

# PYRAMID<sup>®</sup>

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# MILITARY SCI-FI



## TACTICAL SHOOTING: TOMORROW

by Hans-Christian Vortisch

### CHROME COMMANDOS

by W.A. Frick

### MOBILE WORMHOLE LOGISTICS

by Adrian Tymes

### THE VREE

by David L. Pulver

### FUTURE SOLDIER

by Kenneth Peters

# STEVE JACKSON GAMES

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*With the decisive slap of a big, illuminated red button, a commo center corporal put the space station on war footing, and warned Earth to follow suit.*

*– Jack McKinney, **Robotech: The Southern Cross***

## Article Colors

Each article is color-coded to help you find your favorite sections.

- Pale Blue:* In This Issue
- Brown:* In Every Issue (letters, humor, editorial, etc.)
- Dark Blue:* GURPS Features
- Purple:* Systemless Features

### COVER ART

*Doug Chaffee*

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*Greg Hyland*

# IN THIS ISSUE

The universe is a big, scary place. Fortunately, we can be bigger and scarier when we need to be. This month, we look at the martial side of science fiction.

Learn about the ultra-tech tools and realistic techniques that a futuristic gun-wielder has at his disposal in *Tactical Shooting: Tomorrow*. Hans-Christian Vortisch, author of *GURPS Tactical Shooting*, presents a futuristic expansion for that supplement, drawing on rules and equipment from *GURPS Ultra-Tech*, *GURPS High-Tech*, and other sources. This meaty guide includes stats for equipment, two new *GURPS* techniques, and two new gun-fighting styles.

Turn your TL9 infantrymen into *Chrome Commandos* with the best equipment available. Check out new and revised basic gear, computers, software, and defenses, along with an overview of a basic command vehicle. You'll also get some new options for existing materiel.

Future fighting isn't just about gear; it's also about the enemy! Firmly believing they have the most perfect religion in existence, *The Vree* want to share it with the rest of the universe – whether other species like it or not! David L. Pulver, author of the *GURPS Spaceships* series, tells all about this religious warrior race with a gift for song in this month's Eidetic Memory – including a racial template, info on two of their craft (with *Spaceships* stats), and more.

Moving supplies and troops in far-future settings just got easier with *Mobile Wormhole Logistics*. Find out about this spacefaring troop transport ship that shuttles troop deployment vessels through micro-jump gates, along with *Spaceships* stats for this superscience vessel.

Building off this issue's material for tactical shootists, now you can outfit your *Future Soldier* with what he needs – thanks to *Ultra-Tech* co-author Kenneth Peters. Learn about issues to consider, new and revised software, typical weapon add-ons, and power- and system-integration options, plus a *GURPS* loadout for the typical TL9 rifleman.

This issue's Random Thought Table looks at the human side of our future fighting forces, while Odds and Ends considers a limitless supply of futuristic inspiration, plus a Murphy's Rule that makes a fashion statement. This issue is lock and loaded, and ready to kick E.T.'s butt!

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# FROM THE EDITOR

## “TARGET THAT EXPLOSION AND FIRE!”

Military and science fiction go together like peanut butter and jelly. From the (one-sided) military operations of *The War of the Worlds* to the Honor Harrington series to the *Aliens* universe to *Halo* and countless other video games, the clashes of futuristic forces have been a staple of speculative fiction from darn near the beginning straight through tomorrow and beyond.

What was particularly interesting when assembling this issue – which seems obvious, in hindsight – is how much military science-fiction gaming builds off the foundation of modern-day military knowledge. This issue would've been vastly different if it came out a few years ago, because *GURPS Tactical Shooting* didn't exist at that time. It's an invaluable supplement for anyone looking for futuristic realism; the tactics that space marines rely on will certainly build off the modern-day shootist skill set. Likewise the new loadout on pp. 32-34

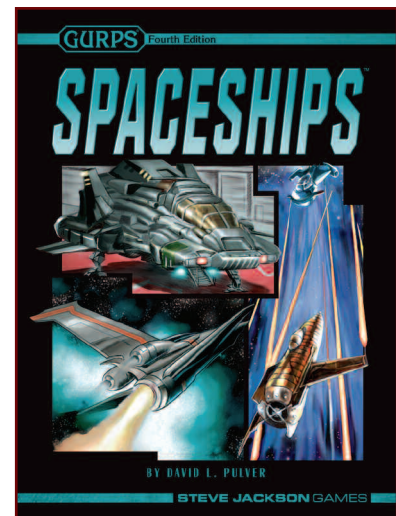
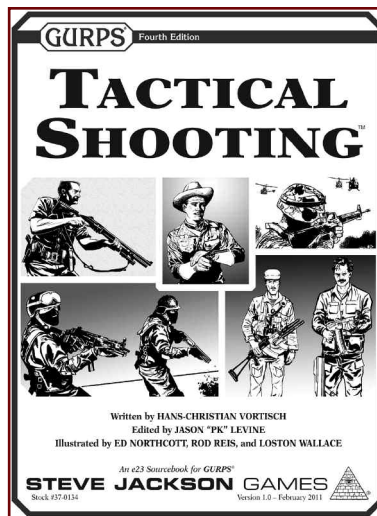
uses the format developed in *GURPS Loadouts: Monster Hunters* and *GURPS Dungeon Fantasy 13: Loadouts* – only now, for the first time, we have a science-fiction loadout.

The realism of *GURPS* and the rigor of its science-fiction offerings meld perfectly with this issue, pulling together *Ultra-Tech*, *High-Tech*, *Spaceships*, and more. (There's even a bit of tangential information for those using *GURPS Mass Combat* for larger-scale tactical excitement.)

The future of *GURPS* is brewing here, in *Pyramid* . . . and it looks as impressive as a battalion of ready-to-roll space marines.

## WRITE HERE, WRITE NOW

Speaking of impressive brewing, how well did we do this month? Was your sense of excitement on the receiving end of an orbital bombardment of awesome? Or was it a bug hunt, *game over*? We'd love a post-mission debriefing, either privately at [pyramid@sjgames.com](mailto:pyramid@sjgames.com), or amid the like-minded heroes of [forums.sjgames.com](http://forums.sjgames.com).



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## Guns in Space

In those TL9 societies that feature frequent space travel, guns may be space-proofed. *Any* firearm can be fired in space – even TL5-8 metallic cartridges contain their own oxidizers. One issue is lubrication – ordinary lubricants quickly vaporize in vacuum (*High-Tech*, p. 85). The firearm must be designed to need little or no lubrication, or to be used with special vacuum-proof lubricants. Either has no effect on cost or weight, but *must* be in the design from the start. A gun that is not lubricated properly has its Malf. worsened by -1 or more (*High-Tech*, p. 80).

The chief issue in firing a gun in vacuum is the extreme temperature change. Space can be extremely cold *or* hot (p. B437). As soon as the gun is fired, even for a few shots, the action and barrel will heat up considerably and expand. Extreme temperature fluctuations negatively impact precision (reduce Acc by -1), lead to jams (worsen Malf. by -2), and can ultimately result in a catastrophic explosion (p. B407) due to material fatigue. Space-proof guns need especially efficient ways to dissipate heat (p. 5). They also need to be built from materials that can take the temperature fluctuations. Multiply cost and weight of the gun by 1.2.

Guns designed to be used in space require an oversized trigger and trigger guard to accommodate the gloves used with vacc suits, space armor, and battlesuits. Otherwise the trigger can't be pulled at all. Even with an appropriate trigger, all Guns rolls are at -2 due to the

reduced manual dexterity of the gloves. A neural link (p. 5) may be more practical.

The lack of air pressure in space has *no* significant effect on muzzle energy and thus Damage. It does theoretically increase Range to infinite, however.

### Gravity and Shooting

Microgravity affects shooting skills (p. B350). The Zero-G Shooting technique (p. 11) is useful to avoid any penalties. Furthermore, unless the shooter is fully braced against an immobile object, guns fired in microgravity are more affected by recoil; increase minimum ST by +5 and add +1 to Rcl. Firearms designed for use in microgravity are fitted with special zero-G compensators at the muzzle, which direct the firing gases in a way that these effects are negated. These don't provide the advantages of ordinary compensators (*Tactical Shooting*, p. 76), and aren't compatible with either them or flash hiders. Zero-G compensators cost \$250 and weigh 0.5 lb.

Guns fired in high gravity suffer Range loss and have their minimum ST increased. Neither gun nor shooter can counter this, and the shooter has to understand the phenomena to deal with them. Even medium-distance shots can require extreme compensation. This is a -2 familiarity issue (p. B169).

The Precision Aiming technique (*Tactical Shooting*, p. 45) has to be learned for every 0.2G step of gravity.

Of course, either the recognition grip itself or the data input could be meddled with. The safety can be disabled with an Electronics Operation (Security)-4 roll or the data input can be hacked (*Ultra-Tech*, p. 47). The data sets could be extracted and misappropriated to point the finger at an innocent user.

The optional D-tag (*Ultra-Tech*, p. 151) will be a universal feature of at least of military and police weapons, since accountability of materiel is always an issue, and likely even more so in TL9 societies that are more "civilized." In fact, the D-tag will probably be included for free in *all* guns, just like TL8 cell phones have a GPS locator. Criminals, guerrillas, and similar users should always disable it . . . On standard-issue guns, the location of the D-tags will be known by all but the most naive thugs and revolutionaries, but deactivating them – using Electronics Operation (Security)-2 – is still an issue.

### Handgrips and Stocks

Handgrips and shoulder stocks are fully adjustable. Instead of the interchangeable grip panels and multi-position stocks of TL8 guns, TL9 weapons use auto-adjusting memory materials (*Ultra-Tech*, p. 90) for a perfect fit to each shooter's hand size, length of pull, etc. This prevents problems with shooting in armor or bulky clothes (*Tactical Shooting*, p. 12). Together with other adjustable features, this option makes the Weapon Bond perk (*Tactical Shooting*, p. 41) likely for a majority of shooters. It also allows guns to be used by humanoid alien races. Many long arms can be reduced in size by one Bulk step, by virtue of a retractable or folding stock (*High-Tech*, p. 160).

### Accessory Rails

Most guns will be covered with integral accessory rails (*Ultra-Tech*, p. 150), a trend that started at TL8. These are generally free if part of the original design. The GM decides which specific weapons have rails and where. Handguns have at least one below the barrel, long arms typically four – one on top, three below and on the sides of the handguard.

### Diagnostic Computers

All TL9 guns feature a diagnostic computer for free (*Ultra-Tech*, pp. 149, 151). This has a shot counter function (*Ultra-Tech*, p. 149) that allows the shooter to always know the exact number of shots remaining (*Tactical Shooting*, p. 20), preventing nasty surprises like *unexpectedly* running out of ammo. The gun has a digital display for the rounds remaining, but can also send this information via the HUD link to a HUD or neural interface. Keeping track of the shot counter via HUD link is a free action, while checking the display on the gun takes a Ready maneuver.

The diagnostic computer can keep track of the type of round(s) loaded, which can be useful, especially if the gun has two different magazines or belts. Mixing ammunition in the same magazine is generally still stupid (*Tactical Shooting*, p. 31). This information also can be gleaned from the display or the HUD.

The diagnostic computer gives +1 to fix malfunctions via Immediate Action (*High-Tech*, p. 81, and *Tactical Shooting*, p. 17).

For instance, when more than 20 wounded need to be treated, the clinic is used for first-pass stabilization; those who just need rest after treatment are sent to their quarters, while those with more severe wounds are transferred to a dedicated hospital if one is available. Likewise, the machine shop's \$5,000/hour production capacity – from five minifac robofacs – is used primarily for food, fuel, and ammunition (if those are not otherwise available), then for repairs, and then for manufacture of special equipment as necessary.

## OVERWORLD-CLASS TROOP TRANSPORT (TL10<sup>^</sup>)

This superscience interstellar ship is constructed with a 30,000-ton (SM +11) winged, streamlined hull just over 450 feet long.

Since the TDVs are the preferred means of abandoning ship if necessary, an *Overworld's* hangars are separated to prevent a single hit from destroying them all. In transit, three TDVs are carried in the hangar bays, with five more “crated” in the center cargo hold.

An *Overworld* does not have enough power for both its stardrive and jump gate systems, and may power at most one or the other at a time. The standard approach is to shut down the jump gates when using the stardrive, allowing the wormholes to collapse, then shift power to the jump gates and manufacture new wormholes upon arrival at the destination. (In some settings, wormholes cannot survive FTL transit anyway.)

*Overworld*-class ships are named for the brigades that they carry, such as “978th Armored” – or “978th Armored Headquarters,” if the ship must be referred to separately from the organization.

### Front Hull Systems

- [1] Nanocomposite Armor (50 dDR).
- [2] Hangar Bay (1,000 tons capacity).
- [3] Half Fusion Reactor (1 Power Point) and half Habitat (ops center, 20-bed automated sickbay, five minifac robofacs, five offices, and 30 mixed establishments).\*

### Front Hull Systems

- [4] Habitat (10 luxury cabins, 60 cabins, and 20-cell brig with total life support).\*
- [5-6] Habitat (100 bunkrooms with total life support in each).\*
- [core] Control Room (C9 computer, comm/sensor 10, 15 control stations)\*

### Central Hull Systems

- [1] Nanocomposite Armor (50 dDR)
- [2] Hangar Bay (1,000 tons capacity)
- [3-5] Large Cargo Hold (5,000 tons capacity)
- [6!] Jump Gate (wormholes and airlocks; see above)\*

### Rear Hull Systems

- [1] Nanocomposite Armor (50 dDR)
- [2] Hangar Bay (1,000 tons capacity)
- [3-4] Cargo Holds (1,500 tons capacity each)\*
- [5!] Stardrive Engine (FTL-1)\*
- [6] Antimatter Plasma Torch Drive (1G acceleration, ram rockets)\*
- [core] Fuel Tank (1,500 tons antimatter-boosted hydrogen with 120 mps delta-V)

\* Three workspaces per system.

The *Overworld* is streamlined, winged, and comes with artificial gravity, stealth, and digital chameleon hulls. All of the armor is hardened (p. B47; *GURPS Spaceships*, p. 29); attacks against it reduce the armor divisor by one step.

An *Overworld* runs with 15 bridge crew (including crew to coordinate sensor and communication feeds from the TDVs) and 33 technicians. It will usually carry 147 people for these roles, for three shifts while traveling between deployments, damage control in combat, and extra support when the companies are in the field. Rounding out the crew are 50 attendants (quartermasters, military police, chaplains, and so on) and 10 medics, who are collectively referred to as the “head-quarters company.” The number of non-ship-crew soldiers carried depends on the battalion, but is typically 600 to 700. The brig can hold 80 prisoners.

<i>TL</i>	<i>Spacecraft</i>	<i>dST/HP</i>	<i>Hnd/SR</i>	<i>HT</i>	<i>Move</i>	<i>LWt.</i>	<i>Load</i>	<i>SM</i>	<i>Occ</i>	<i>dDR</i>	<i>Range</i>	<i>Cost</i>
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### PILOTING/TL10 (HIGH-PERFORMANCE SPACECRAFT)

10 <sup>^</sup>	<i>Overworld-class</i>	200	-2/5	13	1G/120mps	30,000	11,102	+11	1,020ASV	50	1x	\$4.75B
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In atmosphere, an *Overworld* has Hnd/SR +2/6 and Move 10/1,250.

## TROOP DEPLOYMENT VESSEL (TL10<sup>^</sup>)

The TDV exists to dive into an atmosphere, dodge enemy fire, reach the ground, and deploy troops through its internal wormhole to secure the immediate area. Once on the ground, it serves as a command post and supply nexus for those troops, as well as an evacuation route if necessary. It is made with a winged, streamlined hull massing 1,000 tons (SM +8) and is a little over 200 feet long.

The vehicle-sized airlock (hangar bay) opens on both sides of the TDV, to allow faster entry and exit. For security, the airlock and center of the wormhole (a 7x7-yard square portal discussed in *Wormhole Logistics*, p. 25) are not internally accessible from the rest of TDV; someone coming through the wormhole normally must go out the airlock, move to one of the smaller airlocks near the front or rear, and enter there to reach the rest of the ship. In an emergency, the sides, top, and bottom of the wormhole can be accessed internally via crawl spaces that bypass the large airlock.

## SYSTEMS INTEGRATION

By default, every item in the loadout is a standalone item that is strapped on and plugged in (see *Plug-In Gadgets* in *Ultra-Tech*, pp. 15-16), and otherwise ready to run (even the glasses are a compound device, with a clip-on hyperspectral imager and night vision lenses). This simplifies maintenance and acquisition, as each component can be removed for repair and refurbishment, be easily replaced or removed by different customers (or the troops themselves), and subcontracted out to more bidders.

However, it complicates logistics, *especially* if there are multiple models and manufacturers for a single component (“Oh, you have a Shiboshi Industries tactical computer? Don’t have the parts in for that model. Try again next week.”). It also makes tracking issued gear more complicated, creates multiple overlapping acquisition programs, and gives the poor soldier more items to be accountable for and possibly lose. And – almost as an afterthought to military planners and leadership – it all ends up being heavier for the soldier!

*War has changed . . . Genetic control. Information control. Emotion control. Battlefield control. Everything is monitored and kept under control.*

– Old Snake,  
in *Metal Gear Solid 4:  
Guns of the Patriots*

### Combined Gadgets

The rules for *Combination Gadgets* (*Ultra-Tech*, p. 16) are an often-neglected way to reduce the weight (and associated bulk) of devices that share components, without requiring

expensive modifications and custom designs. The obvious targets for combination in the rifleman loadout are the clamshell and helmet systems, but an argument could also be made for integrating the suppressor and scope on the carbine to shave off valuable ounces. (Note that items with negligible weight still benefit from the  $\times 0.8$  cost multiplier.)

Combined gadgets are a bit more difficult to maintain, but it’s common for military-spec gear to use line-replaceable modules or swap broken items with completely new ones while the maintenance depots or manufacturer diagnose and repair the specific issue. This may affect gear with an Equipment Bond, but such items shouldn’t be malfunctioning except in dramatic moments anyways.

*Combined Clamshell* (\$6,880, 20 lbs.): Combines the heavy clamshell armor with all [**Clamshell**] systems. Modifies fighting load by -\$220, -0.5 lbs.

*Combined Helmet* (\$2,680, 3.44 lbs.): Combines the light infantry helmet with all [**Helmet**] systems. Modifies fighting load by -\$420, -0.11 lbs.

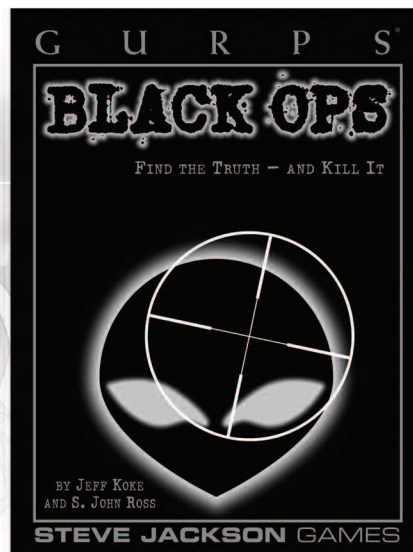
*Combined Reflex Suit* (\$1,952, 8.96 lbs.): Combines the reflex suit with all [**Reflex Suit**] systems. Modifies fighting load by -\$488, 2.24 lbs.

*Combined Rifle* (\$3,420, 8.92 lbs.): Combines the assault carbine with all [**Carbine**] and [**Weapon**] systems (except the magazine). Modifies rifleman fighting load by -\$380, -1.1 lbs.

*Combined Shades* (\$2,280, 0.76 lbs.): Combines the armored shades with all [**Shades**] systems. Modifies fighting load by -\$70, -0.04 lbs.

## ABOUT THE AUTHOR

Kenneth Peters was a sergeant in the U.S. Marine Corps before returning to the real world. He was denied an opportunity to shoot at anything interesting during Operation Iraqi Freedom/Operation Enduring Freedom, but did become fairly proficient in Strategy (Logistics). He enjoys telling amusing stories about various Marine Corps shenanigans, including his personal experience with the famous BA-5590 battery issue (described in *High-Tech*, p. 13).



## ABOUT *GURPS*

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*Errata.* Everyone makes mistakes, including us – but we do our best to fix our errors. Up-to-date errata pages for all *GURPS* releases are available on our website – see above.

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