulse	TL	Ammo	Weight Wpn	Weight Ldd	Mag	Price Wpn	Price Ammo	Features
10 cm DEI Carbine	0.01	8	DEI	4.33	19.5 PP	50 PP	2310	215 PP	H, L, O, R
5 cm DEI Pistol	0.01	9	DEI	1.67	19.6 PP	50 PP	1250	320 PP	H, L, O, R
8 cm DEI Rifle	0.02	9	DEI	4.21	44.3 PP	100 PP	2855	656 PP	H, L, O, R, RG
2 cm CLC Pistol	0.01	13	10×30 CLC	2.64	3.26	14	2535	1.5/23.7	H, L, O, R
3 cm CLC Carbine	0.02	13	13×39 CLC	4.78	5.7	10	4650	3/34.2	H, L, O, R, RG
4 cm CLC Rifle	0.04	13	16×48 CLC	8.87	10.71	10	8800	6/68.4	H, L, O, R, RG
6 cm CLC SSL	0.06	14	27×80 CLC	59.39	132.5*	100	57,835	27/2980.8	H, L, O, R

Mag: Weight of power pack alone for DEI lasers, weight of loaded weapon for CLC lasers.

Weapon	ROF	Dam (S-M-L-E)	Pen	Blk	Mag	Wpn	Ammo	Range
10 cm DEI Carbine-8	SA1	5-3-1-1	Nil	4	50 PP	2310	215 PP	200
	1×3	3-1-1-0	Nil	4	50 PP**			200
	1×10	2-1-0-0	Nil	4	50 PP**			200
5 cm DEI Pistol-9	SA2	5-3-1-1	Nil	2	50 PP*	1250	320 PP	90
	SA1	7-4-2-1	Nil	2	25 PP*			90
	2×3	3-2-1-0	Nil	2	50 PP**			90
	2×10	2-1-0-0	Nil	2	50 PP**			90
8 cm DEI Rifle-9	SA2	7-4-2-1	Nil	4	50 PP*	2855	656 PP	160
	SA1	10-5-3-1	Nil	4	25 PP*			160
	2×3	4-2-1-1	Nil	4	50 PP**			160
	2×10	2-1-1-0	Nil	4	50 PP**			160
2 cm CLC Pistol-13	SA3	5-5-3-1	Nil	2	14†	2535	1.5/23.7	90
	3×3	3-3-2-1	Nil	2	14†			90
	3×10	2-2-1-0	Nil	2	14†			90
3 cm CLC Carbine-13	SA3	7-5-3-1	Nil	4	10†	4650	3/34.2	300 (260)
	3×3	4-3-2-1	Nil	4	10†			300 (260)
	3×10	2-2-1-0	Nil	4	10†			300 (260)
4 cm CLC Rifle-13	SA3	10-10-7-3	Nil	5	10†	8800	6/68.4	300 (260)
	3×3	6-6-4-2	Nil	5	10†			300 (260)
	3×10	3-3-2-1	Nil	5	10†			300 (260)
6 cm CLC SSL-13	SA5	21-21-21-16	Nil	8	100†	57,835	27/2980.8	300 (260)‡
	5×3	12-12-12-9	Nil	8	100†			300 (260)‡
	5×5	10-10-10-7	Nil	8	100†			300 (260)‡
	5×10	7-7-7-5	Nil	8	100†			300 (260)‡
	5×50	3-3-3-2	Nil	8	100†			300 (260)‡

*Weapon is fired from a tripod with mass: 66.25 kg and price: Cr763 not included in figures above.

Features: H = weapon is capable of firing a high-capacity pulse, i.e., fewer high-powered shots in a combat turn rather than the several less powerful shots permitted by the weapon's ROF; L = Laser sight; O = Optic sights; R = ruggedized to grenade standards; RG = RAM rifle grenade adapter

Parenthetical figure in range column is the iron sight short range.

ROF column shows number of bursts "N" per combat turn and number of shots "S" in each burst in the format "NxS."

*Each shot at the high-powered rate (SA1) counts as two shots at the low-powered rate (SA2).

**Each burst consumes ammunition energy equivalent to one shot at the SA2 rate.

†One CLC cartridge is used per SA shot or per burst, not one cartridge per shot in the burst.

‡Range on tripod is 300, regardless of sights.

Plasma Bazooka

Weapon	TL	Pulse	Ammo	Empty	Lded	Rnd	Wpn Price	Ammo Price
9 cm Plasma Bazooka	10	2	90x320 CPC	27	43.2	16.2	Cr67,500	Cr400

Weapon	ROF	Dam	Pen Rating	Pen Value	Bulk	Mag	Recoil	Range
Plasma Bazooka 10	SS	16	1-2-10	16-16-8-2	5	1i	—	60

6cm Assault Rocket Launcher

Weapon	ROF	Dam	Blk	Mag	Range
6cm ARL-10 HE	1	9-35	12	4	200
6cm ARL-10 HEAP	1	6-25	12	4	200
6cm ARL-10 WP	1	2-15	12	4	200
6cm ARL-10 Flechette	1	10x50	12	4	200

TL: 10; *Ammo:* 6cm rocket
Weapon Wt: 6 kg empty, 18.32 kg loaded; *Ammo Wt:* 1.2/12.32 kg
Mag: 4-round detachable box magazine, 6.72 kg, Cr67.2; *Weapon Price:* Cr210
Ammo Price: HE, Cr12.4; HEAP, Cr18.4; WP, Cr24.4; Flechette, Cr60.4

Slug Rifles and Carbines

Caliber	TL	Ammo	Weight Empty	Weight Loaded	Ammo	Mag	Price Wpn	Price Ammo	Features
7mm carbine	5	7x26mm	2.985	3.085	0.1	10/0.084	385.2	0.2/3	F, B
7mm carbine (fold stk)	5	7x26mm	2.785	2.885	0.1	10/0.084	415.2	0.2/3	F
7mm carbine (civilian)	5	7x26mm	2.555	2.605	0.05	5i	381.2	0.2/1	—
7mm rifle	5	7x57mm-5	5.254	5.694	0.44	20/0.317	855	0.44/9.8	F, B
7mm rifle (Civilian)	5	7x57mm-5	4.967	5.077	0.44	5i	796	0.44/2.2	—
9mm rifle	7	9x44mm	8.462	9.022	0.56	20	1157	0.56/16.2	F, B
12mm hunting rifle	5	12x45mm	3.35	3.555	0.205	5i	558	1.8/9	—
7mm autorifle	6	7x57mm-5	5.254	5.694	0.44	20/0.317	998	0.44/12.8	F, B
4mm gauss rifle	12	4x20mm/35	4.923	4.943	0.02	40/1.483	1692	0.01/3.4	F, B, O, RG
5mm assault rifle	7	5x50mm-7	3.653	3.953	0.3	30/0.252	737	0.2/9	F, B
7mm assault rifle	7	7x70mm-7	4.325	4.805	0.48	30/0.327	971	0.32/13.6	F, B
7mm ACR	10	7x46mm	5.895	6.135	0.24	20/0.553	4097	0.24/107.8	E, L, F, B
2cm LAG	8	20x35mm	11.4812	11.921	0.44	5/0.475	2876	1.76/13.8	F

Features: B = Bayonet lug; F = Flash suppressor; L = Laser sight; O = Optic sights; RG = RAM rifle grenade adapter; S = Silencer; T = Telescopic sights

Round	ROF	Dam	Pen	Blk	Mag	— Recoil — SS	Brst	Rng
7mm carbine-5 ball	SA	2	1-Nil	5	10	3	—	47
7mm carbine (fold stk)-5 ball	SA	2	1-Nil	3/5	10	3	—	47
7mm carbine (Civilian)-5 ball	SA	2	1-Nil	4	5i	3	—	47
7mm rifle-5 ball	SA	4	2-Nil	7	20	3	—	60
7mm rifle (Civilian)-5 ball	SA	4	2-Nil	7	5i	3	—	60
9mm rifle-7 ball	SA	4	2-3-Nil	8	20	3	—	85
9mm rifle-7 HEAP-9	SA	5	2-2-2	8	20	3	—	64
9mm rifle-7 tranq-8	SA	–1*	Nil	8	20	3	—	30
12mm hunting rifle-5 ball	BA	4	2-Nil	5	5i	3	—	152
12mm hunting rifle-5 tranq-6	BA	–1*	Nil	5	5i	3	—	30
7mm autorifle-6 ball	5	4	2-Nil	7	20	3	8	60
4mm gauss rifle-12 dart	5/10	4	1-2-Nil	5	40	3	4/8	(64) 74
4mm gauss rifle-12 tranq	5/10	–1*	Nil	5	40	3	4/7	(30) 30
5mm assault rifle-7 ball	5	3	1-Nil	7	30	2	6	52
7mm assault rifle-7 ball	5	4	2-Nil	6	30	3	6	44
7mm ACR-10 DS	5	5	1-3-Nil	7	20	1	2	(100) 120
7mm ACR-10 HE	5	5	Nil	7	20	1	2	(62) 82
7mm ACR-10 HEAP	5	5	2-2-2	7	20	1	2	(62) 82
7mm ACR-10 tranq	5	–1*	Nil	7	20	1	2	(30) 30
2cm LAG DS	SA	6	1-3-5	6	5	2	—	252
2cm LAG HE	SA	9	Nil	6	5	2	—	158
2cm LAG HEAP-9	SA	9	2-2-2	6	5	2	—	158
2cm LAG tranq	SA	–1*	Nil	6	5	2	—	30
2cm LAG flechette (Short)	SA	24	1	6	5	2	—	210
Medium-Long	SA	1	Nil					

Autoguns

Caliber	TL	Ammo	Weight Empty	Weight Loaded	Ammo	Mag	Price Wpn	Price Ammo	Features
7mm MMG	5	7×57mm-5	9.953	12.153	2.2	100B	2223	0.44/44	F
7mm LMG	6	7×57mm-5	10.074	12.274	2.2	100B	2248	0.44/44	F
5mm LMG	7	5×50mm-7	6.676	7.676	1	100B	1594	0.2/20	F
13mm HMG	6	13×75mm	30.8	40.8	10	100B	6458	2/200	F
5mm rotary	7	5×50mm-7	20.187	45.187	25	2500C/2	6472	0.2/600	—
7mm rotary	7	7×57mm-5	32.686	87.686	55	2500C/2	7827	0.44/1320	—
5mm rotary	8	5×50mm-7	23.427	73.427	50	5000C/2	7730	0.2/1100	L
7mm rotary	8	7×64mm	40.602	103.102	62.5	2500C/2	12961	0.5/1470	L
4mm gauss SAW	12	4×20mm/50	12.999	13.049	0.05	100/6.219	1102	0.01/14	O
VRF gauss gun (veh)	10	4×20mm/60	26.68	41.68	15	30000C/2	4513	0.01/320	—
VRF gauss gun (mp)	10	4×20mm/60	161.68	162.18	0.5	500C/137	5103	0.01/920	—

Round	ROF	Dam	Pen	Blk	Mag	— Recoil — SS	Brst	Rng
7mm MMG-5 ball	10	4	2-Nil	8	100B	3	13	73
Bipod	10	4	2-Nil	8	100B	2	7	95
Tripod	10	4	2-Nil	8	100B	1	3	146
7mm LMG-6 ball	5	4	2-Nil	8	100B	2	4	75
Bipod	5	4	2-Nil	8	100B	1	2	98
5mm LMG-7ball	5	3	1-Nil	7	100B	2	5	54
Bipod	5	3	1-Nil	7	100B	1	3	70
13mm HMG-6 ball	5	7	2-3-4	9	100B	4	11	81
Tripod	5	7	2-3-4	9	100B	1	3	162
5mm rotary-7 ball	5/50	3	1-Nil	6	2500C	3	3/31	62
Tripod	5/50	3	1-Nil	6	2500C	3	1/8	124
7mm rotary-7 ball	50	4	2-3-Nil	7	2500C	2	54	114
Tripod	50	4	2-3-Nil	7	2500C	1	14	228
5mm rotary-8 ball	5/50	3	1-Nil	7	5000C	3	3/30	75
Tripod	5/50	3	1-Nil	7	5000C	3	1/8	150
7mm rotary-8 ball	50	5	2-3-Nil	10	2500C	3	78	133
Tripod	50	5	2-3-Nil	10	2500C	1	22	266

Features: B = Bayonet lug; F = Flash suppressor; L = Laser sight; O = Optic sights; RG = RAM rifle grenade adapter; S = Silencer; T = Telescopic sights

4mm gauss SAW-12 dart	5/10	5	1-3-Nil	6	100B	2	4/8	71
Bipod	5/10	5	1-3-Nil	6	100B	1	2/4	92
4mm gauss SAW-12 HEAP	5/10	6	2-2-2	6	100B	2	4/8	53
Bipod	5/10	6	2-2-2	6	100B	1	2/4	69
VRF gauss gun (veh)-10 dart	50	6	1-3-5	8	30000C	†	†	24
VRF gauss gun (veh)-10 HEAP	50	7	2-2-2	8	30000C	†	†	214
VRF gauss gun (mp)-10 dart	50	6	1-3-5	8	1000C	2	39	123
Tripod	50	6	1-3-5	8	1000C	1	10	246
VRF gauss gun (mp)-10 HEAP	50	7	2-2-2	8	1000C	2	39	107
Tripod	50	7	2-2-2	8	1000C	1	10	214

* In addition to the –1 damage, see **Traveller**, page 350 for other effects of tranq rounds.
Range in parens is iron sight range
Fired from vehicle mounts, all weapons have negligible recoil and tripod range.

Ammo Price: Ammo price is for ball rounds. DS, HE, & tranq are x2. HEAP is x3. The number to the left of the slash is the price per round, the number to the left is the price of a full load or a loaded magazine if the weapon has a detachable magazine.

Mag: Where the mag column has two number separated by a slash, the left number is the capacity, the right number is the mass in kilograms of an empty magazine or ammo/battery box.

Submachineguns

Caliber	TL	Ammo	Weight Empty	Weight Loaded	Ammo	Mag	Price Wpn	Price Ammo	Features
9mm SMG	5	9x24mm-5	2.403	2.763	0.36	30/0.245	400	0.24/8.2	—
9mm (fold stk) SMG	6	9x24mm-5	2.203	2.563	0.36	30/0.245	430	0.24/8.2	—

Round	ROF	Dam	Pen	Blk	Mag	— Recoil — SS	Brst	Rng
9mm SMG-5 ball	5	2	1-Nil	3	30	1	3	48
9mm (fold stk) SMG-6 ball	5	2	1-Nil	2/3	30	1	3	48

High-Energy Weapons

				Weight				Price	
Weapon	*TL*	*Pulse*	*Ammo*	*Empty*	*Ldd*	*BP*	*Mag*	*Wpn*	*Ammo*
4.3cm plasma rifle	12	0.6	4.3 PPC	2.4	17.4	4.8	5	18,000	15/153
4.7cm plasma rifle	13	0.8	4.7 PPC	3.2	35.53	4.8	10	20,000	20/361
4.1cm plasma rifle/comp	14	0.8	4.1 PPC	3.2	14.5	6.4	4	40,000	6.4/87
4.7cm fusion rifle	14	1.2	4.7 PPC	4.8	40.1	4.8	10	72,000	9.6/257
4.7cm fusion rifle/comp	14	1.2	4.7 PPC	4.8	21.7	9.6	4	156,000	9.6/131
5.1cm fusion rifle/comp	15	1.5	5.1 PPC	3	24	6	4	97,500	12/163

The notation "comp" indicates that the weapon is fitted with a recoil compensator in the backpack.

							Recoil		
Weapon	*ROF*	*Dam*	*Pen Rating*	*Pen Value*	*Blk*	*Mag*	*SS*	*Brst*	*Range*
4.3 plasma 12	SA1	9	1-2-10	9-9-51	5	5	11	—	20
4.7 plasma 13	SA1	10	1-2-10	10-10-5-1	5	10	8	—	20
4.1 plasma 14c	SA1	10	1-2-10	10-10-5-1	4	4	7	—	20
4.7 fusion 14	SA1	13	1/2-1-4	26-26-13-3	6	10	8	—	60
4.7 fusion 14c	SA1	13	1/2-1-4	26-26-13-3	6	4	6	—	60
5.1 fusion 15c	SA1	14	1/2-1-4	28-28-14-4	3	4	5	—	80

The notation "c" indicates a weapon fitted with a recoil compensator.

The *Damage* and *Penetration Rating* (short/medium-long-extreme) columns are used for firing against personnel. The *Penetration Value* column (short-medium-long-extreme) is used for firing at vehicles.

Tac Missile Worksheets

TL	*Guidance*	*MWt*	*LWt*	*MP*	*LP*	*C-B*	*Pen*	*Range*	*M/turn*	*AGL*
7	Laser Cmnd	11.2	110	249	7128	6-25	57C	7575	975	4
7	Homing	7.6	4.3	1018	538	4-25	1C	10,735	2500	5
9	Laser Desig.	13.8	126	614	13572	11-35	101C	12,470	1250	4
9	Homing	14.2	7.6	1536	571	7-25	2C	10,560	3900	6
11	Laser Desig.	19.4	167	646	16,036	17-45	113C	15,030	1950	6
11	Homing	14.2	7.6	1536	571	9-35	2C	15,835	3900	7
13	Laser Desig.	21	176	670	16,740	20-45	125C	13,530	1950	6
13	Homing	16.4	8.7	1539	582	4-25	53C	8900	7785	8

Heavy Cargo Truck

Tech Level: 5
Price: Cr2540
Size: 28 kiloliters displacement = 2 tons (Mc)
Mass: 3.6 tonnes empty, 8.9 tonnes loaded
Power: 0.15 MW internal combustion engine
Maint: 5
Controls: Primitive mechanical
Life Support: Light, heat
Cargo: 4.5 tonnes
Crew: 1
Passengers: 1
Travel Move: 110/20
Combat Move: 25/5
Fuel Capacity: 600 liters hydrocarbon distillates
Fuel Consumption: 30 liters/hour (endurance of 20 hours)

Combat Statistics

Config: Open vehicle	HF: [1]
Susp: W (3)	HS: [1]
	HR: [1]
Deck: Open	Belly: 1

Ground Car

Tech Level: 6
Price: Cr 2695
Size: 14 kiloliters displacement = 1 ton (Mc)
Mass: 2.96 tonnes empty, 3.79 tonnes loaded
Power: 0.2 MW improved int. comb. engine
Maint: 2
Controls: Primitive mechanical
Life Support: Light, heat
Cargo: 175 kilograms
Crew: 1
Passengers: 3
Travel Move: 325/65
Combat Move: 75/15
Fuel Capacity: 250 liters hydrocarbon distillates
Fuel Consumption: 50 liters/hour (endurance of 5 hours)

Combat Statistics

Config: Open vehicle	HF: [1]
Susp: W (2)	HS: [1]
	HR: [1]
Deck: Open	Belly: 1

Hovercraft

Tech Level: 7
Price: Cr289,025
Size: 56 kiloliters displacement = 4 ton (Mc)
Mass: 8.4 tonnes empty, 13.8 tonnes loaded
Power: 0.45 MW gas turbine power plant, plus a turbofan thruster generating 5.4 tonnes of thrust. (0.0274 MW excess power)
Maint: 5
Controls: Electronic, with tech level 7 land navigation
Commo: 300-km radio
Sensors: 0.3-km HRT
Life Support: Light, heat
Cargo: 1.25 tonnes
Crew: 1
Passengers: 7
Travel Move: 800/605
Combat Move: 185/140
Fuel Capacity: 3400 liters hydrocarbon distillates
Fuel Consumption: 783 liters/hour (endurance of 4.34 hours)

Combat Statistics

Config: Standard	HF: 1
Susp: H (4)	HS: 1
	HR: 1
Deck: 1	Belly: 1

Tracked ATV

Tech Level: 7
Price: Cr56,520
Size: 42 kiloliters displacement = 3 tons (Mc)
Mass: 18.3 tonnes empty, 27 tonnes loaded
Power: 0.6 MW gas turbine power plant. (0.0095 MW excess power)
Maint: 9
Controls: Electronic, with tech level 7 land navigation
Commo: 300-km radio
Sensors: 0.3-km HRT
Life Support: Light, heat, pressurized, extended life support.
Cargo: 1.75 tonnes
Crew: 1
Passengers: 4
Travel Move: 110/85/13
Combat Move: 25/20/3
Fuel Capacity: 6500 liters hydrocarbon distillates
Fuel Consumption: 180 liters/hour (endurance of 36 hours)

Combat Statistics

Config: Standard	HF: 2
Susp: T 6	HS: 2
	HR: 2
Deck: 2	Belly: 2

Range Truck

Tech Level: 8
Price: Cr3948
Size: 14 kiloliters displacement = 1 ton (Mc)
Mass: 1.9 tonnes empty, 3.65 tonnes loaded
Power: 0.2 MW improved internal combustion engine. (0.0295 MW excess power)
Maint: 1
Controls: Enhanced electronic
Life Support: Light, heat
Cargo: 1 tonne
Crew: 1
Passengers: 1
Travel Move: 300/130
Combat Move: 70/30
Fuel Capacity: 550 liters hydrocarbon distillates
Fuel Consumption: 50 liters/hour (endurance of 11 hours)

Combat Statistics

Config: Open vehicle	HF: [1]
Susp: W (2)	HS: [1]
	HR: [1]
Deck: Open	Belly: 1

Wheeled ATV

Tech Level: 8
Price: Cr126,308
Size: 98 kiloliters displacement = 7 tons (Mc)
Mass: 14 tonnes empty, 44.4 tonnes loaded
Power: 1.44 MW MHD turbine power plant. (0.0456 MW excess power)
Maint: 11
Controls: Enhanced electronic, with TL-8 land navigation
Commo: 300-km radio
Sensors: 0.3-km HRT
Life Support: Light, heat, pressurized, extended life support (1 bunk), air lock.
Cargo: 3 tonnes
Crew: 1
Passengers: 4
Travel Move: 175/85/20
Combat Move: 40/20/5
Fuel Capacity: 27,000 liters hydrocarbon distillates
Fuel Consumption: 288 liters/hour (endurance of 93.75 hours)

Combat Statistics

Config: Standard	HF: 2
Susp: W (8)	HS: 2
	HR: 2
Deck: 2	Belly: 2

Air Raft (Open)

Tech Level: 10
Price: Cr118,401
Size: 28 kiloliters displacement = 2 tons (Mc)
Mass: 3 tonnes empty, 4.8 tonnes loaded
Power: 0.75 MW MHD turbine power plant, with HEPlaR thruster generating 3 tonnes of thrust. (0.129 MW excess power)
Maint: 1
Controls: Computer linked, TL-6 flight avionics, 2×Model 9-FLT computers
Commo: 300-km radio
Life Support: Light, heat
Cargo: 1 tonne
Crew: 1
Passengers: 5
Travel Move: 1200/240
Combat Move: 56/6
Fuel Capacity: 2600 liters liquid hydrogen
Fuel Consumption: 187.5 liters/hour (endurance of 13.9 hours)

Combat Statistics

Config: Open vehicle	HF: [2]
Susp: Grav	HS: [1]
	HR: [1]
Deck: Open	Belly: 1

G-Carrier

Tech Level: 11
Price: Cr719,204 (Cr200 per pulse cartridge for the plasma gun)
Size: 84 kiloliters displacement = 6 tons (Mc)
Mass: 25 tonnes empty, 29.4 tonnes loaded
Power: 2.008 MW MHD turbine power plant, with HEPlaR thruster generating 12 tonnes of thrust. (0.0016 MW excess power)
Maint: 6
Controls: Dynamic linked, TL-10 flight avionics, TL-11 terrain following avionics, 2×Model 11-FLT computers
Commo: 300-km radio, 30-km laser
Sensor: 3-km passive EMS
Life Support: Light, heat, basic life support (pressurized)
Cargo: 1 tonne
Crew: 2
Passengers: 10
Fire Control: DM +3
Armament: Remote turret with 2-Mj cradle-mount plasma gun, 7.5mm coaxial MG
Stabilization: Advanced
Ammo: 200 pulse cartridges, 1800 rounds 7.5mm
Travel Move: 1890/900

Combat Move: 88/21
Fuel Capacity: 3400 liters liquid hydrogen
Fuel Consumption: 551.6 liters/hour (endurance of 6.16 hours)

Combat Statistics

Config: Small Turret	TF: 16	HF: 16
Susp: Grav	TS: 8	HS: 8
	TR: 8	HR: 8
Deck: 8		Belly: 8

Weapon Values

Type	*ROF*	*Range*	*Dam*	*Pen*
2-Mj plasma cradle gun	SA1	60	16	1-2-10
7.5mm coax	5	300	7	2-3-4

Enclosed Air Raft

Tech Level: 12
Price: Cr400,728
Size: 42 kiloliters displacement = 3 tons (Mc)
Mass: 4 tonnes empty, 7.06 tonnes loaded
Power: 0.9 MW MHD turbine power plant, with HEPlaR thruster generating 6 tonnes of thrust. (0.0928 MW excess power)
Maint: 1
Controls: Dynamic linked, TL-10 flight avionics, TL-12 terrain following avionics, 2×Model 12-FLT computers
Commo: 300-km radio, 30-km laser
Life Support: Light, heat, basic life support (pressurized)
Cargo: 2.375 tonnes
Crew: 1
Passengers: 3
Travel Move: 1890/945
Combat Move: 88/22
Fuel Capacity: 3450 liters liquid hydrogen
Fuel Consumption: 255 liters/hour (endurance of 13.5 hours)

Combat Statistics

Config: Standard	HF: 2
Susp: Grav	HS: 1
	HR: 1
Deck: 1	Belly: 1

Grav Tank

Stats given in Fire, Fusion & Steel pages 156-158.

Speeder

Tech Level: 15
Price: Cr396,067
Size: 28 kiloliters displacement = 2 tons (Mc)
Mass: 2.2 tonnes empty, 3 tonnes loaded
Power: 0.9 MW fusion power plant (1 year endurance), with HEPlaR thruster generating 8 tonnes of thrust. (0.0747 MW excess power)
Maint: 1
Controls: Holographic linked, TL-10 flight avionics, TL-15 terrain following avionics, 2×Model 15-FLT computers
Commo: 300-km radio
Sensor: 3-km passive EMS
Life Support: Light, heat, basic life support (pressurized)
Cargo: 0.25 tonne
Crew: 1
Passengers: 3
Travel Move: 3600/1140
Combat Move: 167/26
Fuel Capacity: 2000 liters liquid hydrogen
Fuel Consumption: 100 liters/hour (endurance of 20 hours)

Combat Statistics

Config: Standard	HF: 2
Susp: Grav	HS: 1
	HR: 1
Deck: 1	Belly: 1

Grav Bike

Tech Level: 15
Price: Cr69,525
Size: 7 kiloliters displacement = 0.5 ton (SM)
Mass: 0.78 tonnes empty, 1.38 tonnes loaded
Power: 0.135 MW fuel cell, with HEPlaR thruster generating 0.7 tonne of thrust. (0.01475 MW excess power)
Maint: 1
Controls: computer linked, TL-6 flight avionics, 1×Model 9-FLT computer (no back-up)
Life Support: Light, heat
Cargo: 0.25 tonne
Crew: 1
Passengers: 1 (restricted seat)
Travel Move: 1200/240
Combat Move: 56/6
Fuel Capacity: 148.5 liters high grade hydrocarbon distillates, 50 liters LHyd
Fuel Consumption: 27 liters HGHD, 8.75 liters LHyd/hour (endurance of 5.5 hours)

Combat Statistics

Config: Motorcycle	HF: [2]
Susp: Grav	HS: [1]
	HR: [1]
Deck: Open	Belly: 1

4cm RAM Shoot-Through Grenades

Mass: 0.24 kg; **Price:** HE: Cr24, HEAP: Cr36, APERS (Flechette) Cr120

Type	*Rng*	*IFR*	*Dam*	*Pen*
4cm RAM HE-8	30	500	C: 3, B: 15	Nil
4cm RAM HEAP-8	30	500	C: 2, B: 5	33C
4cm RAM APERS (flech)-8	30	500	C: *, B: 20	Nil
4cm RAM HE-9	40	550	C: 3, B: 15	Nil
4cm RAM HEAP-9	40	550	C: 2, B: 5	33C
4cm RAM APERS (flech)-9	40	550	C: *, B: 20	Nil

* 2D6 in primary radious, 1D6 in secondary radius

Flechette penetration is for the whole round; should it strike an armored surface, penetration for the flechettes is as for normal fragments.

4cm TL-8 Low-Velocity Grenades

							—*Recoil*—	
Type	*Rng*	*IFR*	*Dam*	*Pen*	*Bulk*	*Mag*	*SS*	*Burst*
4cm low-vel HE	100	400	C: 3, B: 15	Nil	3/4	1i	2	—
4cm low-vel HEAP	100	400	C: 2, B: 5	33C	3/4	1i	2	—

4cm Grenade Launcher (Shoulder-Fired)

A folding stock, single shot, shoulder-fired grenade launcher, firing 4cm low-velocity propelled grenades.

Mass, Weapon: 2.1 kg (empty), 2.34 kg (loaded)

Mass, Grenades: 0.24 kg

Price, Weapon: Cr450

Price, Grenades: HE: Cr2.4, HEAP: Cr3.6

Hand Grenades

Mass: 0.35 kg

Price: HE/Frag: Cr3.5

Type	*Rng*	*Dam*	*Pen*
HE/Frag TLs 6-7	*	C: 3, B: 15	Nil
HE/Frag, TLs 8-9	*	C: 4, B: 15	Nil

* See Thrown Weapons (basic rules, page 282) for range and deviation.

FIRE, FUSION & STEEL ERRATA

19: Transmission price should be in Cr, not MCr.

20: Loaded weight also includes a full load of fuel.

26: Combat move (in meters per combat turn) of an air cushion vehicle is maximum speed (kph) × 0.463 for road speed, and cruising speed × 0.463 for cross-country speed. Cross-country speed is also its water speed. Travel moves (km per four hours) are 4.32 times these figures.

89: Price for stabilization gear is per tonne of stabilized weapon.

121: Magazine price is Cr10 per kg.

122: Under recoil, the formula should be:

$$R = \{[(150\sqrt{E})+Ww] + 4\} \times Rcm$$

In Bulk formula, use *unloaded* mass of firing unit, not loaded.

132: CLC burst size can be 3, 5, 10, or 50.

134: Under "Sights," note that all DEI lasers automatically incorporate laser sights at no additional cost or weight.

139: Under Burst, the formula for HEAP (E-3) should simply be calculated with the formula for HE warheads. Delete the reference to multiplying the result by 0.5.

148: Action Modifiers (Am) for price formula:

Configuration	*Am*
Single Shot	250
Pump	100
Semiautomatic	200
Automatic	100

150: Shoulder-fired rocket launchers may never have a short range greater then 200 meters. Calculate bulk for shoulder fired rocket launchers the same as for energy weapons (page 122), except treat results of greater than 12 as 12.

151: Calculate bulk for light recoilless rifles the same as for energy weapons (page 122), except treat results of greater than 12 as 12.

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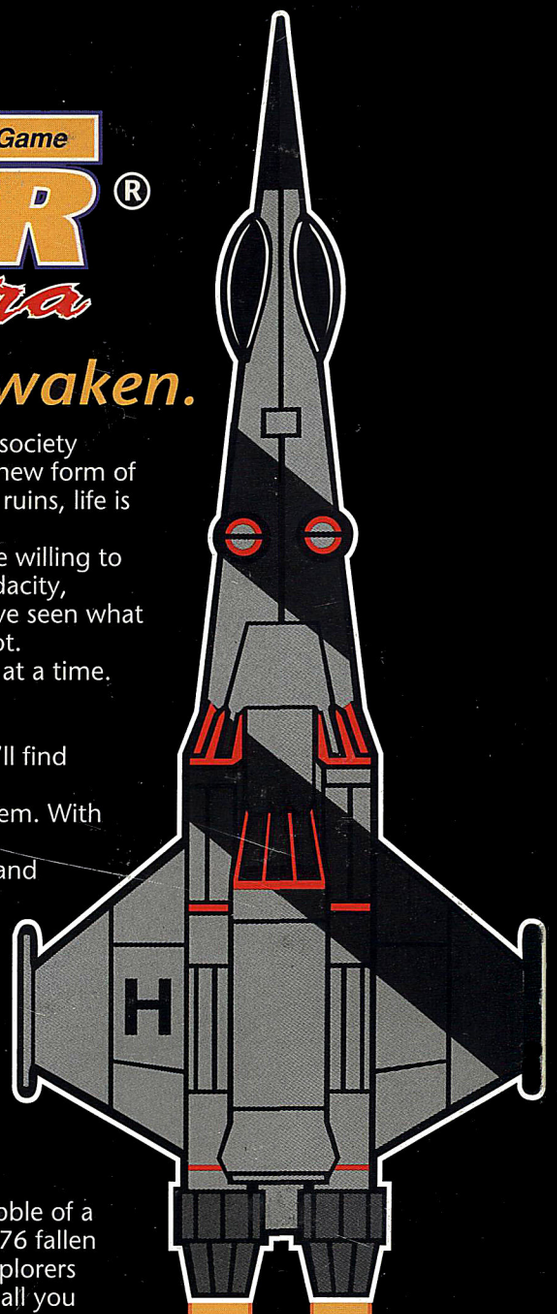

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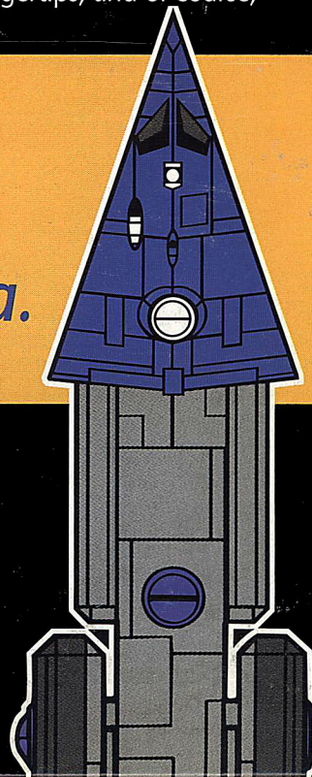

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