

The Complete Famille Spofulam Catalogue, Winter 1997

Introduction:

Veterans of the TML may remember the emergence of Famille Spofulam as an industrial powerhouse of Cleon's New Imperium back in 1996-1997. This Acrobat file is a compilation of the original material produced by their founder, Hengebar Spofulam, as he lead his corporation against the force that was Gridlore Technologies...

Roderick Darroch Elliot, assistant to Hengebar Spofulam writes:

OK boys and girls, here it is. I've broken it down into Ships, Vehicles, and Guns. No table of contents. You all have permission to put these up on websites, and use them in your games, provided that authorship is attributed to yours truly. It's all of course copyrighted R.D. Elliott 1997-1999.

In some cases I seem to have lost the blurbs. Some designs are non-Spofulam, but just things that I've done up that I liked. Anything Maaliikani I did up for that "Beyond The Pale" campaign I ran a while back. I did not use standard data formats; USP format has evolved somewhat since the early days of T4, and Rob Prior's Infini-V (formerly CSC) program has its own format for displaying vehicles. In many cases, I haven't put guns in the standard T4 stat format, but rather in the FF&S2 format; this provides all the necessary info plus some extra useful tidbits. I have done only the barest of necessary editing.

Anyhow, enjoy, and if you do anything spectacular in-game with any of this stuff, I'd love to hear about it.

Famille Spofulam Yards presents their *Starship Collection*....

- 1) FSY Recollet-class Exploratory Trader**
- 2) FSY Imelda-class yacht**
- 3) FSY Moonshine-class Rapid Insertion / Extraction Starship**
- 4) FSY Crescent-class Customs / Smuggling Interdiction Starship**
- 5) FSY Moufette-Rapide Class Far Courier**
- 6) FSY Caligula-class MegaYacht**
- 7) FSY Brebeuf-class Recontact Scout**
- 8) FSY Upgraded Scout Type S (S-U)**

Then, Famille Spofulam presents an 8 *Vehicle Collection* which includes the Grav Pogo Stick.

Famille Spofulam Armaments present more than 30 of their favourite things.

Finally, there is one entry in the section labelled 'Other'.

SHIPS

1) *FSY Recollet-class Exploratory Trader*

"Famille Spofulam Yards is pleased to announce its entry for this month's THUDDD competition. FSY's philosophy for this ship class is that medium is better; several medium-size ships can cover more territory, visiting more systems, than a single large vessel. Thus, a megacorporation equipped with a fleet of Recollets, rather than a few large vessels, will be able to better explore the new markets on the fringes of the Imperium or beyond. As well, smaller entrepreneurs will be able to afford an extremely capable frontier trader. However, too small a vessel will have severe shortcomings in cargo capacity and defensive punch, not to mention small-craft and repair facilities. Thus, we here at FSY feel that a medium-sized vessel, capable of extended duration, with self-repair and small-craft facilities, good defenses, and fair cargo capacity, is the best approach to commercial exploration beyond the Imperial pale. Hence, the Recollet-class Exploratory Trader.

The Recollet is built into a rock solid 500-ton streamlined wedge-configuration hull, stressed to 10 G's for atmospheric operations, and heavily armoured. The Recollet is equipped with fuel scoops capable of ingesting its full fuel load in slightly over 45 minutes, and refining it in just over three hours. It is also equipped with a 40-ton hangar capable of accomodating a standard 20-ton launch (not included in MSRP) or serving as supplementary cargo or storage space. Other facilities designed to extend the Recollet's duration in the field include an electronics shop and a machine shop, and 2 years fuel storage for its 375 Mw Zhunastu Fusion Systems power plant. Its hold is capable of accomodating 102 tons of cargo, accessed via four large cargo hatches.

The Recollet is capable of accelerations of up to 2Gs, driven by a Famille Spofulam Gravitics Thruster Plate unit, and boasts the longest range (3 parsecs) jump drive currently available.

As it is designed to venture far beyond the protective umbrella of the Imperial Navy, the Recollet packs two 251 megajoule Ling Standard heavy lasers linked by MFD, as well as one nuclear damper and a sandcaster. The Recollet's weapons suite therefore provides significant firepower, and is capable of dealing with either laser or missile-equipped (typical of lower-TL cultures) opponents.

As typical for FSY's civilian craft, accomodations are luxurious; command, sensor, flight deck, senior gunner, and engineering crew sleep in six large staterooms, while the gunners and steward each have a single small stateroom to themselves. Eight small staterooms are provided for middle passengers. Given that the Recollet will often be operated with a

lower crew complement of three gunners (with the lasers being fired by the MFD gunner) and no steward, up to 11 middle passengers may be carried. Crew quarters may be shifted into smaller staterooms to accommodate High passengers if necessary. A sickbay is provided, as are 10 low berths.

The result is a highly capable vessel with a surprisingly low price tag of only 226 MCr (launch not included) which we here at FSY feel will become extremely popular among those venturing beyond the frontiers of the Imperium to seek fortune, adventure, and to increase the glory of the Imperium.

FSY Recollet-class Exploratory Trader .pdf)

(SSDS Beta

Tons: 500 Std (Wedge SL)	Volume: 7,000 m ³	Cost: 226 MCr
Crew: 11 (8)	High/Mid Pass: 8 (11)	Low: 10
Cargo: 102 Std	Controls: TL12 hiauto (Bridge)	TL: 12

08 Size	03 Jump Drive (50 Std/Pc Fuel)
02x 251 Mj laser (04) 1/03-02-01-00	02 Maneuver (T-plate, 250 Mw)
	1.5 Power Plant (375 Mw)
	158 Fuel (Scoop 200, Refine 50)
01x Min. Hang. (20 td Launch)	01 Sandcasters (TL-12, 30 Cans)
	01 Nuclear Damper (30,000 km)
	A4 P4 J0 Sensors (0 Stealth/Cloak)
	20 Armor, 22 Structure

Crew Detail: 01 Command, 01 Pilot, 01 Astrogator, 01 Sensors, 5 (3) Gunners, 01 Engineer, 01 (0) Steward.

Designer's comments (in no particular order):

- I wanted to keep the vessel fairly small, for role-playing reasons; I think that the fewer NPC crew, the better.*
- In designing the weapons suite, I assumed that lower-TL opponents would likely be relying heavily on nuke missiles for long-range offence; hence the damper. IMHO sandcasters also ought to be effective against missiles too. And the lasers could also be used as anti-missile defences.*

- *Crew and passenger numbers in the USD are for full complement, with skeleton crew numbers in (parentheses).*
- *An option which might be popular would be to remove the hangar in favour of cargo space, which would add 20 tons of cargo and cut MCr 0.162 from the ticket price. The shops could likewise be removed, adding a further 16 tons of cargo and lowering the ticket price a further 0.27 MCr. However, I think that for a vessel with a partly exploratory vocation, they're more useful than the extra cargo capacity.*
- *Sensors crew numbers came out to 1.4, which I rounded down. In general, I've assumed a fairly cross-trained crew.*
- *I think that I've nailed the design specs this time. It's under 3000 tons, exceeds the M & J drive specs, and is capable of wilderness refuelling. It's capable of double the 1-year field duration, landing crew either by itself or via small craft, and (IMHO) is capable of dealing with equal or lower-TL opponents. And it still carries a fair amount of cargo.*

2) Famille Spofulam Yards Imelda-class yacht

News Item, Imperial Yacht Club Newsletter, IY 16-322:

Famille Spofulam Yards Launches New Yacht

"This reporter's first reaction upon viewing FSY's latest pleasure craft offering was "It's a baby Caligula!". Indeed, the Imelda-class yacht (named after an ancient Terran queen renowned for her love of luxury) is outwardly very similar to FSY's well-known 1000-ton megayacht; an airframe saucer hull with prominent vertical stabilizers evoking early space-age Terran ground craft styling, in default hull colour settings of hot pink and chrome. Although the Imelda is somewhat sleeker than the Caligula, the family resemblance is pronounced.

The Imelda's performance and specifications are pure Spofulam; 4G T-plate maneuver drives, a 3-parsec jump drive, a hull stressed to 10G's for atmospheric operations and heavy armour are what we've come to expect from Hengabar's boys and girls. The only exception is the rather prosaic 95 Mj laser/sandcaster armament suite. Scoops, a purification plant and a hangar for a 20-ton launch reflect the Spofulam concern for spaceworthiness and functionality; the Imelda is capable of more than just the Highport to Highport run. In general, this is a fast, long-ranged and capable craft.

The interior, however, reflects more of a departure from FSY's trademark blond wood and indirectly lit motif. Rather than striving for simplicity and richness of material, FSY's interior designers have gone for all-out opulence in the newly popular Restoration style; an ornate fusion of First and Second Imperium motifs expressed in Sylean materials. The panelling is of burlled green Lartsa-wood, with obsidian tile floors inlaid with green and white nephrite. Fixtures are crafted of Iridium-plated gold, and the furnishings are upholstered in the finest butter-soft Noggah skin, dyed to match the panelling.

The accommodations are luxurious, even for the crew; all crew save gunners and the two junior stewards have large staterooms to themselves, located aft on the upper deck. While not up to the standard of accommodation of the passenger areas, not even the most work-to-rule member of the Spacers Guild could find anything to complain of here.

The Imelda's passenger areas are set on the upper deck, in the forward half of the ship, centered around an oval 300M³ lounge that can be cleared to serve as a ballroom. 8 staterooms are provided for the comfort of the owner's guests, 5 of which are standard 4-ton large staterooms, and three of which FSY has termed "MegaStaterooms"; vast and opulent 150M³ spaces containing every possible amenity. However, even these are beggared by the master's stateroom, which at 216 M³, or 15 displacement

tons, 66M³ of which is taken up by what has to be the single most gigantic 'fresher ever installed on a private vessel, situated dead forwards. Resembling more a tropical greenhouse than it does a washroom, it holds a huge hot tub, a sauna, and several large planters filled with a variety of Sylean, Terran, and Vilani tropical plants. Terran parrots and other exotic flying life forms fly from plant to plant, their cries echoing pleasantly from the walls. Most remarkable, however, is the toilet, situated at the very front of the vessel, facing huge panoramic windows dead forwards.

***Famille Spofulam Yards Imelda-class yacht SSDS Beta
.pdf)***

Tons: 500 Std (A/F Saucer)	Volume: 7000 m ³	Cost: 305 MCr
Crew: 14	High/Mid Pass: 9	Low: 0
Cargo: 20 Std	Controls: TL-12 Hi auto (Bridge)	TL: 12

08 Size	03 Jump Drive (150 Std/Pc Fuel)
	04 Maneuver (T-plate, 20,000 Tons Thrust)
01x 95 Mj Civ. Laser (0) 1/1-0-0-0	2.4 Power Plant (1x 600Mw)
	150 Fuel (Scoop 40, Refine 8.3)
	00 Meson Screen (0 Mw)
	01 Sandcasters (30 Cans)
01x Spacious Hangar (20 td launch)	00 Nuclear Damper
	A4 P4 J0 Sensors (0 Stealth/Cloak)
	10 Armor, 22 Structure

Crew Detail: 02 Command, 02 Sensors, 02 Gunners, 02 Engineer, 03 Steward, 02 Flight Deck

Notes: Vessel is equipped with sickbay.

3) Famille Spofulam Yards Moonshine-class Rapid Insertion / Extraction Starship

"For when you have to get in or out **really** quickly": The newly-released FSY Moonshine-class Rapid Insertion/Extraction Starship is designed for customers who need a craft capable of the quickest and stealthiest possible arrivals and departures. Customers who have pre-ordered Moonshines include several prominent nobles from worlds sadly troubled by political instability, and the Imperial **[classified] [classified] [classified]** and **[classified] [classified]**.

Built around a 200Td Airframe Needle superdense hull, the Moonshine sports a top-of-the-line military electronics package with jamming capabilities, and a complete Electro-Magnetic Masking package. It is also heavily armoured, and carries a Famille Spofulam Defense Systems Mk-XIII sancaster and a 95 Mj FSDS laser in small turrets. It carries a Zhunastu (long live the Emperor!) Fusion Systems 750Mw power plant. It's jump drive has a two-parsec range.

However, it is in its maneuver drives that the Moonshine stands out: it sports both a 6G thruster plate drive **and** a 3G auxiliary HEPlaR drive (with 2 hours of nominal fuel capacity which may be extended from siphoning from the power plant's excess capacity), which when running together can accelerate the Moonshine at a truly spectacular 9Gs, exceeding even the **public** acceleration capability of Imperial Light Fighters. Nothing can get you from a planetary surface to jump point faster than a Moonshine!

To enable the crew and passengers to withstand these truly extreme accelerations, the most advanced inertial compensators available have been installed, and are supplemented by Famille Spofulam Subsystems G-tanks; thus, even at full thrust, the crew will only feel a subjective 4 Gs. Some sacrifices have to be made for mission capability. Accomodations include 6 small staterooms, 6 bunks, and a 55 cubic meter lounge/dining area. Cargo capacity is 45 tons.

While the Moonshine class RI/ESS is not going to be the most commonly encountered vessel on the space lanes, we here at FSY feel proud of the impact that it will make in its market, and would like to reiterate that while the Moonshine's special capabilities might lend themselves to wrongdoing, we are committed to ensuring that Moonshine-class vessels will be sold to only the most aboveboard of customers."

FSY Moonshine-class Rapid Insertion / Extraction Starship

200Td Needle Airframe
Crew: 6
Cargo: 45 Td

Volume: 2800 M³
Passengers Medium: 6
TL-12 Adv. Civ. cntrls (cockpit)

Cost: 285MCr
Pass. Low: 0
TL-12

08 Size Rating
00 Fire Control Rating
01 Light Laser 1/0/0/0

02 Jump Rating
09 G Rating (6G T-plates, 3G HEPlAR)
7.5 Power Plant Rating
822.5 Fuel Rating (no scoops, no refine)
01 Sandcaster Rating (30 canisters)
10A/4P/10J EMM Sensor Rating
20 Armour Rating 15 Structure Rating

4) *Famille Spofulam Yards Crescent-class Customs / Smuggling Interdiction Starship*

"Sylean Shipping News, Day 237 Year 2:

Today, FSY released its Crescent-class customs vessel. Essentially a Moonshine-class RI/ESS modified for smuggler interception duty, the Crescent carries a 1251 Mj Particle Accelerator gun in a spinal mount and a military-grade 251 Mj heavy laser, plus accomodations for a squad of boarding troops. However, this increased offensive punch was reached at the cost of reducing its jump capability to 1 parsec, and minimizing its cargo space to almost nil. As one industry observer who insisted on remaining anonymous stated "Those boneheads at Spofulam didn't leave enough in space for basic supplies! On long patrols they're going to have to eat their way into the cabins!". Crew accomodations are indeed reported to be spartan.

Other, more cynical commentators noted that Spofulam essentially created a market for the Crescent with their Moonshine-class sales policy, described as "...selling the damn things to anyone with a title and a suitcase full of credits and sometimes they don't insist on the title". Indeed, resale numbers for the Moonshine class are unusual; FSY refused to comment on the rumour that Baron Erghaan of Mu has bought and resold no less than 15 Moonshines in the past year, stating only that "...freedom of trade and property rights are one of the cornerstones of the Imperium and Famille Spofulam Yards respects both to the utmost, not to mention our clients' confidentiality and privacy". They did, however, most emphatically deny that the Imperial Investigations Bureau has recently subpoenaed all their client files..."

FSY Crescent-class Customs / Smuggling Interdiction Starship

200Td Needle Airframe	Volume: 2800 M ³	Cost: 340MCr
Crew: 20	Pass. Medium: 0	Pass. Low: 0
Cargo: 5 Td	TL-12 Milit. cntrls (cockpit)	TL-12

08 Size Rating	01 Jump Rating
00 Fire Control Rating	09 G Rating (6G T-plates, 3G HEPIaR)
01 Heavy Laser 2/1/0/0	7.5 Power Plant Rating
01 NPAW Spinal 5/3/2/1	39.2 Fuel Rating (no scoops, no refine)
	01 Sandcaster Rating (30 canisters)
	10A/4P/10J EMM Sensor Rating
	20 Armour Rating 15 Structure Rating

Some notes: The Crescent carries an increased crew; 1 captain, an extra

gunner for the NPAW, an extra engineer, and a 12-person boarding party. The captain has a large stateroom; flight deck and senior crew sleep in small staterooms, and everyone else bunks it. There's a small crew lounge/dining area. I might do deckplans at some point...

Designer's Notes:

- *Here's yet another one; I figured that if fast smuggling craft are going to be loose about the place, the authorities are going to want something to chase them with. Hence, the Crescent. It's essentially a Moonshine with a 1251 Mj NPAW spinal mount, a bigger laser & power plant, smaller jump drive, no cargo space, and accomodations for 12 Marines.*

5) Famille Spofulam Yards Mufette-Rapide class Far Courier

"For when it absolutely has to get there, *fast*". The FSY Mufette Rapide-class Far Courier, capable of acceleration matching that of the standard Imperial Patrol Cruiser and double that of the Mercenary Cruiser, is designed to meet the courier needs of a young and expanding Imperium. With enough fuel for 1 3-parsec and 1 2-parsec jumps required before refuelling, it is capable of doing the 5-parsec Sylea-Eneri or Sylea-Abbanol runs in approximately 14 days(!), and with its fuel scoops and compact TL-12 purification plant, is capable of a complete wilderness refuelling in approximately 12 hours. Power is supplied by a TL-12 Zhunastu Fusion Systems 500-Mw fusion plant which provides sufficient excess capacity to emergency overload the Thruster Plates by 100% while operating the laser at maximum ROF). It is built into a 200 displacement ton crystaliron streamlined wedge hull.

"For when it has to get there, *period*". The FSY Mufette-Rapide class Far Courier is also heavily armoured, and packs a nasty punch with a TL-12 Ling Standard 251-Mj laser in a rear-mounted turret. Being a courier, not a fighting ship, standard doctrine dictates that a Mufette-Rapide, when confronted with a threat, should literally turn tail, presenting the smallest possible surface area, and accelerate away... and if the threat is foolish enough to give chase, open fire to convince it of its folly.

The high acceleration of which the Mufette-Rapide is capable dictate a vertical deck layout and concomitant vertical landing orientation. The upper sections of the ship are connected by a single spiral staircase. Accomodations are tailored to its mission: the engineer and gunner/steward bunk (literally) in the engineering spaces when carrying passengers, and the captain/pilot and navigator bunk forward in small staterooms immediately aft/below of the cockpit. Immediately aft/below their staterooms are the two small passenger staterooms (convertible into a single large stateroom for a small additional cost. When not carrying passengers, the engineer and gunner may bunk here). A moderately spacious lounge/dining area (approximately 50 m³) occupies the next deck down.

Fuel tankage takes up much of the remaining space, traversed by a lift shaft running from the lounge down to engineering. The cargo hold is right aft, served by two large cargo bay doors that drop down to double as loading ramps. The thruster plates are of course mounted below the hold.

With a price tag of 145 Mcr which reflects its equally high performance, the Mufette-Rapide is not designed for free-trader operations. Rather, it is aimed at a higher market niche; at governments, corporations, and militaries that require a fast courier vessel capable of putting up a strong defence.

FSY Mufette-Rapide class Far Courier

200 Td	2800 M ³	145 Mcr
4 crew	2 Pass (M)	0 Pass (L)
22 Td Cargo	TL-12 Std Civ controls	TL-12

06 Size rating	03 Jump rating
00 Fire Control Rating	04 G rating (T-plates)
01 Heavy Laser Tail Mount 2/2/0/0	05 Power plant rating
	100 Fuel rating/S/R
	A2/P3/J0 Sensor rating
	11 Structure 25 Armour

6) Famille Spofulam Yards Caligula-class MegaYacht

For immediate release:

"Got a bit over half a billion credits (not counting crew costs) to spend on impressing your fellow nobles or MegaCorp directors? Then the Famille Spofulam Yards Caligula-class megayacht is just what you need!

The Caligula is built into a 1000td airframe saucer hull, with elegantly styled vertical stabilizers said to resemble the fins of an aquatic terran mammal known as "the dolphin". With its 3G thruster plate maneuver drive and 2-parsec jump drives, the Caligula has the acceleration and range to meet the most demanding of civilian applications. Nobody takes their customers' safety to heart more than FSY's design bureau; Caligula owners can venture safely into the riskiest regions of an expanding Imperium thanks to its four MFD-linked 143 megajoule lasers, armour, and twin sandcaster turrets.

Its superlative flight characteristics and armament aside, the Caligula is also a very capable ship, with extensive fabrication and repair capabilities (it carries complete electronics and machine shops), an onboard laboratory, and a full sickbay. It carries a 50-td modular cutter (tracked ATV module comes standard) in a spacious hangar and a 30td ship's boat in a minimal hangar, to meet auxiliary craft needs. For wilderness refuelling, it comes equipped with fuel scoops and an on-board fuel purification plant capable of refining 700 m³ every 6 hours, thus enabling full refuelling in a single 24-hour period. Massive power-systems redundancy is provided by 3 500 MW fusion generators.

The crew complement of 29 (7 gunners, 2 maintenance, 5 electronics, 4 engineering, 2 flight deck, 3 command, 2 small-craft pilot, 3 steward, and 1 doctor) are lodged in exceptional comfort in 21 small staterooms for junior crew and 4 large staterooms for officers and the doctor. The two junior stewards and six junior gunners sleep two to a stateroom; the others junior crew sleep one to a stateroom. 13 4-person emergency low berths are provided in case of need.

However, it is in the passenger accommodations that the Caligula truly shines; 8 large staterooms and a truly enormous owner's suite are provided, along with another 250 m³ of customisable leisure space; the first Caligula-class commissioned carried a small arboretum, for which it is now famous. Other uses to which this space has been put are swimming pools and alleys for a terran sport known as "bowling".

FSY Caligula-class MegaYacht

Tons: 1000 td Volume: 14,000 M³ Cost: 515 MCr
Crew: 29 Pass H/M: 18 Pass L:52
Cargo: 25 td Controls: TL-11 Adv. Civ Hi-auto/bridge TL: 11

09 Size rating 02 Jump rating
03 Fire control rating 03 G maneuver drive
01 Battery 4X 143 Mj lasers 03 Power plant rating
4200 fuel/S/R
00 Meson screen rating
02 Sandcaster rating (48)
00 Damper rating
10/04/0 A/P/J sensor rating
03 (?) armour rating 18 structure rating

7) Famille Spofulam Yards Brebeuf-class Recontact Scout (SSDS)

News Item, Sylean Shipping News Year 0 Day 19:

"FAMILLE SPOFULAM SUBMITS IISS/BuShips RFP-90037/03x7 PROPOSAL

Today, noted niche builder Famille Spofulam Yards released its proposal for the IISS/BuShips RFP-90037/03x7 Recontact Scout project. Industry watchers have been awaiting FSY's proposal for some time; FSY's past designs, including the Caligula-class megayacht and the Moonshine-class RI/ESS, have been noted for total dedication to meeting, if not wildly exceeding, mission requirements and completely disregarding cost.

Indeed, Famille Spofulam founder Feringapar Spofulam, the father of current FS head Hengabar Spofulam, is widely held to have coined the yachting adage *"If you have to ask how much it is, you can't afford it"* in response to a prospective buyer at the Sylean Yachting Salon. This tendency was colourfully described by Rozehkollis Aagaporniz, head of Ling Standard's shipbuilding division, as *"Those clowns at Spofulam wouldn't recognize a bottom line if they tripped over one"* immediately prior to FSY's launching a high-profile defamation suit against him.

However, the price tag for the FSY proposal, tentatively named the "Brebeuf", is relatively low for an FSY vessel at 176.57 Mcr. The Jump-2 Brebeuf is built into an armoured 300 displacement ton airframe wedge hull, and exceeds the maneuver-drive specifications in the Request For Proposals by a factor of 4; its main drive is a 3G Thruster Plate system, supplemented by a 1G HEPLaR auxiliary drive. This T-Plate/HEPLaR combination is rapidly becoming an FSY trademark; both the Moonshine-class RI/ESS and Crescent-class CSIS vessels feature this drive combination. Spokespersons for FSY stated that aside from redundancy concerns, the HEPLaR drive will also serve the purpose of clearing surfaces for landings where landing pads are unavailable.

In another typical FSY quirk, the Brebeuf also carries sufficient excess fuel for a second 1-parsec jump, thus extending refuelling range to 3 parsecs (our staff also note that this extra fuel capacity could be used as reaction mass for the auxiliary drive if needed). FSY spokespersons point out that *"lower travel times save money"* and noted that the Brebeuf's mission may on occasion require that it make hurried departures. In conformity with the RFP, it has full scoop and refining capabilities; the press release accompanying the proposal stated that rather than wasting volume on small craft and hangars, the FSY Design Bureau felt that a small, fast vessel with scoops and insertion / extraction capabilities would better meet the RFP. The Brebeuf also exceeds the RFP's standards in armament, packing a sandcaster turret and a turreted 251mj laser.

The Brebeuf also exceeds the RFP's mission requirements; accommodations for 8 Mission Specialists, a Chief Mission Specialist, plus one doctor are provided, along with a full sickbay, a laboratory, and emergency low berths to accommodate 4 individuals. It has a full exploration and survey sensor suite. Cargo capabilities slightly exceed the RFP's requirements at 34 displacement tons. Flight crew includes a captain, pilot, astrologer, an engineer, a sensors specialist, and two gunners. Accommodations are quite luxurious, with 6 large staterooms for senior crew; other crew members each have a single small stateroom. A 76 cubic meter lounge is also provided. The 5-workstation bridge is reportedly capacious. On longer-duration missions; some crew space could be used to supplement the cargo capacity.

Our analysts suggest that FSY is banking on producing the best submission and winning on its qualities, rather than aiming for the lowest bid and compromising on capability; FSY spokespeople confirmed this, adding that "[FSY is] sure that on the whole, the members of the IISS would surely prefer to fly in a Brebeuf rather than in something that doesn't do the job as well and was built by the lowest bidder".

FSY Brebeuf-class Recontact Scout (SSDS)

Disp: 300Td	Vol: 4,200 m ³	Cost: 176.57 Mcr
Crew: 9	Pass H/M: 8	Pass L: 4
Cargo: 34 Td	Controls: TL-12 hi auto	TL: 12

USD size 8	02 Jump rating
00 Fire control	04G M-drive rating (3 main, 1 aux)
H.laser: 2/1/0/0*	3.3 power plant rating
	105 Fuel rating/scoop/refine
	01 Sandcaster rating (30 canisters)
	10A/4P/0J Sensor rating
	08 Armour rating*
	02 Structure rating*

(using USD conversion chart with raw numbers off beta SSDS .pdf file; may actually be higher)

Crew: Engineering 1, Electronics 1, Flight deck 2, Medical 1, Mission Specialists 8, Gunners 2, Command 2 (1 captain, 1 Chief Mission Specialist), total 17

8) Famille Spofulam Yards Upgraded Scout Type S (S-U)

News Item, Sylean Shipping News, 035-16

"Famille Spofulam Yards announces Type S upgrade program

The Type S Scout/Courier is a common sight on the Imperial space lanes and beyond. Its diminutive wedge-shaped hull symbolizes the ubiquitous IISS. As an inexpensive vessel that is jack of all trades and master of none, it is alone in its class. There will doubtlessly be Type S's still serving the Imperium millenia from now. However, while many are available as IISS surplus, or are loaned to retired Scout personnel, the stock Type S has been criticized on several levels; moderate performance and range, a sensor suite that is far beyond most normal commercial needs, and a rather inefficient use of internal space. As a scout, it is of moderate usefulness due to its small size; recent IISS procurements have been aimed at larger, more capable vessels. As a commercial vessel, its low cargo capacity is a major failing, and as a courier, it is outperformed by several high-performance vessels such as FSY's Moufette-Rapide class Far Courier.

However, this is about to change; Famille Spofulam, expanding into another unusual niche market, has announced an upgrade program that will convert a stock, surplus Type S into a significantly faster and longer-ranged vessel, with increased cargo capacity to boot. For a bill of 42 Mcr (which may vary depending on the condition of the Type S being modified and its components) Famille Spofulam Yards will gut the ship, reinforce its structural members, re-arrange its internal layout, and install a 4G maneuver drive, a 3-parsec jump drive, and a modified fuel purification system. The result, while having more cramped living quarters and lesser sensor range than before, also has 18 tons more cargo space.

The first vessel to undergo the upgrade was rolled out before the media last Fourday at a FSY press conference at their Sylean groundside facility. After the press had been softened up by the usual lavish buffet and wet bar, they were ushered to viewing stands before a large hangar. The PA system began playing Famille Spofulam's corporate anthem, that lovely piece of 20th-century Terran industrial religious music "*Jesus Built My Hot Rod*", composed by the Master, Al Jurgenson, and the hangar doors slid open to reveal... a fairly standard-looking Type S.

The industry press, having expected something a little bit less prosaic-looking from a Famille Spofulam product launch, were initially underwhelmed by the absence of ludicrously oversized spinally mounted particle accelerator guns or large pink and chrome fins. Even the rather splashy black colour scheme, accentuated by stylized red and orange flames running down the side and chromed trim, did little to arouse their enthusiasm.

However, as the interior tours quickly revealed, the changes made were significant. For one, the horribly spacewasting central cargo compartment, with corridors running down either side, is gone. The small

bridge of the Type S has been replaced by a two-workstation cockpit right forwards opening onto the 3-ton lounge, which in turn is surrounded by four small staterooms. A rather narrow corridor leads aft to the single airlock and the engineering spaces, which are likewise somewhat cramped; not a cubic meter has gone to waste. The cargo bay is emplaced asymmetrically to port, served by a single large cargo hatch on the underside of the ship. Avionics, sensors, and comms gear, rather than being located in a single bay, are split up into the smallest possible individual components in various locations in the previously wasted space around the angles of the hull. While rendering trouble-shooting and service somewhat more difficult, FSJ emphasized that this was necessary in order to maximize interior space.

The verdict? While the cost of a refit is easily twice the price of a new Type S, a Spofulam conversion may very well be worth the money. The 100% increase in acceleration and extra parsec jump range are significant for a courier vessel, and the 2-1/2 times increase in cargo space makes for a giant improvement in the vessel's commercial viability. For a startup courier operation, a Spofulam-converted Type S may be hard to beat.

When contacted for comments, Rozehkollis Aagaporniz, head of Ling Standard's shipbuilding division and a longtime Spofulam detractor, had the following to say: *"what I want to know is what they're doing with the maneuver and jump drives they're ripping out of those Type S's! God only knows who or what those demented ratbast..., er, since the lawsuit my lawyers have advised me to describe them only as 'valued colleagues', are selling them to. I'm sure your average Vargr pirate would pay dearly to get ahold of a Scout-surplus sensor system, let alone the drives!"*

When contacted with precisely this question, an FSJ spokesperson responded: *"At Famille Spofulam, the protection of the environment and careful use of valuable resources has always been a major concern; we simply recycle the used components!"...*

FSY Upgraded Scout Type S (S-U)

Tons: 100 Std (SL Wedge)	Volume: 1400 m^3	Cost: 42 MCr*
Crew: 4	High/Med Pass: 0/0	Low: 0
Cargo: 30 Std	Controls: Standard Civilian	TL: 12
08 Size	3 Jump Drive (10 Std/Pc Fuel)	
1x 95Mj Light Laser (+0) 1/1-0-0-0	4 Maneuver (4G Thruster Plates, 100MW)	
	2 Power Plant (125Mw)	
	30 Fuel (Refine 1, Scoop 7)	
	0 Meson Screen	
	0 Sandcasters (0)	
	0 Nuclear Damper	
	A1 P2 J0 Sensors	
	10 Armour, 10 Structure	

Crew Detail: 1 Electronics, 2 Maneuvering and 1 Gunnery-Other. Can be run by skeleton crew of one. Has 3-ton lounge/dining area.

* Plus one used Type S Scout/Courier

VEHICLES

The following vehicles are either manufactured by Famille Spofulam, or offered as exclusive deals through their franchises.....

1) Shenduughash Ka Shing Aerial Conveyances Ruby Bird LAD

The Ruby Bird is built by the Shugilligan (Maliikaa-Shugilli/Cluster-0506) aerospace manufacturer Shenduughash Ka Shing Aerial Conveyances (SKSAC). Its streamlined 140 displacement ton slab-shaped hull is slung between 4 Lift Activator Disks mounted fore and aft on either side of the hull, hung from short airfoil cross-section reverse gull-winged wings. The bulbous, glass-encased cockpit is slung low and slightly forward, giving it a rather droopnosed appearance; aft the hull tapers backward towards a Y-configuration vertical stabilizer.

Twin passenger entry doors, mounted at mid-hull and opening onto the back of the passenger compartment, allow access to the passenger compartment. The passenger areas are slightly roomier than is the norm for comparable aircraft. Emergency exit hatches are placed in the ceilings of the cockpit and passenger compartments in case of ditching at sea (98.2% of Maliikaa's surface is water). A 16 m³ cargo compartment, accessed by a side-opening small cargo hatch, is emplaced aft of the passenger compartment. 4 3.625 Mw MHD power plants are emplaced in the hull at the base of the wing roots; fuel storage is along the underside of the hull. Landing gear consist of 4 short retractable landing legs with sturdy pads.

140 Td, Max Takeoff weight 120 tons

Airframe: Fast Subsonic

Thrust: TL-9 LAD, 120 tons thrust

Power plant: TL-9 MHD Turbine 14.5 Mw 2.9 M³/hr fuel

Controls: TL-9 computer linked

Crewstations: 3 crew cramped crewstations, 16 open passenger stations

Life support: Basic

Fuel: 10 hrs range

Cargo: 9 tons w/full passenger & fuel load

Item	Vol	Mass	Area	Power	Price
Airframe:	140	3.75	75	1.5	
Thrust:		48.32	-13.33	2.416	
Power plant:	-24.16	24.16	+14.5	0.24	
Controls:		1.68	-0.6	1.2	
Crewstations:	-7.5	0.6		0.003	
Passenger stations (actually -56):	-62	3.2		0.16	
Life support:	-0.19	0.19	-0.0038	0.0114	
300 Km radar:	-1	-0.5	-0.2	1	
Fuel:	-29		29		
Cargo (1 small hatch, 1 M ³ /passenger):	-16	9	-12	0.012	
Left over	0.1	loads	0.36	6.54	

Rating:

Weight: 74.85 tons

Thrust: 12 tons

Glide ratio: 0: drops comme une brique

G rating: 0.9

Speed: Max 320 kph. Cruising speed: 240 kph. NOE speed: 40 kph

Combat move: 111.2 outdoor squares/turn

Agility: 6

Storage volume: 7,200 M³

Endurance: 13.33 hrs

Range: 3199

Price: 6.54 Mcr

2) Shenduughash Ka Shing Aerial Conveyances Rampant Phoenix shuttle.

A TL-9 AZHRAE 184 Td shuttle designed for use in my campaign.

Flight profile: 1hr climb in turbojet mode; aerial refuel. 15 minute boost at 0.76 G's in ramjet mode; 7 minute burn at 1.86 G's in rocket mode. Partial refuel during post-reentry glide, powered landing.

Max Takeoff weight 2200 tons

Airframe: Hypersonic
Thrust1: TL-8 AZHRAE, 1008/1680/2520 tons thrust 504/3360/11340 M³/Hr
Power plant: TL-7 fuel cell 1 MW
Controls: TL-9 computer linked
Crewstations: 3 crew cramped crewstations, 8 cramped passenger stations
Life support: Basic
Fuel: 850 tons HCD (850 M³), 400 tons HRF (1334)
Cargo:

Item	Volume	Mass	Area	Power	Price
Airframe:	660	660		220	
Thrust1:	-280	280		140	
Power plant:	-1	1	+1	0.02	
Controls:	1.26	-0.45	0.9		
Crewstations:	-7.5	0.6		0.003	
Passenger stations:	-20	1.6		0.008	
Life support:	-0.19	0.19	-0.0038	0.0114	
300 Km radar:	-1	-0.5	-0.2	1	
3000 Km TL-8 radio communicator:	0.08	0.16	1	0.1	0.05
leftover:			loads	loads	361.9924
Fuel:	2185	1250			
Cargo (1 small hatch, 1 M ³ /passenger):	70	76	-12	0.012	
Refuelling probe		0.1		0.001	
Left over		0.09	loads	0.36	

Rating:

Weight: 1500 tons clean
 Thrust: 1008/1680/2520 tons
 Glide ratio: 5
 G rating: 0.45/0.76/1.87
 Max speed: 1575/3465/4544
 Min speed: 175
 Cruising Speed: 1181
 Takeoff-roll: 4560 meters
 Landing roll: 4724
 Combat move: 111.2 outdoor squares/turn
 Agility: 6
 Storage volume: 132000 M³
 Endurance: 13.33 hrs
 Range: 3199
 Price: 362 Mcr

3) Famille Spofulam Grav Skateboard (TL12)

Pretty obvious; a Fusion+ powered T-plate skateboard. Volume figures ignore the 1 M³ requirement for the crew station; the other components come out to .137 M³, which is bang on within 3% or so. I figure control would be by shifting of body weight; lean forwards to accelerate, backwards to decelerate, lean sideways to steer... I'm going to try and work up a high-performance uncompensated version now.

Summary:

0.01 displacement ton slab streamlined; 361 kg; kCr 15.1

Chassis:

140 L slab streamlined (1.8 m long x 51 cm wide x 16 cm high); Structure: 9.78 kg of structurecomp, rated for 1.5Gs, body 0.04 cm thick, 1 armour rating

Performance:

Primary: 50.0 kW TL12 Fusion Plus power plant;

Fuel: 1.56 L of enriched water (1.56 kg), 100 hours supply

Secondary: 100 kW TL12 Storage Bank power plant

Propulsion System: 15.0 kW thruster; Maximum Speed: 75 km/h;

Range: 7471 km; Agility: -1DM

Crew:

Crew roster: pilot;

Communications:

Subregional Radio (1 W, TL12, SmVcl)

Sensors:

Active Subregional Radar (100 W) Resolution: 0.200 mm per km of range

Active Subregional Optical (100 W) Resolution: 0.050 mm per km of range

Other:

Safety Features: Roadgrid

Designed with CSC (Now Infini-V) (software ©Robert Prior, 1997)

4) FSY Ludaccel-20 Grav bike

"News item, Sylea, Day 340 Year 1:

The Sylean Consumer Product Safety Council (SCPSC) and Mothers Against Grav Cycle Carnage (MAGCC) today released a joint denunciation of Famille Spofulam Gravitic Transports for releasing their latest sport Grav cycle, the Ludaccel-20. Stated MAGCC President Emthiilda Netsooj, *"The Ludaccel is a lethal menace to the public! How many more of our children will die before the government acts and bans all grav vehicles capable of more than 0.5 G's?"*

The SCPSC press release noted that the grav craft in question was capable of possibly fatal accelerations of up to 20 G's and that the acceleration safety governor was implemented in software, not hardware, thereby tempting performance hungry owners to illegally modify the craft to reach dangerous performance levels. With regard to its top speed, the press release notes that *"any vehicle with supersonic capability and non-hardware governing devices poses a grave property damage risk from sonic booms, especially when operating in urban areas"*.

When contacted for comment, FSGT spokesperson Festphal Indifar stated that the decision to implement the safety governor in software was made with weight reduction in mind; *"The Ludaccel is, after all, built for speed!"*. Noting the Ludaccel's high price tag (34,625 credits), she stated: *"Most if not all of the purchasers of the Ludaccel will be wealthy citizens and nobles racing them on the amateur circuit or on their own estates"*. She requested that FSGT's contributions to several grav cycle public safety awareness campaigns be noted, and added *"While we have the greatest sympathy for Mrs. Netsooj's tragic bereavement, we feel that grav cycles don't kill people, people kill people. Clearly, education, not regulation, is the key."*

Famille Spofulam Gravitic Transports TL-12 Ludaccel-20 model improved grav cycle

	Vol. (m ³)	Mass (kg)	Area	Cost
Displacement:	2.357 m ³ (USP 5? 6?)			
Config:	Disk Str, with full atmospherically sealed rider canopy. Dimensions:			
Structure:	(TL12 str.comp.)			
Chassis: (20 G rated)	0.488	488	-	.0195Mcr
Armour: .51 cm str.comp	0.040	40	-	.0016Mcr
Armour rating:	1			
Power plant:				
-TL-12 Fusion+ (0.8 Mw)	0.16	332	0.8	.0012Mcr
Fuel consump.: (0.09m ³ /100hrs)				
-Fuel volume: x1 (enriched water)				
Fuel carried:	0.09	0.09	-	-
Power:TL12 storage bank	0.002	0.004	-	0.00001
Propulsion:	0.7	850	-	0.007
Crew: Driver:	0.5	-	-	-
Crew: Passenger:	0.35	-	-	-
Options:				
-Grav comp: 3Gs	0.006	13	-	0.000315
-TL-12 Subcontinental comm:-	-	-	-	0.000500
-Roadgrid system	0.001	-	-	0.000500
-glove compartment	0.020	0.01	-	-
-TL-12 regional radar	-	-	-	0.005000
-Siren	-	0.1	-	-
Totals:	2.357	723.20	0.8	0.034625

Dimensions: 2. & small change m long, a bit less than that high, and a bit over 1 m wide. If & when I do a drawing of this, I'll update. I visualize it as looking something like one of those funky Japanese sport bikes but a little bigger, with more volume aft and with a glass bubble canopy streamlined aft from where the fairing ends that fully encloses the rider, to let it operate at high altitudes and at trans-sonic speeds.

Acceleration (one rider) 20 G's.

*Top Speed (using megawatts/mass in tons*3000; VDS is unclear as to whether this is applicable to grav vehicles): 1392.91 km/h.*

Designer's Notes:

The reason I put the siren in is because loud pipes save lives; pedestrian fatalities are greatly reduced if they can hear things coming. So, I figured a simple air-powered siren like the things they mounted on Stukas in WWII would do the job nicely and sound really cool, too. The radar is for collision-avoidance purposes; I figure it'd start sounding an alarm if a collision was imminent. The long-range comm is a must.

I also figure that a G-suit with some sort of harness arrangement with attachments at chest, waist, knees, and wrists would be required to keep the rider on the bike.

I fudged some of the numbers since VDS wouldn't let me do certain things; for one, it insists on fullblown car-type seating compartments... descriptive text is at the end.

Here's my first stab at a vehicle produced using the beta vehicle design system. Quite simply, the system is a real beast to use the first time around; consistent use of the same units would be the way to go, IMHO. Also, the layout in the .pdf file is appallingly hard to work with; properly lined up columns would have been nice... However, it's a beta, so...

Another point is that costs should vary with Tech level; I noticed this when putting the radar in; 80,000 1978 US dollars for a radar with a 30Km range might be an acceptable price if you're the Pentagon, but as in a previous job incarnation I personally sold several different recreational marine radar units with roughly comparable ranges for 1,500 to 2,000 1991 Canadian dollars. I therefore revised the price accordingly on the radar unit. As well, there are no tables for sensor weight or other data; just price and range...

The inspiration was the grav cycle design included in the beta .pdf. I looked at that thing and thought to myself: "Hm... accelerates at a measly 3Gs, and can't go supersonic because it's only got a front fairing? Bah!". I figure these things would go a long way towards raising the average IQ among the youth of Sylea...

5) Famille Spofulam Toys & Games MegaBoing Grav Pogo Stick

You can do some fun stuff with Contra-grav and Fusion+. Just imagine; a pogo stick capable of reaching orbit if you hotwire it (re-entry might be a bit dicey). And just think about how pissed off the Mothers Against Grav Cycle Carnage are going to be :).

	Vol.	Mass	Area	Power
Displ.: 0.016 Td (USP 1-2)	0.222 m ³	-	-	-
Volume:	0.222 m ³	-	-	-
Config: Pogo stick				
Dimensions:				
-Handles, shaft & spring: 1.5 m long, .03 m dia. (0.001 m ³)				
-Footrest/drive & battery housing: disk 1 m dia, .22 m high (0.22 m ³)				
-Electronics housing: 0.001 m ³ slab, mounted on handles				
Struct. Material: Structurecomp				
Chassis:	0.05 m ³	0.05 T		
Armour: None; child rides on outside, feet on footrest disk and gripping handle				
Armour rating: none				
Power plant: TL-12 Fusion+	0.01 m ³	0.006 T	-	0.05 Mw
Prop.:				
-TL-12 C-grav (0.5T thr.)	0.01 m ³	0.0062T	0.01	0.0035 Mw
-TI-10 leg (spring)	0.0006 m ³			
Crew: 1 child, (safety harness provided, helmet & goggles not included) Options: TL-12 computer, radar altimeter & speedometer, tassels on handles, glove compartment.				
Totals:	0.222 m ³	0.0622 T (62.2 Kg)		
Cost: 0.002900 Mcr (2900 Cr)				

Operational Acceleration: special: computer controls Contra-gravity drive so as to balance pogo stick (within safe operational parameters to permit some lateral motion) and to nullify 95% of external gravity field save between moment where spring first enters into contact with ground and when spring has compressed over 75% (adjustable by parents to provide for more or less impetus) of its total travel. Once spring (actually a TL-10 smart-fluid variable resistance shock absorption cylinder) has reached parentally approved maximum travel point, thrust resumes to completely nullify external gravity field until spring has reached full extension, at which point thrust reverts to 95% of external field.

"Parentally programmed safety cutoffs cut drive once maximum parentally approved altitude has been attained, and adjust velocity during descent portion of trajectory to remain within parentally approved speed limits. Other safety features include deadman switches on the handles to detect child losing grip, and a safety harness to ensure child remains on board. Pogo stick will not operate without harness being attached.

Theoretical acceleration is 8 G's (7.5 or so with child on board). This is only attainable by tampering with safety overrides and removing the

hardware governor. FSG&T will not accept any liability arising from such dangerous misuse and strongly condemns the sort of irresponsible mind that would contemplate it.

Box: Comes plastered with advisory warnings against tampering in order to allow child to reach orbit, advisory warnings against operating near potentially hazardous obstacles such as trees, tall buildings, swamps and large bodies of water, overhead power lines and airports.

***Design notes:** credit for the inspiration goes to Ross Coburn, who gave me the idea purely by accident, and now sorely regrets it. I didn't bother calculating the acceleration rating figures; I bet that 50 kg worth of structurecomp ought to be plenty strong. I also fudged the volume some to leave a margin for error, and didn't bother doing the numbers for fuel supply and the glove compartment; they're well within the margin for error in the volume and chassis mass numbers. And I didn't bother computing the cost of the radar altimeter; this would be a simple device whose cost would be negligible at TL-12. I did this with the beta VDS pdf file I downloaded from Joe Heck's site.*

6) Famille Spofulam Gravitic Transports Urban Assault Vehicle

I know it sounds silly, but I'm sure that as kids you would have killed to take your vacations in one of these. The ejection seats alone would have added a whole new dimension to the usual sibling rivalries :).

RV from hell (TL7)

Summary:

8.00 displacement ton box streamlined; 71.9 tonnes; MCr 1.99

Chassis:

112 kL box streamlined (7.5 m long x 3.9 m wide x 3.9 m high); Structure: 674 kg of fiber laminate, rated for 1.0Gs, body 0.20 cm thick

Armour: 12 front (6.0 cm, moderate slope), 10 sides (6.0 cm), 10 rear (5.0 cm), 2 top (3.2 cm), 10 bottom (6.0 cm)

Performance:

3.50 MW TL5 Imp. Internal Combustion power plant; Fuel: 4.38 kL of high-grade hcarb (4.38 tonnes), 10 hours supply

Propulsion System: 3.50 MW wheels; Maximum Speed: 100 km/h;

Range: 998 km; Agility: +3DM

Crew & Passengers:

Crew roster: driver, 3 gunners, Navigator, 4 Shrill children; 9 crew stations with ejection seats; 6 roomy ejection passenger seats

Armament:

Weapon	Damage	Range	Shots	Reloads	Notes
Organ Rocket-5	25 exp	Very Short	50	0	2 gunners
Missile, Light AT-7	26 (16 exp)	Very Short	1	4	1 gunner
Machinegun, Medium-6	5	Medium	200		coaxial
Machinegun, Medium-6	5	Medium	200		coaxial
Flamethrower-7-7	2	Very Short	20		coaxial
Flamethrower-7-7	2	Very Short	20		coaxial

Communications:

Regional Radio (1.00 kW, TL7, MilSpec, DirAnt, DirFnd)

Sensors:

Passive Subregional Radar (1 W, MilSpec) Resolution: 50 cm per km of range

Other:

Options: sunroof, entertainment centre, recreation space, wet bar, kitchen for 6 simultaneous meals

Safety Features: anti-theft system

trailer hitch for 5.00 tonnes; 23.9 kL of cargo space

Designed with CSC (Now Infini-V) (software ©Robert Prior, 1997)

7) FSGT Top Secret Project Heinlein "Bug-Zapper" Anti-Arachnid Armoured Vehicle (TL9)

To: Sky Marshal Verhoeven
From: Director, Project Heinlein, Famille Spofulam
Re: **Prototype specs**

Dear Sir.

Below are the specifications for our new secret weapon against the arachnid enemy, the "Bug-Zapper" Anti-Arachnid Armoured Vehicle. As the project inception report states, the "tank", an armoured battlefield vehicle rendered totally obsolete by the advent of nuke bazookas and the peaceful Citizen Rule of the Terran Federation, displays great promise against insect adversaries, which, although big and ugly and really terrifying, are after all armed only with mandibles and claws (albeit big ones), and in some cases corrosive sprays.

The "Bug-Zapper" concept is quite simple. The "Bug-Zapper" is a flatbed tracked vehicle, capable of speeds up to 80 km/h (significantly faster than a Warrior Bug on flat terrain) crewed by a driver and an electrician, who operates the 2 fission power plants. 15 MI Troopers, with full armament ride on the back of the vehicle, inside a heavily armoured cage that affords full visibility both in and out. They occupy a crew position curiously designated "Bait" by the boys here in the lab.

When faced with a typical Bug swarming attack, the driver is to halt the vehicle immediately, and allow the onrushing arachnid horde to completely bury the vehicle in a writhing, chittering heap of angry Warriors. Once the vehicle is completely buried, the electrician then throws a switch, sending the full 20 megawatt output of the secondary power plant through the cage bars and outside of the vehicle, spectacularly electrocuting the Bugs. The process is to be repeated as needed until there are only a few bugs left, at which point the the vehicle's armament (a large insecticide sprayer and a machinegun) and the Bait Troopers' small arms will deal with the survivors.

For the winged Hopper bugs, the vehicle is equipped with a VRF autocannon with special 00 pellet "Bugshot" rounds, easily capable of downing chitin-armoured targets at range. Finally, for the Tanker Bugs and other larger variants, an anti-armour rocket launcher is provided.

We predict that rapid deployment of this vehicle will drastically reduce the number of casualties the MI, without armoured vehicles, indeed without vehicles of any kind, are currently suffering when deployed against large armoured creatures with vicious natural armament, while wearing only flak jackets and helmets.

Summary:

8.00 displacement ton box streamlined; 295 tonnes; MCr 6.02

Chassis:

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Agility: 4
Volume: 625,000 M³
Endurance: 60 hrs
Range: 1,3500
Price: 1,675 Mcr

GUNS by Famille Spofulam Armaments

1) FSA KMA-1-12 "Jammer" Autoshotgun.

Damage: 7.5 D single-shot, 15 D full auto.

TL: 12.

Range: Short.

Shots:30.

Mass: 6.4 Kg.

Reloads: 2.3 Kg

Cost: 2011.25 Cr.

Reload cost: 155.39 Cr.

Notes: drum magazine, folding SA stock, gyroscopic recoil compensator, muzzle brake/flash hider, TL-9 recoil compensator, laser dot sight, semi-auto, burst of three, full auto modes.

2) FSA OKA-SQ riot termination system

News Item, Imperial Defense Weekly 04-193

Dateline: Sylea, Famille Spofulam Orbital HQ

Title: Famille Spofulam Armaments releases new riot termination weapon

"Yesterday, FSA launched their new OKA-SQ riot termination system, a vehicle-mounted rotary 5-barrel 18X62E ETC VRF shotgun. Leem Ladjén, our police and paramilitary equipment editor, attended the launch, on board the Famille Spofulam Group's Orbital HQ:

'As usual, the reception for members of the press was nothing short of lavish; greeted at the VIP disembarkment ports by liveried FS liaison staff, the media were quickly ushered into a large and tastefully decorated reception hall. The wet bar and buffet were up to Famille Spofulam's usual megalomaniacal standards, and journalists, representatives of various governments, and [censored] were given time to mingle and chat it up with several FSA representatives. Although most participants were extremely discreet, a large delegation from Mu were noted, including Baron Erghaan's notorious Chief of Secret Police, Looeehze Bodewoyn, who was most remarkable in her peaked cap, riding crop, and fitted leather uniform.

Eventually, after the remains of the buffet had been cleared away, we were ushered into a nearby theatre/shooting range. Once all had been seated, Hengabar Spofulam, Famille Spofulam's hereditary patriarch, walked to the podium and began his presentation:

"Are your peasants or indentured labourers revolting? Yes, of course they are, but if they're in a state of insurrection against your justifiably draconian regime, then they're even more revolting! <chuckles>. Bad jokes that have been stale since autocracy was invented aside, however, it is clear that on many worlds, the combination of high populations, when combined with the ungrateful resentment of justly severe law levels or rabble-rousing by outside agitators, can lead to reprehensible rioting and other forms of criminal mob violence.

Up until now, there has been a relative absence of relatively inexpensive weapons systems capable of putting a complete stop to riots in short periods of time. This lacuna in the law enforcement arsenal of the Imperium has finally been addressed by Famille Spofulam Armaments. Ladies and gentlemen, I give you the OKA-SQ-18X62E(5) Riot Termination System!"

The curtain behind Mr. Spofulam drew open, revealing a rather large ammunition hopper feeding a rather hefty-looking multibarreled VRF weapon, mounted for demonstration purposes on a cutaway turret mount.

50 meters down-range were arrayed several dozen Imperial Standard Ballistics Testing Dummies, colloquially known as Juice Bags to industry members, in life-like poses brandishing placards and spray cans or poised to throw rocks or primitive incendiary devices. I quickly scanned the front row with my opera glasses; there in the front row was one ISBTD bearing a marked resemblance to Sir Arameth Gridlore of Gridlore Technologies, and wearing a jacket with the Gridlore Technologies logo. I turned to my counterpart from Really Big Guns! magazine, smiled, and collected my 50 credit wager. To his credit, Higubaa paid up cheerfully.

Mr. Spofulam strode across the stage to the display, as a press release kit and weapons data were being uploaded to the audience's handcomps. Seating himself at a control panel set up by the weapon, he donned hearing protectors, and activated the weapon. The gun's five barrels quickly spun up to maximum RPM. Then he depressed the firing stud and traversed the weapon back and forth across the simulated riot for an extremely noisy 10 seconds; 33.3 shotgun rounds per second makes a tremendous din. Then he ceased fire.

The devastation wreaked upon the ISBTD's was horrific; not one was left standing, and those in the front row had been pretty much shredded; ISBTD Circulatory Fluid Analogue had been spread everywhere and was dripping down from the range ceiling. By my calculations, the ISBTD's had been hit by something in the neighbourhood of 330 shotgun shells; assuming 24 pellets per shell, the OKA-SQ had fired approximately 8000 pellets. The delegation from Mu, led by CSP Bodewoyn, leapt to their feet in a standing ovation"

FSA OKA-SQ-18X62E(5) RTS (Riot Termination System).

Damage: 4 (12).

TL: 12.

Range: Medium.

Shots:4000 (ROF 2000 RPM).

Mass: 76 Kg empty, 246.5 loaded.

Reloads: 243 Kg (4000-round cassette)

Cost: 27860 Cr (includes 1 full cassette; bare gun is 3450).

Reload cost: 20960 Cr.

Designer's Notes: *benefits from VRF +4 to-hit DM and my house rules give shotguns +2 DM at the cost of increased damage attenuation. Thus, under my house rules we're looking at a +6 DM to hit. My house rules triple the base 1-round damage rating for VRF weapons, so the 4 damage reflects the damage from a single round, which as per my previous post I've assumed to be identical to the 4-damage-dice 18mm shotgun round in the T4 manual. So, under my house rules it would do 12 dice against an unarmoured target (splat!), or 3 dice against a target with armour rated at 3; hence the damage rating of 12.*

4) FSA Marathon KKV-7 10mm Flechette SMG

Here's another Marathon weapon run through FF&S for Trav use, the KKV-7 10mm Flechette SMG. For non-Marathon players, it's a blued-steel SMG with a drum magazine, large cylindrical barrel shroud tapering forwards beginning about 2/3rds along its length, no stock or forestock (just a pistolgrip), and primitive ring sights. It fires 10mm flechettes at a high rate of fire (I calculate approx. 960 rpm depending on your computer's CPU speed ;>) both underwater (which I think would be dubious both IRL and in Traveller) and in vacuum. As with the .44 MMC, I designed it at TL-9, which I think is consonant with the UESC Marathon's tech level in the game (more or less). Also note the use of a half die in the damage stat; I use them in my game, YMMV. The price seems low, but recall that this is a very non-frills weapon. Finally, FF&S2 states that flechettes are more effective at penetrating flex armour; the special case for damage below is my attempt at reflecting this). This would give the weapon a distinct niche; punching holes in EVA-11 suited targets.

T4 Stats:

Name: KKV-7 10mm Flechette SMG.
Damage: 2.5 (special; treated as 1 die greater against flex armour).
TL: 9.
Range: Short.
Shots: 32.
Mass (empty): 2.75 Kg.
Reloads: 1.7 Kg.
Price: 370 Cr.
Reload price: 249.85 (see below; flechettes COST BIGTIME!)

- Cartridge: 10X61 straight flechette
- Barrel: 32 cm heavy smoothbore
- Receiver: TL-9 heavy full-auto; no burst setting
- Magazine: 32-round drum, Mass= 459.84 g empty, 1686 g full, Price= 4.6 Cr empty, 249.85 Cr full.

Weapon Evaluation

Weapon length: 67 cm
Bulk: 4 (actually 4.4667)
Mass: loaded 3.926 Kg, empty 2.7 Kg
Price: 370 Cr.
Basic Range: 18.38 m (Short Range in T4 range bands)
Damage: 2.5 (actually 2.6937)
Recoil: 1 single-shot, 5 on full-auto

5) FSA Marathon MA-75B Assault Rifle/Grenade Launcher

WARNING: THIS THING IS A MONSTROSITY! IT

SCARES THE GUYS(*) AT FAMILLE SPOFULAM! NO SANE SOPHONT WOULD CARRY ONE!

() With the Exception of the High Energy Weapons Division....*

I suppose it's only to be expected; video-game designers can hardly be expected to let realism get in the way of coolosity. In order to get the grenade launcher numbers I had to fudge by running it through both the small arms and heavy weapons sequences, and in the case of the cylinder, work up the mass of the reciever by working backwards from the desired magazine capacity. So it's somewhat fudged, but I figure that given the extreme nature of the design averaging the numbers from both sequences would be a good way of reducing error. I'm tempted to put a stock and pistolgrip on the grenade launcher; a 38-cm 40-mm grenade launcher is pretty nasty and quite funky all by itself.

Any way you cut it, this thing is simply scary, though; blasting away on full auto while firing the grenade launcher ought a) to thoroughly kill whatever you're shooting at, b) thoroughly spatter it all over the landscape, c) make one helluva racket, d) light up the sky for miles around due to absence of flash hidiers etc, and e) knock you on your butt. And it's heavy as all bloody hell, even using advanced materials throughout (and if you thought the weight was bad, wait until you see the price tag!). However, at least the weight helps keep the recoil within the realm of (relative) sanity. On to the description!

The MA-75B is a 5X75mm assault rifle equipped with a 7-round 40X140mm rotary-magazine grenade launcher slung under the barrel. It is issued to UESC security troops. It is a standard configuration (i.e. magazine in front of pistol grip) assault rifle with a smooth and rounded light gray plastic housing protecting the reciever and barrel. The grenade launcher is similarly streamlined and slung beneath the barrel in lieu of a forestock. No stock is provided for the grenade launcher; its trigger is housed just ahead of the rifle magazine. The weapon is notable for its complete absence of sights; sighting is done along a raised ridge running along the top of the housing. It takes a 52-round banana magazine; the grenade launcher has a 7-round rotary cylinder which accepts 7-grenade "speedloader" magazines.

T4 Stats:

Name: MA-75B Assault Rifle/Grenade Launcher.
Damage (Rifle): 4.
Damage (GL): 5* explosive.
TL: 9.
Range (Rifle): Short (42.33 m).
Range (GL): Direct Fire: Short (23.7 m).
Shots (Rifle): 52.
Shots (GL): 7
Mass (empty): 11,47 Kg.
Mass (loaded): 16.57 Kg.
Reloads (Rifle): 1.04 Kg.
Reloads (GL): 3.694 Kg.
Price: 11,614 Cr.

Reload price (Rifle): 33.42 Cr.

Reload price (GL): 369.32 Cr.

** I ran the grenade launcher through both the small arms and heavy weapons sequences and averaged the results they gave me (6 and 4.64) to get this figure.*

- Cartridge: 5X75mmSR Necked
- Barrel: 68 cm heavy rifled, TL-8 advanced materials
- Receiver: TL-9 heavy full-auto, TL-8 advanced materials, stock, pistolgrip
- Magazine: 52-round banana-mag box, Mass= 274 g empty, 1040.21 g full, Price= 2.74 Cr empty, 33.42 Cr full.

- Grenade: 40X140mm caseless grenade
- GL Barrel: 10 cm heavy smoothbore, TL-8 advanced materials
- GL Receiver: TL-9 7-shot double-action revolver, TL-8 advanced materials)

6) FSA Marathon WSTE-M Combat Shotgun

Another terror weapon from Marathon 2: Durandal. The manual describes it as "a brutal tool of mayhem". Visualize a sawed-off 12-gauge double-barreled shotgun with a lever action activated by twirling the gun around in one hand like Arnie in T2. It has a long pistol grip and ribbed forestock covering the twin side-by-side tubular magazines slung under the barrels, which are 15 cm in length. The weapon itself measures 45 cm length overall, or just a hair less than 18 inches. I've designed it with TL-8 advanced materials, which keeps the weight down at the expense of price.

In Marathon, you never have to reload it; you keep on blasting away until you run out of shells. I've implemented a more realistic magazine capacity (in this case 2 shells per magazine); thus the weapon can be fired three times before reloading assuming the magazines are full and there's a round in each chamber. With one in each hand, that'd give the shooter 6 2-barrel blasts before reloading, and boy will he look studly while he's blasting away. Ross Coburn can testify to this, as I've whacked him with WSTE-M's once or twice in netted M2 games :).

Under my house rules, this weapon benefits from a positive DM to hit due to the shortness (15 cm or 6 inches) of its barrels, and suffers from increasingly reduced damage at increasing range bands.

T4 Stats:	WSTE-M Combat Shotgun.
Damage:	6 (Special; resolved as two separate 3-die volleys).
TL:	9.
Range:	Very Short.
Shots:	3 (3 2-shell blasts).
Mass (empty):	3.3 Kg (3.66 loaded).
Reloads:	0.366 Kg.
Price:	6,962 Cr.
• Cartridge:	20X65mm shotgun
• Barrel:	15 cm TL-9 advanced materials smoothbore
• Reciever:	TL-9 advanced materials heavy lever action double
• Magazine:	2-round tubular, doubled, Mass= 244 g empty, Price= 2.44

Weapon Evaluation

Weapon length: 45 cm

Bulk: 3

Mass: loaded 3.66 Kg, empty 3.294 Kg

Price: 6,692 Cr.

Basic Range: 9.72 m (Very Short Range in T4 range bands)

Damage: fudged based on T4 shotgun values; I've reduced the damage due to the short barrels.

Recoil: 4.88

7) FSA UESC .44 Magnum Mega Class A1.

Ok... I realize that this is beginning to get repetitive, but I had a look at the M2 manual, and looking at the proportions of the drawing of the .44 (very Keith Bros. BTW) I realized that my previous attempt was way too big. I'd also missed the A1 designation in the name. So I did a redesign aiming to get a more compact pistol whose proportions were closer to the drawing; I think that this is a lot closer to the weapon in the game and in and of itself is a pretty funky little (well, relatively) gun. It's more reasonably sized, is still pretty lethal, and is lighter and lower-recoiled. In any case, I promise not to post it to the list again; three redesigns is enough.

T4 Stats:

Name: UESC .44 Magnum Mega Class A1.
Damage: 3.5.
TL: 9.
Range: Short.
Shots: 8.
Mass (empty): 2.6 Kg.
Reloads: 0.5 Kg.
Price: 3,364 Cr.

8) FSA Maringouin Flechette Pistol

Just bashed this one up off the top of ye olde noggin. Basically, it's a small (24.5cm long) TL-12 pistol, constructed entirely out of TL-12 advanced materials, that fires 4mm caseless flechettes. It's capable of single-shot, burst-of-5, or full auto fire. It has a 35-round magazine capacity. Firing it at full auto is not recommended; the recoil would be punishing... It'd likely make more sense to build it without the advanced materials, which would double

T4 Stats: FSA Maringouin Flechette Pistol.
Damage: 1.5 (house rule: treated as 1 die higher against flex armour).
TL: 12.
Range: Very Short.
Shots: 35.
Mass (empty):0.787 Kg.
Reloads: 0.141 Kg.
Price: 1,215 Cr.

9) FSA .600 Nitro Express Revolver

A few days somebody posted about some crazed German gunsmith who'd designed a .600 Nitro Express revolver. Wishing to at least partially emulate his genius, and also to try and push the envelope on FF&S2's firearm design sequence a little, I ran the numbers through FF&S2. I based the caliber, length, and rated energy numbers of the historical equivalents table. Stats follow for those interested

It was pretty interesting, and revealed what I think to be a shortcoming in the receiver calculations. Although the round itself is only (only?) 76 mm long, the receiver's minimum length according to the FF&S2 design sequence should be 53.38 cm, or 7.02 times the length of the round, which seems disproportionately long. This cascades into the mass numbers, which came out to about 11 kg using standard materials. As the original poster (Volker?) stated that the real-world weapon weighed 4 kg or so, I used TL-8 advanced materials in the receiver, which jacked the price up. However, the increased mass really helps with the recoil. At a loaded mass of over 10 kg, the recoil is 5.41. At a mass of 4 kg, the recoil would be 7.63 (!). I now understand why nobody is nuts enough to fire this thing :).

I would suggest modifying the sequence so that the maximum length of the receiver for revolvers is no more than 3 times the round length. I derived this number using the T.L.A.R. principle. This would of course cascade into the mass numbers, fixing that problem too.

All in all, it's a pretty ludicrous weapon. I think it'd be a surefire munchkin detection test though :).

Here are the T4 stats:

Name:	.600 Nitro Express Revolver
Damage:	9 (9.5 HE)
TL:	8
Range:	Short (22.39 m)
Shots:	4 rounds
Mass:	10.343 kg loaded, 9.84 empty
Reloads:	.126 kg/round
Cost:	6915 cr

10) FSA Jackal-4 ELRGSR

"News Item, Gauss Enthusiast's Weekly, 05-250

FSA releases quad-barreled Extremely Long Range Gauss Sniper Rifle.

Today, Famille Spofulam Armaments unveiled its latest gauss rifle offering, a quad-barreled 3.25 mm sniper rifle system designated the "Jackal-4". It is an unconventional-looking weapon, to say the least. It sports 4 60-centimeter barrels, protected by lozenge-cross-sectioned dark gray barrel shrouds, installed in a diamond configuration around an 87.5 centimeter long f/15 175mm aperture catadioptric telescope. An outwards-facing bulge at the end of each barrel holds individual gyroscopic recoil compensators. Short 5-dart magazines protrude outwards from the four receivers like the legs of a stubby letter "x", and the weapon, configured with a folding shock-absorbing stock, pistolgrip, and bipod, is entirely gyro-stabilized.

The mission of the weapon is simple; to provide extreme accuracy at extreme ranges, and to improve chances of hitting the target from several kilometers out by configurable-pattern multi-round bursts directed by a telescopic computerized predictive sight.

The heart of the weapon is the huge computerized predictive telescopic sight, which drives four individual servo-actuated mountings, one for each barrel. A keypad mounted on the forestock enables the shooter to select one of several barrel alignments, which, guided by the computerized rangefinding sight and servo mountings, places the four simultaneously fired darts in various patterns; close burst (all darts aimed at the same spot), three cross patterns of varying pre-set tightnesses and four more user-definable cross patterns. As well, the weapon can also place four darts in horizontal, vertical, or diagonal lines of varying spread. The weapon can fire in both single-shot (actually, four-shot) mode and in VRF mode (with a theoretical cyclical rate of fire of 4500 rpm from each barrel), the latter of which will spit 20 darts at the target, in various patterns (including expanding-cross and longer traverse line patterns to increase chances of hitting a moving target at extreme ranges) in a brief 0.07 second.

This flexibility in terms of burst pattern and rate of fire, when combined with full-weapon gyro-stabilization, 6,000 m/s muzzle velocity, long-range sighting system, and computerized predictive aiming capabilities, is expected to result in a highly effective precision long-range sniper rifle.

At the weapon's unveiling, conducted at the extensive testing grounds at Famille Spofulam's Sylean groundside facilities, the press were given the chance to inspect the weapon (several of which were made available for handling) first-hand. After its rather menacingly futuristic styling, the second

thing that strikes the observer is the rifle's weight; it masses nearly 37 kilos. However, it is designed to be transported by a two-person team and fired resting from a bipod, which alleviates somewhat the weight problem. As well, the weapon's extreme weight helps reduce recoil; although its darts weigh only 0.54 grams apiece; four or twenty of them departing at 6 kilometers/second produce significant recoil.

After initial familiarization had taken place, the weapons, set up on range benches, were loaded by Spofulam range attendants, and several journalists invited to test-fire them at a series of Juice Bags (Imperial Standard Ballistic Testing Dummies) standing anywhere from 500 meters downrange... to 5 kilometers away, on a hillside across the valley. The more distant ones were equipped with revolving-strobe emergency headgear and orange coveralls in order to aid with location.

The firing process takes place as follows; after the weapon is powered up, the shooter aims it manually, using iron sights and a 5X finder scope to acquire the target. Once target is placed within the finder's reticule, the weapon-platform gyrostabilization is engaged and the computerized sight's binocular eyepiece deploys. Once the target is spotted in the computerized sight's field of view, the firer stares directly at the target and blinks twice; this designates the target. The sight then takes over, identifying the target, highlighting it, determining and displaying range and time to target, and slews the four barrels precisely onto target, whose motion it is capable of tracking via its predictive function. It then adjusts the barrel alignment to the selected burst pattern and displays it onto the target. At closer ranges, within 800 meters or so, on stationary targets FSA recommends a four-round close pattern; at extreme range on moving targets, a 20-round linear burst along the direction of travel.

Once target acquired and burst pattern selected, the shooter then depresses the electronic trigger. Recoil, due to the shock-absorbing stock and individual gyroscopic recoil compensators on each barrel, is surprisingly light for such a high-powered weapon. As mentioned earlier, the bipod and heavy overall weight help with this. Hitting targets is ridiculously easy; selecting an ISBTD about 2 km away (which, following Spofulam tradition, bore a suspicious resemblance to Sir Arameth Gridlore), I chose a 12-cm separation cross pattern centered on its torso, and pulled the trigger. A high-pitched quadruple mini sonic boom split the air, and after an eerie, perceptible delay of nearly a third of a second, I saw the ISBTD jerk violently backwards. Its mounting swung it back to a standing position, and I saw three fluorescent green splotches of ISBTD Circulatory Fluid Analogue spreading across its chest..."*

** In order to test this, I assumed a shooter with a DEX of 8 and Rifle-3 firing under KB v.2.0., at Extremely Long range (2 km). This gave him a base target number of 17 for a target number of 26 with the DM figured in, on 8d6.*

Results for a 4-round burst were: 25 (hit), 25 (hit again), 27 (miss), 25 (hit).
That'd be 27 dice worth of damage done to the target, although there's a case
for rolling each 9d6 damage roll separately.

T4 stats: FSA Jackal-4 ELR-GS Gauss Sniper Rifle
Damage: 9 (9.5 HE), _per barrel_
TL: 12
Range: Long (183 m)
Shots: 5 X 4 round bursts
Mass: 36.86 kg loaded, 30.38 kg empty
Reloads: 6.48 kg per 4 5-round magazines
Cost: 32,999 cr (jacked way up to reflect the weapon's weirdness)

Designer's Notes: *As far as using it in-game is concerned, I would simply suggest giving it a massive positive difficulty modifier for use at ranges over Short; in KB v.2.0 a +DM of about 9 or so would feel about right. Other task systems should use appropriate DM's. I'd recommend imposing a significant negative die modifier for use at Short or shorter ranges. Also, I would suggest rolling individually for each round fired in single-shot mode, and applying the VRF to-hit and damage bonuses when firing it in VRF-burst mode.*

The inspirations for this one? The quad-barreled nailgun in Quake, Frederick Forsythe, the Questar 3.5" telescope (although the optical characteristics on this thing's scope are different), and any number of politicians..>:). I'd be interested to hear what the list's resident sniper has to say about this thing.

12) Famille Spofulam Armaments 6.66 Gauss Magnum Express* Very Large Game Gauss Rifle:

Press Release, Sylea, Year 0 Day 33:

"...to quote a classic of Solomani 2d cinema:

'what's it for?'
 'Hunting...'
'Hunting what?'
 'Name it'

Designed for the demanding sportsman, the 6.66 Gauss Magnum Express is the ultimate big game rifle. It offers the highest muzzle velocity of any sporting weapon currently available in the Imperium, which in fact is right at the theoretical limit of gauss projectile muzzle velocity of 6,000 m/sec. The 6.66 GME is guaranteed to drop almost anything it hits; geneered rhinoceri, Ardunian Big Purple Pouncing Things, or low-TL armoured vehicles and aircraft..."

T4 stats:

Damage: 10.5

TL: 12

Range: Long

Shots: 5

Mass: 8.5 kg empty, 10 kg loaded.

With optional bipod 17.2 kg empty, 18.7 loaded

Reloads: 1.5 kg.

Cost: 2425 (bipod included)

**A name which I lifted from Walter Jon Williams' "Voice of the Whirlwind"*

12) FSA KMA-G2 Hypervelocity Gauss SMG

Here's my first attempt at an FF&S weapon design:

Press Release, Year 1 Day 15:

"Familie Spofulam Armaments is pleased to announce the release of its KMA-G2 Hypervelocity Gauss SMG. Measuring only 59.2 cm overall, and weighing only 6.2 kg with the standard KMA-G2MAG100 100-dart magazine, its spectacularly high (4,500 m/sec!) muzzle velocity 2.5 X 12.5 mm darts, combines low recoil with sustainable high rates of fire and high lethality well beyond 40 m. Sustained-fire capability may be enhanced with the optional 200-round KMA-G2MAG 200 magazine (weight: 7.10 kg). Laser dot sight and gyroscopic recoil compensation are standard."

T4 stats:

Damage: 2.5 (3 with HE rounds)

TL: 12

Range: Short

Shots: 50/100/200

Mass: Empty: 2.5 kg. With 50/100/200 round magazine: 4.3/6.2/9.6 kg

Reloads: 50-round 1.8 kg, 100-round 3.55 kg, 200-round 7.1 kg. Cost: 1460 Cr.

Designer's Notes: By my calculations, if the rounds are staggered, the 100-round magazine ought to measure approximately 15 cm, and the 200-round mag about twice that. The 50-round mag ought to fit nicely into the grip.

13) FSA "Blaster" 15mm Gauss Hand Cannon

I seem to have lost the text for this one...

T4 Stats:

Damage: 4 dart, 7 HE

TL: 12

Range: Short (34.2 m)

Shots: 8 rounds

Mass: 2.8 loaded, 2.35 empty

Reloads: 0.45 kg

Cost: 1005.24

14) FSA KMA G-3 Gauss SMG

Likewise, I just saved the stats.... It's pretty nasty, though; visualize a high-TL Mac-10.

FSA KMA G-3 8mm X 40mm Gauss SMG

T4 Stats:

Damage: 3 dart, 4 HE
TL: 12
Range: Short (23 m)
Shots: 40 rounds
Mass: 3.141 kg loaded, 0.923 empty
Reloads: 1.218 kg
Cost: 924.28

Length: 34.1 cm (magazine: 36 cm).
Gyro-stabilized, laser dot sight.

15) Caponese Varmint Pistol

This I did up for my character in Ross Coburn's current MT campaign.

Name: 11.74 MMC A5.1

Weapon length: 28.1 cm
Bulk: 2
Mass: loaded 2.21 Kg, empty 1.6 Kg
Price: 1416 Cr.
Cartridge: 11.75X32.2 mm straight cased
Barrel length: 9.8 cm
Actual Muzzle Energy: 1,350 joules
Receiver: TL-9 light semi-auto, TL-8 advanced materials, hollow pistol grip, optic sight
Basic Range: 16.9 m (Short Range).
Damage: 3 (3.499), 4 (4.06) HE/HEAP
Recoil: 3.319

Magazine (12-round grip): Mass: 189.4 g empty, 615.52 g full. Price: 1.9 Cr empty, 18.94 Cr full

16) FSA TL-14 10mm heavy gauss pistol.

I am quite proud of this one; it's very size and mass efficient in terms of conforming to the rather blocky (1d6, 2d6, 3d6) damage resolution of Traveller.

Length:	26.4 cm
Dart:	10mmX50mm, 7.85 grams
Mass (empty):	1.97 kg
Mass (loaded):	14-round mag: 2.08 kg, 21-round mag: 2.24 kg
Price (no mag):	997.89 cr
Basic Range (supersonic):	23.34 m (Short)
Basic Range (medium):	17.29 m (Very Short)
Basic Range (subsonic):	11.38 m (Very Short)
Damage (supersonic):	4 (4.02) dart, 5 (5.64) HE/HEAP
Damage (medium):	3 (2.98) dart, 5 (4.96) HE/HEAP
Damage (subsonic):	2 (1.96) dart, 4 (4.42) HE/HEAP
Recoil (supersonic):	Single shot: 3.44, B.-of-3: 5.16, B.-of-5: 8.6
Recoil (medium):	Single shot: 2.77, B.-of-3: 4.15, B.-of-5: 6.9
Recoil (subsonic):	Single shot: 2.11, B.-of-3: 3.17, B.-of-5: 5.275
MV (supersonic):	675 m/s
MV (medium):	500 m/s
MV (subsonic):	329 m/s
ME (supersonic):	1788 joules
ME (medium):	981.25 joules
ME (subsonic):	424.85 joules

Reciever: SA, Burst-of-3, Burst-of-5, hollow pistol grip, optic sight, laser sight, tl-10 gyroscopic recoil compensator (modrecoil .85):

Feed: Grip mag,

14 rounds:

Mass (unloaded):	0.21 kg
Price:	2.10 cr
Mass (loaded):	0.32 kg

21 rounds:

Mass (unloaded):	0.31 kg
Price:	3.10 cr
Mass (loaded):	0.475 kg

17) FSA .75 DiGriz Special Recoiless Pistol

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This week, somebody (I forgot who; I was studying at the time) suggested that somebody (hints were dropped about Familie Spofulam) try to design a .75 recoilless (i.e. rocket slug firing) pistol based on the Stainless Steel Rat's sidearm of choice. As I've now written the exam in question (1 down 5 to go), I decided to design said pistol since I had nothing better to do this evening (clear skies all week and the one night I have the time to take the binocs out it clouds over). For no apparent reason I decided to do it at TL-11, but it could be done at TL's 10 or up with no change.

Here it is. Boy is it ugly. Optimal range is at up to 3 meters or so using HE rounds where damage from round kinetic energy, explosive charge, and propellant burning inside of target will do a whopping 7.5 dice of damage (I use 1/2 dice for damage in my camapigns). Armour penetration is weak at low ranges and reaches a maximum of 4.5, due to the low but increasing velocity of the round.

I've made a number of assumptions concerning propellant burn over distance and other things; these are noted in the design notes, below. I'd appreciate commentary on these assumptions from anybody who knows more than I do about guns, rocketry, and the health effects on human beings of rocket propellant combusting in freshly inflicted bullet wounds.

Recoil is indeed low; only 0.67 in FF&S terms for a single round; derisory compared to some FS designs, and a gryoscopic or inertial recoil compensator would drastically lower this; a gyro-comped version would be .5 kg heavier, 300 cr more, and have a single-shot recoil of 0.273 (!).

Also, this might make an interesting test of the Bible Code; can anybody find a prediction of me doing this design in there? Try looking in the juicier bits of Leviticus or the grumpier Poverbs :).

Finally, Ross: I want to ditch the .47 automag and use this as Güüstag's varmint pistol :)!

T4 stats:

Name: .75 DiGriz Special Recoilless pistol (TL-11)

Tech Level: 10

Damage: Special: damage and armour penetration varies depending on range:

Damage at 4+ meters: Slug: 4.5, HE: 6.5

Penetration vs armour at 4+ meters: 4.5

Damage at 3 meters: Slug: 5.5, HE: 7.5

Penetration vs armour at 3 meters: 4

Damage at 2 meters: Slug: 5, HE: 7.5

Penetration vs armour at 2 meters: 3
 Damage at 1 meter: Slug: 4.5, HE: 7.5
 Penetration vs armour at 1 meters: 2
 Damage at point-blank: Slug: 4, HE: 7.5
 Penetration vs armour at point-blank: 1

Range: Very Short
 Shots: 8
 Mass: 2.18 kg
 Reloads: .36 kg
 Price: 261 cr

FF&S2 design notes:

Round:

Cal: 19mm
 Rated energy: 2500 joules [what the heck :)]
 Base area: 283.52 mm²
 Propellant volume: 2083.33 mm³
 Bullet length: 19mm
 Min case length: 18.37
 Round length: 40 mm (figured I'd round up; has nice ring to it)
 Round Mass: 90.7 grams (yikes)
 Ideal barrel length: 27.7 cm (assumes smoothbore barrel and use of normal explosive, non-rocket, round propulsion)
 Round price: 3.63 cr/round ordinary (would suggest at least doubling to reflect wierdness).
 Designation: .75 SSR Recoiless

I'm going to assume that the round burns 520.75 mm³ of propellant per meter travelled. I realize that this is an average figure, so based on the S.W.A.G. principle since I've never studied rocketry I'm going to assume that 50% of propellant is burned in the first meter to reflect acceleration from rest. Making another S.W.A.G.-based estimate, I'm going to assume that 15% of the first 50% of propellant will be burned in-barrel, for a total in-barrel burn of 187.5 joules worth of propellant.

I have no idea how realistic these assumptions are and would welcome input from anybody more educated than myself on these matters.

Barrel: 10 cm light smoothbore, TL-9 muzzle brake (+4 cm, modrecoil .75)

ModBlen: -0.64
 Mass: 0.2 kg
 Barrel price: 20 cr

Actual Muzzle Energy: 1700 (this assumes normal propulsion and will
be cheerfully ignored from now on)

Receiver: SA/FA light (since the round expends the vast majority of its energy outside the gun I'm going to proceed with a light receiver; the amount of blowback energy is only 187.5 joules). I'm adding only a hollow pistol grip; laser pointers etc probably wouldn't help with this sort of round.

Min length (assuming low ME): 5.5 cm
Actual length: 19 cm
Min mass: 0.23 kg
Actual mass: 0.89 kg
Receiver Price: 237 cr

Feed (8-round grip mag)

Mass (empty): .363 kg
Mass (loaded): 1.088 kg
Price (empty): 3.63 cr

Weapon evaluation:

Length: 33 cm
Bulk: 2
Mass (empty): 1.453 kg
Mass (loaded): 2.18 kg
Price (empty): 260.63 cr

Basic Range (using normal assumptions): 4.64 m (Very Short)

Damage at 4+ meters: Slug: 4.5 (actually 4.76), HE: 6.5 (actually 6.7)
Damage at 3 meters: Slug: 5.5 (actually 4.12), HE: 7.5 (actually 6.27),
[includes 1.5 from remaining 25% of propellant burning inside target]
Damage at 2 meters: Slug: 5 (actually 3.36), HE: 7.5 (actually 5.8) [includes 2
from remaining 50% of propellant burning inside target]
Damage at 1 meter: Slug: 4.5 (actually 2.38), HE: 7.5 (actually 5.9) [includes
2.5 from remaining 50% of propellant burning inside target]
Damage at point-blank: Slug: 4 (actually 1.3), HE: 7.5 (actually 4.9) [includes
3 from remaining 89.5% of propellant burning inside target]

Recoil: 0.67 (assuming 187.5 joules are burned in-barrel) single-shot, 1.675 FA

18) Famille Spofulam Armaments TL-12 GBH* Rifle / Grenade Launcher.

Here's a little something I did up a few days back. Visualize a large plastic bullpup assault rifle with an integral pump-action grenade launcher inspired by The Sound of Music. Think multiple, evil-looking muzzlebrake/flash hiders. However, all things considered, it's not quite as over the top as the usual Spofulam designs, so no press release :).

Name: Famille Spofulam Armaments TL-12 GBH* Rifle/Grenade Launcher.

T4 stats:

Combined eval:

Length: 95 cm
Bulk: 6.3
Price: 13,561 cr
Reloads (rifle): 82.25 (100-round box) cr
Reloads (gl): 167.1 (5-round tube) cr
Reload mass (rifle): 1.85 kg
Reload mass (gl): 1.54 kg
Mass (empty): 7.83 kg
Mass (loaded): 10.6 kg
Range (rifle): 67.3 m (Medium)
Range (gl): 102 m (Medium)
Damage (rifle): 5
Damage (gl): 4
Pen (gl): 7
Burst radius (gl): 11 m
Recoil (rifle): 0.78/1.95/3.9
Recoil (gl): 2.65

Rifle round: 7.5 mm X 47.5 mm caseless
Rifle barrel: 49 cm heavy rifled TL-12 Advanced Materials, long flash hider/muzzle brake, bayonet lug, RG adapter
Receiver: SA/Bo3/FA Heavy, TL-12 Advanced Materials, Bullpup plastic stock, gyro comp, Electronic sights (+20m), laser dot sight
GL round: 33.3 mm X 90 mm low-velocity propelled
GL barrel: 50 cm TL-12 AM smoothbore, long muzzle brake
GL receiver: TL-12 AM pump

* *GBH stands for Grievous Bodily Harm, which is a criminal charge in the UK that corresponds to aggravated assault in North American terms. It's one step worse than assault**. There was this punk band in the early '80's called Charged: GBH. Had one of their T-shirts.*

** *Ok, it seemed funny at the time :).*

19) FSA presents... Another Heavy ACR

Beats flaming each other... In case anyone was wondering, this is modelled on the rifles in Aliens. It's a pretty nasty piece of work. The weight is a bit high, but given very fit troops, lower gravity, or troops in BD, nothing to sweat. In fact I could see something like this being carried by BD units in M0. It's almost as lethal as a laser rifle, and has a much better weight/shots ratio. Even assuming that the laser rifle would be plugged into the BD's onboard power source, this thing draws no power and therefore permits greater range.

10mm Heavy Assault Rifle/Grenade Launcher (TL-12)

Evaluation:

Length:	94cm
Bulk:	6
Mass (empty):	7.84 kg
Mass (loaded):	11.17 kg
Price (unloaded):	14379.45 cr
Basic range (rifle):	83 m (Medium)
Basic range (gl):	153 m (Long)
Damage (rifle):	6 slug, 6.717 HE/HEAP
Damage (grenade):	4 explosive/7 pen, 11m blast radius
Recoil (rifle):	0.79/1.19/3.95
Recoil (gl):	1.26
Reload price (rifle):	132.75 cr
Reload price (gl):	104.02 cr
Reload mass (rifle):	3.215 kg
Reload mass (gl):	954.16 grams

Rifle:

Round: 10 mm X 46.5 mm caseless

Barrel: 40 cm heavy rifled TL-10 Advanced Materials, long flash hider/muzzle brake, bayonet lug, RG adapter

Receiver: SA/Bo3/FA Heavy, TL-12 Advanced Materials, TL-9 shock absorbing stock, hollow pistol grip, gyro comp, Electronic sights (+20m), laser dot sight

Feed: 100-round box, TL-12 Advanced Materials

Grenade Launcher

Round: 33.3 mm X 87.6 mm low-velocity propelled

Barrel: 36cm TL-12 Advanced Materials smoothbore

Receiver: TL-12 Advanced Materials pump

Feed: Tube Magazine, 3 rounds, TL-12 Advanced Materials

20) FSA presents.... *Two Bullpup-9 variants*

Here are a couple of variants on the Bullpup-9 that I did a while back. The Mk 1 uses the T4-canon 5mm round with a longer barrel to compensate for the lower-powered, cheaper round. I personally favour the Mk2; shorter, cheaper, lighter...

Bullpup-9 mk 1

Length:	103 cm
Bulk:	6.87
Mass (empty):	3.321 kg
Price:	783 cr
Range:	93.24 m (medium)
AME:	1770 joules
Damage:	4
Recoil:	2.755/13.776

Barrel: 78 cm light rifled

Receiver: Light auto burst, bullpup, hollow pistol grip

Mag: 50-round box, Mass (loaded): 420.24 gr, Price (loaded): 13.61

Round: 5 mm X 42 mm C, rated muzzle energy 1200 joules

Bullpup-9 mk 2

Length:	62 cm
Bulk:	4
Mass (empty):	2.646 kg
Mass (loaded):	3.135 kg
Price:	496 cr
Range:	64.36 m (Medium)
Damage:	4
Recoil:	2.86/14.31

Barrel: 41 cm light rifled

Receiver: Light full auto, bullpup, hollow pistol grip

Mag: 50-round box, Mass (loaded): 665.5 gr, Price (loaded): 21.26

Round: 7.57 mm X 29.03 mm C

At a price of Cr 50,000, not including the Nuke Bazooka package which **[classified]**, the BD-WIMPS is approximately double the price of a PCMP-12. However, unlike the PCMP-12, it permits the operator to deploy non-lethal incapacitants as well as more lethal chemical agents, does not present a massive EMS signature when fired, draws no power from the BattleDress suit's onboard power plant, and provides superior armour-penetration capability, not to mention the extreme destructive potential of a nuclear warhead. Thus, according to FSA, it provides longer-term field operation, greater stealth, and better operational flexibility than a PCMP.

At FSA's launch of the BD-WIMPS at the Linth Imperial Weapon Testing Range (which was slightly marred by their caterers being denied security clearance at the last moment), the weapon was demonstrated by one Winiipitaa Spofulam, a great-niece of FS head Hengabar Spofulam. As Mr. Spofulam provided running commentary, the winsome Miss Spofulam demonstrated impressive BattleDress ability for someone of such tender years as she demolished a series of targets over an obstacle course at the IWTR.

The weapon performed much as advertised; the rifle component can neutralize targets wearing ABD-12, not to mention unarmoured personnel. The HE grenade rounds provide respectable blast radius, and the SEFOP rounds are devastating against vehicular targets (let alone armoured troops; the sound of girlish laughter as a BattleDressed target had a 30-cm-plus hole blown through its breastplate and out its back was chilling). The napalm dispenser provides adequate short-range incendiary capability. As the reviews stands were not sealed against chemical agents, Winnie (as Mr. Spofulam affectionately referred to her) did not have the opportunity to spray nerve gas everywhere with gay abandon. Fortunately, neither did she have the chance to demonstrate the effects of a live nuclear warhead, although the dummy round she fired did impact the non-LOS target with impressive accuracy.

Given FSA's cheerful disregard of the lack of any Imperial RFP's in developing the BD-WIMPS, it is uncertain whether Imperial forces will adopt the system. However, given Famille Spofulam's indiscriminate marketing practices, it is entirely probable that BD-WIMPS will find their way onto a battlefield at some point...

BD-WIMPS (BattleDress Weapon, Integrated Multi-Purpose System)

Length:	116 cm
Bulk:	7.7
Unloaded Mass (weapon component):	18 kg unloaded (w/o Nuke)
Unloaded Mass (backpack):	12 kg
Loaded mass (weapon component):	42.51 kg (w/Nuke)
Loaded mass (backpack):	67 kg
Price:	50,000 cr

Reload Prices:

Rifle:	1190 cr (500-round cassette)
	130 cr (50-round box)
GL:	240 cr (7-grenade tube)
Nuke Bazooka Round:	1,001,000 cr (1-rocket package launcher)
Napalm tank:	60 cr (10-shot backpack tank)
Chem tank:	150 cr (10-shot backpack tank)

Reload Masses:

Rifle:	32 kg (500-round cassette)
	3.96 kg (50-round box)
GL:	2.09 kg (7-round tube mag)
Napalm dispenser:	14 kg (backpack tank)
Chem dispenser:	14 kg (backpack tank)

Basic Ranges:

Rifle:	134.5 m (Medium)
Grenade:	206 m (Long, Extremely Long with indirect fire)
Napalm dispenser:	Contact
Chem dispenser:	Contact
Nuke Bazooka:	Medium (Subregional max range)

Damages:

Rifle (slug):	9
Rifle (HE/HEAP):	9.65
Grenade (HE):	7 (4 explosive), burst radius 11.6 m
Grenade (SEFOP):	57 (2 explosive), burst radius 8.25
Napalm dispenser:	As per Flamethrower-5
Chem dispenser:	As per chemical agent used
Nuke Bazooka:	200 pen/31 USP
Crater:	25 m
Induced rad:	30 m
Destruction blast radius:	30/50 m (ground/airburst)
Primary blast radius:	100/150 m
Secondary blast radius:	200/300 m

Recoils:

Rifle: 1.136/1.704/5.68

GL: 2.4

Description:

Rifle:

Round: 12mm X 70 mm Caseless Spofulam WIMPS
Barrel: 65 cm TL-12 advanced materials heavy rifled,
TL-9 long flash hider/muzzle brake
Receiver: TL-12 light AB, TL-12 Electronic sight,
bullpup, Hollow pistol grip, TL-10 Gyroscopic
compensator
Feed: 500 round cassette/50-round box

Grenade launcher:

Round: 33.3 mm (3.33 cm) low-velocity propelled (HE or
SEFOP)
Barrel: 70 cm TL-12 advanced materials smoothbore, long
muzzle brake
Receiver: TL-12 advanced materials pump
Feed: tubular magazine, 7 rounds, TL-12 advanced materials

Nuke Bazooka Package Launcher:

Warhead: 0.1 kt fission nuke, Target seeker guidance
Missile: TL-8 9cm X 55cm Solid Fuel, 13.8 km max range,
1000kph max speed, 55 seconds duration
Length: 77 cm
Diameter: 20 cm
Volume: 2390 cm³
Mass (total): 22.5 kg

22) FSA 10mm Shorty Assault rifle

ROUND: 10 mm X 40 mm C

Barrel: 28 cm heavy rifled, TL-9 long muzzle brake/flash hider

Reciever: Heavy auto Burst, TL-10 Advanced Materials, hollow pistol grip, bullpup, TL-9 optic sight

Feed: 50-round box, Mass (empty):424.12, Mass (loaded): 1.602 kg, Price (empty): 4.24 cr Price (loaded): 51.24

EVAL:

Length:	62 cm
Bulk:	4
Mass (empty):	3.764 kg
Mass (loaded):	4.94 kg
Price (unloaded):	3454.24
Basic range:	54.37 (medium)
Damage:	5
Recoil:	2.05/Bo3: 3.07/FA: 10.25

23) FSA TL-12 5 mm X 25 mm gauss assault rifle

Reciever: AutoBurst, plastic shock-absorbing stock, hollow pistol grip, gyro comp, laser sight, Electronic sight, bayonet lug

Mass: 2.56 kg

Price: 3022 cr

Length: 48 cm

ModRecoil: 0.5 X 0.5

Feed: 100 rounds

Battery: 3.35 kg

Mass (empty): 3.42 kg

Price: 34.2 cr

Mass (loaded): 3.62 kg

Evaluation:

Length:	64.7 cm
Bulk:	4
Mass:	6.5 kg
Price:	3356.2
Range:	88.65 m (Medium)
Damage:	5
Damage (subsonic):	1
Recoil:	0.4/1 b-o-5/2 FA
Recoil (subsonic):	0.03/0.07 b-o-5/0.15 FA

24) FSA presents...an autopistol and SMG that run off the same round.

I kind of like them for no apparent reason.

TL-12 7.5mm Pistol mk3

Evaluation:

Length:	24.5 cm
Bulk:	2
Mass (empty):	1.19 kg
Mass (loaded):	1.44 kg
Price (no mag):	1650 cr
Actual Muzzle Energy:	511.75 joules
Basic Range:	8 m (Very Short)
Damage:	2.15 slug, 3.27 HE/HEAP
Recoil:	Single shot: 2.24, B.-of-3: 3.36

Round 7.5mmX15mm Caseless:

Cal:	7.5 mm
Rated Energy:	575 joules
Base area:	44.12 mm ²
Propellant vol:	479.17 mm ³
Bullet Length:	7.5 mm
Case length:	6.8 mm
Round length:	15 mm
Mass:	5 gr
Ideal barrel length:	10.22 cm
Price:	0.20 cr slug, 0.40 HE or tranq, 0.60 HEAP,

Barrel: TL-12 light rifled, 8 cm, TL-12 advanced materials
Receiver: SA, Burst-of-3, hollow pistol grip, optic sight, laser pointer, TL-12 advanced materials
Feed: Grip mag, 25 rounds (sticks out a bit), Mass (empty): 0.049 kg, Price (empty): 0.49 cr, Mass (loaded): 0.174 kg

25) FSA TL-8 Ultralite ACR

Round: 5.5mmX33mm C-DS
Barrel: 53 cm light rifled, TL-8 long muzzle brake, bayonet lug
Receiver: TL-8 Light Auto Burst, bullpup, hollow pistol grip, TL-8 optic sights
Feed: 100 round box, Empty mass: 204 gr, Empty price: 2 cr, Loaded mass: 792 gr, Loaded Price: 48 cr

Evaluation:

Length: 85 cm

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Bulk: 5.66
Mass (empty): 3.204
Mass (loaded): 3.792
Price (empty): 775 cr
Basic range: 65 m (medium)
Damage: 3.429
Recoil: 1.49/2.25/7.45

26) FSA TL-12 8 mm Pistol mk 2

Evaluation:

Length: 23.1 cm
Bulk: 1
Mass (empty): 0.513 kg
Mass (loaded): 0.613 kg
Price (no mag): 138.75 cr
Basic Range: 8.2 m (Very Short)
Actual ME: 285.27 joules
Damage: 1 (1.61) slug, 3 (3.033) HE/HEAP
Recoil: Single shot: 4.69, B.-of-3: 7.04

Feed: Grip mag, 17 rounds

Round 8 mmX11 mm Caseless:

Barrel: TL-12 light rifled, 5 cm,

Receiver: SA, Burst-of-3, hollow pistol grip

Feed: Grip mag, 17 rounds

Mass (empty): 0.03 kg
Price (empty): 0.30 cr
Mass (loaded): 0.1 kg

27) FSA designed Maaliikaani Armed Forces 10mm Flechette Carbine.

Damage:	3 (special; treated as 1 die greater against flex armour).
TL:	8.
Range:	Medium (50 m).
Shots:	50.
Mass (empty):	3.43 Kg.
Mass (loaded):	5.34 Kg.
Reloads:	2.6 Kg.
Price:	1,546 Cr.

A simple and lightweight bullpup flechette carbine, 94 cm long, firing the same round as the Flechette SMG, below. Is equipped with a telescopic sight.

28) FSA designed Maaliikaa Constabulary Service Service Sidearm.

Damage:	1.5 (house rule: treated as 1 die higher against flex armour).
TL:	9.
Range:	Very Short.
Shots:	35.
Mass (empty):	1 Kg.
Reloads:	0.141 Kg.
Price:	1,215 Cr.

A small (16cm long) TL-9 pistol, constructed entirely out of TL-8 advanced materials, that fires 4mm caseless flechettes. It is capable of single-shot, burst-of-5, or full auto fire. It has a 35-round magazine capacity. Full-auto recoil is powerful.

29) FSA Designed Maaliikaa Constabulary SWAT Carbine.

Damage:	2 (house rule: treated as 1 die higher against flex armour).
TL:	9.
Range:	Short.
Shots:	50.
Mass (loaded):	2.988 Kg.
Reloads:	0.588 Kg.
Price:	425 Cr.

A longish (90 cm) bullpup carbine carried by Maaliikaani Constables. Firing the same round as the Maaliikaani Constabulary Service Sidearm, it is typically fitted with TL-9 optic sights and a 50-round magazine.

Other:

Intercepted FSA Internal Memo

From: Niipita Indifar Spofulam, Head, Starship weapons division
To: Hengabar Spofulam
Re: Project: Concealable Light Low-Lethality Thud Gun
Date: 002-016

Dear Uncle Hengie:

I'm sorry to report that initial feasibility studies demonstrate that Cousin Shidaar's concept for a ship-based anti-Deep Meson Site mass driver is somewhat flawed.

To recap, Cousin Shidaar's concept was that of a HEAP gauss round scaled up by several orders of magnitude; a 10m diameter by 50-odd meter mass driver projectile, containing 2 displacement tons of liquid hydrogen as coolant and fusion mass, was to be accelerated via a spinally mounted mass driver to velocities exceeding 25,000 meters/second. The projectile was to mass approximately 58,900 tons. The LHyd coolant, serving as refrigerant to lower the round's IR signature, was to run through piping running through the projectile and expand upon heating into a hemispherical cavity located towards the rear of the projectile.

Upon impact, the kinetic energy released would be on the order of a 1.4 megaton nuclear detonation. As the slug drove through the surface of the planet, disintegrating from the high energies released, compression effects would compact the hydrogen into the top of the dome-shaped detonation chamber, where the heat created by impact would ignite a fusion explosion, focussed by the shape of the detonation chamber and tamped to a small extent by the remaining mass and velocity of the projectile. The resulting explosion (of approximately 4 megatons at estimated efficiency of <1%), when combined with the extremely high impact velocity of the superdense projectile, was to be sufficient enough to blast through the planet's crust and destroy the targeted deep meson site.

Had the weapon worked as projected, this would have resulted in a means of eliminating deep meson sites from beyond their lethal radius, while causing minimal (relatively speaking) collateral damage to the planet; the destruction caused would have been limited relative to the depth of the impact compared to the use of high-yield fusion devices of comparable yield; total devastation, and climatological and other environmental damage would have been relatively limited.

However, after running the numbers through some preliminary models, it is estimated that due to the extremely high energy levels involved, the penetrative HEAP-analogue effect that Cousin Shidaar envisioned would

not occur; even superdense has its limits. The slug would simply vapourize before digging too deep, causing precisely the sort of widespread massive destruction that the weapon concept was to avoid. When following standard crater-producing models on a typical Sylean-norm planet, it is estimated that assuming fusion detonation took place as projected (which is far from certain), the crater produced would be somewhat over 850 meters in diameter and somewhat less deep. The destructive radius of the blast would of course be much larger, on a par with a 4.3 megaton yield thermonuclear device. Thus, the destructive effect of the projectile would be insufficient to accomplish its goal of deep meson site neutralization.

Of course, while the ability to cause this sort of damage to a target is eminently desirable, there are far less expensive means of causing it than Cousin Shidaar's outsize mass driver. Scaling up the projectile size and velocity would increase costs (both of weapon system and platform) proportionately, not to mention crater size and collateral damage. Thus, I cannot recommend that we proceed with the development of this weapon system until materials technology progresses to the point where a projectile as described above would not vapourize upon impact. This development is unlikely in the short to medium term.

To conclude, while his concept is fundamentally flawed, Cousin Shidaar has nevertheless demonstrated exceptional talent for a 7-year-old, and I would suggest that we shunt him into the extremely enriched educational program at the creche.

Your affectionate niece,

Niipie.

The End?