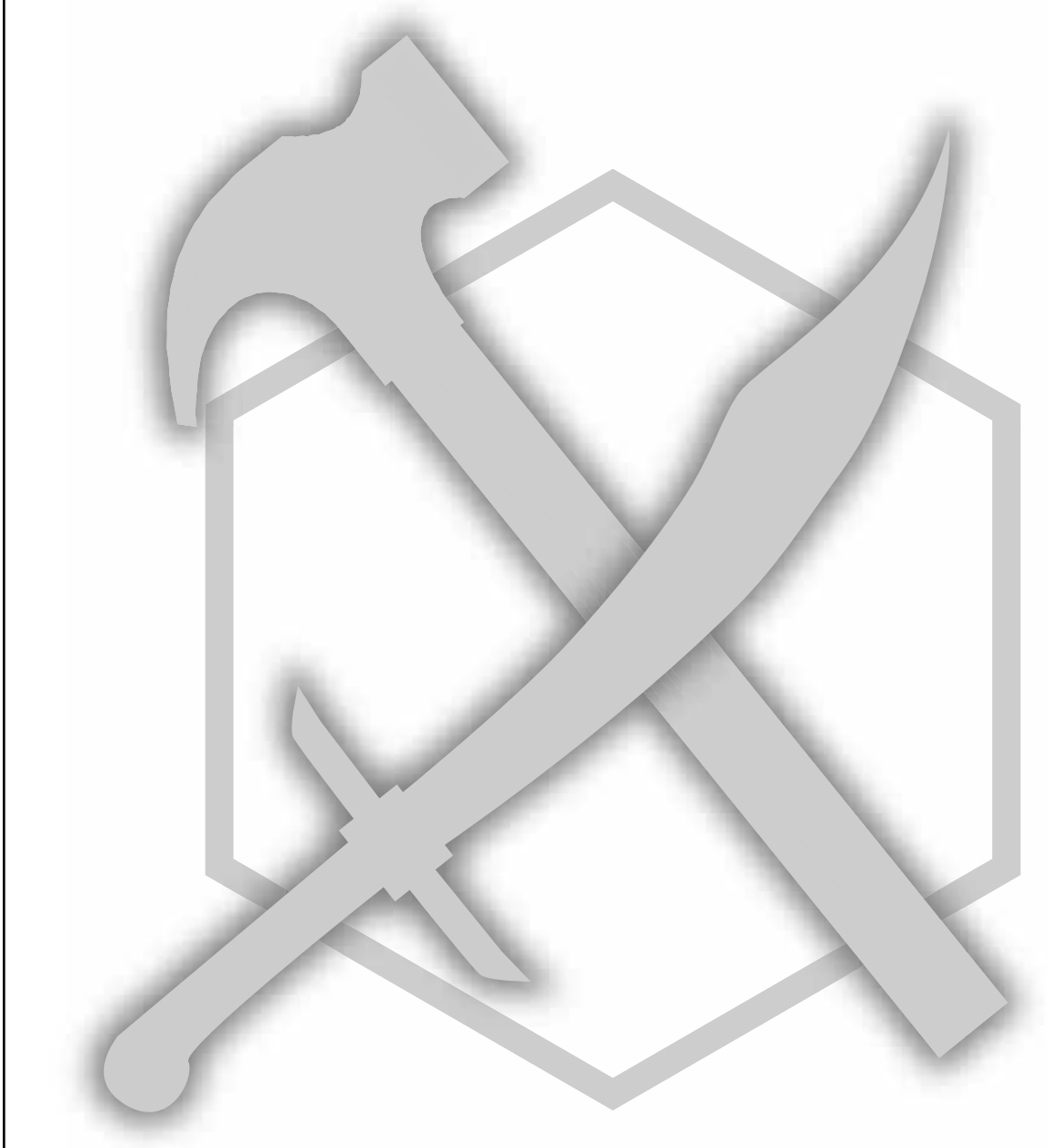
HERO SYSTEM EQUIPMENT GUIDE



Steven S. Long

HERO SYSTEM EQUIPMENT GUIDE

A Sourcebook for the *Hero System*

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INTRODUCTION

No matter what type of campaign or character you play, the chances are that weapons and gear play an important part in it. In many cases characters practically obsess over their gear, paying attention to every little detail and paying top dollar in the game for the best, most cutting-edge stuff. But even if the PCs themselves don't care about equipment, their enemies probably do. After all, it usually doesn't take much in the way of firepower to make even the lowliest thug or goblin a match for the most powerful hero!

The HERO System Equipment Guide is your one-stop shopping place for just about any sort of weapon or gear you can imagine. It reprints equipment from several *HERO System* books, including *The Ultimate Martial Artist, Star Hero, Fantasy Hero,* and *Dark Champions.* Leaving aside some of the imagined technologies for Science Fiction games, the book focuses on "real world" equipment most often found in Heroic campaigns. If you want science-defying comic book-style super-tech, Hero Games publishes another book, *Gadgets And Gear,* that has everything you need.

WHAT THIS BOOK CONTAINS

As mentioned above, the *Equipment Guide* mostly contains equipment reprinted from other books. Except where noted below, it doesn't have any new material — it simply collects existing weapons and gear and compiles them in one place for easy reference. Where appropriate, page references have been changed to refer to the *5th Edition, Revised* rulebook.

Chapter One, *Fantasy Equipment,* covers weapons and armor from *Fantasy Hero,* including rules about how to construct such equipment. Chapter Two, *Martial Arts Equipment,* provides weapons and armor from various Asian cultures, suitable for use not only in *Ninja Hero* campaigns but Fantasy games with an Oriental feel.

Chapters Three and Four, *Modern-Day Weapons* and *Modern-Day Gear,* reprint the weapons and other gear, respectively, from *Dark Champions.* They also include various types of ammunition, firearms accessories, and the like. Chapter Three includes some new material: weapons of mass destruction (a nuclear bomb; chemical and biological weapons) and poisons.

Chapter Five, *Science Fiction Equipment,* includes the weapons and other technology from *Star Hero* for use in Science Fiction games.

WHAT THIS BOOK DOESN'T CONTAIN

It's also important to note what this book *doesn't* contain.

First, as mentioned earlier, it doesn't include superhero gadgets or equipment, such as those in *Champions* and *Gadgets And Gear.*

Second, it includes only personal equipment — the sorts of weapons and devices characters might carry themselves on their adventures. It doesn't have any vehicles, siege engines, or the like.

Third, the *Equipment Guide* doesn't feature any setting-specific equipment, only the "generic" gear found in various genre and Ultimate books. Thus, if you want the weapons list for the Terran Empire setting, you should refer to *Terran Empire* and *The Spacer's Toolkit,* not this book.

Fourth, except where necessary to explain how equipment functions in the game, or the like, this book doesn't have any rules for using equipment in the game. For example, for the most part it lacks price lists — they tend to be campaign-specific things (see the appropriate genre books for guidelines about creating price lists, and sample price lists). It also doesn't have rules for technology levels, special maneuvers for use with weapons, or the like. The *Equipment Guide* is just an equipment locker; for other rules, see the *5th Edition, Revised* rulebook or the various books from which this equipment was taken.

FANTASY EQUIPMENT

Chapter One

WEAPONS

Except in some martial arts-oriented campaigns, Fantasy combat usually involves lots of weapons: swords, axes, bows, daggers, and many, many more. This section has expanded weapons lists, plus rules for building and using weapons. You may also want to refer to Chapter Two of this book, which has an extensive list of Asian and martial arts weapons.

WEAPONS TABLES

The accompanying weapons tables — one for HTH Combat weapons and one for Ranged Combat weapons — provide *HERO System* statistics, write-ups, and notes for dozens of weapons appropriate to *Fantasy Hero* and similar genres. The tables are similar to those on pages 481-83 of the *HERO System 5th Edition, Revised* rulebook; where these tables differ from those in the rulebook, these tables take precedence, at least for Fantasy games.

FANTASY HERO HAND-TO-HAND WEAPONS TABLE

Weapon	OCV	Damage	STUNx	STR Min	BODY	DEF	Mass	A/R Cost	Length	Notes
Axes										
Axe, Battle	0	2d6	0	13	6	4	1.6	45/15	M	1½H
Axe, Francisca#	0	1½d6	0	12	5	4	1.2	44/16	M	Can Be Thrown
Axe, Great	0	2d6+1	0	16	8	4	2.1	52/15	M	2H
Axe, Hand (Hatchet)#	0	1d6	0	6	3	4	0.6	26/9	S	Can Be Thrown
Axe, Small	0	1d6+1	0	8	4	4	0.9	30/11	M	
Hammers And Maces										
Hammer#	0	1d6	+1	10	5	4	1.3	26/9	M	
Hammer, Small#	0	1d6-1	+1	8	4	4	1.0	21/8	M	
Hammer, War#	-1	1d6+1	+1	13	5	4	2.0	35/10	M	1½H
Mace	0	1d6+1	0	10	5	5	1.5	30/11	M	
Mace, Great	0	2d6	0	15	6	5	2.0	45/13	M	2H
Mace, Small	0	1d6	0	8	4	5	1.3	22/8	M	
Maul#	0	1½d6	+1	18	5	5	2.5	44/12	M	2H
Picks										
Pick*	0	1d6 AP	0	11	4	5	1.3	30/11	M	
Pick, Great*	0	1½d6 AP	0	14	6	5	1.5	50/15	M	2H
Pick, Military*	0	1d6+1 AP	0	13	5	5	1.4	40/13	M	1½H
Pick, Small*	0	1d6-1 AP	0	8	4	5	1.0	24/9	M	
Clubs										
Baton/Shillelagh	0	3d6 N	—	8	4	3	1.2	22/7	M	
Club	0	4d6 N	—	10	5	3	1.5	30/9	M	
Club, Great	0	6d6 N	—	15	7	3	2.0	45/11	M	2H
Club, War	0	5d6 N	—	12	6	3	1.8	37/11	M	1½H
Stick	0	2d6 N	—	5	3	3	0.9	15/5	S	
Swords And Knives										
Cinquedea, Long	0	1d6+1	0	13	5	5	1.3	31/12	M	
Cinquedea, Short	0	1d6	0	11	5	5	1.2	23/9	M	
Dagger/Dirk#	0	1d6-1	0	6	3	5	0.8	21/8	S	Can Be Thrown
Falchion	+1	1d6+1	0	14	4	5	1.5	35/13	M	
Knife#	0	½d6	0	4	2	5	0.4	17/7	M	Can Be Thrown
Main Gauche					3	5	0.8	Text	S	Text
Blade	0	1d6-1	0	7						
Hilt	0	2d6 N	—	7						
Rapier	+1	1d6	0	10	5	5	1.0	27/10	M	
Scimitar/Tulwar	0	1d6+1	0	11	5	5	1.1	30/11	M	
Stiletto&	0	½d6 AP	0	5	3	5	0.7	22/9	S	Can Be Thrown
Sword, Bastard	0	1½d6	0	13	6	5	1.7	37/12	M	1½H
Sword, Broad/Long	0	1d6+1	0	12	5	5	1.2	30/11	M	
Sword, Great	+1	2d6	0	17	7	5	3.5	50/15	M	2H
Sword, Short	0	1d6	0	10	5	5	1.1	22/8	M	

FANTASY HERO HAND-TO-HAND WEAPONS TABLE

Weapon	OCV	Damage	STUNx	STR Min	BODY	DEF	Mass	A/R Cost	Length	Notes
Swords And Knives (cont'd)										
Sword, Small	0	1d6-1	0	8	3	5	0.9	18/6	M	
Polearms										
Awl Pike*	-1	1d6+1 AP	0	14	5	3	2.0	55/16	L2	2H, Set
Glaive	0	2d6+1	0	16	6	3	2.1	59/17	L	2H, Set
Guisarme	-1	2d6	0	16	6	3	2.1	52/13	L	2H, Set, Unhorse
Halberd	0	2d6+1	0	17	6	4	2.3	59/17	L	2H, Set, Unhorse
Javelin#	0	1d6+1	0	8	4	3	0.8	35/13	L	Can Be Thrown
Military Fork	0	1½d6 RP	0	13	5	3	1.8	44/13	L	2H, Set
Partisan	0	1d6+1	0	9	5	3	2.0	37/11	L	2H, Set
Pike	-1	2d6+1	0	15	6	3	2.2	67/19	L2	2H, Set
Pole Axe	-1	2d6	0	13	5	4	2.2	52/14	L	2H
Ranseur	-1	2d6	0	13	5	3	2.0	52/14	L	2H, Set
Spear, Long	-1	2d6	0	13	6	3	2.2	60/17	L2	2H, Set
Spear, Medium#	0	1½d6	0	10	5	3	2.0	51/18	L	Set, Can Be Thrown
Spear, Short#	0	1d6+1	0	8	4	3	1.7	35/13	L	Set, Can Be Thrown
Trident#	-1	2d6 RP	0	13	5	4	1.5	59/17	L	Can Be Thrown
Voulge	-1	2d6+1	0	15	4	3	1.0	59/15	L	2H, Set, Unhorse
Flails										
Flail#	0	1d6	0	9	4	4	2.0	27/10	M	Flail
Flail, Battle	0	2d6	0	18	5	4	2.2	56/15	M	2H, Flail
Flail, Bladed	0	1d6+1	0	13	4	4	2.0	37/13	M	Flail
Flail, Large	0	1½d6	0	16	5	4	2.3	46/15	M	Flail
Flail, Military	-1	1½d6	0	15	4	4	2.0	46/13	M	1½H, Flail
Flail, War#	0	1d6	+1	13	4	4	2.6	32/11	M	Flail
Flail, War, Large#	0	1d6+1	+1	18	4	4	3.0	44/14	M	Flail
Morningstar	0	1½d6	0	15	4	4	1.5	46/15	M	Flail
Unusual Melee Weapons										
Lance, Light	0	1d6+1	0	10 †	6	3	4.0	48/13	L2	Only on horseback
Lance, Medium	0	1½d6	0	13 †	7	3	6.0	52/15	L2	Only on horseback
Lance, Heavy	0	2d6	0	15 †	9	3	8.0	60/16	L2	Only on horseback
Quarterstaff	+1	4d6 N	—	10	4	3	1.0	35/11	M	2H
Whip	0	½d6	0	5 †	2	2	0.3	Text	Text	3" Range, can Grab

Adding Damage:
#: Add +1 DC of damage per full +6.25 points of STR used above the STR Minimum.
*: Add +1 DC of damage per full +7.5 points of STR used above the STR Minimum.
&: Add +1 DC of damage per full +8.75 points of STR used above the STR Minimum.

KEY
1½H: One-And-A-Half-Handed Weapon
2H: Two-Handed Weapon
AP: Armor Piercing
Can Be Thrown: The weapon has the *Range Based On STR* (+¼) Advantage.
E: Energy damage
Flail: Can perform the *Flail* Combat Maneuver (*Fantasy Hero,* page 169) (*i.e.,* it has Indirect (+¼))
N: Normal Damage (all other weapons do Killing Damage), bought as a Hand-To-Hand Attack (but to which characters add damage only by exceeding the STR Minimum)
No horse: Characters cannot wield this weapon while mounted (a -¼ Limitation)
Only on horseback: Characters can only wield this weapon while mounted (a -½ Limitation)
RP: Reduced Penetration (-¼)
Set: Characters can use this weapon to perform the Set Versus Charge Combat Maneuver (see *Fantasy Hero,* page 156)
Text: Refer to the text for information.
Unhorse: Characters can use this weapon to perform the *Unhorse* Combat Maneuver (see *Fantasy Hero,* page 156)
†: STR Minimum Doesn't Add To Damage

All HTH Combat weapons are built as HKAs (or HAs) with the Advantage *Reduced Endurance* (0 END; +½) and the Limitations *OAF* (-1), *Real Weapon* (-¼), and *Strength Minimum* (varies). Many also have the *Required Hands* Limitation.

OCV: This is applied as a bonus or penalty against all attacks made with the weapon. OCV bonuses are bought as 5-point Combat Skill Levels with the *OAF, Required Hands,* and *Real Weapon* Limitations. OCV penalties are a minor Side Effect (automatically occurs; -½) for the weapon.

STUNx: This is the STUN Multiplier for Killing Damage weapons (a 0 means "no modification"; use the standard 1d6-1 STUN Multiplier). Apply the STUNx modifier to the STUN Multiplier roll (or to the STUNx for the Hit Location struck, if the campaign uses Hit Location rules). For example, if a character with a War Flail (STUNx +1) hit an opponent in the Head, the total STUNx would be 6.

STR Min: STR Minimum. See pages 478-79 of the *HERO System 5th Edition, Revised* for rules. Remember to apply the rules in *Adding Damage,* page 9, when using STR to increase the damage of a weapon bought with Advantages.

BODY: The weapon's BODY.

DEF: The weapon's DEF.

Mass: The weight of the weapon in kilograms.

A/R Cost: The Active Point/Real Point cost of the weapon.

Length: The weapon's length — Short, Medium, or Long. L2 indicates a weapon with 2" Stretching that a character can use to strike from the second rank. See page 23 for more information on weapon lengths.

Notes: This catch-all category includes any information not listed elsewhere.

FANTASY HERO RANGED WEAPONS TABLE

Weapon	OCV	RMod	Damage	STUNx	STR Min	BODY	DEF	Mass	Shots	Max Range	A/R Cost	Notes
Bows												
Bow, Very Light	0	0	1d6-1	0	5 †	2	3	0.9	10 RC	75"	15/4	2H, Conc
Bow, Light	0	0	1d6	0	8 †	2	3	1.0	10 RC	95"	19/4	2H, Conc
Bow, Medium	0	0	1d6+1	0	9 †	2	3	1.0	10 RC	125"	25/6	2H, Conc
Bow, Heavy	0	0	1½d6	0	10 †	2	3	1.1	10 RC	155"	31/7	2H, Conc
Bow, Very Heavy	0	0	2d6	0	13 †	2	3	1.2	10 RC	185"	37/9	2H, Conc
Longbow, Light	0	+1	1d6+1	0	10 †	3	3	1.1	10 RC	140"	28/6	2H, Conc, no horse
Longbow, Medium	0	+1	1½d6	0	12 †	3	3	1.2	10 RC	170"	34/8	2H, Conc, no horse
Longbow, Heavy	0	+1	2d6	0	15 †	3	3	1.3	10 RC	200"	40/9	2H, Conc, no horse
Longbow, Very Heavy	0	+1	2d6+1	0	18 †	3	3	1.4	10 RC	235"	47/10	2H, Conc, no horse
Crossbows												
Crossbow, Light	0	+1	1d6+1	0	12 †	4	4	1.6	10 RC	140"	28/6	2H, Conc, ‡1
Crossbow, Heavy	0	+1	1½d6	0	14 †	5	4	6.4	10 RC	170"	34/7	2H, Conc, ‡1
Arbalest	0	+2	2d6	0	16 †	6	4	8.0	4 RC	150"	36/8	2H, Conc, ‡2
Slings												
Sling	0	-1	1d6+1	+1	8 †	2	2	0.3	10 RC	150"	30/6	2H, Conc
Sling, Small	0	-1	1d6-1	+1	6 †	1	2	0.1	10 RC	90"	18/4	2H, Conc
Staff Sling (Fustibal)	0	0	1½d6	+1	10 †	3	2	0.4	10 RC	185"	37/9	2H, Conc
Thrown Weapons												
Shuriken/Darts	0	0	½d6	0	5	1	5	0.4	9 RC	RBS	12/4	
Throwing Club	0	0	3d6 N	—	8	3	3	0.4	Text	RBS	Text	
Throwing Knife	0	0	1d6	0	7	2	5	0.5	4 RC	RBS	15/4	
Gunpowder Weapons												
Handcannon, Small	0	-6	1d6 AP*	0	13 †	3	5	2.0	6	110"	22/3	Act 8-, Conc, ‡T, 2H
Handcannon, Large	0	-4	1½d6 AP*	0	14 †	5	5	2.6	6	185"	37/5	Act 9-, Conc, ‡T, 2H
Matchlock Rifle	0	-3	1½d6 AP*	0	13 †	5	3	1.6	6	185"	37/5	Act 11-, Conc, ‡T, 2H
Matchlock Pistol	0	-4	1d6 AP*	0	12 †	4	3	1.0	6	110"	22/3	Act 11-, Conc, ‡T
Wheellock Rifle	0	-3	1½d6 AP*	0	12 †	5	3	1.5	6	185"	37/5	Act 12-, Conc, ‡T, 2H
Wheellock Pistol	0	-4	1d6 AP*	0	11 †	4	3	1.0	6	110"	22/3	Act 12-, Conc, ‡T
Other Weapons												
Blowgun	0	0	1 point	-1	2 †	2	2	0.1	10 RC	30"	6/1	2H, Conc, ‡

KEY

2H: Two-Handed Weapon
Act: Activation Roll
AP*: The weapon has a naked Advantage, *Armor Piercing,* with the Limitations *OAF, Real Weapon, Required Hands, Concentration, Extra Time,* and *Only Works Against Low-Tech Armors* (-¼)
Conc: Concentration (½ DCV "throughout" the loading and/or firing process, see text; -½)
N: Normal Damage (all other weapons do Killing Damage)
No horse: Characters cannot fire this weapon while mounted (a -¼ Limitation)
RBS: Range Based On STR
RC: Recoverable Charge
†: STR Minimum Doesn't Add Damage
‡: Extra Time (Full Phase to use; -½)
‡1: Extra Time (1 Phase to reload between shots; -¾)
‡2: Extra Time (2 Phases to reload between shots; -¾)
‡T: Extra Time (1 Turn; -1¼)

Ranged weapons are built as RKAs with some or all of the following Limitations: Focus (OAF; -1), STR Minimum, Required Hands, Real Weapon, Beam, and Charges (indicating the number of rounds of ammunition the average user carries).

OCV: This is applied as a bonus or penalty against all attacks made with the weapon; see the Hand-To-Hand Weapons Table for more information.

RMod: This represents a modifier to the weapon's accuracy at Range. Positive values (bought as 3-point Penalty Skill Levels versus the Range Group with the Focus and Required Hands Limitations) help to offset the standard Range Modifier; negative values (a minor Side Effect (automatically occurs; -½)) add to it. RMod can never raise a character's base OCV, it can only negate penalties.

STUNx: This is the STUN Multiplier for Killing Damage weapons (a 0 means "no modification"; use the standard 1d6-1 STUN Multiplier). Apply the STUNx modifier to the STUN Multiplier roll (or to the STUNx for the Hit Location struck, if the campaign uses Hit Location rules). For example, if a character with a Sling (STUNx +1) hit an opponent in the Head, the total STUNx would be 6.

STR Min: STR Minimum. See pages 478-79 of the *HERO System 5th Edition, Revised* for rules. Most muscle-powered ranged weapons do not allow characters to add damage from STR; for such weapons, the STR Minimum indicates the STR needed to hold, draw, and/or cock the weapon.

BODY: The weapon's BODY.

DEF: The weapon's DEF.

Mass: The weight of the weapon in kilograms.

Shots: The standard amount of ammunition carried by a user of the weapon. Typically a character can only fire/throw/shoot one round of ammunition in a Phase; thereafter he must reload his weapon (or ready a new one). Reloading/readying may or may not take time; see the text.

Max Range: The weapon's maximum Range in game inches (hexes). Of course, its effective range — the range over which it's likely to hit a target — is much less, thanks to the Range Modifier.

A/R Cost: The Active Point/Real Point cost of the weapon.

Notes: This catch-all category includes any information not listed elsewhere.

Explanation Of Hand-To-Hand Weapons Table

Most melee weapons are well-known to the average gamer and require no explanation. The text below provides information on some of the more obscure or unusual ones, as well as other useful data. Readers interested in learning more should consult some of the books in the non-fiction section of the Bibliography.

ADDING DAMAGE

The table explains how to calculate the amount of damage a character can add to a weapon with STR. For most weapons, which have no Advantages, each full +5 STR used with a weapon above that weapon's STR Minimum adds +1 Damage Class. (Note that this doesn't include the *Reduced Endurance* (0 END) Advantage applied to every weapon; do not consider that when calculating damage added by STR.)

For weapons marked with a pound sign (#), which have a +¼ Advantage, each full +6.25 STR used with a weapon above that weapon's STR Minimum adds +1 Damage Class.

For weapons marked with an asterisk (*), which have +½ worth of Advantages, each full +7.5 STR used with a weapon above that weapon's STR Minimum adds +1 Damage Class.

For weapons marked with an ampersand (&), which have +¾ worth of Advantages, each full +8.75 STR used with a weapon above that weapon's STR Minimum adds +1 Damage Class.

Note that a character must use the *full* amount of STR listed to increase a weapon by +1 Damage Class. Do not round the listed STR amounts down. Characters cannot add "half a Damage Class." For example, a 16 STR character wielding a Longsword (STR Minimum 12) does not get to add a Damage Class from STR, because he can't use a full +5 points of STR above the weapon's STR Minimum. Similarly, a character wielding an awl pike (with STR Minimum 14 and the Advantage *Armor Piercing*) must use STR 21.5 (or, in effect, 22) to add +1 DC — just having STR 21 is not sufficient, because it's not a full 7.5 points above the weapon's STR Minimum.

For Normal Damage weapons, built with Hand-To-Hand Attack, characters only add damage if their STR exceeds the STR Minimum. They do not add the dice directly to their STR damage dice, as they would for abilities built with HA.

WEAPON DESCRIPTIONS

This section provides descriptions of weapons which require them. Weapons that need no description (such as most swords and daggers) are not described.

Axes

Axes consist of a wooden handle with a heavy chopping blade at one end. Characters can wield most of them effectively in one hand, though the battle axe works better in two hands, and the great axe requires two. The francisca and hand axe are both weighted for throwing.

Hammers And Maces

Hammers and mauls are simple weapons — a metal or wooden haft with a blunt mass of metal on the end. Sometimes the "hitting end" is spherical, at other times it's shaped more like a hammer used to drive nails. The war hammer, which is of the latter type, also has a short blade projecting from the back of the hammer, with which the wielder can more easily pierce armor if necessary. Thanks to their heavy impact, hammers have a +1 Increased STUN Multiplier.

Maces are similar to hammers, but more powerful. In place of a single mass of metal they usually have four to six metal flanges, or sometimes a spiked ball. This gives it greater hitting and armor-penetrating power than a hammer.

Picks

Similar to axes, picks are metal- or wooden-hafted weapons with a single blade that looks something like a dagger or sword-point projecting from one end. Some versions are picturesquely known as "crow's bills" because of this. The heavy, sharp head and force of the swing provide excellent armor-penetrating power (*i.e.,* the *Armor Piercing* Advantage).

Clubs

Clubs are heavy wooden weapons, the relatively primitive precursors to hammers and maces. They range from batons and shillelaghs easily wielded in one hand, to the two-handed great clubs favored by ogres and their ilk.

If necessary, the GM can use the statistics for clubs for various "impromptu" weapons characters acquire. For example, if a character in a barfight uses a stool to smash someone, the GM could consider that the equivalent of a Club (perhaps with -1 OCV because it's an awkward object not designed as a weapon).

Swords And Knives

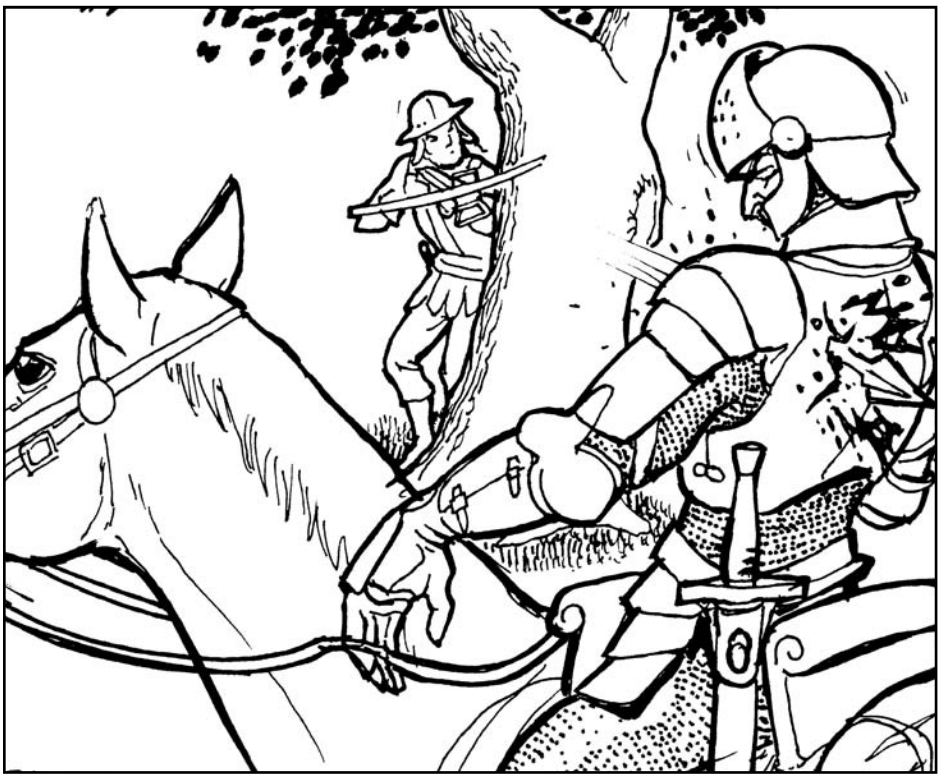
The most common and significant weapons in the Fantasy genre are swords, daggers, and other bladed weapons. Most are so well-known that they need no explanation. They come in literally thousands of varieties, with many different lengths, blade widths, curvatures, point styles, and preferred methods of use. If you don't find a specific type of sword listed, adapt the nearest equivalent weapon on the table and use its statistics. For example, if you want your character to carry a large *kukri* knife, you might use the write-up for the Short Sword.

The *cinquedea* is an Italian weapon from the early 1500s; its name means "five fingers," the blade's width at the hilt. It comes in both short sword and broadsword lengths. Although a little heavier than comparative blades, it's also a little sturdier; if you're using the weapon breakage rules (page *Fantasy Hero,* page 189), give both versions +1 BODY (this costs +1 Character Point; see page 22).

The *falchion* comes in two varieties: a heavy chopper-like blade that's wider near the tip than at the hilt; and a more narrow version, equally wide through its length, with a slight backwards curve and a clipped point. Although not much longer than a short sword, it has excellent slashing and stabbing power.

WEAPON PENALTIES

As noted in the weapon tables, inherent penalties to OCV and/or the Range Modifier are built into weapons as a Side Effect: a minor or trivial effect that automatically occurs (and thus worth a -½ Limitation). Until the penalties on a weapon reach the 30 Active Point level (which is highly unlikely to ever occur), the Side Effect remains at this value. Even if a weapon has both OCV and RMod penalties, it takes only one Side Effect until the penalties exceed 30 points.



The *main gauche* is a fencing dagger. It has a heavy hand-guard (6 DEF on the hand holding it) and extra-long quillons. It is especially good at, and so receives an extra +2 OCV for, maneuvers with the Bind, Block, Disarm, and Takeaway (Grab Weapon) maneuver elements.

Cost	Power
6	*Main Gauche:* Multipower, 18-point reserve; all OAF (-1), STR Minimum (7; -½), Real Weapon (-¼)
1u	1) *Blade:* HKA 1d6-1 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (7; -½), Real Weapon (-¼)
1u	2) *Hilt:* HA +2d6 , Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (7; -½), Real Weapon (-¼)
4	*Hand Armor:* Armor (6 PD/6 ED); OAF (-1), Only Protects The Hand Used To Grasp It (-2)
4	*Skillful Weapon:* +2 with Block, Bind, Disarm, and Takeaway; OAF (-1), Only Applies To The Four Listed Maneuvers (-½)

Total cost: 16 points.

The *rapier* is a long, narrow stabbing sword, a fencing weapon popular with "swashbuckler" type warriors and other light fighters. Fast and relatively light, it often has and elaborately-shaped and decorated hilt, guards, and other furniture.

The *scimitar* (or *shamshir*) is a curved Middle Eastern sword meant for slashing (particularly from horseback). The *tulwar* is an Indian version of the same weapon. Some tulwars are heavy and thick-bladed; increase their BODY by +1 and their STR Minimum to 12.

A *bastard sword* is somewhat longer and heavier than a longsword, with a longer hilt as well. A swordsman can wield it one-handed, but for best effect uses two.

Broadsword, or *longsword,* typically refers to straight-bladed, double-edged swords of the type popular in Europe and depicted in countless Fantasy illustrations. Most had blades from 61 to 90 cm (25-35 inches) long; a few had only a single edge or other variations.

A *greatsword,* or two-handed sword, is the largest sword of all. Requiring two hands to wield, it usually has a dull ricasso (the part of the blade right above the guard) so the fighter can grasp it either entirely by the hilt, or with one hand on the hilt and the other on the ricasso. In the latter mode, it could be used almost like a short staff, giving it a great deal of offensive flexibility — in addition to making broad, sweeping strokes if necessary, the wielder could stab, jab, block, trip, or even smash his opponent with the pommel. Examples include two-handed Scottish claymores, the German *zweihander,* and many similar blades.

Short swords are similar to longswords, but have shorter blades — typically from 40 to 60 cm (15-24 inches) long. Examples include the Roman *gladius,* the Greek/Iberian *kopis*/*falcata,* and some Celtic and Greek leaf-bladed swords.

A *smallsword* is a short dueling weapon fashionable among European gentlemen of the seventeenth and eighteenth centuries; it's sort of the "short sword version" of a rapier. It would make a good weapon for light fighters and in "swashbuckling" campaigns.

Polearms

Polearms are various weapons with long (up to 2-3 meters) wooden shafts tipped by various blades and points. The differences between them are often minor, based on the shape, nature, and number of blades, axe-heads, spikes, barbs, and spear-points attached to the "business end" of the weapon. The most popular polearm, and in fact one of the most popular weapons of all, is the spear, which unlike most polearms can usually be thrown.

See page 23 for more information on the use of Long weapons.

Flails

A flail has three parts: a metal or wooden haft, two or more chains attached to one end of the haft; and metal balls or weights attached to the end of the chains. The differences between various types of flails depend mainly on the number and length of the chains and what's attached to them. One well-known type, the *morningstar,* has a single chain with a large, spiked metal ball on the end.

The benefit to flails is not only that the chain-and-weight arrangement allows the wielder to obtain extra momentum and power for strikes, but that the chain can arc around a shield to hit the target behind it. To use this *Flail Maneuver,* the wielder takes a -1 penalty to his OCV, but may then ignore the target's DCV bonus from a shield (the target still gets the benefits of any Combat Skill Levels he has assigned to DCV). The OCV penalty effectively makes the Flail Maneuver pointless against a small shield (which only provides +1 DCV), but the maneuver becomes quite effective against larger shields.

The ability to perform the Flail maneuver is bought as a naked Advantage: Indirect (+¼) for the Active Points in the flail, with the Limitations OAF (-1), Required Hands (varies), Real Weapon (-¼), and Side Effects (-1 OCV, always occurs; -½).

Unusual Weapons

The *lance* is a large, heavy, spear-like weapon with a long wooden shaft and a large double-edged blade on the end. It's designed for use on horseback (in fact, only mounted persons can use it, a -½ Limitation). It requires WF: Lance, which encompasses all forms of the weapon. With the force of a charging horse behind it, the lance is a powerful weapon indeed!

The *quarterstaff* is a thick cylindrical piece of wood about five to six feet long. It requires two hands (and WF: Staffs) to wield, but can strike lightning-fast flurries of blows (a form of Sweep). Furthermore, a character who loses or breaks his staff can easily make another one out of an appropriate sapling or branch.

The *whip* is a long, braided length of leather, sometimes studded with bits of metal and having a metal tip. By flicking it forcefully at a target within 3", the wielder can inflict painful wounds and welts. Wielders can also use it to grab objects, or even swing across small gaps. It does relatively little damage to armored foes (in fact, it has the *Reduced Penetration* Limitation), but against exposed flesh is a vicious weapon (one often favored by Evil characters).

Cost	Power
7	*Whip:* Multipower, 15-point reserve; all OAF (-1)
1u	1) *Whip Slash:* RKA ½d6; OAF (-1), Limited Range (3"; -¼), Reduced Penetration (-¼), Real Weapon (-¼), Strength Minimum (5; STR Minimum Doesn't Add To Damage; -¾)
1u	2) *Whip Grab:* Stretching 3"; OAF (-1), Always Direct (-¼), No Noncombat Stretching (-¼), Cannot Do Damage (-½)

Total cost: 9 points.

Explanation Of Ranged Weapons Table

The following sections discuss the use of various Ranged weapons. You should also check the *Combat Maneuvers* section for any other relevant information (such as regarding Rapid Fire, which as a campaign default doesn't apply to most Ranged weapons in *Fantasy Hero* games).

CHARGES

The number of Charges listed for each weapon reflect the number of arrows (or the like) easily carried, the number commonly issued to soldiers, the standard unit packaged for sale, or similar considerations. Since characters in a Heroic-level game like *Fantasy Hero* don't pay Character Points for their weapons, the number of Charges doesn't really matter too much; an archer with enough money can buy and carry 50 arrows if he wants — he's not restricted to 10 simply because that's what the table says.

RANGED WEAPONS AND FOCUS

Bows, crossbows, and slings are all OAFs, but they use the multiple Focus rules on page 295 of the *HERO System 5th Edition, Revised* rulebook because they require two objects to work: the projecting device (bow, crossbow, sling); and the projectile (arrow, bolt, sling stone). They do not receive any extra Limitation for this.

Because the component Foci are separate, characters can affect them separately. It's possible, for example, to fire an enchanted arrow with a mundane bow, or a normal arrow with a magic bow... or to have a magic bow *and* magic arrows whose mystic effects add together. (See *Fantasy Hero,* pages 285-86.) Similarly, if you apply an Advantage to the attack (such as Armor Piercing to reflect particularly sharp arrows), it only affects one part (the arrow/bolt), even though it applies to the overall attack. There's no such thing as an "armor-piercing bow" that makes every arrow it fires Armor Piercing; effects like that generally depend on the ammunition used, not the firing mechanism.

A more complex, but more technically "correct," way to build a bow or crossbow is as two different Foci, each providing a different ability: the arrow/bolt (an HKA) and the bow/crossbow (a naked *Ranged* Advantage allowing the user to use the arrow/bolt against targets at range, plus bonus HKA dice for "heavier" bows to increase the

ARMOR PIERCING AND BLUNT ARROWS

Some arrows are built with sharp, chisel- or needle-like points so that they penetrate armor more easily. In *HERO System* terms, they have the *Armor Piercing* Advantage.

If you want to figure the Active and Real Point cost of a bow with armor piercing arrows, you can simply apply Armor Piercing to the weapon as a whole. For example, a Medium Longbow with armor piercing arrows would cost 47 Active Points, 11 Real Points. If you want to derive the cost difference for the armor piercing arrows, just subtract the Active and Real Point costs listed in the Ranged Weapons Table from these numbers (thus, the arrows alone "cost" 14 Active Points, 3 Real Points).

On the other hand, some arrows have blunted heads so they're less likely to cause serious injury. In *HERO System* terms, these do the same number of DCs of Normal Damage as the arrow normally does of Killing Damage; the Character Point cost is typically identical.

However, since in Heroic genres characters buy equipment with money rather than Character Points, what really matters is not the difference in points, but the difference in *cost*. That way a character could, for example, buy a quiver of normal arrows, but then pay extra for three armor piercing arrows to use in emergencies. See *Fantasy Hero,* page 144 for a suggested price for armor piercing, blunt, and regular arrows.

damage the arrow/bolt does). The naked *Ranged* Advantage would have to be bought to cover enough Active Points to deal with armor-piercing arrows and the like.

Similarly, you could define a sling as a bullet/stone (an object with defined DEF+BODY that a character can throw with his STR) plus the sling itself (extra STR, only to increase throwing damage and distance). Again, that's far more complex than necessary for most game purposes.

BOWS

Bows are curved lengths of wood (and/or other materials) that use tensile strength to fire arrows (long shafts of wood with a sharp stone or metal arrowhead on the front, and feathers or other materials on the back to provide balance, stability, and accuracy in flight). A bowstring connects the two ends of the bowshaft, and the archer nocks an arrow to the string, draws it back (bending the bow in the process), and then releases it. The bowshaft, as it returns to its normal "shape," propels the arrow toward the target with great force.

The stiffer (stronger) the material(s) used to make the bow, the more strength the archer needs to draw it into firing position, and the greater force the bow fires the arrow with (and hence the more damage it does). The weapon's STR Minimum reflects this; a weak man lacks the muscles to use the heavier bows effectively. An archer cannot increase the damage his bow does by having more STR than the STR Minimum.

Bows come in numerous shapes, including curved, recurved, double-curved, asymmetric, and B-shaped. The simplest are made just of wood, but more advanced versions ("composite" or "compound" bows) are made of two or more materials (typically wood [in one or more layers], horn, bone, and sinew). Composite bows are sturdier and stronger than simple bows; at the GM's option, they add +10" to a weapon's maximum range.

Archers normally carry their bows unstrung, since keeping a bow strung for a long time stretches and weakens the string. Stringing a bow requires a Full Phase Action, though a character with Fast Draw (Bows) can reduce this to a Half Phase Action if he succeeds with a roll. At the GM's option, for each full hour a character keeps a bow strung, reduce the damage it does by 1 point (-1 point after one hour, -2 points after two hours, and so forth until damage reaches 0 and the bowstring becomes useless).

Firing A Bow

Loading a bow — drawing an arrow (from a quiver or other container) and nocking it to the string — requires a Half Phase Action (unless the character succeeds with a Fast Draw (Bows) roll, in which case it becomes a Zero-Phase Action). Firing a bow — pulling the string back, aiming quickly, and releasing the arrow — is an Attack Action.

If a character has (and uses) 5 or more points of STR above the STR Minimum of a bow, he may load and fire a bow as an Attack Action (without the need for a Fast Draw roll) if he accepts a -2 OCV penalty for rushing. This allows him to move and then fire his bow, but does not eliminate the half DCV penalty described below. Fast Draw cannot reduce the time required for this.

Firing an arrow accurately requires an archer to stand still and focus on what he's doing. This halves his DCV until his next Phase. (In game terms, bows have the Limitation *Concentration* (½ DCV; -¼).) At the GM's option, a character who has the capacity to move (*i.e.,* who's not using up his entire Phase loading, pulling, and firing his bow) may fire his bow defensively. This eliminates the half DCV modifier, but imposes a -4 OCV penalty on his arrow shot (reflecting the fact that he's dodging around and not fully concentrating on accurate archery).

At the GM's option, an archer can use the *Rapid Fire* Combat Maneuver with a bow to fire a maximum of two shots. Normal rules for Rapid Fire apply (but remember that a character's DCV can only be halved once, and it's already halved due to the bow's *Concentration* Limitation). The GM may impose restrictions on this ability, such as only allowing characters with the *Rapid Archery* Talent to use it.

Characters can use normal bows (sometimes called shortbows) from horseback without difficulty. Longbows, on the other hand, are too large for mounted archers to use; they take a -¼ Limitation to reflect this. Firing from horseback incurs the normal -2 OCV penalty (see *HERO System 5th Edition, Revised* page 369), though characters may buy the *Mounted Warrior (Ranged)* Talent (*Fantasy Hero,* page 106) to counteract this.

CROSSBOWS

The crossbow, a more technologically advanced weapon than the bow, consists of a rifle-like stock with a bow mounted horizontally on the front. The bow is made of wood, composite materials, or even steel; it's thick and strong, and its string likewise, allowing for high tension and thus excellent range and penetration capabilities. The crossbowman fires it from the shoulder, similar to a modern rifle, making it quite accurate. An *arbalest* is a large, heavy crossbow requiring a mechanical wheel-crank or like mechanism to pull because of its extremely high tension.

A crossbow fires a missile called a *bolt,* or sometimes a *quarrel.* Bolts are similar to arrows, though usually shorter and often a bit thicker of shaft. Some hunting crossbows fire small pellets instead (these typically do ½d6 Killing Damage).

A crossbow is always strung, but it's normally not carried already drawn and loaded with a bolt — it's too easy for the bolt to fall out of the groove that holds it in place, or for the weapon to discharge accidentally. (Carrying a crossbow readied for long periods of time can also warp the weapon, ruining its accuracy; permanently reduce its RMod by -1 for every hour it's carried loaded.) If a character carries a loaded crossbow, the GM should have him make a DEX Roll whenever he experiences any unusual or drastic physical action, including moving at Noncombat speeds, trying to

RANGED ATTACKS QUICK REFERENCE TABLE

Action	Time Required	OCV*	DCV
Bow, firing normally	Full Phase	—	½
Drawing/nocking arrow	Half Phase	—	½
Pulling/firing arrow	Attack Action	—	½
Bow, firing with Fast Draw roll	Half Phase	—	½
Drawing/nocking arrow	Zero Phase	—	½
Pulling/firing arrow	Attack Action	—	½
Bow, loading and firing with +5 STR	Attack Action	-2	½
Bow, firing defensively*	Full Phase	-4	—
Drawing/nocking arrow	Half Phase	—	—
Pulling/firing arrow	Attack Action	-4	—
Bow, firing with Rapid Fire*	Full Phase	-2	½
Drawing/nocking arrows	Half Phase	—	½
Pulling/firing arrows	Attack Action	-2	½
Bow, firing from horseback	Full Phase	-2	½
Drawing/nocking arrow	Half Phase	—	½
Pulling/firing arrow	Attack Action	-2	½
Bow, stringing	Full Phase	—	—
Bow, stringing with Fast Draw roll	Half Phase	—	—
Crossbow, loading	Full Phase	—	½
Crossbow, loading with +5 STR*#	Half Phase	—	—
Crossbow, loading with Fast Draw*	Half Phase	—	—
Arbalest, loading	Two Full Phases	—	½
Arbalest, loading with +5 STR*#	Full Phase	—	½
Arbalest, loading with Fast Draw*	Full Phase	—	½
Crossbow or arbalest, firing loaded	Attack Action	—	—
Crossbow or arbalest, firing from horseback	Attack Action	-2	—
Sling, loading	Half Phase	—	½
Sling, loading with Fast Draw	Zero Phase	—	½
Sling, firing	Attack Action	—	½
Sling, firing from horseback	Attack Action	-2	½
Thrown weapon, throwing	Attack Action	—	—
Gunpowder weapon, loading and firing	1 Turn	—	½
Gunpowder weapon, loading and firing with Fast Draw	2 Full Phases	—	½
Gunpowder weapon, firing loaded	Attack Action	—	½
Gunpowder weapon, firing loaded from horseback	Attack Action	-2	½
Blowgun, loading and firing	Full Phase	—	½
Blowgun, loading with Fast Draw	Zero Phase	—	½
Blowgun, firing loaded	Attack Action	—	½
Blowgun, loading and firing from horseback	Full Phase	—	½

*: This rule is used only at the GM's option.
#: Also requires a DEX Roll.

mount a horse, getting hit by an attack, making an attack with another weapon, Dodging, Blocking, or falling. The roll has a penalty of -0 to -5, depending on how drastic and violent the action is. If the roll succeeds, the crossbow remains loaded and ready to fire. If the roll fails by 1-3, the bolt falls out, but the crossbow remains cocked. If the roll fails by 4 or more, the crossbow discharges; if necessary, have the character make a roll at 0 OCV to see if he hit anyone in front of the weapon.

Firing A Crossbow

Loading a crossbow — pulling back and cocking the bowstring, and then putting a bolt in the groove in front of it — requires a Full Phase, or two Full Phases for an arbalest (the weapon has the *Extra Time* Limitation to reflect this). A crossbow's STR Minimum represents the STR needed to pull the string back. This involves putting the crossbow on the ground bow-first, holding it in place with one foot, and drawing the string up with the hands. If a character has a mechanical aid (belt-and-claw, goat's-foot lever, cranequin, or the like), reduce the STR needed to ready the crossbow by 3. (Arbalests *require* mechanical aids, and do not benefit from this rule; the STR Minimum represents the STR needed to operate the mechanism quickly and use the heavy weapon properly.) A character can fire a loaded crossbow properly with a STR 3 less than the listed STR Minimum.

While drawing and loading a crossbow, a character is at half DCV. However, this penalty does not apply to a character firing a loaded crossbow. This is simulated with the *Concentration* Limitation (½ DCV, but reduced by ¼ because the penalty doesn't apply once the weapon is loaded; -0).

At the GM's option, if a character has (and uses) 5 STR more than the STR Minimum of a crossbow, he may load it as a Half Phase Action if he succeeds with a DEX Roll (if the roll fails, he has wasted a Half Phase). This also eliminates the half DCV penalty described above. A character with Fast Draw (Crossbows) who succeeds with a roll can load a crossbow as a Half Phase Action with no DCV penalty, but must have a STR of at least the STR Minimum -5 to do so (or STR Minimum -8 if he has a cocking mechanism). (For an arbalest, a successful Fast Draw (Crossbows) roll lets a character load it as a Full Phase Action, but does not eliminate the DCV penalty.)

Firing a loaded crossbow requires an Attack Action. Characters cannot Rapid Fire crossbows. Characters can fire crossbows from horseback (at the usual -2 OCV penalty), but cannot draw and load them while mounted.

BOWS VERSUS CROSSBOWS

The *HERO System* statistics for bows and crossbows tend to reflect the "dramatic reality" common to genre adventure fiction, which usually emphasizes and favors bows. They also reflect standard *HERO System* rules about calculating range and so forth. However, this doesn't necessarily simulate "reality" as well as it might for gamers who prefer a high degree of "historical accuracy." Although scholars differ and quibble about various aspects of bows and crossbows and how they measure up (especially given the wide range of types of the various weapons), you can generally accept the following as historically correct.

The crossbow has, on the average, a longer range than the English longbow. A heavy steel-bowed crossbow's maximum range was around 380 yards (360 meters, or 180"), while that of the longbow was around 280 yards (255 meters, or 127.5"). Of course, both weapons' effective ranges were much shorter than this, and variations in equipment could affect these results.

The greater range of the crossbow implies greater force of impact at effective ranges (meaning, in game terms, that crossbows should do at least a little more damage than bows).

The longbow requires more training to learn to use effectively. An English saying states that to train an archer, you begin by training his grandfather. On the other hand, training someone to use a cross-

Continued on next page

SLINGS

A sling is a simple but effective method of increasing throwing power and distance to the point where small, round missiles become potentially lethal. It consists of a small leather pouch with two strings attached, one of which has a loop on the end. The user places the missile in the pouch, whirls the sling around to build up force, then releases the unlooped string to "throw" the missile. To improve power, accuracy, and range, the slinger could attach his sling to a rigid handle, creating a staff-sling (a *fustibal*).

The missiles "fired" by a sling are called *bullets;* they're made of lead and are ovoid-shaped. If necessary, a slinger can substitute appropriately-shaped stones instead. The damage listed for slings assumes bullets; if a character uses sling stones instead, reduce the damage by 1 DC.

Loading a sling requires two hands, but whirling and firing it only one. Loading it requires a Half Phase Action (or a Zero-Phase Action, if the slinger succeeds with a Fast Draw (Slings) roll; this does not eliminate the DCV penalty). Firing a sling counts as an Attack Action. The slinger has to stand still and concentrate on what he's doing, so he has only half of his DCV until his next Phase. A character cannot use a sling to Rapid Fire, but can load and fire one from horseback.

THROWN WEAPONS

In addition to spears and javelins (perhaps the most common hurled weapons in most Fantasy settings), thrown weapons include darts and shuriken, throwing knives, and throwing clubs.

Throwing knives are knives forged and shaped for throwing rather than HTH Combat (unlike daggers, which are meant for melee fighting but can easily be thrown). They have a sharp front point, but dull edges and little (if any) hilt. They're built with RKA, but at the GM's option characters can use them in HTH combat to do ½d6 Killing Damage at a -1 OCV penalty.

Throwing clubs include war boomerangs and similar weapons — clubs designed for throwing as much as for HTH Combat. They're built as a Multipower:

Cost	Power
5	*Throwing Club:* Multipower, 15-point reserve; all OAF (-1), Real Weapon (-¼), STR Minimum (8; -½)
1u	1) *HTH Club:* HA 3d6 (add damage via STR Minimum); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (8; -½), Real Weapon (-¼),
1u	2) *Thrown Club:* Energy Blast 3d6; OAF (-1), Range Based On STR (-¼), STR Minimum (8; -½), Real Weapon (-¼), 1 Recoverable Charge (-1¼), Lockout (cannot use either slot until Charge is recovered; -½)

Total cost: 7 points.

GUNPOWDER WEAPONS

Some *Fantasy Hero* campaigns may take place in settings where people have invented gunpowder and firearms. In the real world, crude gunpowder weapons first began appearing in the early to mid-1300s, and by the late 1500s had largely replaced bows and crossbows. In a *Fantasy Hero* campaign setting, the commonality of gunpowder weapons, and the extent to which people know about them, is up to the GM; to many folk, they may seem as magical as any wand or enchanted blade.

The earliest firearms — handcannons, matchlocks, and wheellocks — were all smoothbore (non-rifled), muzzle-loaded firearms. They were slow and difficult to load and fire (in game terms, Extra Time (1 Turn) for each shot, plus Concentration (½ DCV throughout; -½), prone to failure (Activation Roll), and inaccurate (Side Effects for Range Modifier penalties). They suffered from numerous other difficulties, such as not working if the powder got wet, and "cook-offs" of powder if the weapon got too hot from repeated firing (making the weapon explode in the user's hands, a GM-imposed Side Effect).

Most early firearms were rifles. Handcannons begin appearing around the mid-1400s, with true pistols developed in the late 1400s-early 1500s.

A *matchlock* weapon uses a smoldering "match" (a small twist of thick string, basically), which the trigger mechanism lowers into a pan of priming powder. The need to keep the match lit makes the weapon difficult or impossible to use in rainy or windy weather, as well as slow to fire when first used. A *wheellock* generates a spark for the priming powder by striking pyrite against steel; it's a more technologically advanced, easy to use, and expensive weapon.

At the GM's option, a character who succeeds with a Fast Draw (Early Firearms) roll can reduce the time required to load and fire a gunpowder weapon to two Full Phases. Firing the weapon constitutes an Attack Action. Characters can fire gunpowder weapons from horseback (though the noise may spook the animal), but cannot load them while mounted.

BLOWGUNS

The blowgun, a weapon common to many early cultures, consists of a long, hollow tube and darts. The user fires the darts by inserting them in the back end of the tube, aiming, and then blowing into the tube. The darts themselves do little damage, but the user normally tips them with a poison or disease-causing agent.

Loading and firing a blowgun takes a Full Phase. At the GM's option, a character who succeeds with a Fast Draw (Blowguns) roll can load the weapon as a Zero-Phase Action, and then fire it as an Attack Action. Characters may use and reload blowguns while riding mounts.

MAKING WEAPONS

Players often like to create special weapons for their PCs, and some GMs want to expand the weapon lists, build enchanted weapons to give PCs, and the like. This section includes various expanded and optional rules for building weapons using the *HERO System* rules.

BALANCING WEAPONS AND ARMOR

When creating weapons and/or deciding what weapons PCs can take in the campaign, the GM should consider the balance between "offense" and "defense," along with related issues like how fast he wants combats to run.

Unless you want combats to end quickly, with lots of wounds delivered in just a few Phases, some parity should exist between the average DCs of damage done by weapons (including bonuses to damage from STR, Combat Skill Levels, Maneuvers, and the like) and the DEF provided by armor. An attack that does roughly average damage should inflict a slight wound, or even no wound, on a character with average defenses. For example, if the average Resistant Defense in the game is 5 (based on characters wearing mostly leather and chain armors), then the average weapon should probably do about 5-7 DCs of damage. That means an average of about 5-7 BODY damage per attack from a Killing Damage weapon, or 0-2 points of BODY actually inflicted on the average target.

If you prefer a quicker game, restrict the types of armor available, or boost the damage of weapons. If the average DEF is 5, but the average weapon does 7-9 DCs, the average Killing Damage hit inflicts 2-4 BODY, with the potential to do significantly more. That brings fights to an end much more quickly. On the other hand, if you want to favor defense over offense, decrease the damage weapons do, or make heavier armors (chain and plate, or magical enhancements of lesser armors) more readily available.

Basic Weapon Creation Rules And Guidelines

HTH Combat weapons that do Killing Damage are built as HKAs with the Advantage *Reduced Endurance* (0 END; +½) and the Limitations *OAF* (-1), *Real Weapon* (-¼), and *Strength Minimum* (varies). Many also have the *Required Hands* Limitation.

HTH Combat weapons that do Normal Damage are built as HAs with those same Limitations. Characters using them add damage with STR according to the STR Minimum rules; they do not add their STR dice to the HA dice directly.

Ranged weapons that do Killing Damage are built as RKAs with some or all of the following Limitations: Focus (OAF; -1), STR Minimum, Required Hands, Real Weapon, Beam, and Charges (indicating the number of rounds of ammunition the average user carries).

Ranged weapons that do Normal Damage are built as Energy Blasts with those same Limitations.

Ranged attacks have the standard range indicated by the rules — 5" x Active Points. If you want to vary this (such as for thrown weapons), apply the Advantages *Ranged* or *Range Based On Strength,* or the Limitations *Limited Range* or *Range Based On Strength.*

COMBAT VALUE AND RANGE MODIFIERS

Most weapons do not provide any sort of bonus to, or impose a penalty on, the wielder's OCV or Range Modifier. However, some weapons allow for great flexibility of use or striking power (reflected by an OCV bonus), or have greater than normal accuracy over range (reflected by a bonus that counteracts Range Modifier penalties). On the other hand, some weapons are awkward to use, or not as accurate as normal, leading to OCV and RMod penalties.

Fantasy weapons that provide a bonus to OCV rarely, if ever, have more than a +1 OCV bonus. You can build this bonus as 5-point Combat Skill Levels with the *OAF, Required Hands,* and *Real Weapon* Limitations.

Fantasy weapons that provide a bonus to RMod rarely, if ever, have more than a +2 RMod bonus. You can build this bonus as 3-point Penalty Skill Levels versus the Range Group with the *Focus* and *Required Hands* Limitations.

OCV and RMod penalties are defined as a *Side Effect* Limitation on the weapon. This is a minor or trivial effect worth a base of -¼, doubled because it automatically occurs when anyone uses the weapon, for a total of -½. This same value applies until the total penalties on a weapon reach the 30 Active Point level (calculate the cost using negative Combat Skill Levels and Penalty Skill Levels) — something that's highly unlikely to ever occur.

Gamemasters should be wary of building Fantasy weapons with too many OCV or RMod bonuses, for several reasons. First, they're not appropriate if you want to stress even the slightest amount of "realism." If one weapon were inherently much more accurate than any other, everyone would have long ago adopted it and abandoned all others — and history shows that never happened. Second, too many positive modifiers can unbalance the game. If characters can hit their foes too easily, combat loses a lot of its suspense and becomes a simple bloodbath, with the outcome determined mainly by who attacks first.

Similarly, don't impose too many penalties on weapons — if a weapon is too badly hindered, no one wants to use it. While fairly heavy RMod penalties are appropriate for some weapons (like early firearms), in most cases you should keep the OCV penalties at no more than -1, and the RMod penalties at no more than -4.

DAMAGE

There's no specific formula for establishing the Damage Class rating for a weapon. Some of the factors that affect the calculation include: size of the striking part of the weapon; the momentum the wielder can develop while delivering a blow; speed of use; and dramatic

Continued from last page

bow is relatively quick and simple.

The longbow has a greater rate of fire. A trained archer could fire, on the average, about six aimed arrows per minute, or twelve without significant aiming. A crossbowman, on the other hand, could fire one bolt per minute if he had to cock his crossbow by hand, or up to four per minute if he had a mechanical aid such as a belt-and-claw.

To represent these differences in game terms:

1. Alter the damage ranges on the weapons so that an arbalest does RKA 2½d6, and the other weapons scale down from there.

2. After allowing for the altered Active Point totals, use *Increased Maximum Range* and *Limited Range* to adjust the weapons' ranges to the proper maxima.

3. Add Extra Time (Extra Phase; -¾) to all bows, and Extra Time (1 Minute; -1½) to all crossbows. You can then define mechanical aids like goat's-foot levers as buying the Extra Time for crossbows down to 1 Turn.

4. Make "Bows" a 2-point Weapon Familiarity of its own, separate from Common Missile Weapons, but keep Crossbows as a 1-point WF.

THROWING AIDS

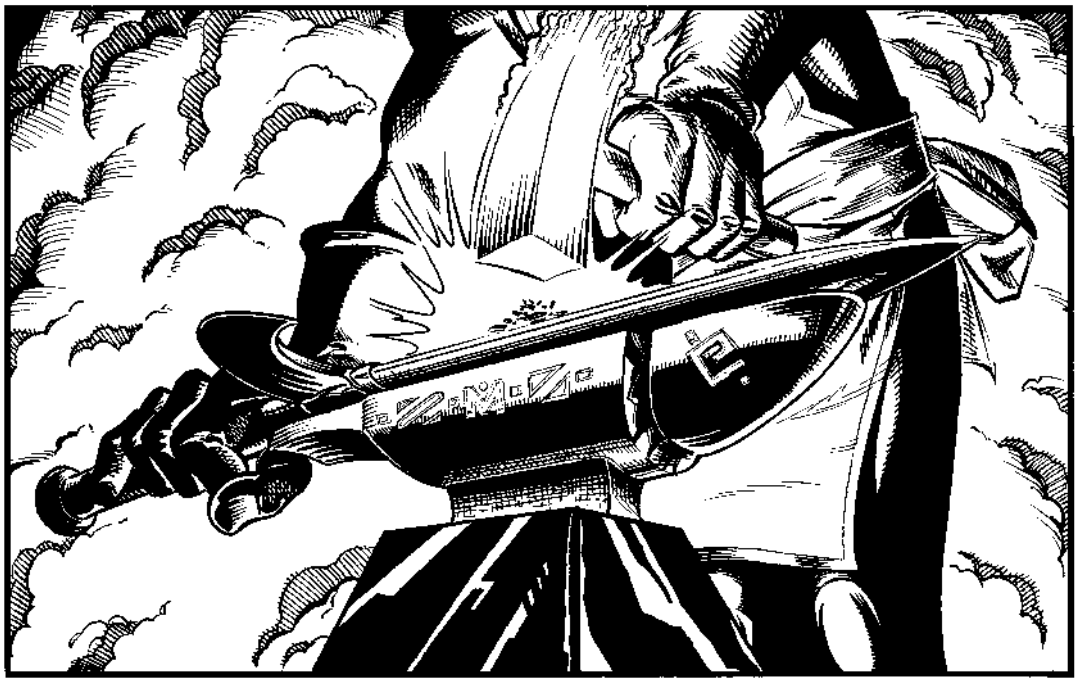
Several cultures that relied on javelins and thrown spears developed devices to improve their warrior's ability to throw. Examples include the *atlatl* of the Aztecs and the *woomera* of the Australian Aborigines, and the *amentum,* a cord tied to the spear-shaft by the Romans. All of these devices had the effect of "lengthening" the thrower's arm so he could throw his weapon further.

In *HERO System* terms, you can build one of these devices this way: +5 STR (5 Active Points); OAF (-1), Only To Increase Throwing Distance (-1) (total cost: 2 points).

THROWING NORMAL WEAPONS

Characters may sometimes want to throw ordinary melee weapons, such as clubs, battle axes, and greatswords. With the GM's permission, they may do so, but at a -3 OCV penalty. The range is based on throwing STR, and the character *also* suffers the -4 unbalanced, non-aerodynamic addition to the Range Modifier.

If a character takes a 1-point Weapon Familiarity with throwing a specific type of melee weapon — WF: Thrown Swords, WF: Thrown Axes, WF: Thrown Polearms, and so forth — he can eliminate the -3 OCV penalty. He still suffers from the Range Modifier penalty and balance/aerodynamic penalty, however.



interpretation of the weapon's effects. The lists in this book attempt to reasonably balance all these factors, but some GMs may prefer different approaches. Some possibilities include:

Realistic Damage

Some GMs may want more "realistic" weapon damage numbers. Since there's no defined, objective way to measure the cutting, smashing, and piercing effects of Fantasy weapons, any attempt to alter the tables for pure "realism" is likely to prove frustrating and ultimately fruitless. If you want "realistic" weapons damage, the best way to achieve this is to do a lot of research on the subject yourself, then come up with a set of weapon write-ups that suit your own informed opinions and beliefs on the subject. The Bibliography lists many good books you can start with.

Equal Damage

Gamemasters who are concerned about characters choosing weapons based solely on their perceived game benefits (see *Fantasy Hero,* page 184) can eliminate the problem by making all weapons virtually the same in most respects. For example, perhaps every weapon, regardless of size or configuration, does 1d6 Killing Damage (or 3d6 Normal Damage) and has a STR Minimum of 10. Or, perhaps the GM groups weapons into three size categories — Light (STR Min 8), Medium (STR Min 13), and Heavy (STR Min 18) — with all weapons in each category doing 1d6+1, 1½d6, and 2d6 Killing Damage, respectively (or the equivalent amount of Normal Damage).

The rationale behind this approach is simple: it's just as easy for a character to die when stabbed to death with a dagger as it is when he's jabbed with a spear or slashed in two by a greatsword. Fantasy roleplaying games tend to assume that the larger the weapon, the bigger the wound it inflicts and thus the greater chance of death. While there's some logic to that, the fact remains that a small dagger wound can kill a man as quickly and easily as a massive sword-thrust. What really matters is *the skill with which the character wields the weapon,* not its size or configuration.

Under this system, characters who want to inflict more than 1d6 damage have several options. First, there's STR; the more powerful a character's muscles, the more powerful the blows he can deliver. Second, characters can take the *Deadly Blow* Talent (*Fantasy Hero,* page 105), typically at the 7 or 10 Character Point level. This reflects their skill with the weapon with a direct damage bonus that counts as base damage. Third, they can take other abilities that represent their skill with weapons. For example, a few Targeting Skill Levels makes a seemingly puny dagger-wielding rogue deadly dangerous — because he can target the Vitals or Head with ease.

Bashing, Slashing, And Piercing Damage

To add a little variety to the weapons chart, some GMs like to group weapons into three categories, based on the way they inflict damage: Bashing; Slashing; and Piercing.

Bashing weapons inflict damage by crushing and mashing flesh and bone with a more or less blunt surface. They include hammers, maces, and clubs.

Slashing weapons inflict damage by slicing, chopping, or cutting through the target's body with a sharp edge. Many swords and daggers (particularly curved-bladed ones) are designed to do Slashing damage, as are axes.

Piercing weapons inflict injury by piercing and penetrating the target's body with a sharp point. Arrows, picks, and spears do damage this way, as do swords and daggers when used to thrust rather than cut.

It's possible for some types of weapons to do more than one type of damage. Many swords can both Slash and Pierce, for example, and some

battle axes and war hammers have a sharp spike on the back side that lets them do Piercing damage (though perhaps less than their full DCs with Slashing and Bashing damage, respectively).

To make these classes of damage meaningful, the GM needs to distinguish between them in some way. Here are some suggestions:

■ Bashing damage weapons: weapon automatically has +1 STUN Multiplier (or an additional +1) if the wielder succeeds with a STR (or DEX) Roll when he attacks; leather and plate armors only provide half DEF against Bashing weapons

■ Slashing damage weapons: weapon gains +1 DC (which counts as base damage) against targets with no Resistant Defense (or when it hits a Hit Location with no Resistant Defense) if the wielder succeeds with a STR (or DEX) Roll when he attacks; leather armors only provide half DEF against Slashing weapons

■ Piercing damage weapons: weapon is automatically Armor Piercing if the wielder succeeds with a STR (or DEX) Roll when he attacks (if weapon is already Armor Piercing, it becomes double AP); chainmail and like armors only provide half DEF against Piercing weapons

Similarly, characters can buy some forms of defense as more effective against one or two types of damage. Some of the undead creatures in the *HERO System Bestiary* have greater resistance to certain categories of damage, for example. A defense that only protects against two types of damage generally gets a -½ Limitation; a defense that only protects against one type of damage generally gets a -1 Limitation.

STUN MULTIPLIER

Killing Damage weapons have a STUN Multiplier. Most use the standard STUN Multiplier — 1d6-1 — which is indicated in the weapons tables as "0" (meaning no modification). However, a few take the *Increased STUN Multiplier* Advantage and add +1 to the STUN Multiplier. This usually represents a very heavy, solid weapon, or one that strikes with a particularly forceful impact.

Gamemasters should be wary of adding more than a +1, or at most +2, STUN Multiplier to a weapon. Page 160 of *Fantasy Hero* discusses the problems with STUN damage in *Fantasy Hero* games, and high STUN Multiplier bonuses only make it more likely such problems will arise.

A weapon can take the *Decreased STUN Multiplier* Limitation, though none of the weapons in the tables do so.

STRENGTH MINIMUM

The STR Minimum defines the amount of STR required to wield a weapon effectively, as defined by the rules on pages 478-79 of the *HERO System 5th Edition, Revised.* Most Ranged weapons, and even a few HTH weapons, also apply the *STR Minimum Cannot Add/Subtract Damage* additional Limitation, signifying that the nature, construction, or use of the weapon prevents wielders from doing any extra damage because of high STR.

Setting the STR Minimum on a weapon is an art more than it is a science, requiring careful thought and an awareness on the GM's part of how he wants to simulate various weapons. While common sense and an appreciation for game balance dictate that high-damage weapons generally shouldn't have low STR Minima, and low-damage ones generally shouldn't have high STR Minima, even that guideline doesn't always apply. There's no one particular factor that defines what a weapon's STR Minimum is or should be. Some of the things you should consider when setting a STR Minimum include:

Weight And Configuration

The first thing most gamers think about when it comes to establishing a STR Minimum is a weapon's weight. Most medieval weapons weighed roughly two to five pounds (approximately 1 to 2.3 kg) (some were lighter, some heavier, of course). That's enough to provide significant striking power, but not enough to tire the wielder out too quickly. After all, some battles lasted for hours, so a warrior had to keep swinging his weapon again and again, and if it were too heavy, he'd soon lack the strength to do that!

However, while a weapon's weight should definitely influence its STR Minimum, it's far from the only consideration. The weapon's size, shape, and materials — its configuration, in other words — are also important. A weapon with its center of mass on one end (such as with most hammers, maces, and battle axes) is often harder to hold up and wield than one that distributes its mass more evenly throughout (such as some swords and spears). An oddly-configured weapon may not actually weigh more than an evenly-configured weapon... but it often *feels* like it does.

Game Balance

Since the STR Minimum rules are part of a game system, you should keep game balance in mind when using them. If you set the STR Minimum too low on a high-damage weapon, it becomes too attractive to power-gamer type players, and they'll have their characters use that weapon regardless of whether that makes sense (common or dramatic). On the other hand, if you set the STR Minimum on a weapon too high, it may discourage players from having their characters use that weapon even when it would make sense for the character to do so.

The Light/Medium/Heavy system described above under "Equal Damage" provides an example of a game balance-influenced system of STR Minima. The STR Minima for the different types of weapons are set so that a character tends to do the same amount of damage with a weapon no matter what his STR. For example, a STR 18 character does 2d6 Killing Damage with any weapon. Thus, while fair in a game balance sense, this system (and others like it) also tends to be bland.

Game balance should *never* be the sole consideration for establishing a STR Minimum. It's not possible to mathematically model reality that precisely, and it defies common sense and one's sense of "realism" to give a light-weight weapon a high STR Minimum solely to balance it against

SILENT WEAPONS

None of the Ranged weapons in this section are bought with the Advantage *Invisible Power Effects* (Hearing Group) to make them silent, so they're still noisy enough to attract attention. But at the GM's option, a skillful character can make some weapons — bows, thrown blades and darts, and blowguns — harder to hear. (Crossbows, gunpowder weapons, and thrown clubs all make too much noise to overcome this way.) The character makes a DEX Roll at -1 for each DC in the attack (including any DCs added by STR, Combat Skill Levels, or other means). If he fails, the attack is as audible as normal. If he succeeds exactly, attempts to hear the weapon in use are at -1 to PER Rolls; for each 1 point by which the roll succeeds beyond that, increase the penalty by -1.

DIFFERENT BLADES

In a Fantasy setting, it's possible for races or cultures to develop their own unique versions or variants of the standard weapons described in this section. Most of these "different" weapons are simply varieties of HKA with spiky bits for added coolness. There are some principles to keep in mind, however. One is that size matters — a race uses weapons appropriate to its members' average size and strength (see page 25). Anatomy also factors in. Long-limbed races go for swinging weapons like axes and broadswords; short-limbed species may prefer thrusting weapons. It's also worth considering the anatomy of what the race usually fights. Races with natural body armor may develop armor-piercing hand weapons like rapiers and daggers, or whips and garrotes to entangle and strangle.

other weapons. Setting STR Minima based on some sort of "formula" (such as some percentage of the Active Points in the weapon) is also likely to result in ridiculous outcomes such as some weapons with such high STR Minima that almost no character can wield them properly. Game balance should guide the STR Minimum decision, but never dictate it.

WEAPON LENGTH

Weapons are defined with four Length categories: Small (S), Medium (M), Long (L) and Extra Long (L2). Small and Medium weapons have no extra cost associated with them. A Long weapon provides +1" of reach, bought this way: Stretching 1", Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1), Always Direct (-¼), No Noncombat Stretching (-¼), Only To Cause Damage (-½), No Velocity Damage (-¼) (total cost: 2 points). An Extra Long weapon has +2" of reach, bought the same way (15 Active Points; total cost 5 points).

For information on the effects and use of weapons of various lengths, see page 23.

STANDARD MODIFIERS

All weapons are built with several Power Modifiers.

Reduced Endurance

All weapons without Charges take the Advantage *Reduced Endurance* (0 END), because the END to wield them depends on the character's STR, not on the Active Points in the Attack Power(s) used to build the weapon. However, the GM can change this if he wants to make weapons cost more or less END to wield.

To make a weapon cost more END to wield, take Reduced Endurance only at the half END (+¼) level, or don't apply it at all. To wield a weapon like this, the character has to pay *both* the END for the STR to wield it and the END for the Power(s) used to build it. This would be appropriate for some large, heavy, and/or awkward weapons, such as a troll's maul (when wielded by a human).

To make a weapon cost less END to wield, you can build into the weapon a naked *Reduced Endurance* Advantage for the STR used to wield it. For example: Reduced Endurance (½ END; +¼) for up to 25 STR (6 Active Points); OAF (-1) (total cost: 3 points) (plus Required Hands, if appropriate). A weapon like this only costs half as much STR-based END to wield, as long as the character uses no more than 25 STR with it. Any STR used over 25 would cost END at the standard rate (1 END per 5 STR, in a Heroic campaign). A weapon could even be bought to cost 0 END to wield, though that could cause significant game balance problems.

Real Weapon

Weapons require constant maintenance, or else they lose their effectiveness. Characters must clean and sharpen their swords and knives, lest they become too dull and rusty to cut through anything harder than butter; and they must keep bowstaves and bowstrings in good working order. Similarly, some weapons just can't damage some things (or only damage with difficulty) — for example, it's not normally possible to cut through a brick wall with a knife. The *Real Weapon* (-¼) Limitation reflects these sometimes unpleasant realities. Here are some guidelines to help GMs adjudicate the effects of the Limitation.

First, a character must devote time to maintaining his weapons, or else they'll become fouled, rusty, and hard to use. Any time a character uses a weapon in battle, he must spend at least 1 Minute cleaning the weapon. He can wait until the end of the day and clean it once after multiple uses, but this may take longer. For every two days that pass without a character cleaning his weapon, either (a) reduce its OCV by 1; or (b) reduce the damage it inflicts by 1 point. If the weapon ever reaches -10 OCV, or has so many damage penalties it could never inflict damage, it falls apart or is otherwise useless, and cannot be repaired. Repairing lesser OCV or damage penalties requires an appropriate Weaponsmith roll and at least 5 Minutes per -1.

Second, edged weapons (such as axes and swords) become dull over time if not sharpened. For each full hour of combat, the weapon does -1 point of damage (thus, -1 after one full hour, -2 after two full hours, and so forth). The GM should interpret what constitutes "an hour" of combat in a narrative/dramatic sense; it does not literally mean 3,600 Phases in which a character strikes a blow with the weapon. Returning the weapon to fighting sharpness requires the use of a whetstone (or like sharpening device) and 1 Minute per full hour of use.

Third, as noted above, some weapons just can't accomplish some tasks. "Cutting" through a stone wall or the iron bars of a jail cell with a dagger or sword is pretty much impossible in a "realistic" sense, for example, regardless of what the *HERO System* rules say. Hours of picking at the mortar or sawing at the bars might do the trick, assuming a character had the time and could repeatedly re-sharpen his weapon, but few adventures allow for such activity. As a general guideline, when characters use weapons to attack inanimate objects like statues, compare the weapon's Damage Classes to the DEF of the object. If the DCs are less than the DEF, the weapon cannot inflict significant damage on the object — at most, perhaps 1 BODY damage per full Turn of hacking at it. If the DCs equal the DEF, the weapon can inflict at most 1 BODY per Phase with a successful attack (roll the damage normally, and reduce it to 1 BODY if the weapon does more than that). If the DCs exceed the DEF, the weapon can damage the object normally.

At the GM's option, If a character uses a weapon to strike a firm blow against a hard, unyielding object — such as a stone wall, or the iron bars of a jail cell — he may damage his weapon. If the object's DEF exceeds the weapon's DCs, the weapon takes 1 BODY damage. When it takes all its BODY in damage, it breaks, snaps, cracks, or otherwise becomes useless until repaired.

Gamemasters should also take the shape/configuration of both weapons and objects into account when characters use them to attack inani-

mate objects. Chopping through a wooden door with an axe is easy, given their comparative shapes; slashing through one with a sword is more difficult. See *Fantasy Hero,* page 365, for more information.

Advanced Weapon Creation Rules And Guidelines

Once you have the basics of a weapon in place, you can think about adding to or improving it.

ADVANTAGES

One common way to improve a weapon, or differentiate it from similar weapons, is to apply an Advantage to it. Most Advantages aren't appropriate for weapons, but some of the ones that are include:

Armor Piercing, Penetrating: Both of these Advantages represent weapons that have an improved ability to penetrate the target's armor. Typically this indicates that the weapons has an especially sharp edge or point, as with stilettos, awl pikes, and armor piercing arrows. However, it can also indicate a weapon that smashes the target with such force that a substantial portion of the impact effects the target even though the weapon doesn't actually cut through or puncture armor. Many enchanted blades also take one of these Advantages to represent their ability to pierce mundane armor with ease.

Increased Maximum Range: Ranged weapons that have the ability to travel further than indicated by the standard *HERO System* rules take this Advantage. In some cases it's bought as a naked Advantage for the weapon with Limitations like *Concentration* or *Extra Time,* reflecting the effort needed to prepare and fire the weapon to attain the best range possible.

Increased STUN Multiplier: Another way to represent weapons that have a particularly forceful impact is to give them an Increased STUN Multiplier. See above for more information.

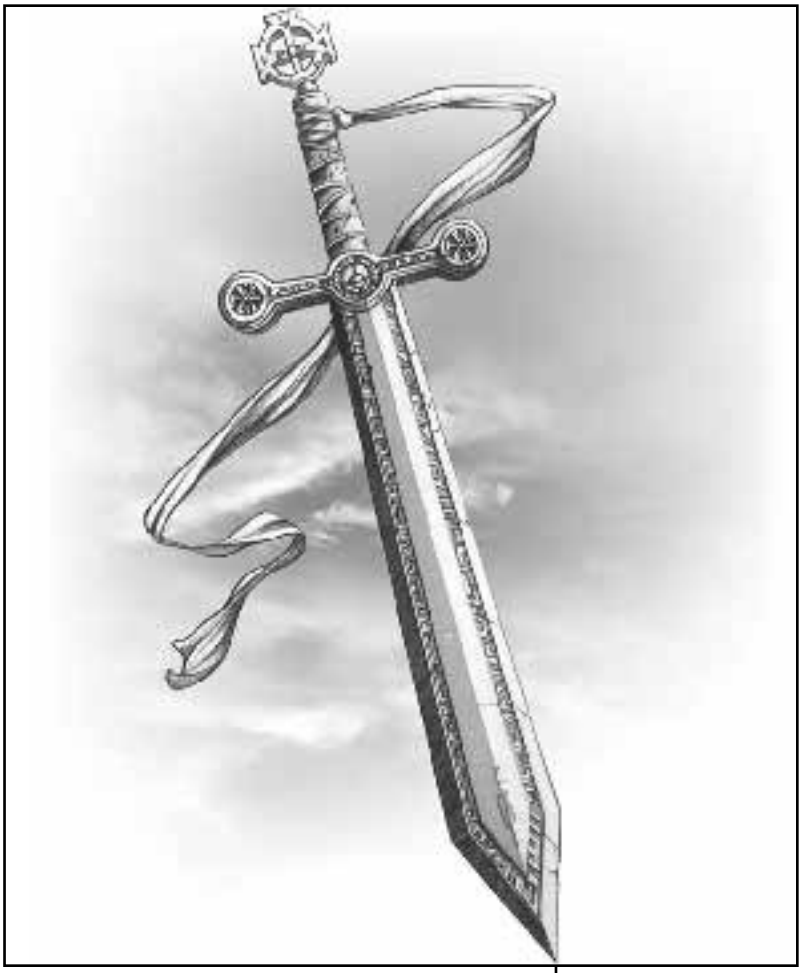
Indirect: Flexible weapons, such as flails and morningstars, take Indirect at the +¼ level to simulate their ability to perform the Flail Maneuver (*Fantasy Hero,* page 169). Characters designing other weapons that incorporate chains or ropes may want to apply it as well.

Range Based On STR: The Advantage form of this Power Modifier simulates HTH Combat weapons characters can easily throw if necessary — spears, daggers, small axes, and the like.

LIMITATIONS

One Limitation — Focus — is required for weapons, which are objects and thus can be taken from their owners. Many other Limitations aren't appropriate for weapons, but a few crop up frequently. In addition to Charges for Ranged weapons, and Required Hands, they include:

Activation Roll: A weapon with this Limitation is unreliable — it doesn't always work. Early firearms take it; so should any other relatively complicated weapon and weapons based on new technologies that haven't yet been perfected.



Concentration: This represents a weapon that requires the character to focus on using it to the exclusion of other actions, such as dodging or moving around. It's used for most Ranged weapons.

Extra Time: Many Fantasy-era Ranged weapons take time to prepare. The user must prepare them, load them, carefully aim them, and then finally fire. Extra Time simulates this perfectly; it's often grouped with Concentration.

Increased Endurance Cost: A heavy or awkward weapon might take this Limitation to increase the END cost the character must pay when using STR to wield the weapon. This is allowed even though the weapon also takes Reduced Endurance.

Limited Range: The standard *HERO System* rules give some Ranged weapons too much range. If so, you can apply this Limitation to decrease a weapon's range back to reasonable levels.

Mounted Limitations: Being on horseback (or other types of mounts, in High Fantasy games) affects the use of some weapons. A few weapons, such as lances, only work when the wielder is mounted (a -½ Limitation). On the other hand, characters cannot use many weapons, such as longbows, while on horseback (a -¼ Limitation). Some weapons, like crossbows, can't be drawn, prepared, or loaded by a character who's mounted, but can be fired from horseback if already loaded; they do not take a Limitation because of this.

Reduced Penetration: Some weapon designers use this Limitation to represent a weapon with multiple tines or striking areas that hit the target simultaneously, such as tridents and military forks. It's not required, but does help to differentiate such weapons from spears and the like.

Side Effects: In addition to the Side Effect of OCV or RMod penalties (see above), a weapon might inflict other penalties on the user. For example, a heavy, awkward weapon might also decrease the wielder's DCV by 1-2 — representing the fact that he can't dodge or move quickly while holding it, or bring it into position quickly enough to parry many attacks. If the weapon already has an OCV and/or RMod penalty Side Effect, the GM must decide whether to fold other Side Effects into its -½ value or to apply a second Side Effect with its own value.

UNUSUAL MATERIALS

Except for a few all-wooden weapons (like clubs), most weapons are made at least partly of metal. Even if they have wooden hafts, the striking part of the weapon — the blade, point, or head — is metal. In most Fantasy settings, that metal is steel.

However, some settings — such as games taking place during the Bronze Age, or in bizarre worlds like M.A.R. Barker's Tékumel, where iron and steel are extremely rare — that's not necessarily the case. Even in worlds that have steel, not everyone may make weapons out of it. Some people may lack Iron Age technology, not have a supply of iron and charcoal to turn into steel, or have some other reasons (religious restrictions, magic, personal comfort) for preferring non-steel weapons.

Additionally, many Fantasy settings feature unusual, exotic, and even mystical metals and substances that characters can craft weapons with. The *mithril* of J.R.R. Tolkien's Middle-earth is perhaps the best known example; other possibilities include star-iron (meteoric iron), dwarven steel, glasses and crystals with the strength of metal, and so on.

The substance used to make a weapon does not affect the damage it does, but may alter its DEF. This generally only matters if you're using the weapon breakage rules (see *Fantasy Hero,* page 189), but may also be a part of the *Real Weapon* Limitation. For example, some substances, even when characters can forge them into workable weapons, may be so soft that they dull easily (-1 point of damage per 10 minutes instead of per hour). Or, the GM may reduce the weapon's DCs for purposes of determining what substances it can cut through when the character uses it to try to hack through a wall, door, or the like.

The accompanying table provides suggested DEF values for substances other than steel. A steel weapon has DEF 5 (for *Fantasy Hero* weapon purposes, do not use the Focus rule that determines DEF as Active Points divided by 5). Other substances' DEF is represented as an increase or decrease of that DEF — for example, "+1 DEF" means to add 1 to 5, for a total of DEF 6. In game terms, a weapon with greater DEF has the *Durable* (+0) modifier to Focus, while one with less DEF has a -0 version of the *Fragile* modifier.

WEAPONS MATERIALS

Material	DEF
Steel	DEF 5
Bronze	-2
Copper	-2
Coral (magical)	-2
Crystal (magical)	+0
Dwarven steel	+2
Elven-silver	+1
Glass (magical)	-1
Horn	-2
Iron	-1
Ivory	-3
Leather (magical)	-2
Stone	-1
Wood (magical)	-1
Wood (normal)	-2

"Magical" refers to ordinary substances created or augmented by mystical or alchemical processes that make them strong enough to hold an edge and stand up to the wear and tear of being used as a weapon. Ordinary glass, crystal, leather, and the like are generally useless for making feasible weapons.

Example: *A war hammer has a steel head, giving it DEF 5. If it were made of ordinary iron, it would have -1 DEF, or 4.*

A dagger made of steel has DEF 5. One made of elven-silver (+1 DEF) has DEF 6 instead, while a Greek hoplite's bronze (-2 DEF) dagger has only DEF 3.

HIGH- AND POOR-QUALITY WEAPONS

Not every blade that comes out of the weaponsmith's forge is an average weapon. Some are made by master craftsmen with great skill and precision, turning them into weapons far better than normal ones. Others are legendary blades with qualities befitting a hero's weapon. But some are badly made, or have suffered such wear and ill-use that they're no longer as good as they once were.

In game terms, characters can have *fine* (also called "masterwork") and *poor* weapons. The weapons listed in the tables earlier in this chapter are "average" versions — they have the same Damage Classes, OCV modifiers, and STR Minima for typical weapons of their type. But PCs are heroes, and sometimes an "average" weapon isn't enough for an above-average PC... or his greatest enemy!

At the GM's option, characters can use the following rules and guidelines to create exceptional weapons, or to represent below-average versions of weapons. Gamemasters are, of course, free to change the Character Point costs of these improvements (or drawbacks) to suit their campaigns, or even to give them to characters' weapons for free to represent events that occur during game play. Additionally, where the rules provide Character Point totals for unusual abilities (such as the "reroll" ability) that aren't built using the standard *HERO System* rules, *those abilities apply only to weapons.* Characters may *not* buy them as personal abilities.

These abilities do *not* represent enchantment or magical enhancement, but rather improved quality of materials, crafting, or the like. Additionally, these abilities sometimes represent "legendary" attributes possessed by famous or noteworthy weapons. They're a great way to distinguish a special or wondrous weapon from typical weapons without having to resort to the catch-all explanation of "magic." But of course, they can also represent enchantments (minor or otherwise) placed on a weapon if you want them to.

Buying Fine And Poor Weapons

When designing a fine or poor weapon, you should use the Character Point costs listed below to re-calculate the overall Active and Real Point costs of the weapon. You may apply the *Independent* Limitation if the GM feels that's appropriate for a truly unique and special weapon, but it's not required; GMs usually forbid it because it may end up making the improved weapon cheaper than its mundane counterpart.

Since Heroic characters don't pay Character Points for their weapons, making a weapon "fine" or "poor" generally only affects the weapon's monetary cost (see *Fantasy Hero,* page 143). The Active and Real Point costs usually just help the GM evaluate whether the weapon is balanced for the campaign. However, to prevent fine weapons from becoming too common in the game, the GM may require characters to pay Character Points for them, using one of two methods:

—the cost of improvements themselves, calculated as (improved weapon's Real Point cost) - (normal weapon's Real Point cost), with some predefined minimum cost (such as 3 Character Points)

—a flat cost, such as 5 Character Points

In either case, if the character loses the weapon, he permanently loses the points spent on it... though the GM may allow him to go on a quest to regain the weapon, reforge it, or have another one made, and spend the "lost" points on that.

Example: Wendell is running a Fantasy Hero game and wants to create a special (but not magical) longsword to place in a dragon's treasure-hoard — an important reward for the PCs after a long and grueling quest! Furthermore, he wants to use the sword as inspiration for another adventure or two. So he decides to create Marclave, a famous blade once wielded by the hero Argandus Morgenstern. The inscription on the blade — "Two Hands, One Heart" — refers to an ancient prophecy the PCs must learn about, and which will involve them in another quest. To make Marclave special, Wendell decides it has +1 OCV, that it does 1½d6 damage instead of the normal 1d6+1 of a longsword, and that its heroic qualities inspire the wielder, allowing him to strike more quickly than normal. A normal longsword costs 30 Active Points, 11 Real Points; here's what Marclave costs:

HKA 1½d6, Reduced Endurance (0 END; +½) (37 Active Points); OAF (-1), Real Weapon (-¼), STR Minimum (13; -½) (total cost: 13 points) ***plus*** *+1 OCV (5 Active Points); OAF (-1), Real Weapon (-¼) (total cost: 2 points)* ***plus*** *+1 Lightning Reflexes with Marclave (1 Active Point); OAF (-1), Real Weapon (-¼) (total cost: 1 point). Total cost: 43 Active Points; 16 Real Points.*

Wendell chose not to apply the Independent Limitation to Marclave. He'd rather reserve that for actual magical weapons. If he had applied it, the weapon's total Real Point cost would be 8 + 1 + 1 = 10 points.

Since a normal longsword costs 11 points, Marclave would cost (16-11) 5 Character Points if a character built it for himself, or if Wendell made characters pay for all fine weapons to maintain game balance. However, since Wendell's giving the weapon out as treasure, he won't charge the lucky character any points at all.

Fine Weapons

Fine weapons may have one or more of the following abilities, or any other the GM sees fit to allow. The GM should evaluate any improvements a character wants to apply to a weapon carefully, to ensure they're balanced for the campaign.

Accurate: The weapon may grant a +1 OCV bonus to the wielder (or, rarely, +2 or more), or for a Ranged weapon, bonuses to counteract the Range Modifier. See page 7 regarding the Character Point cost for this ability.

Advantaged: The weapon is so potent that it has some Advantage most weapons of its type lack — such as Armor Piercing or Penetrating, or even Indirect (allowing it to perform the Flail Maneuver as a way of simulating its ability to slip past a target's shield, even if it's not a flexible weapon).

Biting: Some weapons do more damage than normal. Typically, a fine weapon gets a +1 point of damage bonus (this costs 5 Character Points for a Killing Damage weapon, 2 Character Points for a Normal Damage weapon). Some truly exceptional weapons may get an entire +1 DC bonus (recalculate the weapon's overall cost accordingly).

Alternately, some truly wondrous weapons may allow a character to reroll poor damage rolls. The character may reroll all results of "1" that come up on the damage dice. That means he always does at least 2 BODY per die when he rolls damage. This costs 20 Character Points.

Heroic Strike: A few weapons have such great accuracy that the wielder can reroll any Attack Roll made with them that misses by only 1. This costs 10 Character Points.

Alternately, some weapons may allow a character to reroll any one failed Attack Roll per day, no matter how much it missed by. This costs 3 Character Points.

Marvelously Light I: The weapon costs the wielder less END for the STR used to wield it. See page 18 regarding the Character Point cost for this ability.

Marvelously Light II: The weapon somehow doesn't seem to weigh as much as ordinary weapons — perhaps it inspires strength in the wielder, or it's made of some unknown metal. This lets a character strike harder with it, thus inflicting more damage in many cases. You can buy this by decreasing the weapon's STR Minimum.

Noble Appearance: The blade inspires loyalty and bravery in the wielder's allies, fear and dread in his foes. You can buy this as +5 PRE (sometimes more); OAF (-1), Real Weapon (-¼), Only For Making Presence Attacks While The Weapon Is Drawn (-1½) (total cost: 1 point).

Silvered: The weapon's striking surfaces are covered with silver so it can affect lycanthropes and similar creatures.

Stunning Blow: Some Killing Damage weapons strike with a mightier impact, thus doing more STUN damage. Buy this as a +1 (or greater) Increased STUN Multiplier (+¼ Advantage per +1).

Sturdy: The weapon is harder to break or damage. It has +1 (or more) DEF or BODY, and perhaps some Power Defense to resist Dispels and Drains. Each +1 DEF costs 3 Character Points, each +1 BODY costs 1 Character Point; and each point of Power Defense costs 1 Character Point.

Swift-Striking: The weapon is so light and easily-handled that it lets the character attack more swiftly. This is bought as Lightning Reflexes for this one attack; most weapons grant no more than a +3 DEX bonus.

Throwable: The weapon is balanced for throwing (even if it's not normally a hurled weapon). You can buy this as Penalty Skill Levels to cancel balance and/or aerodynamicity penalties.

Unreal Weapon: The weapon does not have the *Real Weapon* Limitation, meaning it always stays sharp, clean, and ready for action without any effort on the wielder's part. It may also, in the GM's discretion, cut through walls and doors more easily than a normal blade.

Other Improvements: Some other possible improvements, that cost no Character Points but help to make a blade distinctive, include:

■ Ornamentation: gilding or silvering; gems in the pommel, hilt, or along the length, carved designs or incised runes on the blade; and so forth

■ Unwavering: when stuck in the ground, a tree, or the like, the blade does not wobble or shake; it's as still as a mountain

■ Unrustable: regardless of how much moisture it's exposed to, the weapon never rusts (magical rusting attacks can still affect it, though)

■ Distinctive ring: when drawn from the sheath or struck against metal or stone, the weapon emits a distinctive ring or tone if the wielder wants it to

Poor Weapons

Poor weapons may have one or more of the following drawbacks (most of which are just the reverse of Fine weapon qualities), or any other the GM sees fit to impose.

Some of these Poor attributes are represented as Side Effects. If the weapon already has an OCV or RMod penalty Side Effect, the GM must decide whether to fold other Side Effects into its -½ value or to apply a second Side Effect with its own value.

Awkward/Heavy: The weapon is unusually heavy, awkward to wield, bulky, or otherwise difficult to handle. You can represent this in one or more of several ways: increase the weapon's STR Minimum; change Reduced Endurance (0 END) to (½ END) (see page 18); apply Increased Endurance Cost to increase the END needed for the STR to wield the weapon; and/or add the *Bulky* Modifier to its *Focus* Limitation.

Fragile: The weapon is easier to break or damage. It has -1 (or more) DEF or BODY than normal. You can represent this with the *Fragile* Modifier to the *Focus* Limitation (worth -0, unless it reduces the weapon to 1 DEF, in which case it's worth -¼).

Inaccurate: The weapon is not as accurate as most of its kind. You can simulate this with a Side Effect (see page 7).

Restricted: The weapon is so weak or difficult to use that it has some Limitation most weapons of its type lack — such as Limited Range for a bow, or Activation Roll for a sword (representing that sometimes even an accurate blow does no damage).

Slow-Striking: The weapon is so difficult to wield that it slows down the character's combat reflexes. This is a -1 (or greater) penalty to DEX only for purposes of determining who acts first in a Segment. You can buy this as a Side Effect (if not folded into a negative OCV Side Effect, it's a -¼, always occurs, for a total of -½).

Weak Strike: The weapon's blows are weak, and thus far less likely to hurt those it strikes. You can simulate this in one or both of two ways: first, decrease the Damage Classes the weapon has; second, apply the *Decreased STUN Multiplier* Limitation.

Other Drawbacks: Some other possible negative qualities, which save no Character Points but still make a blade less enjoyable to wield, include:

■ Poor appearance: the weapon is rusty or notched; has numerous visible repairs; it looks as badly-made as it is.

■ Ill repute: The weapon has a poor reputation. Perhaps an evil man once committed foul deeds with it, or it supposedly carries a curse that makes its wielder accidentally slay innocent people, or the like.

WEAPON LENGTH AND SIZE

Fantasy weapons are also defined in terms of their length and size.

Weapon Length

Weapons are defined with four Length categories: Small (S), Medium (M), Long (L) and Extra Long (L2). Short weapons include things like daggers and hatchets, most natural weaponry like claws and fangs, and unarmed attacks. Long and Extra Long weapons include shafted weapons like spears, polearms, and lances, and perhaps the natural weapons of creatures with exceptionally long limbs. Everything else is a Medium weapon. The following optional rules apply to the use of weapons of various lengths; GMs may choose to use some, all, or none of them.

WEAPON REACH

A Short or Medium weapon can strike targets in the character's own hex, or in adjacent hexes. As always, the GM should apply some common sense when adjudicating a combat situation. If a character stands on one side of a hex, and there's a target on the far side of the hex across from him, he can't stab that character with a dagger or sword — that's not really "adjacent" in any meaningful sense. A character's "reach" may include taking a step or two, but not so many that it would amount to a Half Move.

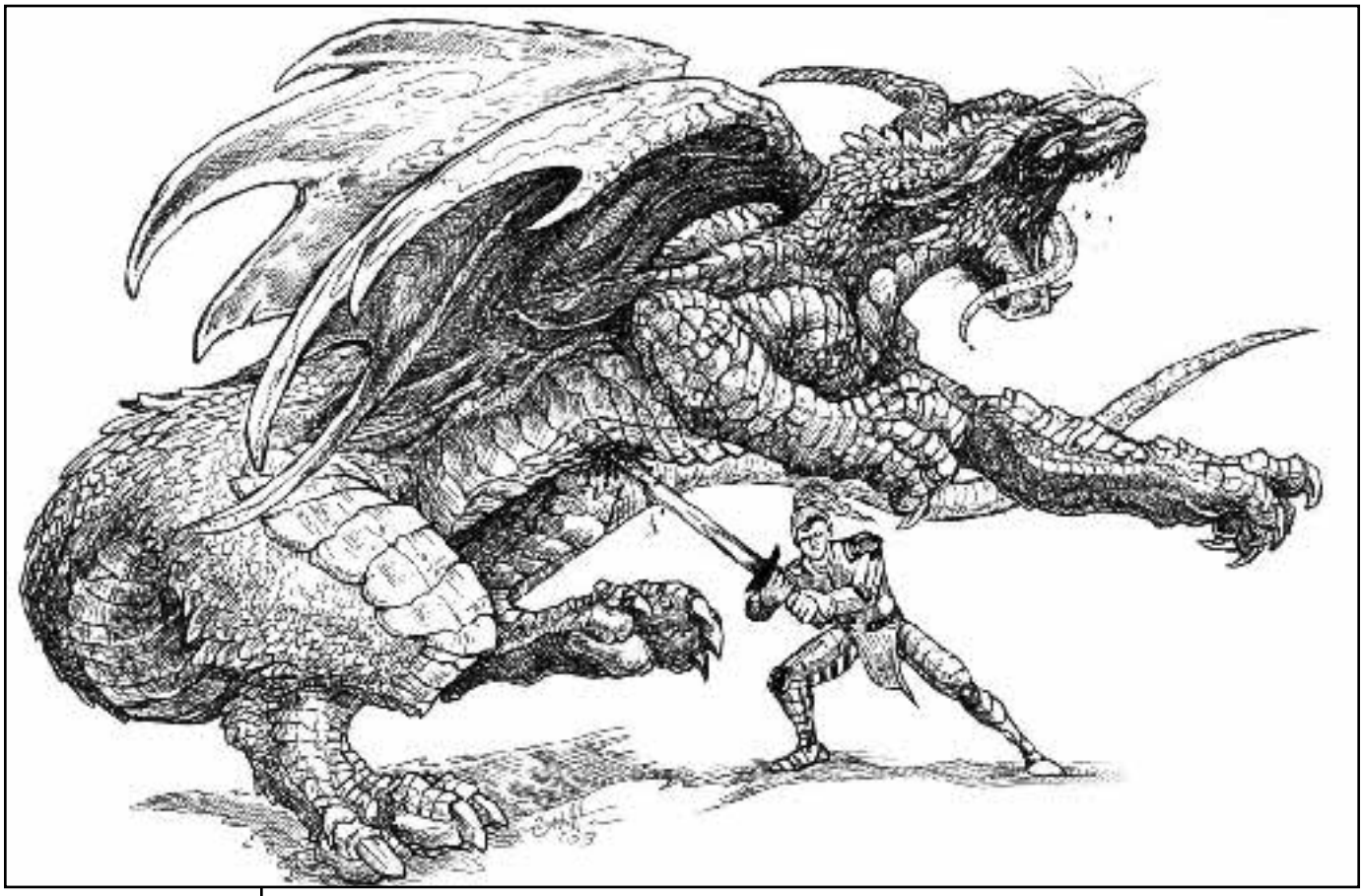
Long weapons have ranges of 1" or 2". A weapon with a 1" range can strike characters anywhere in an adjacent hex, and possibly even slightly into a hex beyond that depending on the relative positions of attacker and target. A weapon with a 2" range can strike characters anywhere in any adjacent hex or the hexes beyond that, and possibly even into a hex beyond that depending on the relative positions of attacker and target.

If you're not using a hex map, you can simplify matters by assigning specific lengths to the weapons. A character with a Short weapon can strike anyone within reach of his arm (about two to two-and-a-half feet from his body). A character with a Medium weapon can strike anyone within six feet of his body. A character with a Long weapon can strike anyone within 12 feet of his body; one with an Extra Long weapon can strike any target within 18 feet of his body.

An attacker with a Long or Extra Long weapon can attack "over" a friendly character, at an opponent on the other side, at a -2 OCV penalty. This makes massed ranks of spearmen particularly effective in battle.

OCV PENALTIES

Wielders of Short weapons are at a disadvantage when fighting opponents with longer weapons. When a character with a Short weapon (including unarmed characters) fights a target with a Medium weapon, he suffers a -1 OCV penalty. When he fights a target with a Long or Extra Long weapon, he's at -2 OCV.



Similarly, when a character with a Medium weapon fights a target with a Long or Extra Long weapon, he suffers a -1 OCV penalty. A character with a Long weapon suffers no OCV penalty against a character with an Extra Long weapon. In any situation, the character with the longer weapon does *not* get a bonus to OCV.

Weapon length OCV penalties apply to attempts to Block as well as attacks.

A weapon length OCV penalty only lasts as long as it takes the character with the shorter weapon to hit the target with the longer weapon. Hitting the target means he's gotten inside the target's reach — and the situation reverses. The wielder of the longer weapon now suffers an OCV penalty identical to the penalty the character previously had. To get rid of the penalty, he has to back up 1" to get his reach back (this constitutes a Half Move, of course), or has to hit his foe in spite of the OCV penalty (this means he's thrown his foe back to his preferred fighting range).

When a character has a weapon the same length as his foe's (for example, if both have polearm Long weapons), but decides to make an unarmed attack (for instance, kicking his opponent), he does not suffer the OCV penalty — because he has a weapon of length similar to his foe's, he fights at no reach disadvantage even though he's using a Short attack.

Shields And Longer Weapons

A shield constitutes a Short weapon when used to attack a target (*i.e.,* make a shield-bash attack), and suffers any penalties appropriate for weapon length. However, the shield does not suffer a weapon length OCV penalty when its bearer tries to Block a Medium, Long, or Extra Long weapon attack. A shield blocks a dagger, a sword, a spear, and a pike with the same OCV.

HIT LOCATIONS

A character with a Short weapon can choose to roll 2d6+1 (High Shot) or 2d6+7 (Low Shot) (depending on whether he strikes high or low) for his Hit Location rolls without taking any OCV penalty for making a Placed Shot.

A character with a Medium, Long, or Extra Long weapon rolls the standard 3d6 for his Hit Location rolls. If he wants to make a High Shot, Low Shot, or the like, he suffers the standard OCV penalty for a Placed Shot.

WEAPON LENGTHS AND ENCLOSED SPACES

Long weapons aren't much good when you're fighting in an enclosed, cramped, or cluttered space, and this optional rule simulates that fact. The accompanying table lists a variety of different fighting environments and their effects on different types of weapons. If used, these rules replace the general rules for cramped and cluttered spaces on page 379 of the *HERO System 5th Edition, Revised,* though the GM may still allow a character to reduce or eliminate the penalties if he succeeds with an Acrobatics roll.

WEAPONS IN ENCLOSED SPACES

Environment	Unarmed	Short Weapons	Medium Weapons	Long Weapons	Extra Long Weapons
Extremely Cramped (coffin, latrine)	-2	-3	N/P	N/P	N/P
Very Cramped (3' hallway)	-1	-2	-3	N/P	N/P
Cramped (room crowded with furniture or debris, 4-7' hallway, 3' doorway)	—	—	-1	-2	-3
Partly Cramped (room with 6' ceiling, 8-10' hallway, 4'+ doorway)	—	—	—	-1	-2

—: No effect on OCV.
Number: A penalty to the character's OCV with the weapon.
N/P: Use of this weapon is not possible.

CONCEALING WEAPONS

A character's ability to conceal a weapon on his person (or elsewhere) depends on its size. See page 450 of the *HERO System 5th Edition, Revised* for general rules about concealing things.

Small weapons have a Concealment modifier of +0 to +1.

Medium weapons used with one or one-and-a-half hands have a Concealment modifier of +3 to +5.

Medium weapons used with two hands have a Concealment modifier of +6 to +7.

Human-sized characters cannot conceal Long or Extra Long weapons on their persons. Larger characters (such as giants) may be able to, but at a +8 or greater modifier.

Weapon Size/Shape

Fantasy characters get in a lot of HTH fights, and often end up using unusual objects as weapons, so GMs invoke the *Weapon Size/Shape* Combat Modifier if necessary. (They should also remain aware of weapon length rules; see above). Additionally, some Fantasy characters wield unusually large weapons.

Fantasy characters come in many different sizes, from sprites and halflings to trolls and giants. Each race uses weapons suitable to its size, which may affect the damage a weapon does. The weapons tables in this chapter assume weapons sized for humans and other characters that are standard height (1") (or close to it, such as dwarves). The accompanying table provides guidelines for varying the damage and STR Minima for smaller and larger weapons, based on the Size/Weight categories used for Physical Limitations and Package Deals (see *Fantasy Hero,* pages 51-52, or pages 574-76 of the main rulebook).

Characters sometimes want to wield weapons that are too large or small for them. Even assuming a character has enough STR to lift the weapon at all, he may be unable to wield it effectively due to its STR Minimum (see pages 478-79 of the *HERO System 5th Edition, Revised*). Additionally, the character may suffer an OCV penalty because he cannot handle the weapon effectively. Find the character's Size/Weight category on the Larger And Smaller Weapons table. A character can wield weapons used by creatures one category smaller or larger than he at no penalty. For each step beyond that, he suffers a -1 OCV penalty (this is cumulative with any STR Minimum penalties). For example, a human can wield a Large or Small creature's weapon with no penalty. But he suffers a -1 OCV when using Diminutive or Enormous weapons, a -2 OCV for Tiny or Huge weapons, and so forth. A Huge giant can wield Enormous and Gigantic weapons without any size problems, but would suffer a -3 OCV with a Small creature's weapon.

Every step below Human-sized reduces a weapon's Length category by one (to a minimum of "Short"). Thus, a spear that's Long at human dimensions counts as a Short weapon when created for Diminutive and smaller creatures. Similarly, each step above Human-sized tends to add one to the weapon's Length category (to a maximum of "L2"), though the GM may make exceptions to this if appropriate.

If appropriate, a GM may let two or more characters wield a weapon too large for either of them to use on his own. To determine the group's effective STR, add their lifting capacities together, then use that total to derive the group's "STR" on the Strength Table. That tells you whether the group can lift the weapon, and how the group's STR compares to the weapon's STR Minimum. All characters wielding the weapon must take their Phases on the same Segments (faster characters have to Hold their Actions if necessary, and may lose some Actions). They must use the same DEX to strike. This DEX determines the group's OCV; the group cannot apply any Combat Skill Levels (unless every member of the group has CSLs with Oversized Weapons, in which case they can apply only as many Levels as the character with the fewest Levels has).

LARGER AND SMALLER WEAPONS

Size Category	Weapon Damage	Weapon STR MIN
Insectile	-6 DC	-30
Minute	-5 DC	-25
Minuscule	-4 DC	-20
Tiny	-3 DC	-15
Diminutive	-2 DC	-10
Small	-1 DC	-5
Human-sized	—	—
Large	+1 DC	+10
Enormous	+2 DC	+20
Huge	+3 DC	+30
Gigantic	+4 DC	+40
Gargantuan	+5 DC	+50
Colossal	+6 DC	+60

ARMOR

THE SPECIAL EFFECTS OF ARMOR

As with virtually everything else in the *HERO System,* special effects are paramount when it comes to armor. Often a player wants to outfit his character with a particular type of armor that suits the character's appearance or activities — such as leather armor for a ranger or rogue — but ends up choosing heavier armor (such as chain mail) to get the higher DEF.

Special effects allow you to define your character's armor however you want. As long as you accept the penalties, restrictions, and other rules for a particular type of armor, you can describe it to suit your vision of your character. Thus, a character can have a suit of leather armor that provides DEF 6, as if it were chainmail. However, it weighs 20 kg. just like a suit of chainmail, and imposes the same DCV or DEX penalties as chainmail — even though the leather armor listed in the Armor Table only provides DEF 3 and weighs 7 kg.

With so many weapons around, it's not surprising that characters look for ways to protect themselves. Armor represents a character's last defense against the damage of an attack (after DCV and such defensive actions as Dodging, Blocking, or using a shield). Armor's DEF subtracts from the BODY done by Killing Damage weapons; the DEF, plus the character's natural PD and ED, subtracts from the STUN. Armor's DEF plus the character's defenses subtract from both the STUN and BODY of Normal Damage attacks.

Armor is built using the Power *Armor* with the Limitations *OIF* (-½), *Real Armor* (-¼), and *Mass* (typically Normal Mass, -1) (see pages 487-88 of the *HERO System 5th Edition, Revised* for more information). For the sake of simplicity, it provides its DEF against both Physical and Energy attacks. In "realistic" campaigns, armor should provide only half its DEF (at most!) against energy attacks. Imagine, for example, how little protection a suit of plate armor would offer against a wizard's lightning bolt....

ARMOR AND RACE

When a character uses a suit of armor meant for a different race, penalties may apply depending upon the size, shape, and weight of the armor. For example, if a lizard-man puts on a suit of armor made for a human, he'll find it uncomfortable because human armor does not accommodate his reptilian tail. An ogre's armor may be too heavy or bulky for smaller races, and a dwarf will have difficulty wearing human armor (and vice-versa). At the GM's option, this sort of discomfort or difficulty may result in a negative modifier for the character's actions. Some possibilities include:

- increase the weight of the armor solely for purposes of calculating the character's Encumbrance penalty
- a penalty to all DEX-based Skill Rolls made while wearing the armor
- a penalty to OCV while wearing the armor
- a penalty to DCV, or to Dodge, while wearing the armor
- a reduction in DEX while wearing the armor

You should also consider what Hit Locations armor designed for another race protects. For example, non-tailed races may find that the seat of the pants remains exposed if they wear armor manufactured by races with tails. The GM must determine the exact game effects.

TYPES OF ARMOR

The accompanying table lists the types of armor available in most Fantasy games. Gamemasters can add to the list as appropriate for the campaign setting.

Explanation Of Armor Table

CLOTH AND HIDE ARMORS

These forms of "armor" often barely qualify as such.

Heavy Cloth: Various types of heavy woven materials. Heavy Cloth is often indistinguishable from ordinary clothes; and in fact most sturdy clothing (adventurers' and workmen's wear) counts as Heavy Cloth (this does *not* include peasants' everyday garb, courtiers' fancy robes, or the like).

Padded Cloth: Two or more layers of Heavy Cloth with padding sewn in between them to absorb the impact of blows. This looks much less like ordinary clothes than Heavy Cloth, but may be mistaken for clothes at a distance, in bad light, or if well-made.

Woven Cord: Thick cord or rope woven into flat matting and used as protective wear. It's obviously armor (as are all heavier armors except for Soft Leather and Heavy Animal Hides).

Heavy Animal Hides: The most protective type of armor available without chemical treatments, reinforcement, or metal, Heavy Animal Hides is just that: thick animal skins. It may be mistaken for clothing when worn by some persons (such as barbarians or shamans).

LEATHER ARMORS

These armors consist of treated or untreated leather without any additional reinforcement.

Soft Leather: Any untreated, medium-weight leather (animal skin). It often resembles ordinary leather clothing, and in fact most leather garb counts as Soft Leather.

Heavy Leather: Like Soft Leather, but thicker, stiffer, and heavier. This looks much less like ordinary clothes than Soft Leather, but may be mistaken for clothes at a distance, in bad light, or if well-made.

Cuir-Bouilli (Boiled Leather): This armor consists of heavy leather boiled, shaped, and hardened to provide more protection (though at the cost of some flexibility). A popular choice among many light fighters, rogues, and non-warrior types... and also among war-leaders who want to equip their soldiers cheaply.

ARMOR TABLE

Armor Type	DEF	A/R Cost	Weight Of A Full Suit
Cloth And Hide Armors			
Heavy Cloth	1	3/1	3.5 kg
Padded Cloth	2	6/2	5 kg
Woven Cord	2	6/2	5 kg
Heavy Animal Hides	3	9/3	7 kg
Leather Armors			
Soft Leather	1	3/1	3.5 kg
Heavy Leather	2	6/2	5 kg
Cuir-Bouilli (Boiled Leather)	3	9/3	7 kg
Reinforced Leather Armors			
Studded Soft Leather	1	3/1	3.5 kg
Ring Armor (Soft Leather)	3	9/3	7 kg
Bezainted Soft Leather	3	9/3	7 kg
Jazeraint Soft Leather	3	9/3	7 kg
Studded Heavy Leather	2	6/2	5 kg
Ring Armor (Heavy Leather)	4	12/4	10 kg
Bezainted Heavy Leather	4	12/4	10 kg
Jazeraint Heavy Leather	4	12/4	10 kg
Studded Cuir-Bouilli	3	9/3	7 kg
Ring Armor (Cuir-Bouilli)	5	15/5	14 kg
Bezainted Cuir-Bouilli	5	15/5	14 kg
Jazeraint Cuir-Bouilli	5	15/5	14 kg
Scale Mails			
Brigandine	4	12/4	10 kg
Lamellar (Splint Armor)	5	15/5	14 kg
Banded Mail	6	18/6	20 kg
Chainmails			
Chainmail	6	18/6	20 kg
Double Mail/Bar Mail	7	21/8	28 kg
Reinforced Chainmail	7	21/8	28 kg
Plate Armors			
Plate And Chain	7	21/8	28 kg
Plate Armor	7	21/8	28 kg
Field Plate Armor	7	21/8	28 kg
Full Plate Armor	8	24/9	40 kg

DEF: The Defense the armor provides, equivalent to PD and ED Armor of the same amount.

A/R Cost: The Active Point/Real Point cost of the armor.

Most armors come in "light" and "heavy" versions. A light version provides -1 DEF and is somewhat lighter; a heavy version provides +1 DEF and is heavier. Since the weights in the table above are standardized by DEF, use the weight listed for the appropriate DEF (heavy full plate [9 DEF] weighs 56 kg; 10 DEF armor would weigh 80 kg.).

REINFORCED LEATHER ARMORS

These armors are leather armors reinforced with metal. They provide more protection than unaugmented leather, but aren't as protective as metal armors (on the other hand, they weigh less).

Studded Leather: Leather armor reinforced with metal studs, or sometimes metal strips.

Ring Armor: Leather armor with metal rings sewn onto it.

Bezainted Leather: Named after a medieval coin, this is leather armor with metal discs (sometimes overlapping) sewn onto it.

Jazeraint Leather: This is leather armor with metal scales sewn onto it. It's as much a form of scale mail as leather armor.

SCALE MAILS

Scale mails consist of metal scales laced, sewn, or riveted together to form a protective garment. Some versions had a cloth or leather backing as well. In the eyes of many Fantasy characters, they're a "poor man's mail," used by people who want the benefits of metal armor but cannot make, buy, or otherwise obtain chainmail.

Brigandine: This multi-layered armor consists of metal scales (usually horizontal rectangular ones) sewn in between two layers of heavy cloth or leather. The scales usually overlap upwards slightly. The rivets that hold the plates together often show through the upper layer of cloth, and might be gilded or otherwise decorated.

Lamellar Armor: Also called splint armor or laced armor, lamellar has a series of thick metal "splints" or scales, sometimes slightly convex, laced together (and to a backing of cloth or leather). The size of the splints depends on the part of the body covered; the armorer uses small splints at points of articulation, and larger ones over the chest, thighs, and the like. In areas where metal was scarce, or regarded as too heavy, armorers made the splints out of horn, bone, wood, or other substances (see *Armor Materials,* page 29).

Banded Mail: Overlapping, articulated, rectangular metal scales attached to vertical leather strips. Also known as laminated armor.

CHAINMAILS

Probably the most popular armor among Fantasy characters, chainmails (or just "mail") consist of small metal rings linked together to form a protective yet relatively flexible garment.

Chainmail: Standard chain armor.

Double Mail: Chainmail made with thicker rings more closely interwoven. Similar to double mail is *bar mail,* in which some of the rings have a vertical bar in the middle.

Reinforced Chainmail: Chainmail with strips of leather woven through the links.

PLATE ARMORS

Well known due to its association with the "knight in shining armor," plate armors use large, heavy plates of steel to protect the wearer. Leather straps hold the pieces in place and link them together into a whole suit. Although not as flexible as chainmail, plate armor offers the highest degree of protection of any armor.

Plate And Chain: A suit of chainmail reinforced with sections of plate. It offers greater protection than just chainmail without much extra weight or loss of flexibility.

You can also use Plate And Chain to represent types of armor that consist of metal scales linked together by chainmail rings.

Plate Armor: Standard plate armor.

Field Plate Armor, Full Plate Armor: These types of plate armor consist of heavier, better-fitted, better-made plates attached not just by leather straps, but screws and the like.

HIT LOCATION SECTIONAL ARMOR WEIGHT TABLE

Hit Location	Armor Base Defense							
Name (Roll)	1	2	3	4	5	6	7	8
Head (3)	.02	.02	.03	.05	.06	.09	.13	.18
Head (4)	.05	.07	.10	.14	.19	.28	.39	.56
Head (5)	.10	.14	.19	.28	.39	.56	.78	1.11
Hands (6)	.16	.23	.32	.46	.65	.93	1.30	1.85
Arms (7)	.24	.35	.49	.69	.97	1.39	1.94	2.78
Arms (8)	.34	.49	.68	.97	1.36	1.94	2.72	3.89
Shoulders (9)	.41	.58	.81	1.16	1.62	2.32	3.24	4.63
Chest (10)	.44	.63	.88	1.25	1.75	2.50	3.50	5.00
Chest (11)	.44	.63	.88	1.25	1.75	2.50	3.50	5.00
Stomach (12)	.41	.58	.81	1.16	1.62	2.32	3.24	4.63
Vitals (13)	.34	.49	.68	.97	1.36	1.94	2.72	3.89
Thighs (14)	.24	.35	.49	.69	.97	1.39	1.94	2.78
Legs (15)	.16	.23	.32	.46	.65	.93	1.30	1.85
Legs (16)	.10	.14	.19	.28	.39	.56	.78	1.11
Feet (17)	.05	.07	.10	.14	.19	.28	.39	.56
Feet (18)	.02	.02	.03	.05	.06	.09	.13	.18

Sectional Armor

While characters often wear the same type of armor over their entire bodies, they don't have to. For various reasons — to cut down on weight, to reduce cost, or having to use what's available — they may "mix and match" armor of different types, or even leave some parts of the body unprotected.

The Weight Of Sectional Armor

To determine the weight of sectional armor, which in turn dictates how it affects the character's Encumbrance rating, you can take one of two approaches. The first, and often the simplest in game terms, is to define sectional armor *by Hit Location.* Thus, the character might have DEF 4 armor on his Hands (6), Feet (17-18), and lower Legs (16), DEF 6 armor on his Arms (7-8), Vitals (13), Thighs (14), and upper Legs (15), and DEF 7 armor on his Head (3-5), Shoulders (9), Chest (10-11), and Stomach (12). The Hit Location Sectional Armor Weight Table provides the weight (in kilograms) for pieces covering each part of the body, based on the amount of DEF provided.

The second, and somewhat more historically accurate, approach is to buy armor *in predefined pieces.* This isn't quite as precise as going Hit Location by Hit Location, but it's not too dissimilar, and often contributes more to the "feel" of the campaign. The Historical Sectional Armor Weight Table provides the weight (in kilograms) for various pieces of armor used in Europe (consult a reference book if you want to see what the pieces look like).

HISTORICAL SECTIONAL ARMOR WEIGHT TABLE

Hit Location	Armor Base Defense							
Name (Roll)	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Full Helmet (3-5)	.16	.23	.32	.46	.65	.93	1.30	1.85
Coif (4-5,9)	.55	.79	1.10	1.57	2.20	3.15	4.41	6.30
Helm (4-5)	.15	.21	.29	.42	.58	.83	1.17	1.67
Cap (5)	.10	.14	.19	.28	.39	.56	.78	1.11
Gauntlets (6-7)	.41	.58	.81	1.16	1.62	2.31	3.24	4.63
Gloves (6)	.16	.23	.32	.46	.65	.93	1.30	1.85
Brassards (7-8)	.58	.83	1.17	1.67	2.33	3.33	4.67	6.67
Vambraces (7)	.24	.35	.49	.69	.97	1.39	1.94	2.78
Rerebraces (8)	.34	.49	.68	.97	1.36	1.94	2.72	3.89
Pauldrons (9)	.41	.58	.81	1.16	1.62	2.32	3.24	4.63
Hauberk (7-14)	2.85	4.07	5.70	8.15	11.4	16.3	22.8	32.6
Corselet (9-15)	2.43	3.47	4.86	6.94	9.72	13.9	19.4	27.8
Byrnie (9-14)	2.27	3.24	4.54	6.48	9.07	13.0	18.2	25.9
Cuirass (9-13)	2.03	2.89	4.05	5.79	8.10	11.6	16.2	23.2
Vest (10-13)	1.62	2.31	3.24	4.63	6.48	9.26	13.0	18.5
Breastplate (9-11)	1.28	1.83	2.56	3.66	5.12	7.32	10.2	14.6
Skirtplate (12-13)	.75	1.06	1.49	2.13	2.98	4.26	5.96	8.52
Chausses (14-18)	.57	.81	1.13	1.62	2.27	3.24	4.54	6.48
Leggings (14-17)	.55	.79	1.10	1.57	2.20	3.15	4.41	6.30
Skirt (14)	.24	.35	.49	.69	.97	1.39	1.94	2.78
Greaves (16-17)	.15	.21	.29	.42	.58	.83	1.17	1.67
Boots (17-18)	.06	.09	.13	.19	.26	.37	.52	.74
Knee Cops (15)	.16	.23	.32	.46	.65	.93	1.30	1.85
Demigreaves (16)	.10	.14	.19	.28	.39	.56	.78	1.11
Anklets (17)	.05	.07	.10	.14	.19	.28	.39	.56

The DEF Of Sectional Armor

If your campaign uses Hit Locations, you can figure out how much DEF to apply to an attack based on the location: if a character wearing a DEF 6 corselet (Hit Locations 9-15) takes a hit on the Shoulder (9), he applies DEF 6 to reduce the damage.

If the campaign does not use Hit Locations, or if the GM considers a particular attack so "general" that no one location bears the brunt of the damage, the character must determine his *Average DEF.* You can do this in one of two ways. The first method involves 3 steps:

1. Add the DEF covering Hit Locations 9, 10, 11, 12, 13, and 14.

2. Add to the total of (1) the DEF covering the Head (locations 3, 4, and 5), *provided* that armor protects at least two of those three Hit Locations. If it does not, do not add it in.

3. Divide the total of (1) and (2) by 7. This tells you the *Average DEF* protecting the character's body.

The first method, while quick, is also a simplification; it takes into account about 70% of a character's body, including all Hit Locations with better than a x½ BODY multiplier. It assumes the character has at least *some* armor on Hit Locations 6-8 and 15-18; if not, the results may be skewed. If the GM feels a character is abusing this system by heavily armoring the counted parts of the body and leaving the others improperly lightly armored, he can reduce the Average DEF by 1-2 to compensate.

The second method is more comprehensive, but also easier for unscrupulous players to abuse: add up the DEF ratings for all 16 Hit Locations, then divide by 16 to determine the Average DEF. This system benefits characters who take heavy armor on locations like the Hands and Feet, since they have equal weight in the calculation even though they're hit less frequently than Locations 9-14. However, if a character has reasonably similar types of armor over his body, or a concentration of heavier armor on locations 9-14, this method tends to provide a fairer calculation of Average DEF than the first method.

ARMOR MATERIALS

The rules for metal armor assume that armor's made of steel. However, that may not always be the case. A Bronze Age culture would have bronze armor instead, while a tribe living in a swamp with ironwood trees might carve armor out of wood (since metal would rust so quickly it would become useless).

The table below lists the DEF and Weight changes when characters substitute some other substance for steel. This includes replacing metal plates in scale, bezainted, or like armors with some other substance. The GM may alter the results slightly in the interest of common sense, dramatic sense, or game balance.

Material	DEF	Weight
Bronze	-2	x1
Copper	-2	x.8
Dwarven steel	+2	x1
Elven-silver	+1	x.8
Horn	-2	x.7
Iron	-1	x1
Ivory	-3	x.8
Leather (hardened)	-4	x.5
Stone	-1	x1.2
Wood	-2	x.8

HISTORICAL SECTIONAL BARDING WEIGHT TABLE

Hit Location	Armor Base Defense							
Name (Roll)	1	2	3	4	5	6	7	8
Head (3)	.03	.05	.07	.10	.14	.20	.28	.40
Head (4)	.07	.10	.14	.20	.28	.40	.56	.80
Neck (5)	.21	.30	.42	.60	.84	1.2	1.68	2.4
Neck (6)	.35	.50	.70	1.0	1.4	2.0	2.8	4.0
Forelimbs (7)	.50	.70	.98	1.4	1.96	2.8	3.92	5.6
Forelimbs (8)	.70	1.0	1.4	2.0	2.8	4.0	5.6	8.0
Body (9)	.80	1.15	1.6	2.3	3.2	4.6	6.4	9.4
Body (10)	.87	1.25	1.75	2.5	3.5	5.0	7.0	10.0
Body (11)	.87	1.25	1.75	2.5	3.5	5.0	7.0	10.0
Stomach (12)	.80	1.15	1.6	2.3	3.2	4.6	6.4	9.2
Vitals (13)	.70	1.0	1.4	2.0	2.8	4.0	5.6	8.0
Hindlimbs (14)	.50	.70	.98	1.4	1.96	2.8	3.92	5.6
Hindlimbs (15)	.35	.50	.70	1.0	1.4	2.0	2.8	4.0
Hindlimbs (16)	.21	.30	.42	.60	.84	1.2	1.68	2.4
Hindlimbs (17)	.07	.10	.14	.20	.28	.40	.56	.80
Hindlimbs (18)	.03	.05	.07	.10	.14	.20	.28	.40
Full Suit	7	10	14	20	28	40	56	80

HISTORICAL SECTIONAL BARDING WEIGHT TABLE

Hit Location	Armor Base Defense							
Name (Roll)	1	2	3	4	5	6	7	8
Chanfron (3-4)	.875	1.25	1.75	2.5	3.5	5.0	7.0	10.0
Crinet (5-6)	.875	1.25	1.75	2.5	3.5	5.0	7.0	10.0
Peytrel (9-10)	1.75	2.5	3.5	5.0	7.0	10.0	14.0	20.0
Flanchard (11-12)	1.75	2.5	3.5	5.0	7.0	10.0	14.0	20.0
Crupper (13-14)	1.75	2.5	3.5	5.0	7.0	10.0	14.0	20.0
Full Suit	7	10	14	20	28	40	56	80

BARDING

Barding is armor for horses and other land mounts or fighting animals, such as elephants or war-dogs (flying and swimming mounts generally cannot wear it; they cannot bear the weight). It can come in just about any form that armor for people can, and provides the same DEF. Depending on how well it's made, and how much of the mount it covers, it may weigh only a little more than a full suit of the same armor for a person, or considerably more.

The two accompanying tables list the weight of different types of barding, based on either the Hit Locations covered (using the Equine Hit Location Table on page 35 of *The HERO System Bestiary*) or the predefined pieces purchased. Note that historically, even the most comprehensive suits of barding leave the horse's lower legs exposed; the Hit Location Sectional Barding Table ignores this reality and lists armor values for all Hit Locations (in case magic or some other means allows characters to create leg armor for horses).

In addition to the listed pieces of armor, some horses had an *escutcheon,* or decorative spike, attached to the chanfron (faceplate). It adds no DEF, but might allow the horse to do 1 point or ½d6 of Killing Damage with a head-butt.

All rules that apply to armor for characters apply to animals in barding as well (such as Encumbrance or DCV penalties), unless the GM prefers not to use them for some reason.

HIGH- AND POOR-QUALITY ARMOR

Just like characters can buy weapons that are better or worse than average, they can buy armor that's better or worse than a standard suit of the same type armor. In game terms, characters can have *fine* and *poor* armor. The armors listed in the tables earlier in this chapter are "average" versions — they have the DEF and other qualities of typical armors of their type.

At the GM's option, characters can use the following rules and guidelines to create exceptional armors, or to represent below-average versions of armor. Gamemasters are, of course, free to change the Character Point costs of these improvements (or drawbacks) to suit their campaigns, or even to give them to characters' armor for free to represent events that occur during game play. Additionally, where the rules provide Character Point totals for unusual abilities that aren't built using the standard *HERO System* rules, *those abilities apply only to armor.* Characters may *not* buy them as personal abilities.

Note that the abilities do *not* represent enchantment or magical enhancement, but rather improved quality of materials, crafting, or the like. Additionally, these abilities sometimes represent "legendary" attributes possessed by famous or noteworthy armors. They're a great way to distinguish a special or wondrous suit of armor from typical armors without having to resort to the catch-all explanation of "magic." But of course, they can also represent enchantments (minor or otherwise) placed on a suit of armor if you want.

Buying Fine And Poor Armor

When designing a fine or poor suit of armor, you should use the Character Point costs listed below to re-calculate the overall Active and Real Point costs of the armor. You may apply the *Independent* Limitation if the GM feels that's appropriate for a truly unique and special suit of armor, but it's not required; GMs usually forbid it because it may end up making the improved armor cheaper than its mundane counterpart.

Since Heroic characters don't pay Character Points for their armor, making a suit of armor "fine" or "poor" generally only affects the armor's monetary cost (see *Fantasy Hero,* page 143). The Active and Real Point costs usually just help the GM evaluate whether the suit of armor is balanced for the campaign. However, to prevent fine armors from becoming too common in the game, the GM may require characters to pay Character Points for them, using one of two methods:

■ the cost of improvements themselves, calculated as (improved suit of armor's Real Point cost) - (normal suit of armor's Real Point cost), with some predefined minimum cost (such as 3 Character Points)

■ a flat cost, such as 5 Character Points

In either case, if the character loses the suit of armor, he permanently loses the points spent on it... though the GM may allow him to go on a quest to regain the armor, reforge it, or have another one made, and spend the "lost" points on that.

Fine Armors

Fine armor may have one or more of the following abilities, or any other the GM sees fit to allow. The GM should evaluate any improvements a character wants to apply to armor carefully, to ensure they're balanced for the campaign.

Less Blinding: The armor is so cunningly crafted that it doesn't restrict the character's Sight or other senses as much as most suits do. You can buy this as Enhanced Perception to overcome some or all of the PER Roll penalties associated with the armor (see page 35).

Less Restrictive: In campaigns that impose a DCV, DEX Roll, or DEX restrictions on wearing armor, the armor is so well-made that it doesn't inhibit the character's movement as much as a normal suit does. You can buy this as Armor Skill Levels for the wearer (see page 34).

Less Tiring: In games that impose an END cost on wearing armor (see below), the armor is less tiring to wear. You can buy this by applying the *Reduced Endurance* cost to armor (possibly even the variant on *Fantasy Hero,* page 246, that doesn't reduce the END paid but extends the time period over which a character has to pay END).

Lightweight: The armor is made of an unusual material that's lighter than normal, or is so well-made that it rides on the character's body in a less encumbering fashion. Recalculate the cost of the armor using a version of the *Mass* Limitation less than Normal Mass (-1) — typically Half Mass (-½).

More Protective: The armor provides +1 DEF, bought in the manner described on page 26.

Noble Appearance: The armor inspires loyalty and bravery in the wielder's allies, fear and dread in his foes. You can buy this as +5 PRE (sometimes more); OIF (-½), Real Armor (-¼), Only For Making Presence Attacks While The Armor Is Worn (-1) (total cost: 2 points).

Quickly Donned: A wearer can put on or take off the armor in half the time it normally takes. You can buy this as Teleportation 1", Usable As Attack (+1), Only To Don Armor (-2), Extra Time (at least two Phases, more for plate armors; -¾) (total cost: 1 point).

Sturdy: The armor is harder to break or damage. It has +1 (or more) BODY, and perhaps some Power Defense to resist Dispels and Drains. Each +1 BODY costs 1 Character Point; and each point of Power Defense costs 1 Character Point (appropriate Limitations apply, of course).

Unreal Armor: The weapon does not have the *Real Armor* Limitation, meaning it always stays clean and ready for action without any effort on the wearer's part.

Other Improvements: Some other possible improvements, that cost no Character Points but help to make armor distinctive, include:

■ Ornamentation: gilding or silvering; inlaid gems; sculpted plates or pieces; carved designs on the plates; and so forth

■ Unrustable: regardless of how much moisture it's exposed to, the armor never rusts (magical rusting attacks can still affect it, though)

■ Distinctive ring: when struck by a weapon, the armor emits a distinctive ring or tone if the wielder wants it to

Poor Armor

Poor armor may have one or more of the following drawbacks (most of which are just the reverse of Fine armor qualities), or any other the GM sees fit to impose.

Heavy: The armor is made of an unusual material that's heavier than normal, or is so poorly-made that it rides on the character's body in a more encumbering fashion. Recalculate the cost of the armor using a special version of the *Mass* Limitation, Double Mass (-1½).

Ignoble Appearance: The armor inspires scorn or fear in the wielder's allies, contempt or pity in his foes. You can buy this as a Side Effect (-5 PRE for Presence Attacks while wearing armor, always occurs; -½).

Less Protective: The armor provides -1 DEF, bought in the manner described on page 26.

More Blinding: The armor is so badly made that it's even harder to see out of. You can buy this as a Side Effect (double all PER Roll penalties for wearing armor, always occurs; -½).

More Restrictive: In campaigns that impose a DCV, DEX Roll, or DEX restrictions on wearing armor, the armor inhibits the wearer's movement more than a normal suit does. You can buy this as a Side Effect (double all DCV/DEX Roll penalties for wearing armor, always occurs; -½).

More Tiring: In games that impose an END cost on wearing armor (see below), the armor is more tiring than normal to wear. You can buy this by applying the *Increased Endurance Cost* Limitation to armor.

Weak: The armor is easier to break or damage. It has -1 (or more) BODY. Each -2 BODY reduces the armor's cost by 1 Character Point (minimum cost of 1 Character Point).

Other Drawbacks: Some other possible negative qualities, which save no Character Points but still make armor less enjoyable to wear, include:

■ Poor appearance: the armor is rusty or dented; has numerous visible repairs; it looks as badly-made as it is.

■ Ill repute: The armor has a poor reputation. Perhaps an evil man once committed foul deeds while wearing it, it supposedly carries a curse that makes its wearer less intelligent, or the like.

USING ARMOR

In many Fantasy games, characters tend to treat armor as if it were no different than clothing — they ignore the difficulties associated with wearing it, and only pay attention to how much protection it gives them. While this certainly simplifies the game, it's not very realistic... and what's worse, it may cause game balance problems. The following guidelines and rules help to make armor both more balanced and more "realistic."

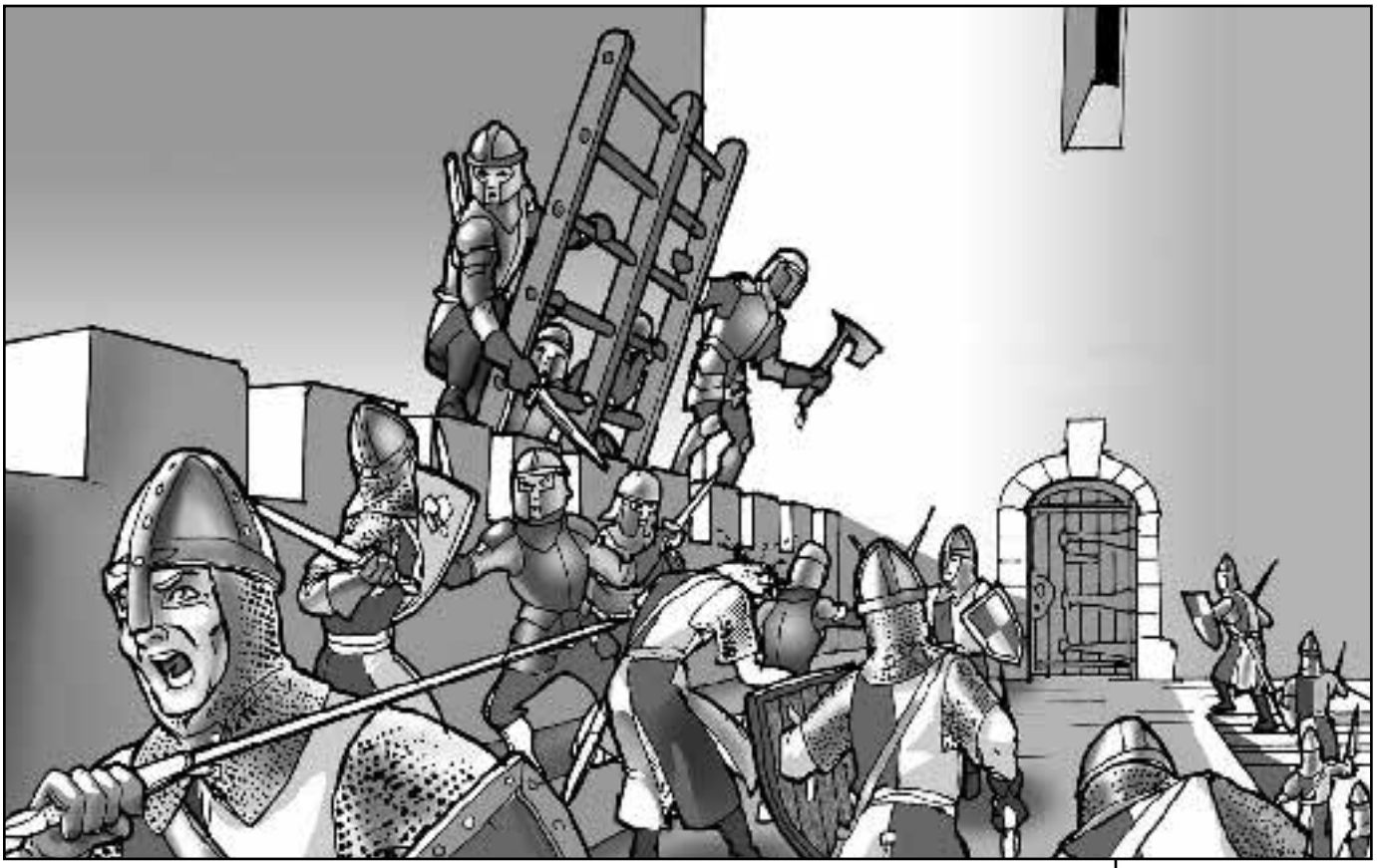
PRACTICAL CONSIDERATIONS

In the real world, armor brings with it a host of problems and drawbacks. These may have little (or no) effect in game terms, but you should keep them in mind when considering how characters use armor in the game. To the extent you want to incorporate them into your game, the *Real Armor* Limitation reflects them.

First, armor (particularly metal armor) is heavy. While the weight is spread over the body somewhat, it's still a lot of kilograms to carry, and the weight does stress some areas of the body more than others (such as the shoulders). The longer a warrior wears his armor, the heavier it seems to become.

Second, armor is hot and stuffy to wear, and tends to overheat the character quickly. Some medieval commentators noted that their armies lost nearly as many men to heat exhaustion as to injuries. The longer one had to wear armor, and the hotter or more humid the weather, the worse this problem was.

Third, armor is restrictive. It does not significantly hinder movement — modern tests have shown that untrained men can put on a suit of plate



armor and then do things like lie down and stand back up, run, jump, and so on. After all, it would be suicidal to put on a suit of armor, no matter how protective, that limited basic movement abilities in combat. But armor's obviously less flexible and more confining than clothing — and the heavier/more rigid the armor, the more restrictive it tends to be. Additionally, some types of helmets restricted the wearer's field of vision, at least slightly.

Fourth, armor is uncomfortable if worn too long. For short periods, it's not particularly difficult to wear, especially if it's properly fitted and put on. But if worn for long periods, particularly during strenuous activities like riding, it could chafe or otherwise discomfort the wearer. Sleeping in armor, particularly heavy armor, was rarely even contemplated, much less engaged in. A character who sleeps in his armor will probably wake up stiff and sore (-3 DEX for several hours after awakening).

Fifth, armor requires maintenance. If dinged or cut in battle, it needs repairs (see page 35). After being worn, it requires cleaning. If it contains metal, it needs regular oiling and polishing to prevent rust. At the GM's option, if a character does not take the time to maintain his armor after a period of strenuous use — two days of travel or routine adventuring, one day of battle or adventuring featuring combat — the armor loses 1 DEF per week of lack of maintenance (and perhaps quicker if he continues using it), down to half its DEF. Alternately, the GM may increase other penalties, such as END cost or time to don.

Donning Armor

Putting on (or removing) armor takes time — and sometimes helpers.

Picking up a shield, or putting on a very simple piece of armor (such as a helmet), takes a Half Phase Action.

Putting on a simple piece of armor (such as a leather, reinforced leather, scale, or chain corselet or hauberk) takes a Full Phase Action. However, this may leave some parts of the body (primarily the limbs and head) at least partly exposed. To put armor on this quickly, the character just grabs the largest, most convenient piece of a suit of armor and gets it on his body as quickly as he can, without fastening every single lace, strap, or buckle.

Putting on an entire suit of cloth/hide, leather, leather, reinforced leather, scale, or chain armor takes four Phases. Typically a character can do this by himself.

Putting on plate armor takes time, and often requires the assistance of a squire or the like. Donning an entire suit of plate takes 5 Minutes — 1 Minute for the torso, and 1 Minute for each limb. If the character does not have at least one helper, triple these times.

Removing armor takes the same amount of time. In an emergency, a character with a dagger or similar Short bladed weapon can cut himself free more quickly — one step up the Time Chart — but this makes the armor useless until repaired.

Balancing Armor Use

Armor provides a tremendous benefit in game terms. The DEF it offers goes a long way toward keeping a character unharmed (or at least less harmed), and it doesn't cost any Character Points. As a result, most characters — even characters who shouldn't be wearing heavy (or any) armor — tend to have it. Moreover, since armor is so "cheap," heavy fighters can often find ways to wear lots of it and yet still come close to matching light fighters in terms of DEX and SPD.

Many GMs who consider this a problem in their games institute rules to make wearing armor less attractive. In other words, they change armor so the benefits it provides come with drawbacks. If you've found "armor balance" to be a problem in your campaign, you may want to consider one or more of the following solutions (or use them as guidelines to create some of your own).

Encumbrance

First, look at the *HERO System* rules for Encumbrance (see *Fantasy Hero,* page 152, or page 379 of the main rulebook). A character who's too heavily loaded down suffers penalties to DCV, DEX Rolls, and movement, and has to spend END every Turn. However, because the rules allow characters with high STR to lift a lot of weight, armor may not hinder them much. For example, a suit of full plate (40 kg) only counts as 10% of the weight limit for a 20 STR character. Even allowing for the weight of his other equipment, his armor doesn't restrict him too much.

If you think armor should be more encumbering, you have several options. First, you can double (or otherwise increase) the weight of armor solely for Encumbrance purposes. For example, a suit of chainmail may only weigh 20 kilograms when put on the scales, but when a character wearing chainmail calculates his Encumbrance, he counts it as weighing 40 kg.

Second, you can change the Encumbrance thresholds. Perhaps penalties start to accumulate at 5% lower than indicated in the table on page 379 of the main rulebook. Or, perhaps the Encumbrance thresholds depend on *Casual STR* — the amount the character can lift with half his STR — rather than his full STR. Using that system, a character with 20 STR becomes 40% Encumbered just by putting on a suit of full plate, or 20% Encumbered when wearing chainmail.

Third, you can increase the Encumbrance penalties so that even a little bit of Encumbrance proves extremely troublesome. Maybe a character who's 11-24% Encumbered suffers -1 DCV/DEX Rolls and spends 1 END per Turn, with penalties increasing proportionately from there.

Endurance

As mentioned above, by all accounts armor, particularly heavy armor, is tiring to wear. Besides the sheer weight of it, it's extremely hot, which only tires the character out more quickly.

You can represent this "armor fatigue factor" in several ways. First, you can rely on Encumbrance END costs. Because those costs are relatively mild, this is unlikely to make armor unattractive to many characters, but combined with some other penalties it may prove an effective balance to armor's benefits.

Second, you can impose a specific END cost for wearing armor. Typically this means an END cost per Turn, not per Phase (much like Encumbrance). The main issue is how much END to charge, and that depends on how much balancing you think armor needs. For example, perhaps 1-3 DEF armor cost 1 END per Turn, 4-6 DEF armor costs 2 END per Turn, 7-9 DEF armor costs 3 END per Turn, and so forth.

Third, you can treat the END spent to wear armor as particularly tiring. For example, you could rule that Post-Segment 12 Recoveries do not allow characters to Recover END spent to wear armor. The only way to Recover that END is to spend a Phase in combat taking a Recovery, or to wait until the battle is over. Similarly, you could use the Long-Term Endurance rules (*HERO System 5th Edition, Revised,* page 425) to make it tiring to wear armor for long periods of time. In addition to the per Turn END cost, wearing armor during strenuous activity (like combat) costs a character 1 (or more) LTE per Turn.

DCV And DEX Rolls

Perhaps the simplest, and most effective, way to balance armor is to penalize the DEX and DCV of characters who wear it. As noted above, armor, while not overly restrictive, is still more restrictive than clothing — and the heavier the armor, the more restrictive it's likely to be.

Gamemasters who use this method of balancing armor usually establish a penalty to DCV and DEX Rolls (including Skill Rolls deriving from DEX) based on the amount of DEF the armor provides. For example, perhaps every 3 DEF or fraction thereof imposes -1 DCV/DEX Rolls: 1-3 DEF equals -1; 4-6 equals -2; 7-9 equals -3; and so on.

Other GMs like to introduce a little more variety, or use the type of armor to determine the penalty. For example: cloth and hide armors, -1; leather and reinforced leather armors, -2; scale and chain mails, -3; and plate armors, -4.

Another possibility is to limit the amount of DEX a character can use while armored. For example, a character wearing cloth and hide armors can use his full DEX, regardless of how high it is. A character wearing leather armors can only use DEX up to DEX 20. One wearing reinforced leather armor can use DEX up to 18, one wearing scale or chain mails can use up to DEX 15, and one using plate armor can use up to DEX 13. This, obviously, restricts both CV and DEX Rolls.

Armor Skill Levels: If the GM imposes DCV and DEX Roll penalties, characters can buy Skill Levels to overcome the restrictions, representing their skill and training for fighting in armor. To counteract the DCV penalty, buy +1 DCV (5 Active Points); Only To Counteract Armor Penalties (-1), for 2.5 points each. To counteract the DEX Roll penalty, buy +1 with all DEX Rolls and DEX-Based Skill Rolls (5 Active Points); Only To Counteract Armor Penalties (-1), for 2.5 points each. Alter-

nately, the GM can simply increase the cost of the DCV Levels slightly — to a flat 3 or 4 Character Points each, with no Limitation — and allow them to apply to both DCV and DEX Rolls (perhaps in full even if a character uses both a DEX Roll and his DCV in the same Phase).

If the campaign limits how much DEX a character can use while armored, each Armor Skill Level raises that threshold by 1 for any armor the character wears.

Perception Rolls

At the GM's option, armor's penalty to DCV and DEX Rolls — either as derived from Encumbrance, or using a direct modifier like the one above — also applies to a character's PER Rolls unless he removes (or does not put on) an appropriate piece of armor. To eliminate the Sight PER penalty, a character must doff his helmet; to remove the Touch PER penalty, he must take off his gauntlet; and so forth.

Wearing Multiple Armors

While some armors (such as Plate And Chain) combine types of protective wear, in general a character cannot wear two types of armor at once. If he somehow mixes two together, he must either define it as a new type of a single suit of armor (like Plate And Chain), or use the sectional armor rules. A character cannot wear two types of armor and add their DEFs together. (Heavy armors, such as scale, chain, and plate, usually came with padded undergarments to minimize discomfort and chafing, but this does not count as wearing Heavy Cloth or Padded Cloth armor in addition to the outer armor.)

Armor Breakage

For the sake of quick and easy game play, armor generally does not break. Attacks may pierce it, of course, but characters don't have to keep track of a suit of armor's BODY to determine whether it falls apart in mid-battle.

Gamemasters desiring greater "realism" should consider a suit of armor to have BODY equal to three times the armor's DEF. Every attack that inflicts BODY damage on the character (in other words, BODY damage accruing to the character after he applies his armor's DEF) inflicts the same amount of damage to the armor. Once the armor takes all of its BODY in damage, it's useless — either it falls apart, or it's too full of holes to do any good. At the GM's option, a suit of armor that loses one-third its BODY provides only two-thirds of its DEF; one that loses two-thirds of its BODY provides only one-third DEF.

As a default rule, characters cannot target armor specifically (*i.e.,* with the intent of damaging it without hurting the person wearing it). However, the GM may allow this at a substantial OCV penalty (-5 or more).

If a character wants to target a hole in his enemy's armor caused by a previous attack that inflicted BODY damage on that enemy, he can do so, but suffers an OCV penalty based on the size of the hole. A large hole (for example, caused by a long

SHIELD TABLE

Type Of Shield	DCV	HA	STR Min	BODY	DEF	Mass	Total Cost
Wooden Shields							
Buckler	+1*	1d6 N	3	2	3	1 kg	4
Spiked Buckler	+1*	1d6 N/½d6 K	5	3	3	2 kg	7
Small	+1	1d6 N	5	3	3	2 kg	4
Medium	+2	2d6 N	10	4	3	4 kg	6
Large	+3	3d6 N	15	6	3	6 kg	7
Tower	+4	3d6 N	18	7	3	8 kg	9
Metal Shields							
Buckler	+1*	1d6 N	4	2	5	2 kg	4
Spiked Buckler	+1*	1d6 N/½d6 K	6	3	5	3 kg	7
Small	+1	1d6 N	6	3	5	3 kg	4
Medium	+2	2d6 N	13	4	5	5 kg	6
Large	+3	3d6 N	18	6	5	7 kg	7
Tower	+4	3d6 N	20	7	5	10 kg	9

Key

K: Killing Damage

N: Normal Damage

DCV: The DCV bonus provided by the shield. Bonuses marked with an asterisk (*) require the character to make a DEX Roll to obtain them (this counts as an Action that takes no time).

HA: The HA (and, for spiked bucklers, HKA) damage the shield does with a shield bash maneuver.

STR Min: STR Minimum.

BODY, DEF: The BODY and DEF of the shield, used primarily with the shield breakage rules (page 189).

Mass: The shield's weight in kilograms.

Total Cost: The total cost of the shield as a Multipower (see text).

cut from a sword) imposes a -4 to -5 OCV modifier. A medium-sized hole (for example, caused by a single axe-blow) imposes a -5 to -7 OCV modifier. A small hole (for example, caused by an arrow, or a stab wound from a dagger) imposes a -7 to -12 OCV modifier. These modifiers take the place of the Hit Location modifiers normally used for Placed Shots (in effect the hole becomes a separate target). If the character succeeds with this attack, the enemy does not get the benefit of his armor's DEF against the attack.

SHIELDS

A shield is a large piece of wood and/or metal, usually roughly disc- or rectangular-shaped, worn by a fighter on his off arm (typically his left arm). The fighter uses it to block attacks and protect himself from harm.

In game terms, a shield is bought as a two-slot Multipower. The first slot provides bonuses to DCV, bought as DCV Levels with the *OAF* (-1), *Real Armor* (-¼), *Mass* (Normal Mass; -1), and *STR Minimum* Limitations. For every 5 points (or fraction thereof) a shield's user's STR is below the shield's STR Minimum, reduce the DCV bonus it provides by 1. Additionally, the wielder may apply his shield's DCV bonus as a bonus to his OCV for purposes of Blocking (see *Fantasy Hero,* page 155).

The second slot allows the character to perform a "shield bash" maneuver. It's a Hand-To-Hand Attack with the *OAF* (-1), *Hand-To-Hand Attack* (-½), *Real Weapon* (-¼), and *STR Minimum* Limitations. It also has a -½ *Side Effects* Limitation, signifying the fact that the character suffers an OCV penalty equal to the shield's DCV bonus (since shields, especially large ones, aren't primarily intended as weapons and thus awkward to use as such). The spiked buckler also has an HKA slot. Shields and spiked bucklers are a 1-point subcategory of the *Common Melee Weapons* Weapon Familiarity group; characters without an appropriate WF suffers the standard Unfamiliar Weapon penalty.

Shields also have BODY and DEF ratings, for use with the weapon and shield breakage rules (*Fantasy Hero,* page 189). The shield's materials and size determine its BODY and DEF; you can use the *Durable* (+0) and *Fragile* (-0, since shields have more than 1 BODY) modifiers to Focus to simulate differences from the standard Focus breakability rules.

OTHER USES FOR SHIELDS

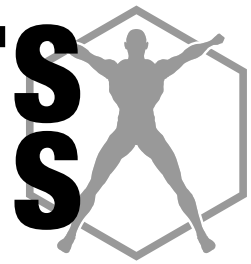
At the GM's option, a shield that's not in use, but which a character is currently carrying (typically by slinging it on his back) might add +1 (wooden shield) or +2 (metal shield) DEF to the character's armor for attacks against the location(s) the shield covers. If characters try to take advantage of this optional rule by carrying extra shields or other such "power gaming" tactics, the GM should not use it.

Clever characters may come up with other clever uses for a shield. For example, a metal shield might make a useful cooking platter, or a character with a smooth-faced large shield could turn it into an impromptu sled to escape from an enemy during snowy weather.

MARTIAL ARTS EQUIPMENT

Chapter Two

MARTIAL ARTS WEAPONS



This section describes weapons (and other gear) appropriate for martial arts characters and campaigns. Costs for each weapon are given, so you can use them in Superheroic campaigns; for Heroic campaigns, characters don't have to pay points for these weapons, but are subject to the listed STR Minimum (see below).

OCV: This is applied as a bonus or penalty against all attacks made with the weapon. OCV bonuses are bought as 5-point Combat Skill Levels with the *OAF, Required Hands,* and *Real Weapon* Limitations. OCV bonuses that apply only to a tight group of maneuvers (normally, the Bind, Disarm, and Takeaway maneuvers) are bought with a -½ Limitation. OCV bonuses that apply only to one type of maneuver (normally Block) are bought with a -1 Limitation. OCV penalties are a minor Side Effect (automatically occurs; -½) for the weapon.

RMod: This represents a modifier to the weapon's accuracy at Range. Positive values (bought as 3-point Penalty Skill Levels versus the Range Group with the *Focus* and *Required Hands* Limitations) help to offset the standard Range Modifier; negative values (a minor Side Effect (automatically occurs; -½)) add to it. RMod can never raise a character's base OCV, it can only negate penalties.

Damage: The damage done by the weapon. Weapon damage appearing without parentheses — for instance, 1d6+1 — refers to Killing Damage (built using HKA or RKA), while weapon damage appearing in parentheses — for instance, (4d6) — refers to Normal Damage (built using EB or HA). Throwable melee weapons have the Advanted *Range Based On STR* (+¼).

STUNx: This is the STUN Multiplier for Killing Damage weapons (a 0 means "no modification"; use the standard 1d6-1 STUN Multiplier). Apply the STUNx modifier to the STUN Multiplier roll (or to the STUNx for the Hit Location struck, if the campaign uses Hit Location rules). For example, if a character with a War Flail (STUNx +1) hit an opponent in the Head, the total STUNx would be 6.

STRMin: STR Minimum. See pages 478-79 of the *HERO System 5th Edition, Revised* for rules. Remember to apply the rules in *Adding Damage,* pages 405-09, when using STR to increase the damage of a weapon bought with Advantages.

BODY: The weapon's BODY.

DEF: The weapon's DEF.

Mass: The weight of the weapon in kilograms.

Shots: The number of Charges a ranged weapon has (usually Recoverable Charges [RC]).

Max Range: The weapon's maximum Range in game inches (hexes). Of course, its effective range — the range over which it's likely to hit a target — is much less, thanks to the Range Modifier.

A/N/C Cost: The Active Point cost and Real Point cost of the weapon for Normal (OAF, -1) and Concealed (IAF, -½) versions.

Cultr: The culture or nation which created the weapon. The entries in the "Master List" of weapons descriptions often contain information about equivalent weapons from other cultures.

Length: The weapon's length — Short, Medium, or Long. See page 480 of the *HERO System 5th Edition, Revised* for information on how these are bought, and see page 186 of *Fantasy Hero* and page 164 of this book for more information on weapons lengths generally.

Notes: This catch-all category includes any information not listed elsewhere; refer to the *Notes And Key* section after the chart for more information.

NOTES AND KEY

Notes

1. This weapon has an additional Power: Armor (6 PD/6 ED) (18 Active Points); Only Protects Location 6 (*i.e.,* the hand holding the weapon) (-2), OAF (-1) for normal form or IAF (-½) for concealed form. Cost: 4 points (normal form) or 5 points (concealed form). This cost is added to the weapon cost.

2. This weapon has an additional Power: Armor (6 PD/6 ED) (18 Active Points); Only Protects Location 6 (*i.e.,* the hand holding the weapon) (-2), Activation Roll 11- (-1), OAF (-1) for normal form or IAF (-½) for concealed form. Cost: 4 points (normal or concealed form). This cost is added to the weapon cost.

3. This weapon is built with an additional Power: +1 to Climbing Rolls (2 Active Points); OAF (-1) or IAF (-½). Cost: 1 point (either form). This cost is added to the cost of the weapon.

See page 478 of the *HERO System 5th Edition, Revised* for more information on building weapons.

BOWS

Weapon	OCV	RMod	Damage	STUNx	STR Min	BODY	DEF	Mass	Shots	Max Range	A/N/C Cost	Cultr	Notes
Arrows													
Dragon's Tongue	0	0	+1 point	—	—	1	1	0.04	—	—	var	Japan	
Frog-Crotch	0	0	+1 point	—	—	1	1	0.04	—	—	var	Japan	
Hikime	0	0	(3d6)	—	—	1	1	0.04	—	—	var	Japan	
Skinsplitter	0	0	+2 points	—	—	1	1	0.04	—	—	var	Japan	
Willow Leaf	0	0	+1 point	—	—	1	1	0.04	—	—	var	Japan	
Chu-ko-nu	0	0	1d6+1	0	10 †	5	4	6.4	10 RC	125"	25/7/8	China	2H
Hankyu	0	0	1d6	0	7 †	2	3	0.9	24 RC	130"	26/6/7	Japan	2H, Conc
Yumi, One-Man	0	+1	1d6+1	0	10 †	2	3	1.0	24 RC	175"	38/9/11	Japan	2H, Conc
Two-Man	0	+1	1 ½d6	0	13 †	2	3	1.1	24 RC	220"	47/11/14	Japan	2H, Conc
Three-Man	0	+1	2d6	0	16 †	2	3	1.2	24 RC	260"	55/13/15	Japan	2H, Conc
Four-Man	0	+1	2d6+1	0	18 †	3	3	1.3	24 RC	305"	64/14/16	Japan	2H, Conc
Seven-Man	0	+1	2 ½d6	0	21 †	3	3	1.4	24 RC	350"	73/16/18	Japan	2H, Conc

SHURIKEN

Weapon	OCV	RMod	Damage	STUNx	STR Min	BODY	DEF	Mass	Shots	Max Range	A/N/C Cost	Cultr	Notes
Bo Shuriken	0	0	1d6-1	0	5	1	5	0.4	9 RC	RBS	21/8/9	Japan	AF5
Endokuken	0	0	1d6	0	7	1	5	0.4	9	RBS	52/15/17	Japan	Poison smoke
Large Star	0	0	1d6+1	0	9	1	5	0.6	9 RC	RBS	35/12/14	Japan	AF5
Small Star	0	0	1d6-1	0	5	1	5	0.4	9 RC	RBS	21/8/9	Japan	AF5
Tsubute	0	0	(3d6)	—	7	1	5	0.4	9 RC	RBS	26/9/10	Japan	AF5

MISCELLANEOUS RANGED WEAPONS

Weapon	OCV	RMod	Damage	STUNx	STR Min	BODY	DEF	Mass	Shots	Max Range	A/N/C Cost	Cultr	Notes
Arare													
Joarare	0	0	1d6+1	0	10	3	5	0.8	1 RC	RBS	20/5/5	Japan	See text
Chuarare	0	0	1d6-1	0	10	2	5	1.3	9 RC	RBS	36/18/22	Japan	AF5
Koarare	0	0	½d6	0	8	1	5	0.9	9 RC	RBS	30/13/15	Japan	AF5
Comet Star Hammer	0	0	1d6+1/Ent 3d6		10	4	5	1.6	1 RC	RBS	37/11/12	China	See text
Dropped Marbles	—	—	See text	—	—	1	4	1.2	2 RC	—	See text	Japan	NWF
Fukimi-bari	0	0	½d6	0	2 †	1	2	0.03	1 RC	—	10/—/2	Japan	Ninja Weapon
Fukiya	0	0	1 point	-1	2 †	2	2	0.2	8 RC	25"	5/1/2	Japan	Conc
Grenade, Smoke	0	0	Dkns 1"	—	—	2	2	1.0	8	RBS	10/3/4	Japan	NWF
Iron Mandarin Duck	0	0	½d6	0	8	3	5	2.0	1 RC	RBS	10/2/3	China	
Kapak	0	0	½d6	0	6	3	4	0.6	1 RC	RBS	10/2/3	Indon	
Metsubishi													
Grenade	0	0	Flash 2d6	—	—	2	2	1.0	8	RBS	12/4/5	Japan	
Blown powder	0	0	Flash 2d6	—	—	1	—	0.01	1	—	10/2/2	Japan	
Nagedeppo	0	0	1d6	0	4	2	2	1.0	9	RBS	22/7/9	Japan	AE1, NWF
Sling Bow	0	0	1d6	0	9 †	2	3	0.9	12 RC	95"	19/4/5	China	2H, Conc
Steel Olive	0	0	½d6	0	6	1	5	1.3	12 RC	RBS	12/4/5	China	
Steel Toad	0	0	½d6	0	6	3	5	1.8	1 RC	RBS	10/2/3	China	
Tetsubishi	0	0	1d6	0	—	1	5	0.8	2 RC	—	45/17/21	Japan	NWF, see text
Toami													
Small	0	0	Ent 4d6	—	1	3	2	2.0	1 RC	RBS	50/13/15	Japan	See text
Normal	0	0	Ent 4d6	—	1	4	2	3.0	1 RC	RBS	70/19/21	Japan	See text
Large	0	0	Ent 4d6	—	1	5	2	4.0	1 RC	RBS	90/24/28	Japan	See text
Wishful Steel Ball	0	0	1 point	0	3	1	5	1.3	12 RC	RBS	6/2/3	China	

HAND-TO-HAND WEAPONS TABLE

Weapon	OCV	Damage	STUNx	STR Min	BODY	DEF	Mass	A/N/C Cost	Length	Cultr	Notes
Axes and Maces											
Axe, Chinese	0	1d6	0	11	6	4	1.4	26/9/11	M	China	Thr
Copper Hammer	0	1d6+1	0	10	5	4	1.3	30/11/13	M	China	
Hand Mace	0	1d6	0	11	5	5	1.6	22/8/10	M	China	
Soft Hammer	0	1 ½d6	0	15	4	4	1.5	46/15/18	M	China	
Blades											
Arit	0	1d6	0	11	3	4	0.4	22/8/10	M	Indon	
Bokken	0	(5d6)	—	10	3	3	0.9	44/13/15	M	Japan	Thr, 1½H
Bundi	0	1d6	0	10	3	4	0.7	27/9/12	M	India	+1 OCV w/ Block
Butterfly Sword	0	1d6+1	0	10	3	5	0.8	30/11/13	M	China	
Cutlass					5	5	1.1	40/14/17	M	Euro	+6 DEF on Hand; 1
Blade	0	1d6	0	10							
Hilt	0	(3d6)	—	10							
Cymbal	0	1d6	0	10	2	5	0.6	26/9/11	S	China	Thr
Darn Do	0	1d6+1	0	12	5	5	1.1	30/11/13	M	China	
Epee	0	(2d6)	—	7	3	5	0.7	15/5/5	M	Euro	
Foil	0	(1d6)	—	5	3	5	0.5	7/2/3	M	Euro	
Hook Sword	0	1d6+1	0	13	5	5	1.2	58/19/21	M	China	+2 OCV w/Bind, Block, Disarm, Takeaway; +6 DEF on Hand on Act 11-; 2
Jien	0	1d6	0	10	5	5	1.2	22/8/10	M	China	
Katana	+1	1 ½d6	0	12	5	5	1.5	49/17/21	M	Japan	Thr, 1½H
Knuck-Knife	0	½d6	0	7	3	5	1.0	33/9/11	S	USA	+6 DEF on Hand on Act 11-; 2
Ko-Gatana	0	½d6	0	4	2	5	0.3	17/7/8	S	Japan	Thr
Kris											
Knife	0	½d6	0	7	3	5	0.8	15/5/7	S	Indon	
Normal	0	1d6	0	11	4	5	1.0	22/8/10	M	Indon	
Sword	0	1d6+1	0	15	5	5	1.6	30/10/12	M	Indon	
Kukri	0	1d6	0	10	3	5	0.8	26/9/11	S	India	Thr
Main-Gauche					3	5	0.8	46/16/20	S	Euro	+6 DEF on Hand; 1
Using Blade	0	1d6-1	0	7							
Using Hilt	0	(2d6)	—	7							

HAND-TO-HAND WEAPONS TABLE

Weapon	OCV	Damage	STUNx	STR Min	BODY	DEF	Mass	A/N/C Cost	Length	Cultr	Notes
Navaja	0	½d6	0	5	2	4	0.4	15/6/7	S	Euro	
Nine-Ring Sword	0	1d6+1	0	12	5	5	1.1	35/13/16	M	China	+1 OCV with Disarm, Takeaway
Ninja-To	0	1 ½d6	0	15	5	5	1.6	44/28/36	M	Japan	Thr, 1½H; Ninja Weapon, see text
No-Daichi	0	2d6	0	17	7	5	3.5	52/15/17	L	Japan	2H
Parang	0	1d6+1	0	10	5	5	1.1	35/13/15	M	Indon	Thr
Pedang	0	1d6	0	10	5	5	1.2	26/9/11	M	Indon	Thr
Puñal	0	1 point	0	5	2	4	0.4	7/3/3	S	Euro	
Rapier	+1	1d6	0	10	5	5	1.0	27/10/12	M	Euro	
Razor, Straight											
Large	0	1d6	-1	7	2	4	0.2	22/7/8	S	Var	RP
Small	0	½d6	-1	5	1	4	0.1	15/5/6	S	Var	RP
Sabre	0	1d6	0	10	5	5	1.1	22/8/10	M	Euro	
Schlaeger	0	1d6	0	10	5	5	1.1	22/8/10	M	Euro	
Shinai	0	(2d6)	—	5	3	4	0.8	15/5/6	M	Japan	1½H
Spread-The-Water Knife	0	1d6	0	10	4	4	1.2	22/8/10	M	China	
Tanto	0	1d6-1	0	6	3	5	0.8	21/8/9	S	Japan	Thr
Tetsu-To	0	2 ½d6	0	20	8	5	4.0	60/17/20	M	Japan	1½H
Tjaluk	0	½d6	0	8	3	5	0.9	15/5/7	S	Indon	
Urumi	0	1d6	0	12	4	5	1.4	See text	M	India	May be up AF (4 shots)
Wakizashi	0	1d6	0	8	3	5	1.1	26/9/11	M	Japan	Thr
Yoroi-Toshi	0	1d6-1 AP	0	6	3	5	0.8	24/9/11	S	Japan	
Chain and Rope Weapons											
Kusari	0	(4d6)	—	9	3	5	1.0	50/18/23	L2	Japan	Thr, 2H
Kusarigama or Kyogetsu Shoge					4	5	1.3	See text	L2	Japan	Thr, 2H, Ninja Weapon; see Kama, Kusari
Manriki-Gusari or Kusari-fundo	0	(3d6)	—	8	3	5	1.0	26/7/8	M	Japan	Thr, 2H, Ninja Weapon
Rante					4	5	1.4	29/13/15	L	Indon	
Chain	0	(3d6)	—	5							
Blade	0	½d6	0	5							

HAND-TO-HAND WEAPONS TABLE

Weapon	OCV	Damage	STUNx	STR Min	BODY	DEF	Mass	A/N/C Cost	Length	Cultr	Notes
Clubs (Do Not Require Weapon Familiarity)											
Chakar	0	(6d6)	20	6	3	3.9	45/11/12	M	India	2H	
Gada	0	(5d6)	—	13	5	3	1.8	37/10/11	M	India	2H
Hanbo	0	(3d6)	—	7	4	3	1.1	22/7/8	M	Japan	
Jo	0	(3d6)	—	9	4	3	1.2	22/7/8	M	Japan	
Makila					3	3	1.0	22/10/12	M	Euro	
Stick	0	(3d6)	8								
Spike	0	1d6	8								
Fist-Loads (Do Not Require Weapon Familiarity)											
Ashiko	0	½d6	0	5	3	4	1.0	17/7/8	S	Japan	+1 Climbing, Ninja Weapon; 3
Brass Knuckles	0	(2d6)	—	3	3	5	1.0	33/10/11	S	Var	+6 DEF on Hand on Act 11-; 2
Cestus	0	+1 point	0	—	3	3	0.8	19/10/13	S	Greek	Adds 1-point KA to Punch, +4 DEF on Hand
Fist-Load	0	(2d6)	—	3	1	3	0.2	15/5/6	S	Var	
Nekote	0	1 point	0	3	2	5	0.2	7/3/3	S	Japan	Ninja Weapon
Ring Needle	0	½d6	0	5	1	4	0.2	17/7/8	S	China	Thr
Shuko	0	1d6-1	0	5	3	4	1.0	20/8/10	S	Japan	+1 Climbing, Ninja Weapon; 3
Polearms											
Arbir	0	1d6	0	10	4	4	1.6	22/7/8	M	Indon	2H
Chai-Dao					5	4	2.1	37/15/17	L	China	2H
Blade	0	1d6+1	0	12							
Shaft	0	(3d6)	—	12							
Chiang					5	4	2.0	37/15/17	L	China	2H
Blade	0	1d6+1	0	12							
Shaft	0	(3d6)	—	12							
Ghi					5	4	2.1	47/19/22	L	China	2H, +2 OCV w/Bind, Block, Disarm
Blade	0	1d6+1	0	13							
Shaft	0	(4d6)	—	13							
Naginata					5	4	2.1	44/16/19	L	Japan	2H
Blade	0	1 ½d6	0	15							
Shaft	0	(4d6)	—	15							
Nine-Dragon Trident					5	5	2.3	47/19/22	L	China	2H, +2 OCV w/Bind, Block, Disarm
Blade	0	1d6+1	0	13							
Shaft	0	(4d6)	—	13							
Tai-Dao/Kwan Dao					5	4	2.1	44/16/19	L	China	2H
Blade	0	1 ½d6	0	18							
Shaft	0	(4d6)	—	18							
Tiger Fork					5	5	2.2	44/16/19	L	China	2H
Blade	0	1 ½d6	0	15							
Shaft	0	(4d6)	—	15							
Wolf's Teeth Staff					4	4	1.8	44/16/19	L	China	2H
Blade	0	1 ½d6	0	15							
Shaft	0	(4d6)	—	15							
Yari					5	4	2.0	44/17/20	L	Japan	2H
Blade	0	1 ½d6	0	14							
Shaft	0	(4d6)	—	14							
Yari (Kamayari)					5	4	2.0	44/20/23	L	Japan	2H, Thr, +2 OCV w/Bind, Block, Disarm, Takeaway
Blade	0	1 ½d6	0	17							
Shaft	0	(4d6)	—	17							

HAND-TO-HAND WEAPONS TABLE

Weapon	OCV	Damage	STUNx	STR Min	BODY	DEF	Mass	A/N/C Cost	Length	Cultr	Notes
Miscellaneous Weapons											
Bo (Staff)	+1	(4d6)	—	8	4	3	1.0	42/13/16	L	Japan	2H, Karate Weapon
Bunot-Page	0	1 pip	—	8	2	2	0.5	7/2/3	S	Phil	Poisoned (see text)
Chain Sword	0	1d6	0	10	3	5	1.1	22/8/10	M	China	
Chain Whip	0	1d6	0	8	3	5	1.1	29/10/12	L	China	
Fang					3	5	1.3	15/7/9	S	China	
Blade/Point	0	½d6	0	8							
Rod	—	(2d6)	—	8							
Flying Claw	0	1d6	0	10	3	4	1.0	37/15/19	L2	China	
Flying Guillotine	-1	1d6	0	10	3	4	1.0	37/12/15	L2	China	2H, aimed at extremities
Fo	0	(2d6)	0	5	2	3	0.4	15/5/6	M	Euro	
Garrotte											
Strangling	0	(3d6)	—	5	1	1	0.1	30/7/7	S	Var	2H, see text
Wire	0	½d6	0	5	1	2	0.2	20/5/5	S	Var	2H, see text
Lajatang	0	1d6+1	0	12	3	4	0.6	30/11/13	M	Indon	
Kama	0	1d6	0	11	3	4	0.5	26/9/11	M	Japan	Thr, Karate Weapon
Kanzashi	0	½d6	-1	5	2	3	0.2	15/5/7	S	Japan	Ninja Weapon
Kiseru	0	(2d6)	—	5	2	5	0.6	15/6/7	S	China	
Mourn Staff	0	1 ½d6	0	14	3	4	1.1	37/13/16	M	China	
Nunchaku	0	(3d6)	—	8	3	3	1.0	22/8/10	M	Japan	Karate Weapon
Pendjepit	0	½d6	0	10	2	4	0.7	20/7/9	S	Indon	+1 with Grab, Grab Weapon, Takeaway
Petjat	0	1d6	0	10	2	1	0.4	22/8/10	L	Indon	
Rings	0	(3d6)	—	8	2	4	0.5	26/9/11	S	China	Thr
Rope Dart	0	½d6	0	8	2	2	0.6	30/12/16	L2	China	
Sai — Karate Weapon											
Cinematic	0	½d6	0	8	3	5	1.1	27/10/11	S	Japan	Thr, +2 OCV w/Bind, Block, Disarm, Takeaway
Normal	0	(3d6)	—	8	3	5	1.1	36/13/15	S	Japan	Thr, +2 OCV w/Bind, Block, Disarm, Takeaway
Shinobi-Zue	0	(4d6)	—	10	4	3	1.2	50/18/22	L2	Japan	2H, Ninja Weapon
Sword-Spear	0	1d6	0	12	3	3	0.9	26/9/11	M	China	Thr
Tetsubo	+1	(6d6)	—	15	6	4	2.4	57/17/19	L	Japan	2H
Three-Section Staff	0	(4d6)	—	10	5	3	1.5	47/15/17	Var	China	2H, +2 OCV w/Bind, Block, Disarm, Takeaway
Timbe	0	½d6	0	10	2	3	0.6	17/6/7	S	Japan	Thr
Tonfa	+1	(3d6)	—	7	3	3	0.8	27/10/13	S	Japan	Karate Weapon
Umebi	0	1 ½d6	0	—	2	2	1.0	44/—/12	S	Japan	AE1, Trigger (stepped on)
War Fan, Basic	0	(3d6)	—	6	2	3	0.7	32/11/14	S	Japan	+2 OCV w/Block
War Fan, Edged					2	3	0.7	32/13/16	S	Japan	+2 OCV w/Block
Blunt Attack	0	(3d6)	—	6							
Razor Attack	0	½d6	0	6							
Wind/Fire Wheels											
Saw-Blade	0	½d6	0	8	3	5	0.8	27/10/11	S	China	Thr, +2 OCV w/Bind, Block, Disarm, Takeaway
Traditional	0	(3d6)	—	8	3	5	0.8	36/13/15	S	China	Thr, +2 OCV w/Bind, Block, Disarm, Takeaway

Key

†: STR Minimum Doesn't Add Damage (a -½ Limitation)

1½H: One-and-a-half-handed weapon (a -¼ Limitation)

2H: Two-handed weapon (a -½ Limitation)

Act: Activation Roll

AE1: Area Of Effect (One Hex)

AF5: Autofire (5 shots; +½)

AP: Armor Piercing

Conc: Concentration (½ DCV "throughout" the loading and/or firing process; -½)

Dkns: Darkness to Sight Group

Ent: Entangle

Euro: Europe

Flash: Sight Group Flash

Indon: Indonesia

L: Long-length weapon (see pages 164, 167)

L2: A Long-length weapon that's 2" long

M: Medium-length weapon

NWF: No Weapon Familiarity required

RBS: Range Based On STR

RC: Recoverable Charges

RP: Reduced Penetration

S: Short-length weapon

Thr: Weapon can be thrown (*i.e.,* it has the *Range Based On STR* (+¼) Advantage)

MASTER LIST OF WEAPONS

To see which weapons require which Weapon Familiarities, refer to the Weapon Familiarity Table on page 76 of the *HERO System 5th Edition, Revised.*

Arare: "Hailstones," a Japanese missile weapon in the form of a spiked ball. It came in three sizes: *joarare* (large, thrown one at a time); *chuarare* (medium, thrown like shuriken, could be used as *tetsubishi* as well [see below]); and *koarare* (similar to chuarare, but smaller).

Cost	Power
16	*Chuarare:* Multipower, 36-point reserve, 9 Recoverable Charges (+¼) for entire Multipower; all OAF (-1), STR Minimum (10; -½), Real Weapon (-¼)
1u	1) *Thrown:* RKA 1d6-1, Autofire (5 shots; +½); OAF (-1), Range Based On STR (-¼)
1u	2) *Dropped:* RKA 1d6-1, Area Of Effect (One Hex; +½), Continuous (+1), Uncontrolled (removable by spending a Full Phase to sweep them aside; +½); OAF (-1), Activation Roll 14- (-½), STR Minimum (10; -½), Real Weapon (-¼), Only Affects Characters Moving On The Ground (-¼), DEX Roll Cancels Effect (-¼), Automatically Targets Hit Location 18 (-0)

Total cost: 18 points (or 22 points for IAF (-½) version)

Koarare: total cost 13 points (or 15 for IAF (-½) version)

> **Joarare:** *Change to just RKA 1d6+1 (20 Active Points); OAF (-1), STR Minimum (10; -½), Real Weapon (-¼), Range Based On STR (-¼), 1 Recoverable Charge (-1¼). Total cost: 5 points (or 5 points for IAF (-½) version)*

Arbir: A polearm used in some styles of Pentjak-Silat. It is a 5'-long weapon consisting of a shaft, a convex chopping blade at one end, and a sharpened metal spike on the other end. It's used two-handed to slash and stab; the pole is not generally used as a staff.

Arit: The Indonesian sickle, adapted for combat. Its blade is much rounder than that of the kama. A similar weapon is the *tjelurit*.

Arrows: The Japanese created many unusual types of arrowheads for their arrows (*ya*). Several of the more interesting ones are listed in the Ranged Weapons Table; they add damage to, or otherwise change the effect of, the damage caused by a standard arrow (their exact cost depends on the type of bow used; if necessary recalculate the bow's cost with the enhanced damage). Each of these arrows is more expensive and rarer than the average arrow.

The Dragon's Tongue arrow is finely-crafted, with a slightly rounded point that penetrates armor easily.

The Frog Crotch arrow is shaped roughly like a V, with a sharpened inner edge; it's especially useful for cutting cords and similar objects.

The Hikime is an arrow with a wooden ball, not an arrowhead, on the tip. It is used to stun, not kill, an opponent.

The Skinsplitter is an extremely wide, heavy arrowhead. GMs should consider adding +1 to the STR Min of the Bow whenever a character uses this arrowhead.

The Willow Leaf is a long, straight arrowhead which can slip easily between armor plates and the like.

These are just a few of the many different types of Oriental arrowheads available; with a little research you can uncover many others.

The *yazuka*, or standard length, of an arrow (without arrowhead) is from the top of the archer's sternum to the tip of his middle finger. This allows him to achieve extra power, since he has to draw the bow back as far as he possibly can to shoot.

Ashiko: These are climbing claws strapped onto a ninja's feet; they are the companions to the *shuko*. They can become weapons when the wearer uses a kick attack. They provide a +1 to the wearer's Climbing roll if he has the Climbing skill. The character must wear both ashiko to get the +1 to his Climbing roll.

Axe, Chinese: This weapon has a medium-length handle and a single broad blade; it's chiefly used by southern Chinese kung fu fighters.

Bo: A 5'-6' hardwood staff, also known as a *rokushakubo* ("six-foot staff"). Use these game statistics for the Chinese staff (*kuen*), the Indonesian staff (*toya*), the Korean staff (*jang bong*), the Thai staff (*plong*), and the Okinawan oar (*eiku*; also known as a *chizikunbo* or *sunakakebo*).

The bo is one of the principal weapons of Karate (the others are kama, nunchaku, sai, eiku, tekko, timbe and rochin, and tonfa).

The kuen is one of the most famous weapon of Kung Fu; these statistics can also be used for two other Chinese weapons, the Long Rod (*gunn*) and Water & Fire Rod (*shui for gunn*).

Bokken: This is a wooden practice sword shaped like a katana. It does Normal, not Killing, damage. It's no toy or mere practice blade, though; it's made of heavy, tough wood, unlike the *shinai*. Many duels in feudal Japan were fought with bokken; it is possible to kill an opponent with one.

Brass Knuckles: This classic street weapon is a ridged brass knuckle-protector which protects the striking hand, allowing the character to strike harder. Brass Knuckles also provide 6 DEF (physical and energy, on an 11- Activation Roll) to the hand wearing them. The Japanese *tetsu* and *tekko* and the Indonesian *roti kalong* all use these statistics.

Bundi: Also known as a *katar* or a punch-dagger, the bundi is a broad, double-edged knife-blade set into a frame/handle grasped in the fist (thus, the wielder's arm appears to have a blade on the end rather than a hand). Two panels of the frame/handle extend down the sides of the arms for about a foot, helping the user block an enemy's attacks. Use the bundi's statistics (minus the +1 OCV for Blocks) for any sort of modern punch-dagger or T-knife.

Bunot-Page: This weapon is simply the tail of a stingray, cut from the animal and used to strike an opponent. Some Arnis/Kali/Escrima exponents fight with it. The stingray spine itself does relatively little damage — but the poison in it can kill. Usually enough poison remains in the tail for about two good hits. The effects of the poison are not included in the cost listed in the table, since it varies in amount and potency; the average poison would work roughly as follows:

> **Stingray Poison:** *RKA 1d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (45 Active Points); Linked (to HKA; -¼), Spine HKA Must Do BODY (-½), No Range (-½), 2 Charges (-1½). Total cost: 12 points.*

Butterfly Sword: This short sword has a heavy, flat cleaver-like blade with one cutting edge. It is used by ninja and by Kung Fu practitioners, often in pairs. The Willow Leaf Knife, the Korean *dan sang gum* (twin short swords), and the *to* of Kuntao are all very similar in appearance to the butterfly sword and share the same statistics. Don't confuse the Butterfly Sword with the *balisong*, a switchblade-like Filipino knife sometimes called a "butterfly knife."

Cestus: This weapon is a glove with spikes or jagged protrusions along its knuckles and back. The character using it does his normal Punch damage, and also does 1 point of Killing Damage (he cannot add to this with his STR; it always does only 1 point of Killing damage). The Cestus provides 4 DEF (physical and energy) to the hand wearing it.

Cost	Power
2	*Cestus Spikes:* HKA 1 point, Reduced Endurance (0 END; +½) (7 Active Points); OIF (-½), Linked (to wearer's Punch; -½), No STR Bonus (-½), Real Weapon (-¼)
3	*Cestus Wrappings:* Armor (4 PD/4 ED) (12 Active Points); OIF (-½), Only Protects Hand Wearing It (-2)

Total cost: 5 points (or 7 points for IIF (-¼) version).

Chai-Dao: This Chinese polearm is also called the "Bandit's Encampment Broadsword." It is usually about 5'3" tall, with 2'6" of that length a wicked curved blade; the rest is haft. Traditionally, it was used in camp defense, often to chop at the legs of horses riding through.

Cost	Power
11	*Chai-Dao:* Multipower, 30-point reserve; all OAF (-1), STR Minimum (12; -½), Real Weapon (-¼)
1u	1) *Blade:* HKA 1d6+1 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (12; -½), Real Weapon (-¼)
1u	2) *Shaft:* HA +3d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (12; -½), Real Weapon (-¼)
2	*Long Weapon:* Stretching 1", Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1) [or IAF (-½) for concealed form], Always Direct (-¼), No Noncombat Stretching (-¼), Only To Cause Damage (-½), No Velocity Damage (-¼) (total cost for IAF (-½) version: 2 points)

Total cost: 15 points (or 17 points for IAF (-½) version).

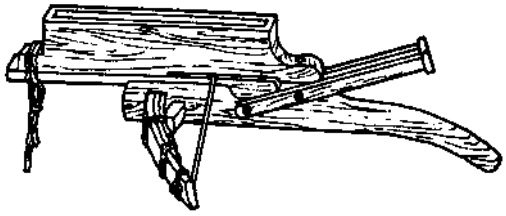
Chain Sword: This weapon, called *lien tzu jen* in Chinese, consisted of two sword-like blades about as long as a human forearm connected by 1-2' of chain. Sometimes the blades can be detached for throwing (this would be bought by turning the weapon into a Multipower: one slot for the connected blades, one with two Recoverable Charges of RKA).

Chain Whip: This Chinese weapon (*bian*) is like a whip, but its length consists of metal plates connected by chain links; it has a slashing blade at the tip. It shares a Weapon Familiarity with the normal bullwhip, but does not have that weapon's range. This weapon's statistics also apply to the *bian tzu chiang*, or Whip Spear, a 6'-plus length of chain whip with a spearhead attached at both ends.

Chakar: This unusual weapon, used by Gatka practitioners, resembles a wagon wheel with a heavy weight at the end of each spoke. To use it, the wielder spins it, building up momentum and power, and then strikes with it to cause serious crushing injuries.

Chiang: The Chinese spear, which comes in dozens of unusual styles (use the write-up of the Chai-Dao, above, for its game statistics). Often the spear has a red tassel tied behind its head, partly for decoration and partly to keep blood from running back down the shaft and fouling the spearman's grip. Use these statistics for the following weapons in addition to the standard spear: *mao chiang* ("snake spear," a wavy-bladed spear); the Eyebrow Spear (a spear with a crescent-shaped head); *ba* ("rake," a combat rake with sharp tines); *ba tou* (a hoe converted to combat uses); *chan* ("shovel," a term for several types of polearms with heads shaped like large coins, crescent moons, shovels, and other objects); *chang* (Korean spear); *sodegarami* (a T-shaped Japanese spear with barbs all around the end to entangle an enemy's sleeve); *tombak* and *tjio* (two of dozens of different types of Indonesian spears); *kuntham* (Indian spear); *kue* (an Okinawan hoe used as a weapon by some Kobujutsu practitioners); *thuan* (Thai spear).

Chu-ko-nu: This is the famous Chinese repeating crossbow. It resembles an ordinary crossbow, except that it has a box on top of it holding ten bolts. The shooter works a lever to reload the crossbow by cocking it and dropping one of the quarrels into place. The chu-ko-nu is heavier and has a shorter range than a standard crossbow, but can be fired much more quickly: the STR Min listed is the minimum to carry and hold the weapon, not to reload it, and a character can load the weapon in a half Phase and fire the weapon in a half Phase.



Comet Star Hammer: This missile weapon, called *lieu shen chuai* in Chinese and also known as a Shooting Star Hammer or Wolf's Teeth Hammer, consisted of a chain linking two spiked metal balls. It was typically thrown at the legs of horses or soldiers to snare and injure them. Some versions of this weapon had only one spiked ball; the damage and other effects are the same.

Cost	Power
9	*Comet Star Hammer:* Multipower, 37-point reserve; 1 Recoverable Charge (-1¼) for entire reserve, all OAF (-1), STR Minimum (10; -½), Real Weapon (-¼), Range Based On STR (-¼)
1u	1) *Deadly Hammer:* RKA 1d6+1; OAF (-1), STR Minimum (10; -½), Real Weapon (-¼), Range Based On STR (-¼)
1u	2) *Snaring Hammer:* Entangle 3d6, 3 DEF, Entangle And Character Both Take Damage (+¼); OAF (-1), No Defense (-1½), Cannot Form Barriers (-¼), STR Minimum (10; -½), Real Weapon (-¼), Range Based On STR (-¼)

Total cost: 11 points (or 12 points for IAF (-½) version)

Copper Hammer: A short-hafted hammer with a large ball of copper on the striking end. You can also use this weapon's statistics for other types of Chinese hammers (*chuai*), and for the *ton zen* (a type of mace in the shape of a 2-3' tall solid brass statue of a man, somewhat similar in appearance to the "Oscar" statuette given to Academy Award winners).

Cutlass: This is a European weapon, a short slashing blade with a heavy guard to protect the hand; fencers use it. The hand-guard provides 6 DEF to the hand holding it; the character can attack with

the blade or punch with the hand-guard. The Vietnamese counterpart to this weapon is the *song dao.*

Cost	Power	
8	*Cutlass:* Multipower, 22-point reserve, all OAF (-1), STR Minimum (10; -½), Real Weapon (-¼)	
1u	1) *Blade:* HKA 1d6 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (10; -½), Real Weapon (-¼)	0
1u	2) *Hilt:* HA +3d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (10; -½), Real Weapon (-¼)	0
4	*Protective Hilt:* Armor (6 PD/6 ED); OAF (-1), Only Protects Hand Used To Hold It (-2) (or 5 points for the IAF (-½) version)	

Total cost: 14 points (or 17 for the IAF (-½) version)

Cymbal: This weapon is a small, hand-held cymbal with sharpened edges. Warriors can use it as a punching/slashing weapon, or throw it. This weapon's statistics also apply to the Tooth Saber, a sort of half-cymbal that comes in two varieties: the Sun Tooth Saber, with sharp teeth along its cutting edge; and the Moon Tooth Saber, which is smooth-edged. Tooth Sabers cannot be thrown.

Darn Do: The Chinese sabre, a long, heavy, single-edged sword with a curved blade. It is also known as a *dau.* The Vietnamese equivalent is the *ma dao.*

Dropped Marbles: Characters can drop these where they think targets will run. Marbles do not require a Weapon Familiarity.

Dropped marbles can be bought one of three ways. The first is as a form of Telekinesis:

> **Dropped Marbles:** *Telekinesis (20 STR), Area Of Effect (One Hex; +½), Continuous (+1), Uncontrolled (removable by spending a Full Phase to sweep them aside; +½) (90 Active Points); OAF (-1), Activation Roll 14- (-½), Cannot Be Used To Cause Damage (-1), Only To Throw Target To Ground (-2), Only Affects Characters Moving On The Ground (-¼), DEX Roll Cancels Effect (-¼), Real Weapon (-¼), 2 Recoverable Charges (-1). Total cost: 12 points (or 13 points for IAF (-½) version).*

The drawbacks to this form of Dropped Marbles are that they cover only a small area (1" radius) and do no damage to the target when he falls. At the GM's option, a character can buy the One Hex up to a full Area of Effect (Radius) and can buy off the *Cannot Be Used To Cause Damage* Limitation.

The second form uses Change Environment to make it harder to remain standing in the area covered by the marbles:

> **Dropped Marbles:** *Change Environment 2" radius, -5 to DEX Rolls to move through, Uncontrolled (removable by spending a Full Phase to sweep them aside; +½) (33 Active Points); OAF (-1), Only Affects Characters Moving On The Ground (-¼), Real Weapon (-¼), 2 Recoverable Charges (-1). Total cost: 9 points (or 11 points for IAF (-½) version).*

This version has the advantage of being easier to understand and adjudicate in most game situations.

The third form of Dropped Marbles utilizes the "Power Advantages For Martial Arts Maneuvers" rules on page 104.

> **Dropped Marbles:** *The following Advantages for Martial Throw: Area Of Effect (One Hex; +½), Continuous (+1), Uncontrolled (removable by spending a Full Phase to sweep them aside; +½) (75 Active Points); OAF (-1), Activation Roll 14- (-½), Only Affects Characters Moving On The Ground (-¼), DEX Roll Cancels Effect (-¼), Real Weapon (-¼), 2 Recoverable Charges (-1). Total cost: 18 points (or 20 points for IAF (-½) version).*

The advantage to this form of Dropped Marbles is that it damages the target, and includes the target's velocity when calculating damage, causing a fast-moving enemy to really hurt himself when he hits a patch of marbles. The drawback is that the character has to have the Martial Throw maneuver to use this weapon (unless the GM permits you to include the cost for Martial Throw with the cost of the weapon itself).

Dropped marbles are often bought as IAFs because they're supposed to be inconspicuous when dropped. Depending on the situation, this might not be the case.

Endokuken: A type of shuriken that doesn't just impale the target with a blade. It also emits a 1" radius cloud of poisonous smoke when it contacts its target: RKA 1d6, NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1), Area Of Effect (One Hex; +½) (52 Active Points); OAF (-1), STR Minimum (10; -½), Linked (to shuriken's RKA; -¼), Range Based On STR (-¼), Real Weapon (-¼), 9 Charges (-¼). Total cost: 15 points (or 17 points

for the IAF (-½) version) (in addition to the cost for the blade of the shuriken itself).

Epee: A light steel practice sword used by fencers. Modelled after the rapier, it has a light, flexible blade ending in a blunt steel tip (which is itself covered by a plastic cap), and is used only for thrusting.

Fang: The *fang,* a Chinese weapon developed from an Indian elephant goad, is a heavy iron rod about 2' long with a point at one end. About one-third of the way from the top a curved blade projects to one side, similar to the blade of a *kama* (see below). The fighter can use the blunt portion of the rod to stun his foes, or the point or blade to injure and kill them.

Cost	Power
5	*Fang:* Multipower, 15-point reserve, all OAF (-1), STR Minimum (8; -½), Real Weapon (-¼)
1u	1) *Blade/Point:* HKA ½d6 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (8; -½), Real Weapon (-¼)
1u	2) *Rod:* HA +2d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (8; -½), Real Weapon (-¼)

Total cost: 7 points (or 9 points for IAF (-½) version).

Fist-Load: This is a small, heavy rod held in in the character's fist. A thong or ring protruding from the center of the rod goes around one or two of the wearer's fingers to hold it in place. A fist-load is also known as a *yawara.*

Flying Claw: Similar to the Rope Dart (see below), this weapon is a large, clawed metal hand on the end of an up to 25' long rope. The user whirls the hand around and slashes people with it; sometimes the claws are poisoned. The Chinese call it a *fei chua.* You can also use this weapon's statistics for: the Dragon's Beard Hook (*don shu gao*), which resembles a U with a serrated, barbed outer edge; the Iron Lotus (*tai lien far*), which resembles a bladed lotus flower; and the Rope Hook (*gin tao sou*), a large, barbed hook.

Flying Guillotine: This peculiar Tibetan weapon consists of a metal hoop with a very sharp inner edge; the hoop attaches to a rope. It's an effective ambush weapon; if the attacker can get above an unsuspecting target, he can drop the Guillotine over the target's head and yank. It's somewhat less effective in active combat; the weapon only does damage if it hits an extremity (head, hand, arm, leg, or foot). The attacker can roll Hit Locations normally (with attacks to Locations 9-14 simply failing to do damage); or he can choose to aim for specific locations, taking the OCV penalties for aiming.

In game terms, the requirement to hit an extremity is a -½ limitation. In campaigns that don't use Hit Locations, the attacker always suffers a -6 OCV penalty.

Fo: A weighted cloak hem, used as a weapon by some fencers. At the appropriate moment, the fencer flicks his cloak at his opponent, causing the weight sewn into the hem to strike him.

Foil: This weapon is much like the epee, but even lighter and more flexible. You can also use its statistics for the *daab*, a Thai sword used in Krabi-Krabong.

Fukimi-bari: Tiny darts a character hides in his hand (to throw at an enemy) or in his mouth (to blow into an enemy's face). They're always bought as IAFs because it's so easy to conceal them. The attack has No Range (-½), since the character can only throw/blow the darts a few feet at most. (This weapon doesn't grant an automatic head shot, but most users who place fukimi-bari in their mouths try to achieve a surprise result and take a Placed Shot at the head). This is a ninja weapon. You can also use this weapon's statistics for the Chinese *mei far chen* (Plum Flower Needles).

Fukiya: The classic blowgun, a weapon consisting of a long, hollow tube and numerous light darts to fire through it. The darts themselves do very little damage, but are usually tipped with some sort of poison. The darts are nearly invisible and are fired silently, but can certainly be felt upon impact. A character who wants darts so light they can't be felt will have to buy an *Invisible Power Effects* (Fully Invisible; +½ [because the source of the power remains visible]) blowgun with his own Character Points. Use this weapon's statistics for the Filipino blowgun, or *sumpit.*

Gada: The gada is a heavy wooden club used by Kalaripayit exponents. It has a relatively thin shaft and a large, bulbous head, making it look something like a large wooden mace. It requires great strength to wield effectively.

Garotte: This is a strangling cord or wire. It comes in two varieties: the Strangling garotte, which may be any strong rope, scarf, or cord; and the Wire garotte, a piece of strong, sharp wire with a handle tied to either end. The attacker loops either kind around the victim's neck and applies pressure; therefore the garotte is usually used from surprise — it's an assassin's weapon.

The Strangling garotte chokes the victim to death, and is no good against any Hit Location except the Head. The Wire garotte can slice through flesh, and can therefore cut a throat or cut a head entirely off; it harms any body part the attacker can loop it around.

Any chain weapon described in this section can be used as a Strangling Garotte; the *manriki-gusari* is especially appropriate.

Cost	Power
7	*Strangling Garrotte:* Energy Blast 2d6, NND (defense is having rigid armor on the neck, a PD Force Field, or Life Support [Self-Contained Breathing]), Continuous (+1) (30 Active Points); OAF (-1), STR Minimum (5; -¼), Real Weapon (-¼), Two-Handed (-½), Must Follow A Successful Grab Maneuver (-¼), Must Be Aimed At The Head Location (-¾), No Range (-½) (total cost for IAF (-½ version: 7 points)
5	*Wire Garrotte:* RKA ½d6, Continuous (+1) (20 Active Points); OAF (-1), STR Minimum

(5; -¼), Real Weapon (-¼), Two-Handed (-½), Must Follow A Successful Grab Maneuver (-¼), Must Be Aimed At A Target It Can Loop Around (Head or Arm, typically; -½), No Range (-½) (total cost for IAF (-½ version: 5 points)

Ghi: The Chinese halberd, which consists of a spear with one or two crescent moon-shaped blades set just below the spearhead. The Vietnamese equivalent is the *dai dao*; the Thai equivalent is the *ngow.*

Cost	Power
11	*Ghi:* Multipower, 30-point reserve; all OAF (-1), STR Minimum (13; -½), Real Weapon (-¼)
1u	1) *Blade:* HKA 1d6+1 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (13; -½), Real Weapon (-¼)
1u	2) *Shaft:* HA +4d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (13; -½), Real Weapon (-¼)
2	*Long Weapon:* Stretching 1", Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1) [or IAF (-½) for concealed form], Always Direct (-¼), No Noncombat Stretching (-¼), Only To Cause Damage (-½), No Velocity Damage (-¼) (total cost for IAF (-½) version: 2 points)
4	*Skillful Weapon:* +2 OCV with Block, Bind, and Disarm; OAF (-1), Only Applies To The Three Listed Maneuvers (-½)

Total cost: 19 points (or 22 points for IAF (-½) version).

Grenades, Smoke: Some warriors (especially ninja) use these grenades to blind and confound an opponent, or to cloak their next action — such as hiding or preparing a new attack. Smoke grenades do not require a Weapon Familiarity.

> **Smoke Grenades:** *Darkness to Sight Group 1" radius (10 Active Points); OAF (-1), Limited Effect (Normal Sight only; -¼), Range Based On STR (-¼), Real Weapon (-¼), 8 Continuing Charges lasting 1 Extra Phase each (-¼). Total cost: 3 points (or 4 points for the IAF (-½) version).*

Hanbo: This is a fighting-stick weapon, from 2' to 3' in length. Use these statistics also for the scabbard of a short sword (any blade with a base damage of 1d6) when used as a weapon, for the *pentjong* (a knobbed club used in Bhakti Negara Pentjak-Silat), and for the following weapons from India: *kettukari* (cane), *lathi* (heavy cane), *muchan* (a tapered 2' long staff), and the *otta* (curved heavy sticks).

Hand Mace: This term refers to a number of mace-like Chinese weapons in the shape of hands, fists, or claws. Some of the hands hold objects, such as pens or brushes, or have one or two fingers upraised, which helps the mace pierce armor. Examples of this sort of weapon include the *ch'uan bi* ("fist pen"), *chua* (long-handled claw), and *fu sou* ("Buddha hand").

Hankyu: This is a short, comparatively weak, easily-carried bow favored by ninja. One variant, the *tabiumi*, was collapsible and hence easily hidden when necessary; hidden arrows could be carried as the ribs of a straw hat or in many other ways.

Hook Sword: This is a Chinese sword popular in some Kung Fu styles. It includes a straight, double-edged blade, a forward-curving hook at the end of that blade, a bladed crescent-shaped guard for the hand (providing 6 DEF to the hand on an 11- Activation Roll), and a butt-spike protruding from the hilt. This weapon has a +0 OCV bonus for most maneuvers, but because of its unusual configuration gets a +2 OCV for maneuvers including the Bind, Block, Disarm, and Takeaway (*i.e.,* Grab Weapon) maneuver elements. The Fire Wing sword, Elephant Trunk sword, and the *sang kauw* of Kuntao use the same statistics.

Iron Mandarin Duck: A throwing weapon made out of iron and shaped like a mandarin duck. Thanks to the duck's weight and sharp points (feathers, wings, beak, and so forth), it's a lethal weapon.

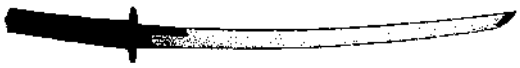
Jien: The Chinese broadsword, often used in Kung Fu styles. The weapon's blade is straight, light, and double-edged; it's a thrusting weapon, and normally only the four inches at the tip of the blade are used in combat. Sometimes it comes in unusual configurations, such as: the *sher ther jien*, or snake-tongued sword, which has a forked tip; the *giau tzu jen*, which has tiny serrations along both edges; and the *wu grou jen*, or Centipede Hook, which has a hook protruding from one side. The Vietnamese equivalent to the jien was the *kiem*.

Jo: This is a single stick around 4' in length. Use these statistics also for these weapons: the scabbard of a long sword (any sword with a damage of 1d6+1 or better) when used as a weapon; the sticks used in the *escrima* martial art; the *tieh tzu* ("iron ruler," a flat iron bar used as a weapon); the *chuu*, a weapon derived from the Chinese grain pestle; for the Indonesian sticks, *tongkat* and *tekken* (the latter resembles a small walking cane); the Korean sticks, *dan bong* and *joong bong*; and the Vietnamese stick, *tien bong*.

Kama: This is the Okinawan sickle, which consists of a short handle topped by a short curved sickle blade. It is one of the principal weapons of Karate (the others are bo, eiku, nunchaku, sai, tekko, timbe and rochin, and tonfa), and is often used in pairs. You can also use the statistics for the kama for the Chinese sickle (*lian*).

Kanzashi: The kanzashi is a wooden or metal hair needle, about 12-20 cm long, with two tines running parallel. It could be used as a weapon, and was a favorite of the *kunoichi*, or female ninja.

Kapak: A small throwing hatchet used by the Batak people of Indonesia. You can also use this for any number of small, hatchet-like throwing weapons used by many different cultures.



Katana: This is the traditional samurai sword; it is the larger of the *daisho*, the pair of blades worn by the samurai. The *odachi* is an older-style blade using the same game statistics. The katana is worn in the belt, edge upwards. The *tachi*, another long Japanese blade, has identical game statistics to the katana, but is slightly more curved than the katana; the tachi is either worn in the belt (with the edge down) or worn over shoulder instead of in belt.

Use the katana's statistics for the traditional Korean sword (*gum*), the Vietnamese sword (*guom*), for the Chinese Seagull Sword (a double-bladed sword with a bulbous tip), and for the *to sangto*, a form of twin swords used in Kuntao.

Kiseru: This weapon is a metal smoking pipe about 1' long. It is easily concealed and can actually be used for smoking.

Knuck-Knife: This is a normal folding, lock-back blade... except that its handle is a set of brass knuckles.

Ko-Gatana: A small knife attached to one side of the scabbard of a wakizashi (q.v.).

Kris: This weapon is the Malaysian double-edged, wavy-bladed sword/dagger. It is mainly a thrusting weapon, and the waves in the blade make wounds very, very painful and more likely to bleed profusely. Kris blades vary in length from 5 inches to over 30 inches. The Kris Knife stats shown are for a blade in the 5-10 inch range, the Normal Kris stats are for a blade in the 10-20 inch range, and the Kris Sword stats are for a blade in the 20-30 inch range.

The kris has the same significance for Indonesians that the katana has for the Japanese. Every part of the weapon has its own designation and lore. A large number of magical abilities, or *tasaw-waf*, are attributed to it (see page 50); they are allegedly implanted in the blade by the *pande*, or master smith, who crafts it. Every male is supposed to possess a kris, and it is a father's duty to see that his son is furnished with one. Kris from different areas of the Indonesian archipelago can be told by their distinctive styles or forms.

Kukri: An Indian knife which is also frequently used by Bando practitioners and by the Gurkas of Nepal. It has a recurved blade and a slightly oval or rounded point. It can be thrown. You can also use the kukri's statistics for the *badik*, a type of Indonesian dagger, which is not normally thrown.

Kusari: A flexible weapon consisting of a chain about 12' long with a weight on one end and a metal ring on the other. It can be thrown at a target to do him harm or to grab him (*e.g.,* grab his legs to trip him, or wrap around his arms to bind him). For this reason, the kusari's Stretching is not bought with the *Only To Do Damage* Limitation, though it doesn't provide full manipulation at range.

Kusarigama: This is a *kusari* with a *kama* (sickle) on one end. The wielder of the kusarigama holds the kama by the hilt and swings the chain to strike or grab a foe; once he snares the target, he follows up with the sickle end.

Several variants of the kusarigama deserve mention. The first is the *bakuhatsugama,* a kusarigama with a *nagedeppo* (explosive grenade, see below) or *metsubishi* (flash grenade, see below) attached to the weighted end of the chain. The second is the *mamukigama,* a kusarigama with a live poisonous serpent loosely attached to the chain! In theory, the snake will bite an enemy wrapped in the chain. Last is the *oh-gama,* an extremely large (4'+) battlefield version of the kusarigama; it does double the damage of the kusarigama but has a correspondingly larger STR Minimum in Heroic campaigns.

Kyogetsu Shoge: This weapon is much like the *kusarigama,* but has a bladed grappling hook on the end instead of a kama. It is also carried as a grappling hook, its chain acting as its climb-line.

Lajatang: A weapon used in the Indonesian fighting style of Kuntao, consisting of a short wooden staff with a crescent moon-shaped blade set perpendicular to it at each end.

Main-Gauche: A European fencing dagger. It has a heavy hand-guard (6 DEF on the hand holding it) and extra-long quillions. It is especially good at, and so receives an extra +2 OCV for, maneuvers with the Bind, Block, Disarm, and Takeaway (Grab Weapon) maneuver elements.

Cost	Power
6	*Main Gauche:* Multipower, 18-point reserve; all OAF (-1), STR Minimum (7; -½), Real Weapon (-¼)
1u	1) *Blade:* HKA 1d6-1 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (7; -½), Real Weapon (-¼)
1u	2) *Hilt:* HA +2d6 , Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (7; -½), Real Weapon (-¼)
4	*Protective Hilt:* Armor (6 PD/6 ED); OAF (-1), Only Protects The Hand Used To Grasp It (-2)
4	*Skillful Weapon:* +2 OCV with Block, Bind, Disarm, and Takeaway; OAF (-1), Only Applies To The Four Listed Maneuvers (-½)

Total cost: 16 points (or 20 points for IAF (-½) version).

Makila: Used by Zipota practitioners, this is a 1.5 meter-long stick traditionally used as a shepherd's tool. One end has an iron cap, and the handle unscrews to reveal a long, sharp needle-like thrusting weapon.

Cost	Power
8	*Makila:* Multipower, 22-point reserve, all OAF (-1), STR Minimum (8; -½), Real Weapon (-¼)
1u	1) *Stick:* HA +3d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (8; -½), Real Weapon (-¼)
1u	2) *Spike:* HKA 1d6 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (8; -½), Real Weapon (-¼)

Total cost: 10 points (or 12 points for IAF (-½) version).

Manriki-gusari: Also called a *manriki* or a *kusari-fundo,* this is a 3' chain with weights at both ends. It can be swung to strike a foe or thrown to ensnare him, just like the kusari. You can also use this weapon's statistics for the following weapons: the *suruchin*, a weighted rope used by some Kobujutsu practitioners; the *kabit*, a chain weapon used in Arnis; the *panu*, a scarf or handkerchief weighted with coins used by some Arnis exponents; and the *sarong*, a type of waistcloth worn in the Philippines and Indonesia which is used like the *panu*, but is much heavier — there are reports of skilled practitioners "flicking" the *sarong* at thick boards and snapping them in two!

Metsubishi: Small grenades which can momentarily blind an opponent. Grenades do not require a Weapon Familiarity. Alternatively, a "flash grenade" could be one use's worth of eye-irritating dust, either thrown at a foe or blown through an open-ended sword sheath, a small pillbox, or a similar device. This type of metsubishi has No Range, since it can only be used effectively within a few feet.

Metsubishi (thrown): *Sight Group Flash 2d6, Area Of Effect Nonselective (One Hex; +¼) (12 Active Points); OAF (-1), Range Based On STR (-¼), Real Weapon (-¼), 8 Charges (-½). Total cost: 4 points (or 5 points for IAF (-½) version).*

Metsubishi (blown powder): *Sight Group Flash 2d6 (10 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), 1 Charge (-2). Total cost: 2 points (or 2 points for IAF (-½) version).*

Chinese *du sar*, "poison sand," uses the same statistics as the blown metsubishi.

Mourn Staff: Known as a Thorn Staff or, in Chinese, as a *san men barn*, this weapon actually resembles a sword more than it does a staff. It consists of a 3-4' wooden or metal shaft, with three-quarters of its length studded with metal "teeth."

Nagedeppo: A type of primitive explosive grenade. Its explosion covers a One Hex radius. In feudal Japanese campaigns, the bang and flash from this grenade are as disorienting as its damaging effects, since such weapons were extremely uncommon in that period.

Naginata: This Japanese weapon consists of a 2-3' edged blade on long staff; the weapon is usually 7-8' long. It is traditionally a very popular weapon with female Japanese fighters. Warriors use it as both a bladed weapon and as a staff; it is very versatile. You can also use this weapon's statistics for the *nage-maki* or *nagakami*, which has a somewhat longer and heavier blade but a shorter handle.

Cost	Power
12	*Naginata:* Multipower, 37-point reserve; all OAF (-1), STR Minimum (15; -¾), Real Weapon (-¼)
1u	1) *Blade:* HKA 1½d6 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (15; -¾), Real Weapon (-¼)
1u	2) *Shaft:* HA +4d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (15; -¾), Real Weapon (-¼)
2	*Long Weapon:* Stretching 1", Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1) [or IAF (-½) for concealed form], Always Direct (-¼), No Noncombat Stretching (-¼), Only To Cause Damage (-½), No Velocity Damage (-¼) (total cost for IAF (-½) version: 2 points)

Total cost: 16 points (or 19 points for IAF (-½) version).

Navaja: A large folding knife used by European knifefighters, with a very slight curve toward the tip of the three to six inch-long blade.

Nekote: Nekote, or "cat's claws," are a set of five metal claws fitting on the fingertips. By themselves they do relatively little damage, but they are often poisoned. Use this weapon's statistics for Chinese fingernail razors (small blades that fit underneath the fingernails) and the Japanese *kakute*, or "horn finger" ring. This ring has a small spike on one side that is normally poisoned, making even the lightest punch fatal.

Net: See Toami.

Nine-Dragon Trident: This Chinese polearm consists of a 6' shaft with a trident on top, plus two crossbars further down (turned at 90° to one another) which bear an indescribable array of flanges and protrusions. It grants a +2 OCV to maneuvers including the Bind, Block, Disarm, and Takeaway

(Grab Weapon) Bases. In Chinese, it is called the *gao loon cha.*

For the Nine-Dragon Trident's game statistics, use the Ghi, above.

Nine-Ring Sword: A single-edged, sabre-like weapon with nine rings set into its back edge. The rings help to catch an enemy's weapon and disarm him. Another name for this weapon is Ghost Hat Sword.

Ninja-to: This weapon, also called the *shinobi-gatama, shinobigatana,* and *ninja-ken,* is the traditional ninja sword. It has a blade about 24" long and is about 40" long overall. It looks something like other Japanese swords such as the katana, but the blade is straight and the handguard (*tsuba*) is square instead of round.

The ninja-to is a tool as much as a weapon — to use a modern comic book analogy, it is a sort of "utility belt" for the ninja. It can be used for climbing and for digging holes in the earth as well, an indignity the owner of a katana would never subject his blade to. Its scabbard, or *saya,* is longer than the sword itself and can be used to carry concealed powder weapons or bo shuriken. The scabbard cord, or *sageo*, has a variety of uses. These additional uses are bought as part of a Multipower.

Ninja only use a ninja-to on stealth missions; when disguised as ordinary people, they use whatever weapons are appropriate to those folk. Ninja also often use the katana.

Cost	Power
22	*Ninja-to And Saya:* Multipower, 44-point reserve, all OAF (-1)
1u	1) *Blade:* HKA 1½d6 (plus STR), Range Based On STR (+¼), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (15; -¾), Real Weapon (-¼), One-And-A-Half-Handed (-¼)
1u	2) *Hilt/Saya As Club:* HA +2d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (15; -¾), Real Weapon (-¼), One-And-A-Half-Handed (-¼)
1u	3) *Saya And Sageo As A Climbing Platform:* +1 to Climbing Roll; OAF (-1)
1u	4) *Blinding Powder In Saya:* As Metsubishi, Blown, above
1u	5) *Sageo As Strangling Garrotte:* refer to "Garrotte," above, for details on that weapon
1u	6) *Saya As Breathing Tube* (*Takezutsu*): Life Support (Breathe Underwater); OAF (-1), Only Works Close To The Surface (-1)

Total cost: 28 points (or 36 points for IAF (-½) version).

No-daichi: This is a Japanese two-handed sword.

Nunchaku: This weapon, one of the principal weapons of Karate (the others are bo, eiku, kama, sai, tekko, timbe and rochin, and tonfa), is an Okinawan wooden flail. It consists of two pieces of wood (each 12" to 14" long) connected by short chain or cord (itself 1" to 5" long). Nunchaku are often used in pairs.

Parang: A cleaver-like Indonesian blade, about 10 inches to three feet in length. You can also use its statistics for other Indonesian weapons, including the *golok* (which has a more convex cutting edge and a sharper point than the parang).

Pedang: A straight or curved Indonesian short sword (10-35" long). It is used one-handed. Other Indonesian blades using similar statistics include the *kělewang* (a single-edged sword with a pronounced notch near the tip on the blunt side).

Pendjepit: A weapon used in Prisai Sakti Pentjak-Silat. It is a metal pincher with sharp, tiny teeth in the ends which are used to tear at the flesh grabbed.

Petjat: A 4-6' whip used in some parts of Indonesia. You can also use this weapon's statistics for the *chemeti*, another type of Indonesian whip with a 1-2' wooden handle, and a 2-3' buffalo-hide or human hair whip.

PuZal: A folding knife similar to the *navaja,* but somewhat smaller and more streamlined, without the slight curve at the tip.

Rante: A chain weapon from Indonesia. The chain can be used in typical fashion, to whip and snare, but many rante also have some sort of blade or barb attached to one end, making the weapon more lethal than it otherwise would be.

Cost	Power
9	*Rante:* Multipower, 22-point reserve, all OAF (-1), STR Minimum (5; -¼), Real Weapon (-¼)
1u	1) *Chain:* HA +3d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (5; -¼), Real Weapon (-¼)
1u	2) *Blade:* HKA ½d6 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (5; -¼), Real Weapon (-¼)
2	*Long Weapon:* Stretching 1", Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1) [or IAF (-½) for concealed form], Always Direct (-¼), No Noncombat Stretching (-¼), Only To Cause Damage (-½), No Velocity Damage (-¼) (total cost for IAF (-½) version: 2 points)

Total cost: 13 points (or 15 points for IAF (-½) version).

Rapier: A long, narrow stabbing sword, a European fencing weapon.

Razor, Straight: This is the normal shaving implement; the large variety is larger than the types normally used to shave. It is ineffective against Armor (it has the "Reduced Penetration" Limitation) and doesn't do as much STUN as cleaving or stabbing weapons. It is the preferred weapon of capoeiristas. Two types of Straight Razors are shown on the chart, one of ordinary length and one extra-long.

You can also use the statistics for the smaller Straight Razor for the Justice Pen (*bi*), a Chinese stabbing weapon which resembled a large metal brush or pen.

Ring Needle: Also known as an *er mei tzu*, or "sting," this weapon consists of a ring attached to a thin, sharpened metal rod. It was originally designed for underwater fighting. Pakua practitioners use it to stab or thrust, and can throw it.

Rings: Steel rings about 8' in diameter, used as bludgeoning weapons or missiles.

Rope Dart: A small blade on the end of an up to 25' long rope. The weapon was used by whirling the dart around and slashing people with it. The Indonesian equivalent for this weapon is the *suk piao*, used in Kuntao.

Sabre: This is the European fencing sabre, a sharp, curved weapon used principally for slashing. You can also use the sabre's statistics for the *krabi*, a sabre-like sword used in Krabi-Krabong.

Sai: This Japanese weapon, known as *gen* or *cha* in China and as a *tjabang* or *titjio* in Indonesia, is one of the principal weapons of Karate (the others are bo, eiku, kama, nunchaku, tekko, timbe and rochin, and tonfa). It is is trident-shaped truncheon, some 15-20" long, made of metal. The point is blunted; it is not a stabbing implement. Due to its trident shape, the Sai receives an additional +2 OCV when performing maneuvers which include the Bind, Block, Disarm, and Takeaway (Grab Weapon) Bases (thus receiving a total of +3 OCV with these maneuvers).

These statistics are also used for the *jutte* and *nunte* weapons. The jutte (or jitte) looks like the sai but with one tine missing; this makes it easier to conceal, and thus popular among ninja. The nunte looks like the sai but with one tine bent backwards. The sai, jutte and nunte can be thrown; the three weapons share an identical Weapon Familiarity.

Sai, Cinema: Though historical sai appear never to have been sharpened, sai in movies are sometimes stabbing weapons. The statistics for this weapon can also be used for the Chinese *char*, or trident dagger, and for the *siangkam*, a Kuntao weapon resembling a metal arrow about 1-2' long.

Schlaeger: A duelling sword favored by German students, particularly during the latter half of the 1800s. It has a straight, double-edged blade, a large basket hilt (to allow the wrist a full range of motion), and a dull point (it was used for slashing, not stabbing).

Shinai: This is a bamboo practice sword shaped like a katana and used in the sport of kendo.

Shinobi-zue: This ninja weapon is a bamboo staff. One end is loaded with lead for a harder impact when it hits. The other is capped with a metal plug; when removed, this releases a concealed 6' chain. The staff is used as a bo; the chain is used like a kusari but cannot be thrown. This weapon is also known as a *shikomi-zue*. You can also use the shinobi-zue's statistics for the *chigiriki*, a staff or spear with a 3-10'-long chain with a weighted end attached to it (use the *yari*'s statistics for the spearhead).

Shuko: These are the ninja climbing claws worn on the hands, usable in hand-to-hand combat to slash a target. They provide a +1 bonus to Climbing rolls (when wearing both the shuko and the *ashiko,* or foot-claws, the ninja gets a total bonus of +2 to Climbing rolls). A character cannot carry a weapon in a hand which has a shuko in it. And the characer must wear both shuko, one on each hand, to get the +1 to his Climbing rolls. Shuko are also known as *tekkokagi*.

Shuriken: Commonly called throwing stars and throwing spikes, these are ranged weapons used by ninja and by modern martial artist heroes and villains. They come in three basic types:

Bo Shuriken are sharply-pointed metal spikes a few inches long. One to five bo shuriken may be thrown at a time.

Large (Star) Shuriken are star-shaped metal disks several inches across, about half an inch thick, and possessing three to eight sharp points.

Small (Star) Shuriken are shaped the same as Large Star Shuriken, but are only about an eighth of an inch thick and a couple of inches across. One to five small star shuriken may be thrown at a time.

Star shuriken are called *hira shuriken* in Japanese. The four-pointed star, the most popular type, is called a *senban shuriken*. Shuriken made out of flat metal bars with sharpened ends are *itaken*.

The Chinese have a weapon called a Sleeve Dart (*shouu gen*, darts easily concealed in a sleeve or in various spring-loaded tubes hidden in one's clothes) which has the same statistics as bo shuriken. The Chinese also created razor-edged coins (*lo han chain* [Japanese, *nasare en*]) and oddly-shaped Dart Knives (*biau dau*) which have the same statistics as small star shuriken, as does the *piau*, an Indonesian throwing blade vaguely shaped like a hatchet-head. The Indian *chakram* or *cher-khi*, a razor-edged throwing ring also called a quoit, uses the statistics for a large shuriken. The *paku*, a sort of sharpened throwing stick weapon used in Indonesia, uses the bo shuriken's statistics. Many dart weapons, including specially-thrown nails or the narrow darts sometimes slipped into war fans, correspond to bo shuriken.

The Ranged Weapons Chart shows a load of 9 to 12 shuriken. Ninja traditionally carried nine, because that number has special significance to them.

Sling Bow: This missile weapon is a bow designed to fire small iron balls — sort of a cross between a bow and a slingshot. In Chinese it is known as a *dan kurn*.

Soft Hammer: This Chinese weapon (*nuan chuai*) is the same as the European morningstar: a metal ball (spiked or not) connected to a wooden shaft by a short length of chain.

Spread-The-Water Knife: A bladed weapon shaped like a thin D, with the curved edge being the blade and the straight bar being a wooden shaft. The straight bar averaged about 2-3' long.

Steel Olive: An olive-shaped throwing weapon. The ends taper down to sharp points, giving the weapon an eye-shaped profile.

Steel Toad: A throwing weapon in the shape of a toad! The toad's head tapers to slightly more of a point that a normal toad's does, so the weapon can do more damage than it would if it were blunt.

Sword-Spear: A type of short (3-4') Chinese spear, known as a *jen chian*. Also use these statistics for a Double Hook Arrow (*shunn gou shih*), a type of large arrow with two hooks which curve away from the arrow head.

Tai-Dao: This Chinese polearm is two meters long and topped with a heavy, curved blade. (Use the Naginata's write-up for its game statistics.) It was used both from foot and horseback. The *kwan dao* (also spelled *quan tao,* meaning "General Kwan's Knife"), *da dau* (a long-handled broadsword-like weapon), *bisento* (a Japanese weapon), and the *chun jung whule-do* ("heavenly dragon moon knife," a Korean weapon) use the same statistics as this weapon, as do the *kwanto* and *sjang sutai,* two weapons used in Kuntao.

Tanto: A Japanese dagger, sturdily constructed, with a curved, single-edged, chisel-pointed blade. It is 9" or so long and has no hand-guard.

Use these statistics for two other Japanese blades, the *aikuchi* and *hamidashi*, and for several short Chinese bladed weapons, including the *shaou dau* ("scrape saber," a small version of the Chinese saber) and *shou li jen* ("sleeve sword," a sword about the size of a dagger with a concealed spring that allowed to to expand to twice its length). The tanto's statistics also apply to a number of Indonesian daggers, including the *pisau*.

Tetsubishi: These are caltrops — four-pointed spikes which, when dropped on the ground, always land with one spike pointed up. When the character throws his tetsubishi onto the ground, he rolls versus DCV 3 to hit his target hex. When a target walks into the hex where tetsubishi have been thrown, the attacking player (or GM) rolls the 14- Activation Roll; if it succeeds, the target takes damage. In campaigns which use Hit Locations, this damage is always to the character's feet (location 18). A character who sees the caltrops ahead of time may move through the hex without stepping on them. Tetsubishi do not require a Weapon Familiarity.

Characters often buy tetsubishi at IAFs because they're generally inconspicuous when dropped — though depending on the circumstances, this may not be the case. In a pinch, a character can use his tetsubishi as an improvised missile weapon, doing 1d6 to all targets in a 1" radius.

You can also use the tetsubishi write-up for *igadama* (spiked iron balls similar to arare), *hishi* (dried water chestnuts with spiky shells), and *dokubari* (spiked balls of plant matter).

Cost	Power
15	*Tetsubishi:* Multipower, 45-point reserve; all OAF (-1), 2 Recoverable Charges (-1) for entire Multipower
1u	1) *Dropped:* RKA 1d6, Area Of Effect (One Hex; +½), Continuous (+1), Uncontrolled (removable by spending a Full Phase to sweep them aside; +½); OAF (-1), Activation Roll 14- (-½), Only Affects Characters Moving On The Ground (-¼), DEX Roll Cancels Effect (-¼), Automatically Targets Hit Location 18 (-0)
1u	2) *Thrown:* RKA 1d6, Area Of Effect (One Hex; +½); OAF (-1), Range Based On STR (-¼), Inaccurate (user is at half OCV, and Range Modifier increment drops to 3"; -¼)

Total cost: 17 points (or 21 points for IAF (-½) version)

Tetsubo: A Japanese hardwood war-staff 6' long and covered with studded iron plates at the end; the plated area of the shaft is octagonal rather than round. You can also use the tetsubo's statistics for the *konsaibo*, a hardwood staff reinforced with metal strips and iron studs, and for the *kanabo*, an iron club.

Tetsu-To: A heavy iron sword, curved in the Japanese fashion, used by samurai and ninja alike as a strength-training weapon. It is too heavy for most people to use effectively in combat (see the weapon's STR Min).

Three-Section Staff: A Kung Fu weapon, known as *shan gieh kun* in Chinese. It consists of three wooden rods connected by rings; each rod is 18"-20" long. Fighters use it like a flail for long strikes, or like a jo for close-in attacks.It's very useful for maneuvers containing the Bind, Block, Disarm, and Takeaway (Grab Weapon) Bases: it grants a +2 OCV with them. If you're using the Weapon Lengths rules (page 164), the Three-Section staff is a special weapon: other weapons attack against the Three-Section Staff as if the staff were a Long weapon, but the wielder of the Staff is never at an OCV penalty when the attacker gets inside his guard and strikes him.

The Indonesian equivalent of the Three-Section Staff, used in Kuntao, is the *sa tjat koen*.

You can also use these statistics for the "Sweeper," or *shao-tzu*, a weapon consisting of a short staff with an even shorter length of wood attached to one end by a chain (a two-section staff, if you will). The Sweeper was most often used to attack a horse's legs.

Tiger Fork: The Tiger Fork, or *hu cha*, is a large, trident-like weapon with broadly-spread tines. (Use the Naginata's write-up for its game statistics.) You should also use these for various types of Chinese tridents, such as the *shan char,* and the Korean trident, or *dang pah.*

Timbe: A 1-2' shaft with a small spearhead on one end. It is used in combination with a tortoiseshell shield called a *rochin* and is one of the principal weapons of Kobujutsu.

Tjaluk: A blade weapon used in Setia Hati Pentjak-Silat. It consists of a hilt (with a curved metal handguard) from which a sickle-like curved blade about 1' long emerges. The sharp edge of the weapon is the *reverse*, or outside, edge — so parrying it can be a risky proposition. It is best used in surprise or assassination attacks, not in open combat.

Toami: A net. Its statistics depend upon its size:

Small Toami: *Entangle 4d6, 4 DEF, Entangle And Character Both Take Damage (+¼) (50 Active Points); OAF (-1), Range Based On STR (-¼), Real Weapon (-¼), 1 Recoverable Charge (-1¼). Total cost: 13 points (or 15 points for IAF (-½) version).*

Normal Toami: *Entangle 4d6, 4 DEF, Entangle And Character Both Take Damage (+¼), Area Of Effect (One Hex; +½) (70 Active Points); OAF (-1), Real Weapon (-¼), Range Based On STR (-¼), 1 Recoverable Charge (-1¼). Total cost: 19 points (or 21 points for IAF (-½) version).*

Large Toami: *Entangle 4d6, 4 DEF, Entangle And Character Both Take Damage (+¼), Area of Effect (5" Radius; +1) (90 Active Points); OAF (-1), Real Weapon (-¼), Range Based On STR (-¼), 1 Recoverable Charge (-1¼). Total cost: 24 points (or 28 points for IAF (-½) version).*

Tonfa: This is one of the traditional weapons of Karate (the others are the bo, eiku, kama, nunchaku, sai, tekko, and timbe and rochin). It consists of a truncheon with handle protruding at 90 degrees near one end. It is often used in pairs. Unlike clubs, it requires a Weapon Familiarity (it's part of the WF for Karate Weapons). However, ordinary people can pick up a tonfa and use it as ordinary club, keeping the normal weapon damage but losing the OCV bonus.

The Indonesian counterparts to the tonfa are the *segu*, which is used in Tapak Sutji Pentjak-Silat, and the *kwai*, which is used in Kuntao.

Tsubute: A "blunt shuriken," used to knock an enemy unconscious. The same statistics apply to blunt Chinese throwing coins, *shouu chuan*, or the Sleeve Ring (a blunt metal ring hidden in the sleeve and thrown at an enemy's face).

Umebi: A form of primitive land mine used by the ninja:

Umebi: *RKA 1½d6, Area Of Effect (One Hex; +½), Trigger (when stepped on, takes 1 Turn to reset; +¼) (44 Active Points); IAF (-½), 1 Charge (-2), Real Weapon (-¼). Total cost: 12 points.*

Urumi: The urumi, or spring-sword, is a flexible sword from India. It consists of a hilt with 1-4 blades of metal (sharpened on both edges) projecting from it. The blades are thin and flexible, allowing them to be whipped through the air and into an enemy. When not in use the urumi can be carried around the waist like a belt.

Cost	Power
8	*Urumi (Single-Bladed):* HKA 1d6 (plus STR), Reduced Endurance (0 END; +½) (22 Active Points); OAF (-1), STR Minimum (12; -½), Real Weapon (-¼) (total cost with IAF (-½): 10)
13	*Urumi (Multi-Bladed):* HKA 1d6 (plus STR), Autofire (up to 4 shots, depending on number of blades and wielder's desire; +½), Reduced Endurance (0 END; +1) (37 Active Points); OAF (-1), STR Minimum (12; -½), Real Weapon (-¼) (total cost with IAF (-½): 16)

Wakizashi: This is the companion sword of the katana; it is the smaller of the *daisho* pair of samurai blades. The *kodachi* is the older form of the same blade.

War Fan: This weapon, known in Japanese as a *tessen* or *gunsen* and in Chinese as a *san*, looks like a normal hand-fan, but is larger than purely decorative fans and is made of hardier materials. It is used two ways: closed, it is a punching weapon; open, it is effective at blocking attacks (+2 OCV with Block maneuvers). Special War Fans come with an additional blade option. The blade may be a razor edge on the vanes of the fan, used in a slicing motion when the fan is open, or it may be a spike at the base of the fan, used when the fan is closed. Both types are shown on the Melee Weapons Table. War Fans are sometimes made with small darts hidden in the vanes; if a character uses them, treat these darts identically to Bo Shuriken.

Cost	Power
8	*War Fan, Edged:* Multipower, 22-point reserve; all OAF (-1), STR Minimum (6; -½), Real Weapon (-¼)
1u	1) *Folded Fan Attack:* HA +3d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (6; -½), Real Weapon (-¼)
1u	2) *Spread Fan Attack:* HKA ½d6 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (6; -½), Real Weapon (-¼)
3	*Skillful Weapon:* +2 OCV with Block (10 Active Points); OAF (-1), Only Applies To Block (-1), Real Weapon (-¼)

Total cost: 13 points (or 16 points for IAF (-½) version).

Wind and Fire Wheels: These are Chinese weapons. They consist of broad metal hoops a foot or two in diameter. Some feature protruding spikes and handles; other are plain hoops. Fighters use them to punch and slash, and receive a +2 OCV bonus when used with maneuvers with the Bind, Block, Disarm, and Takeaway (Grab Weapon) Bases. The statistics for this weapon also apply to the *lun*, which is similar in function but shaped more like a coin, and the *yue*, which is eye-shaped.

Wishful Steel Ball: A small steel ball similar to a modern ball-bearing, used as a weapon by flicking it at high speed at the target.

Wolf's Teeth Staff: This weapon, called *lan yar barn* in Chinese, consists of a staff approximately 6' long. About 1' of one end of it is covered with small metal spikes. Use the Naginata's write-up for its game statistics.

Yari: This is the Japanese spear. It comes in two basic versions. The normal version works just like any other spear. Another version, the Kamayari, comes with a back-hook (a backward-pointing spike mounted at the head), which gives the weapon a +2 OCV bonus when used with maneuvers with the Bind, Block, Disarm, and Takeaway (Grab Weapon) Bases. There are several other varieties with different spearhead and combinations of hooks and and other projections. The Vietnamese counterpart to this weapon is the *thuong.*

Cost	Power
13	*Yari:* Multipower, 37-point reserve; all OAF (-1), STR Minimum (14; -½), Real Weapon (-¼)
1u	1) *Blade:* HKA 1½d6 (plus STR), Reduced Endurance (0 END; +½); OAF (-1), STR Minimum (14; -½), Real Weapon (-¼)
1u	2) *Shaft:* HA +4d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), STR Minimum (14; -½), Real Weapon (-¼)
2	*Long Weapon:* Stretching 1", Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1) [or IAF (-½) for concealed form], Always Direct (-¼), No Noncombat Stretching (-¼), Only To Cause Damage (-½), No Velocity Damage (-¼) (total cost for IAF (-½) version: 2 points)
4	*Kamayari:* +2 OCV with Bind, Block, Disarm, and Takeaway; OAF (-1), Only Applies To The Four Listed Maneuvers (-½)
-1	*Kamayari:* Increase STR Min to 17

Total cost (Yari): 17 points (or 20 points for IAF (-½) version).
Total cost (Kamayari): 20 points (or 23 points for IAF (-½) version).

Yoroi-toshi: This weapon, the same approximate size and shape as the *tanto,* is a dagger designed to pierce armor. It is very heavy and very sharp, and does armor-piercing damage.

Yumi: This is the Japanese bow, also known as a *daikyu.* It can be anywhere from five to eight feet long, and, unlike Western bows, is not held in the middle; the handle is about one-third of the way from the bottom. Therefore it is easily used by horsemen. The "One-Man, Two-Man, Three-Man" designations indicate how many men it theoretically takes to string the bow; for *HERO System* purposes, the STR Min of the weapon is also the STR Min it takes to string the bow.

CONCEALED AND INOBVIOUS WEAPONS

Almost every weapon described in this section can be carried as a *normal weapon* or as a *concealed weapon*. It's a tradition in martial-arts films — especially ninja movies — that characters can disguise many unusual weapons as ordinary objects. Following are some examples of weapons and ways characters could disguise them:

Blowgun: As a flute, or a walking stick; it can be combined with a jo or a used as a sword scabbard.

Bokken, Katana, Jien, Ninja-to, No-daichi, Wakizashi: Concealed within a *bo* staff that acted as its sheath; about a foot and a half of the staff would actually be the hilt of the blade.

Brass Knuckles: This weapon could be fashioned as the lining of a pair of gloves or as the handle of a suitcase.

Cestus: This could be an ordinary-looking pair of gloves. An observer would not notice that the inner lining is Kevlar and that the first heavy blow with these make short spikes poke through the outer lining.

Chain Whip, Kusari, Manriki-gusari: Easily worn as a belt.

Climb line, Kusari, Manriki-gusari, Marbles, Tetsubishi: Often carried inside the hollow hilt of another weapon.

Fist-Load: A fist-load can look like practically *anything:* a statuette, a strangely-heavy telephone receiver, and so forth.

Garrotte: This weapon can be an ordinary-looking (though reinforced) scarf or belt; wire garrotes can be built into the lining of clothes or into decorative hair-ribbons.

Grenades, Flash and Smoke: Disguised flash and smoke grenades can look like cufflinks, marbles, pebbles, fresh fruit, juggling balls, or anything small, roundish, and inconspicuous.

Hanbo: A *bo* could break down into twin hanbo.

Kusarigama: A kama (sickle) with a chain in its hollow hilt could be instantly converted into a kusarigama.

Nunchaku: A *hanbo* or an innocuous-looking walking cane could pull apart or unscrew into nunchaku; a *bo* staff could break down into two pair. Any normal-looking length of stout material, such as a tent pole, a flag staff, or a chair leg could conceal nunchaku....

Sai: One interesting prospect is that of the high-tech sai, an ordinary-looking stick which (at the press of a button) pops out the extra tines.

Shuriken: Small star shuriken can be disguised as buttons, loose change, the glittering baubles sewn onto the skirt of an exotic dancer, or the dangling elements of a mobile. They and bo shuriken can also be hidden in the hollow hilt of another weapon.

Three-Section Staff: Perhaps a character could have a piece of lawn furniture break down into a pair of three-section staves.

Tonfa: As any normal cane or baton, with the perpendicular handle a locking swing-out mechanism.

War Fan: The best disguise for this weapon is to make it look like a normal fan, carried by some fashionable lady martial artist, and used for the normal purposes of keeping cool and flirting... until it's time for combat to begin.

Wind and Fire Wheels: Worn as the brim of a hat.

MARTIAL ARTS ARMOR

Though body armor isn't very common in martial arts adventures, a few types do show up with *some* regularity: samurai armor, kendo armor, and body armor for full-contact karate sparring, for example.

Superheroic characters generally create armor which provides consistent defense over all the body locations, which does not have an encumbrance rating, and so forth. In superhero campaigns, such armor is usually built with higher DEF ratings than real-world armor, and simply *looks* identical to the real-world armors described below, which are designed for Heroic-level campaigns.

Full-Contact Karate Armor

This is a set of vinyl or leather-covered padding designed to minimize risk of injury while characters are sparring or training. It includes the pieces listed in the accompanying table (not all of which have to be worn).

The two columns listed under "Defense" are R for Resistant and N for Non-Resistant. Resistant Defenses are bought as Armor (PD and ED); Normal Defenses are bought as Physical Defense and Energy Defense.

The Weight column is included for those Heroic campaigns using the *HERO System* encumbrance rules (see the *HERO System 5th Edition, Revised,* page 379). If your campaign doesn't use those rules, don't worry about the Weight column except to determine whether a character can lift the equipment at all. Weights are given in tenths of a kilogram.

FULL-CONTACT KARATE ARMOR

Name of Armor	Hit Locations	Defense R/N	Weight (kg)
Face Guard	4-5	2/6	.1
Full Face Guard	3-5	2/6	.2
Gloves (2)	6	2/6	.2
Forearm Guards (2)	7	2/6	.1
Torso Guard	9-11	2/6	.8
Chest Guard	10-11	2/6	.7
Rib Guard	12	2/6	.4
Athletic Cup	13	2/6	.2
Shin Guards, Sm (2)	16	2/6	.1
Shin Guards, Lg (2)	16-17	2/6	.2
Leg Guard (2)	15-17	2/6	.3

You cannot "stack" armor; a character cannot wear a Face Guard and a Full Face Guard and get the benefits of both. He only gets the benefit of the greater of the two.

Kendo Armor

The armor used by kendoka (practitioners of Kendo, the modern sport form of Kenjutsu) in their practices consists of several items.

The *men,* or helmet, has a wire-frame mask and padded armor which covers the top and back of the head and the throat. Accompanying this are a heavy chest-plate and gloves which cover the forearms, both made of resilient padded material; a

KENDO ARMOR

Name of Armor	Hit Locations	Defense R/N	Weight (kg)
Men (Helmet)	3-5, 9	6/0	1.8
Kote (Sleeevs)	6-7	4/2	.5
Do (Breastplate)	10-11	4/2	1.1
Keikogi (Jacket)	8-11	1/1	.6
Tare (Apron)	12-13	2/2	.6

padded apron; and a lighter protective jacket.

The accompanying table describes the protectio provided by kendo armor. The *Men* has an additional Limitation: it acts as Armor 0 versus Guns. The *Kote* and *Do* have a similar Limitation: Half-Value versus Guns. In other words, bullets automatically bypass the armor of the helmet, and are automatically Armor-Piercing attacks against the *Kote* and *Do*.

Leather Hand-Wrappings

Practitioners of ancient boxing (see Boxing, Ancient in the Martial Arts section) protected their hands by wrapping them in leather strips; this was the sort of protection that ultimately evolved into the boxing glove. A character who wraps his hands in this fashion has a piece of equipment that's defined by the accompanying table.

LEATHER HAND-WRAPPINGS

Name of Armor	Hit Locations	Defense R/N	Weight (kg)
Hand-Wrapping (2)	6	4/0	.2

RAWHIDE HAND-WRAPPINGS

Rawhide hand-wrappings are just like leather hand-wrappings, with one exception. Rather like the cestus (see above in the melee weapons listing), rawhide wrappings can cause a little extra Killing Damage to the target.

With each punch that successfully hits a target, the character with rawhide hand-wrappings should make a 3d6 roll. On an 8-, the rawhide do 1 point of Killing Damage in addition to the regular damage of the attack. If the character has rawhide wrappings but uses some sort of NND DMG or K-damage attack, the rawhide adds nothing.

SAMURAI ARMOR

Name of Armor	Hit Locations	Resistant Defense	Weight (kg)
Hachi/Shikoro (Helm/Shoulders)	4-5	6	1
Happuri (Facemask)	3	6	.5
Kote (Sleeves)	6-7	4	1
O-Sode (Shoulers)	9	6	2
Tateage (Breastplate)	10-13	6	9.5
Haidate (Apron)	14-15	6	2.5
Sune-ate (Greaves)	16-17	4	.75

This armor has a Limitation: it is Half Value Versus Guns (-¼). For instance, the Hachi and Shikoro, DEF 6 versus most attacks, is only DEF 3 versus bullets.

Samurai Armor

This armor is arranged much like the Kendo armor described above, except that it is designed to provide protection in real warfare. It is made of metal and hardened leather plates, usually brightly ornamented with decorative enamels.

CREATING MARTIAL ARTS EQUIPMENT

Generally, the rules for creating Fantasy weapons and armor (see Chapter One of this book) apply to martial arts weapons and armor. Here are some additional guidelines:

Powers Used In Weapon Creation

The *HERO System* Powers used to create most weapons and armor described in this section include:

Armor (either for armor suits or to provide a weapon with protection for the hand holding it);

Entangle (for nets);

Flash (for metsubishi and other blinding weapons);

Hand-To-Hand Attack;

Hand-To-Hand Killing Attack (sometimes with "Ranged" Advantage, sometimes with +1 Increased STUN Multiplier);

Ranged Killing Attack (sometimes bought with Autofire, such as with small shuriken); and

Stretching (to give extra range to some long melee weapons).

Telekinesis and *Change Environment* (for dropped marbles and similar effects).

Normal Versus Killing Damage

Many weapons are built as Normal Damage attacks instead of Killing Damage attacks. In the chart above, Normal Damage weapons are built with the *Hand-To-Hand Attack* Power, while Killing Damage weapons are built with the *Hand-To-Hand Killing Attack* Power. Thrown weapons take the *Ranged* Advantage (+½). Ranged-only Killing-damage weapons are built with the *Ranged Killing Attack* Power.

See pages 405-09 of the *HERO System 5th Edition, Revised* for rules on adding damage to weapons.

New Limitations

The new Limitations that have been introduced in this section are all examples of the "Limited Use" Limitation. They include:

Value Description

-¼ *Weapon Does Less Damage From Added STR*: The weapon receives +1 DC for every 10 STR above STR Min. This is a Limitation for weapons in Heroic campaigns. It simulates weapons deliberately designed to do less damage than they could otherwise.

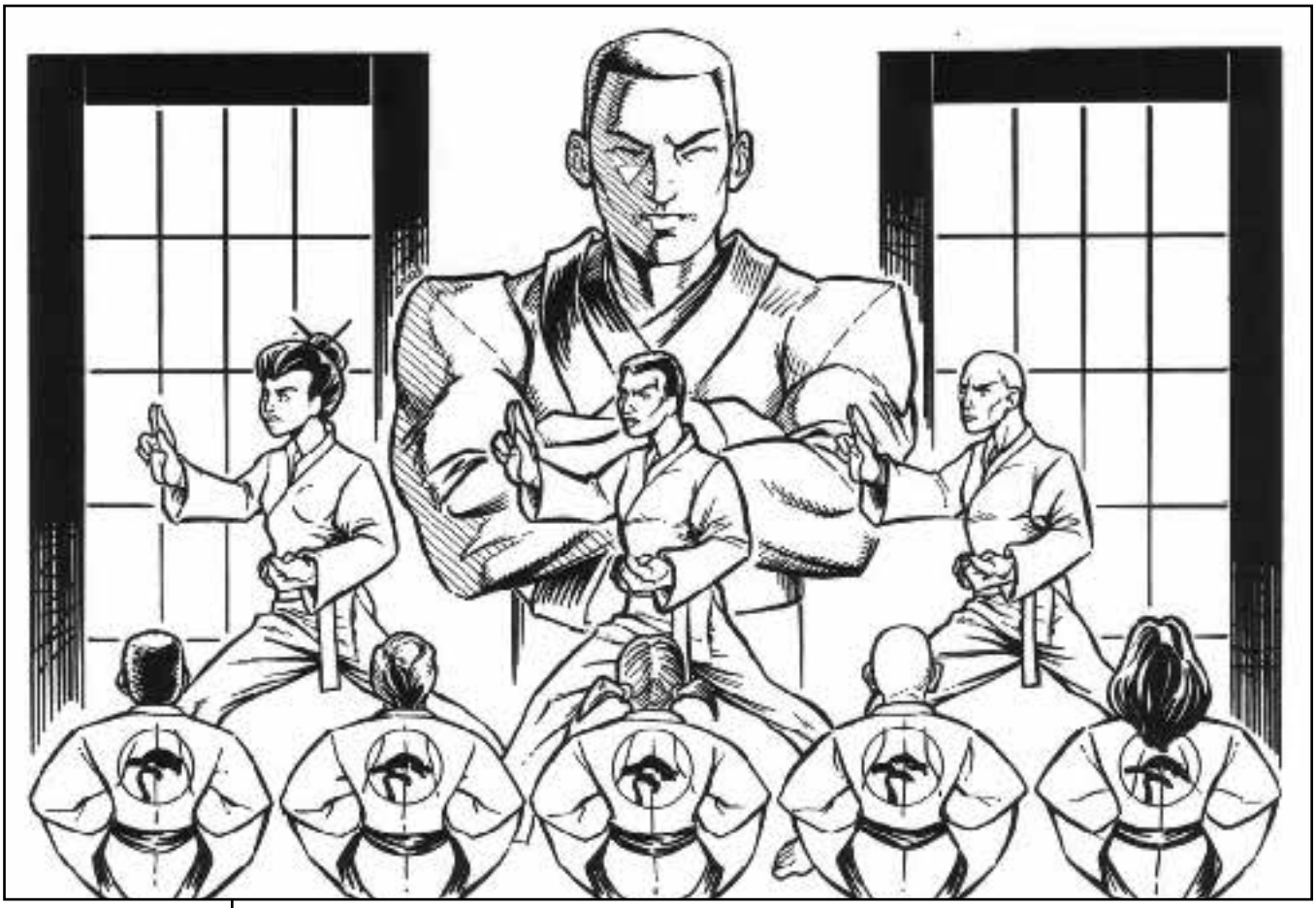
-1 *Cannot Be Used To Cause Damage*: This Limitation for Telekinesis indicates a form of TK that does no damage at all. (It's still possible to harm someone by shoving him over a cliff, though.)

-2 *Only To Throw Target To Ground*: This Limitation to Telekinesis means the power cannot be used to carry people or objects around, to catch someone who is falling, and so forth. It is distinct from "Cannot Be Used To Cause Damage," and the two Limitations can be taken together on a TK power.

-¼ *Only Affects Characters On The Ground:* This Limitation on an Attack Power means it does no harm to characters not touching the ground. You cna use it to simulate an electrical attack that requires the character be grounded, or to build attacks where the character must step on some object to receive the damage.

-½ *Only To Grab*: This Limitation on Stretching means the character cannot use it to Strike his target, only Grab and manipulate him.

-2 *Only Protects One Location (or Two Locations)*: This is a Limitation for Defense Powers in campaigns using the Hit Locations chart. The builder of the power defines which one location is protected, or which two are protected. Each location covered must be one of the number locations on the Hit Locations chart; a character cannot say "This armor covers two of my locations, Head and Shoulders" because Head is already three locations (3-5) and Shoulders is another (9), making



that a total of four locations. This Limitation roughly corresponds to an 8- Activation Roll.

varies *Must Be Aimed At Specific Location Or Has No Effect*: This Limitation on any Attack Power means the power does not work if it strikes the wrong location. This Limitation only applies in campaigns using the Hit Locations chart. The value for the Limitation depends on how hard the location usually is to hit. If the Hit Location modifier is usually a -1 to a -3, there is no Limitation. If it is usually a -4 to a -5, there is a -¼ Limitation. If it is usually a -6 to a -7, there is a -½ Limitation. If it is usually -8 or worse, there is a -¾ Limitation. The user of this power can increase his chance to hit by striking from ambush, which usually reduces the Hit Location penalties for aiming at specific hit locations.

-¼ *Must Follow A Successful Grab Maneuver*: This Limitation for any Attack Power means the character cannot use the power unless he has Grabbed his target. If the target is not in his grasp, he cannot use the power.

-¼ *Half Value Versus Guns*: This Limitation to Resistant Defense Powers means bullets and other super-high-speed projectile attacks have an automatic *Armor Piercing* Advantage against this type of armor. (If the bullet is already Armor Piercing, then only one-fourth of the defense is applied to the weapon damage.)

MODERN WEAPONS

Chapter Three

FIREARMS

Creating any type of gun using the *HERO System* rules is a fairly simple matter. After you establish the basics using the *Ranged Killing Attack* Power and certain Limitations, you can add other Power Modifiers and capabilities with specialized ammunition, gun attachments, and gun modifications.

This book doesn't discuss most aspects of gun and bullet design — types of actions, rimfire versus centerfire cartridges, blowback versus recoil operation, and so forth — because that information has no bearing on game play or on gun design using the *HERO System* rules. Readers who are interested in learning more about real-world gunsmithing and firearms technology should consult reference materials, including some of the books listed in the Bibliography.

FIREARMS BASICS

In the *HERO System,* most firearms are built with the following Limitations:

■ Focus: Firearms are OAFs. They're Universal Foci (anyone can use them) unless they have personalization features (page 101).

■ STR Minimum: Guns have STR Minima. The Limitation must include the *STR Minimum Cannot Add/Subtract Damage* (additional -½) modifier — the STR Minimum indicates the STR needed to hold, properly aim, and fire the weapon.

■ Beam: Bullets can't be Spread, and only make relatively small "punctures" in barriers such as walls and doors.

■ Real Weapon: See below for more information.

■ Charges: Guns fire bullets, which you represent with Charges. Characters don't necessarily have to wait a day to get back the Charges for (*i.e.,* reload) a firearm — they can reload if they have access to more ammunition (such as by going to their heaquarters or the local gun store and picking up another box of bullets).

ADDITIONAL MODIFIERS

Long arms such as rifles and shotguns have the *Two-Handed Weapon* (-½) Limitation. If the campaign uses the Knockback rules, guns should also have the *No Knockback* (-¼) Limitation.

Weapons capable of automatic fire, such as submachine guns and assault rifles, have the *Autofire* Advantage. Usually they take it at the +½ level, meaning they can fire up to five shots with a single squeeze of the trigger.

FIREARMS AND "REALISM"

Few subjects in gaming cause as much debate and discussion as how to "correctly" or "realistically" simulate firearms and other weapons in the game. Gamers with an interest in the subject argue endlessly about bullet caliber, muzzle velocity, the relationship of barrel length to accuracy, which rounds have the greatest "stopping power," and a thousand other topics — and how they all relate to, or "should" work within, a given game system.

As if this mixture of highly technical and potentially complex topics weren't enough, gun experts (be they gamers or not) often don't agree on particular facts regarding the use and effects of firearms. People who carry guns every day in their jobs, and whose lives often depend on them, argue vociferously and endlessly about these exact same subjects... and often reach very different conclusions. In the process they keep an entire publishing industry of gun magazines and books alive and active.

All of this discussion and debate can be both fascinating and informative, but it's not appropriate for this genre book, for several reasons. First, this is a gaming supplement, not a technical manual on firearms. There's a limit to how much information a roleplaying game book can and should provide on subjects such as this. Second, and perhaps more importantly, the *HERO System* is about *dramatic realism,* not true "realism" (whatever that might be). The only thing that adhering to some elaborate set of ballistics data is likely to accomplish is diminishing gamers' enjoyment of the game. While many games have to at least nod in the direction of "realism" to maintain verisimilitude, ultimately they focus on the dramatic realism of action movies, comic books, and spy novels, not the absolute realities (whatever they are) of modern-day combat.

The information in this chapter is based on extensive research, but where necessary decisions have been made in the interest of enjoyable game play, not "realism." The text sometimes includes information about more "realistic" or "cinematic" options and alternatives, but the goal of this chapter is not to offer a précis of ongoing debates about the performance of firearms and related technologies — it's to provide fun, easily-used source material for your campaigns. Readers whose opinions about these topics differ from what's presented in this book are welcome to revise the information in this chapter to suit themselves.

See below under *Shotgun Ammunition* for more information about shotguns and how they're built in *HERO System* terms.

REAL WEAPON

As noted on page 480 of the *HERO System 5th Edition, Revised* rulebook, the *Real Weapon* Limitation signifies that a gun functions "realistically" — if it's not cleaned or maintained, it won't work

properly. In game terms, this usually means the weapon becomes subject to the Optional Firearms Malfunction rules on page 484 of the rulebook. Some possible occurrences that may cause the GM to invoke the Malfunction rules include:

■ the gun becomes wet (if it's not designed to resist this; see *Watertight,* page 102)

■ the gun becomes dirty (*e.g.,* the character drops it in mud or sand)

■ the character uses the gun for a day without cleaning it

If one of these circumstances occurs, the GM imposes a temporary Activation Roll on the gun. Typically the Activation Roll starts at 15-, but the GM can set it lower if he feels that's appropriate to represent the circumstances. Whenever the character fires the gun after that, the GM rolls the Activation Roll. If the roll ever fails, the gun experiences a Malfunction. For every day that passes without the character taking the time to thoroughly clean his gun (which requires proper equipment and at least 20 Minutes, if not longer), the GM lowers the Activation Roll by 1. The GM can also lower the roll for any other appropriate reason (such as if the character drops his gun in the mud multiple times, or gets it dirty after having not cleaned it for a while).

At the GM's option, a character can increase the value of the *Real Weapon* Limitation if a gun has a lower starting Activation Roll. For each step up the Activation Roll Table (14-, 12-, 11-, and so on), increase the value of Real Weapon by an additional ¼ Limitation. Of course, the GM should only allow this if there's a significant chance that it actually restricts the use of the gun. Gun-toting urban vigilantes typically have lots of opportunities to clean their guns, so the GM might not allow them to take this expanded Limitation. On the other hand, soldiers who spend weeks in the field might have trouble keeping their firearms clean, and therefore get to take it.

MODIFIERS TO OCV AND THE RANGE MODIFIER

Some firearms have bonuses to the user's OCV, either overall or just to counteract the Range Modifier. This represents guns that are inherently more accurate or easy to aim than average, which are designed for long-distance shooting, or the like. On the other hand, some guns suffer an OCV penalty or an increased Range Modifier; these firearms are not as well made, have features that make them difficult to use, and so forth.

An OCV bonus for a firearm is bought as a 5-point Combat Skill Level with the *Focus, Required Hands,* and *Real Weapon* Limitations.

A Range Modifier (RMod) bonus for a firearm is bought as a 3-point Penalty Skill Level versus the Range Modifier with the *Focus, Required Hands,* and *Real Weapon* Limitations. An RMod bonus never raises a character's base OCV, it can only negate Range Modifier penalties.

An OCV and/or RMod penalty for a firearm is bought as a minor Side Effect (automatically occurs; -½) for the weapon. (This same value applies until the total penalties on a weapon reach the 30 Active Point level [calculate the cost using negative Combat Skill Levels and Penalty Skill Levels] — something that's highly unlikely to ever occur.)

In most cases, OCV and RMod modifiers for a gun shouldn't exceed +/-2 in either category (and in fact most guns don't have more than +/-1). The GM has the final say on what combat modifiers are appropriate for a gun.

AMMUNITION

The most important factor for determining how much damage a firearm can do, and how to represent its effects in *HERO System* terms, is the type of ammunition it fires.

Standard Firearms Ammunition

Standard firearms fire bullets — lead projectiles contained in a casing (usually made of brass or steel) that also holds an explosive propellant. When a shooter pulls the trigger, the trigger draws back the hammer of the gun and then pulls it forward. When the hammer causes the firing pin to strike the primer in the back of the bullet case, it ignites the propellant, which propels the lead projectile down the barrel and toward the target at tremendous velocity. In an automatic or semi-automatic firearm, the force of the shot is then channeled to eject the empty bullet casing and insert a new round into the chamber; in a revolver, the empty casing remains in the cylinder until the cylinder's emptied by hand.

In game terms, the amount of damage done by a bullet depends first and foremost on the bullet's size (defined primarily by *caliber,* or roughly speaking the bullet's "width," and the bullet's length). The Standard Ammunition Damage Table on page 64 lists the damage for various calibers of bullets (some expressed in traditional English measurements, some in metric, and some in both).

AMMUNITION TYPES

Here are descriptions of the many types of ammunition available to characters. For information on the cost of these rounds, by caliber (and accounting for Charges and other factors), refer to the Firearms Cost/Upgrade Tables, pages 76-93.

Standard

Standard ammunition, also known as "ball" ammunition, is the default type of ammunition used in guns in *HERO System* terms. It's the common plain lead projectile described above, and does the amount of damage indicated in the Standard Ammunition Damage Table.

In game terms, Standard rounds do straightforward RKA damage — the larger the caliber, the more damage. Large calibers also have +1 Increased STUN Multiplier (this applies to all other rounds, unless their descriptions indicate otherwise).

FIREARMS AS MULTIPOWERS

Technically speaking, it would be more "accurate" in game terms to buy firearms as Multipowers, with one slot for each type of ammunition the firearm could fire and a Limitation on the reserve reflecting the fact that the slots available at any given time are restricted by the type of rounds loaded in the gun. (Another possibility would be giving all guns the *Variable Advantage* Advantage.) However, that's also cumbersome in game terms, and usually pointless. The approach taken by this book is to buy firearms as shooting Standard ammunition (or Standard Shot, for shotguns). If a character wants to shoot some other type of ammunition, he may do so regardless of the fact that he hasn't "paid for it" with the firearm as constructed. If you want to know the Character Point cost of having clips of different types of ammunition for the same gun, use the Firearms Cost/Upgrade Table on pages 76-93.

STANDARD AMMUNITION DAMAGE TABLE

CALIBER, ENGLISH	CALIBER, METRIC	BASIC DAMAGE	
.177		½d6	
	4.6x30mm	2d6	
	4.73x33mm Caseless	2d6	
	4.85mm	1½d6	
.22	5.56x29mm	1d6-1	
	5mm	2d6	
.22 LR	5.7x17mm R, 5.7x28mm	1d6	
.221		1½d6	
.223 Remington	5.56x45mm N, 5.45x39mm R	2d6	+1 STUN Modifier
.25 ACP	6.35mm	1d6	
.270	6.8x43mm	2d6	
.30	7.62x25mm R, 7.62x33mm	1d6+1	
.30-06	7.62x63mm	2d6+1	+1 STUN Modifier
.308 Winchester	7.62x51mm N, 7.62x54mm R	2d6+1	+1 STUN Modifier
.300 Winchester Magnum, .300 Remington SAUM	7.62x66mm	2½d6	+1 STUN Modifier
.310	7.62x39mm R, 7.62x36mm	2d6	+1 STUN Modifier
.32 ACP, .32 S&W	7.65x17mm	1d6	
.303 British	7.7x58mm	2½d6	+1 STUN Modifier
	7.92x57mm	2½d6	+1 STUN Modifier
.350		1½d6	
.357 Magnum, .350 Magnum	9x33mm R	1½d6	
.38, .380 Automatic	9x17mm, 9x29mm R	1d6	
	9x19mm N P (Luger), 9x18mmR	1d6+1	
.40	10.11x21.6mm	1d6+1	
.41 Magnum, .41 Action Express	10.41x32.76mm, 10.41x22mm, 10x25mm	1½d6	
.44 Magnum	10.97x33mm R	2d6	+1 STUN Modifier
	11mm	2d6-1	+1 STUN Modifier
.45 ACP, .458	11.43x23mm, 11.56x33mm	2d6-1	+1 STUN Modifier
.45 Winchester Magnum		2d6	+1 STUN Modifier
.454 Casull, .475 Linebaugh		2d6+1	+1 STUN Modifier
.50 Action Express	12.7x32.64mm	2d6+1	+1 STUN Modifier
.50 Browning	12.7x99mm, 12.7x107mm R	3d6	+1 STUN Modifier
	13x64mm		
	14.5x114mm	3d6+1	+1 STUN Modifier
.60	15.2mm	3½d6	+1 STUN Modifier
*	20x80mm, 20x99mm, 20x128mm	4d6	+1 STUN Modifier
*	25x184mm	4d6+1	+1 STUN Modifier
*	30x113mm, 30x170mm	4½d6	+1 STUN Modifier
*	35x228mm	5d6	+1 STUN Modifier
*	40mm	5d6+1	+1 STUN Modifier
*	45mm	5½d6	+1 STUN Modifier
*	50x330mm	6d6	+1 STUN Modifier
*	57mm	6d6+1	+1 STUN Modifier
*	60mm, 66mm, 67mm	6½d6	+1 STUN Modifier
*	76mm	7d6	+1 STUN Modifier
*	83mm, 85mm, 88mm, 90mm	7d6+1	+1 STUN Modifier
*	105mm	7½d6	+1 STUN Modifier
*	120mm	8d6	+1 STUN Modifier
*	127mm	8d6+1	+1 STUN Modifier
*	140mm, 155mm	9d6	+1 STUN Modifier

KEY

ACP: Automatic Colt Pistol
LR: Long Rifle
N: NATO
R: Russian
P: Parabellum
SAUM: Short Action Ultra Magnum
S&W: Smith & Wesson
*: Cannon rounds and larger ammunition; generally cannot be fired from small arms

AET

AET (accelerated energy transfer) bullets are high-tech rounds designed to dump as much of their energy into their target as quickly as possible. Standard AET rounds expand very quickly, similar to Hollow Points, but this in turn makes it difficult for them to penetrate armor or barriers. An example of an AET round is the Equalloy, a British bullet made of an aluminum alloy with a nylon coating. The Equalloy, which is about twice as long as a standard round and is intended primarily for use in revolvers, achieves high velocities but still expands very quickly when it hits a target and remains in the target's body.

In game terms, AET rounds do a little extra damage (from +1 point to +1 DC, depending on caliber) and have the Limitations *Reduced Penetration* (-¼) and *Cannot Be Bounced* (-¼).

AET Composite

AET Composite rounds were designed to overcome the penetration problems of the basic AET round. Typically they have a steel pin or other substance pressed into the center of the hollow in the bullet to allow for better penetration without affecting the wounding capabilities of the round. An example of an AET Composite round is the Geco BAT, a hollow copper alloy bullet with a plastic core and cap. The plastic parts fall away from the bullet after it is fired, leaving a "hollow" bullet to chew large wound channels through flesh without losing penetration capability. (The Geco is also designed to tumble, and may be bought as a Tumbler round (*q.v.*) intead if the character prefers.)

In game terms, AET Composite rounds do a little extra damage (from +1 point to +1 DC, depending on caliber) and have the Limitation *Cannot Be Bounced* (-¼).

Armor Piercing

Armor Piercing ("AP") bullets are designed to penetrate armor more easily than conventional rounds. The downside to this is that they travel through targets easily, imparting less energy to them (thus possibly causing less damage); this also means they're more likely to pass through a target and cause collateral damage.

AP rounds are usually built with a hard core or tip and softer jacket. Modern AP bullets often have steel tips or cores, and are coated with Teflon so the hard metal can travel down the barrel with no loss of energy (or damage to the gun) and thus achieve high velocities.

In game terms, AP rounds do slightly less damage than Standard bullets (-1 point or -1 DC, depending on caliber) and have the *Armor Piercing* Advantage. See the variant AP, Improved AP, and Semi-AP rounds listed below for similar types of bullets.

Armor Piercing Depleted Uranium

Armor Piercing Depleted Uranium (APDU) are made with depleted (non-radioactive) uranium instead of other heavy metals. They resemble APHC (see below) in most ways, with one difference: when they penetrate metal armor (such as on tanks and some automobiles), they strike sparks, and thus can start a fire.

FIREARMS OF THE FUTURE

The material in this chapter focuses on the modern day — the late twentieth and early twenty-first centuries. However, some campaigns and characters might involve the more advanced firearms of the near future. Some possible developments for future personal firearms include:

Liquid Propellants: Instead of using powder in a bullet casing, guns will mix two inert chemicals in the barrel behind the bullet. When mixed, the two chemicals become a powerful propellant. This system allows for larger bullets fired at a higher, and also steadier-increasing, pressure, resulting in greater damage to the target.

Electrothermal-Chemical Propellant: "ETC" propellant systems use electricity to enhance the energy from chemical propellants. The electricity creates a high-density plasma that ignites the propellant in a way that controls the release of the chemical energy so the bullet accelerates all the way down the barrel (not just in the firing chamber). That means the bullet flies faster and strikes harder (and thus inflicts greater wounds).

Rail Guns: Instead of chemical and/or electrical energy, a gun could use magnetic energy to propel a steel bullet. Assuming a sufficiently robust power source, this could result in personal arms with extremely high muzzle velocities (and thus damage potential), virtually no recoil or noise, and a high rate of fire. Also known as "gauss guns" or "electromagnetic propellant guns."

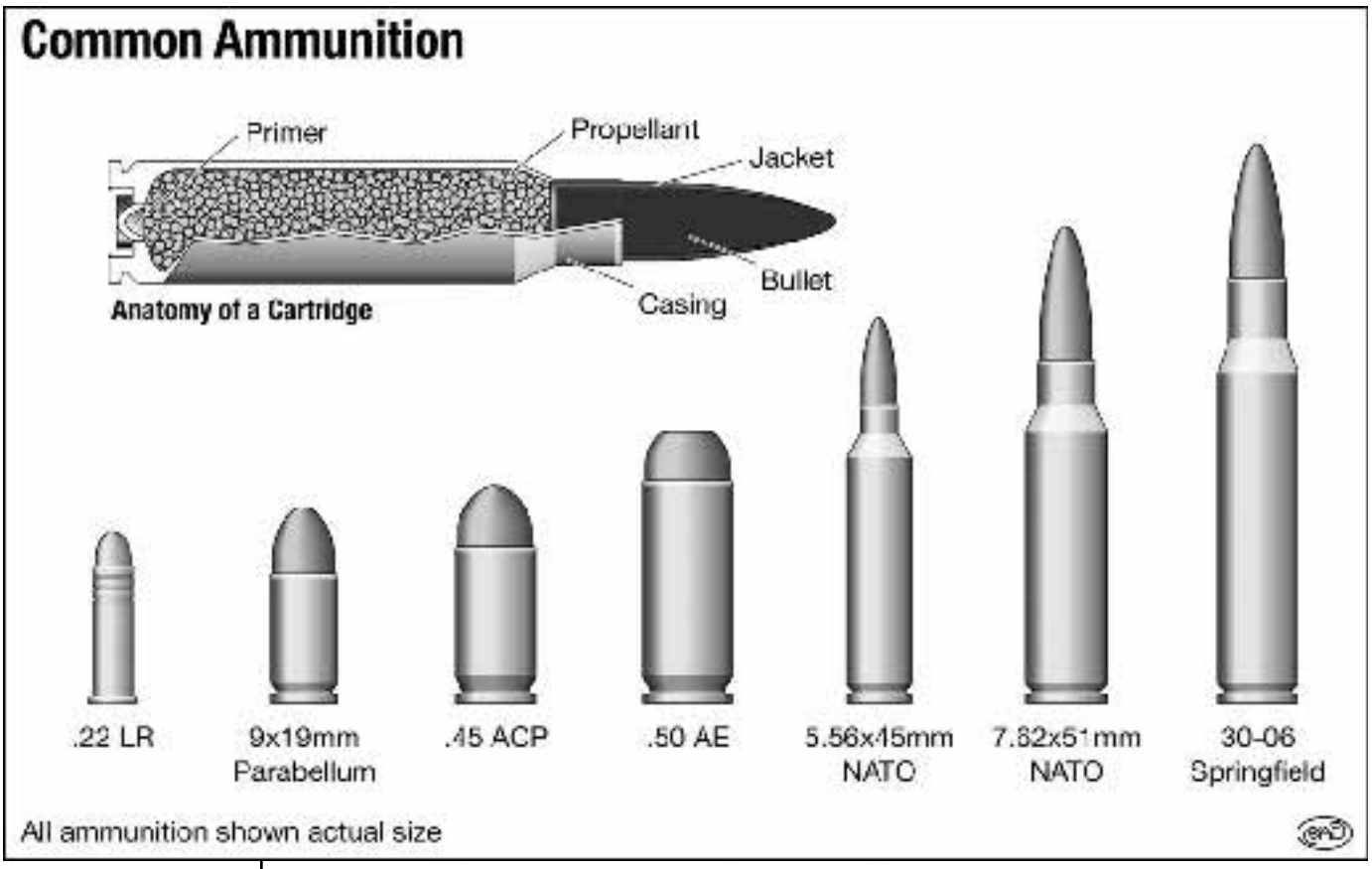
Both the United States and Russia have manufactured APDU rounds for small arms, but have not introduced them for general service. Characters probably need high-level military Contacts, similar resources, or the ability and materials to manufacture their own if they want to use APDU ammo.

In game terms, APDU rounds do slightly less damage than Standard bullets (-1 point or -1 DC, depending on caliber), but have the *Armor Piercing* Advantage and 1 point of Piercing (Resistant Defenses). (If the GM does not use the *Piercing* rule [*Dark Champions,* page 96], treat APHC ammunition as if it were ordinary AP ammo.) Additionally, they're bought with the following additional ability:

RKA 1 point, Continuous (+1), Reduced Endurance (0 END to enable Uncontrolled effect; +½), Sticky (only affects flammables; +¼), Uncontrolled (effect ends when it runs out of fuel or oxygen, or someone extinguishes the flames; +½) (16 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Activation Roll 13- (-¾), Linked (-½), Only If APDU's RKA Does BODY Through Metal Armor (-1), Real Weapon (-¼), other Limitations vary based on firearm. Total cost: varies.

Armor Piercing Explosive

Armor Piercing Explosive (APEX) bullets combine armor piercing features with a small explosive charge, creating a round that penetrates armor well and then causes tremendous damage to the target. Realistically, they're available only in calibers of 10mm and larger (since smaller rounds can't pack enough explosive to matter), but in many campaigns it's possible to make any size round APEX.



In game terms, APEX rounds do slightly more damage than Standard bullets (from +1 point to +1 DC, depending on caliber) and have the *Armor Piercing* Advantage and the Limitation *Cannot Be Bounced* (-¼).

Armor Piercing Hardcore

Armor Piercing Hardcore (APHC) rounds are basically the same as AP rounds, but use tungsten (or other heavy metals) as their cores. In game terms, they do slightly less damage than Standard bullets (-1 point or -1 DC, depending on caliber), but have the *Armor Piercing* Advantage and 1 point of Piercing (Resistant). (If the GM does not use the *Piercing* rule [*Dark Champions,* page 96], treat APHC ammunition as if it were ordinary AP ammo.)

Armor Piercing Hardcore Explosive

Armor Piercing Hardcore Explosive (APHEX) bullets combine the features of APEX and APHC rounds. Realistically, they're available only in calibers of 10mm and larger (since smaller rounds can't pack enough explosive to matter), but in many campaigns it's possible to make any size round APHEX.

In game terms, APHEX rounds do slightly more damage than Standard bullets (from +1 point to +1 DC, depending on caliber), have 1 point of Piercing (Resistant), and have the *Armor Piercing* Advantage.

Armor Piercing Incendiary

Armor Piercing Incendiary (API) bullets are AP rounds with an incendiary charge. In game terms, they combine the features of AP rounds (slightly less damage and the *Armor Piercing* Advantage) with those of Incendiary rounds (firestarting).

Armor Piercing Saboted

As mentioned under AP rounds, the harder metal with which AP bullets are made can cause damage to gun barrels (which would also slow the bullet down and decrease its damage). Teflon coating overcomes this problem; so does putting the AP round in a sabot — a plastic container that falls apart as it exits the gun barrel. This means the round is a little smaller than other AP rounds of the same caliber (since the projectile has to be small enough to fit into the sabot), but the round's increased velocity makes it do just as much damage to the target. The projectile itself won't bear any rifling marks, making it impossible to match to the barrel forensically.

Because of the sabot, APS rounds can't be used in combat aircraft (the bits of plastic pose many hazards). The U.S. Army refers to APS rounds as SLAP (Saboted Light Armor Piercing).

In game terms, APS rounds are like normal AP rounds, but also have the Advantage *Invisible Power Effects* (no rifling marks on bullet; +¼).

Cased Telescoped (CTA)

Cased Telescoped Ammunition, or CTA, rounds don't have conventional casings. Instead, the bullet is "telescoped" down into a cylindrical case. The case allows for a slightly larger bullet and a powerful propellant, resulting in a bullet that does more damage than others of the same caliber. The shape of round also makes it less likely to jam or cause similar problems. Depending on the casing, a

CTA round may weigh as much as 30% less than a Standard round. However, because CTA rounds are slightly larger, a clip can't hold as many of them as it can of Standard rounds of the same caliber (and revolvers typically can't use them at all).

In game terms, CTA rounds do a little extra damage (from +1 point to +1 DC, depending on caliber). If subjected to the Optional Firearms Malfunction rules, CTA rounds have an Activation Roll 1 point higher than normal, to a maximum of 18- (for example, if a gun would normally have a Malfunction on a 13-, with CTA rounds it Malfunctions on a 14-). If characters keep track of the weight of their gear right down to bullets, CTA rounds weigh 70% of Standard rounds. However, characters must reduce the number of Charges of CTA they can fit into a magazine by 20% (round in the character's favor, but a minimum of -1 Charge).

Caseless

A Caseless round does not have a metal jacket. Instead, its "case" is a block of propellant. This allows for a high rate of fire (since there are no shell casings to be ejected) and decreased chance of malfunction, and reduces the weight of the loaded weapon. As a side benefit for many vigilantes and criminals, the lack of case eliminates the possibility of shell casings being used as evidence.

In game terms, Caseless rounds do the same damage as Standard bullets and are bought as the Advantage *Invisible Power Effects* (no shell casings as evidence; +¼). They weigh about 30% less than Standard rounds. If subjected to the Optional Firearms Malfunction rules, Caseless rounds have an Activation Roll 2 points higher than normal, to a maximum of 18- (for example, if a gun would normally have a Malfunction on a 13-, with Caseless rounds it Malfunctions on a 15-).

Duplex

A Duplex bullet looks like a single bullet but contains two smaller, lighter projectiles in one casing. The two rounds separate in flight. (Some Triplex bullets, with three projectiles, have also been made.)

In game terms, a Duplex (or Triplex) bullet does slightly increased damage (from +1 point to +1 DC, depending on caliber) and has the *Reduced Penetration* (-¼) Limitation.

Electric

Electric rounds (still experimental as of mid-2004) are designed to incapacitate rather than kill. They have a disk of piezoelectric material that releases a 50,000-volt electrical charge on contact — enough to stop nearly anyone.

Electric rounds can be Standard or Rubber. In game terms, the Electric bullet is an NND attack Linked to the RKA or Energy Blast of the bullet:

For firearms whose base attack is less than 80 Active Points: Energy Blast 8d6, NND (defense is insulated rED; +1) (80 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Beam (-¼), Linked (-½), Real Weapon (-¼), other Limitations vary based on firearm. Total cost: varies.

For firearms whose base attack is greater than than 80 Active Points: Energy Blast 8d6, NND (defense is insulated rED; +1) (80 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Beam (-¼), Linked (-½), Real Weapon (-¼), other Limitations vary based on firearm. Total cost: varies.

Explosive

Explosive bullets come in two types, each with the same effect in game terms. The first, more properly referred to as a "liquid-filled" bullet, has a hollow tip containing mercury, oil, grease, wax, or some other liquid or semi-liquid substance. Firing the bullet compresses the liquid to the back of the hollow. Upon impact, the substance vaporizes and "explodes" outward, causing large wounds. The other type actually contains an explosive substance, such as lead azide, which explodes upon impact (though it may fail to explode; an explosion is more likely if the bullet impacts bone).

In game terms, Explosive bullets do extra damage (from +1 point to +1 DC, depending on caliber). (For greater "realism," buy the +1 DC separately with an Activation Roll 11-.)

Fiberglass/Plastic

Fiberglass/Plastic bullets do the same damage as normal lead bullets. However, they're much harder to detect on an x-ray or during an autopsy.

In game terms, Fiberglass/Plastic rounds are like Standard rounds, but also have the Advantage *Invisible Power Effects* (hide cause of death, imposes a -3 penalty to Forensic Medicine or PS: Read X-Rays rolls; +¼).

Flechette

Flechettes are small metal darts. While they're most often used in specialized shotgun shells (see below) or grenades, some bullets containing a single flechette have been manufactured. Typically they're fired in sabots which peel away after firing. Because of its light weight, a flechette can travel much further than ordinary bullets. Because of its shape, it pierces armor with ease (and after impact it often bends like a fishhook, causing the fins to hit the target and inflict another wound). Additionally, Flechettes can easily be Poisoned (see below).

In game terms, Flechettes do a little extra damage (from +1 point to +1 DC, depending on caliber) and have the Advantages *Armor Piercing* (+½), *Invisible Power Effects* (no rifling marks on projectiles; +¼), and *Increased Maximum Range* (x2 normal range; +¼).

Frangible

Frangible bullets are bullets that either (a) contain multiple projectiles which are released upon impact, or (b) fragment upon impact with the target. Either variety causes tremendous damage to the target. However, because they "break" upon impact this way, Frangible bullets can easily be deflected by glass, windshields, wallboard, and many other substances. This makes them popular with some law enforcement units because of the low possibility of collateral damage from ricochets.

Examples of Frangible bullets include: the Glaser Blue Safety Slug (containing 300-500 pellets of No. 12 birdshot); the MagSafe SWAT round; Razor-Ammo (a bullet using both a fragmenting space-age polymer and No. 4 birdshot pellets); the Spartan (which is composed of polymer and lead dust molded into the shape of a bullet); and the Thunderzap (a plastic frangible round). The Beehive/Core-Shot bullet is a slightly less effective Frangible round (subtract 1 DC).

Frangible bullet statistics can also be used for some flechette-based pistol rounds, such as bullets which contain multiple semi-stabilized flechettes that are released from the bullet at the point of impact.

In game terms, Frangible bullets do extra damage (typically +2 DCs), but take several Limitations: Cannot Be Bounced (-¼), Reduced Penetration (-¼), and No Effect Through Barriers (-¼).

Gyrojet

Gyrojet rounds are essentially miniature rockets: they contain a load of fuel that propels the bullet once ignited. However, a character needs a special gun to fire Gyrojets; they can't be used in standard firearms. The gun ignites the bullet and then recocks itself as the bullet leaves the chamber. The entire bullet leaves the gun; there's no case to be ejected. Gyrojets travel further than standard bullets, and stabilize firing due to the lack of recoil. Because they're self-contained, they can be fired underwater.

In game terms, Gyrojet rounds do standard damage, but have the Advantages *Invisible Power Effects* (no shell casings as evidence; +¼) and *Increased Maximum Range* (x2 normal range; +¼). If subjected to the Optional Firearms Malfunction rules, Gyrojet rounds have an Activation Roll 2 points higher than normal, to a maximum of 18- (for example, if a gun would normally have a Malfunction on a 13-, with Gyrojet rounds it Malfunctions on a 15-). If the GM uses the optional Recoil rules (*Dark Champions,* page 194), Gyrojet guns do not suffer any Recoil penalties for taking multiple shots.

Hollow Point

Hollow Point ("HP" or Dum Dum) bullets have the tip of the metal jacket cut away, exposing the lead core beneath. This causes the bullet to "mushroom," or expand quickly, when it hits the target, creating large wounds. The lead core inside may be shaped or notched so as to improve the bullet's expansion. Examples of Hollow Points include the Winchester Silvertip, Federal Hydra-Shok, the Starfire, the Remington Golden Saber, and the CCI-Speer Gold Dot.

An interesting variation on the standard HP is a bullet in which the jacket is also used to injure the target. With these bullets, such as the Winchester Black Talon, the jacket of the Hollow Point bullet is designed to peel back into sharp edges which cut flesh as the bullet expands. In game terms, these typically function the same as standard HP rounds, but the GM may add +1 pip of damage if desired.

Characters can make crude HP rounds by cutting notches in the noses of ordinary bullets. These bullets gain +1 pip of damage (at most) instead of the +1 DC most HPs get.

In game terms, HP rounds do a little extra damage (from +1 point to +1 DC, depending on caliber) and have a +1 Increased STUN Multiplier (in addition to any from caliber).

Hybrid Frangible/Hollow Point

Hybrid Frangible/Hollow Point bullets combine the best features of the HP and Penetrating Frangible rounds. As the bullet expands, it breaks apart into deadly fragments, inflicting terrible wounds. Examples include the Triton Quik-Shok (which breaks apart into three large fragments) and the Omega Star (which contains a solid rear core, and a front core composed of Nos. 2 and 4 birdshot).

In game terms, Hybrid Frangible/HP rounds do extra damage (as much as +2 DCs) and have the Advantages *Penetrating* (+½) and *+1 Increased STUN Multiplier* (+¼) (in addition to any from caliber) and the Limitation *Cannot Be Bounced* (-¼).

Improved Armor Piercing

Improved Armor Piercing rounds have even greater armor-penetrating effect than normal AP rounds, but this causes them to impart even less energy to their target and hence do less damage as well.

In game terms, Improved AP rounds do less damage than Standard bullets (as much as -2 DCs, depending on caliber) and have the *Armor Piercing* (x2; +1) Advantage.

Incendiary

Incendiary rounds contain a small incendiary charge which ignites upon impact. Any flammable materials struck by the bullet are set on fire. A living victim may take fire damage in the Segment after being shot (and nothing more after that), or he may take no additional damage at all (the GM decides). Flammable objects the victim wears or carries may catch fire, causing him to take further damage in later Segments.

In game terms, Incendiary bullets do the same damage as Standard rounds, but have the following additional effect:

RKA 1 point, Continuous (+1), Reduced Endurance (0 END to enable Uncontrolled effect; +½), Sticky (only affects flammables; +¼), Uncontrolled (effect ends when it runs out of fuel or oxygen, or someone extinguishes the flames; +½) (16 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Activation Roll 13- (-¾), Linked (-½), Real Weapon (-¼), other Limitations vary based on firearm. Total cost: varies.

Penetrating Frangible

Penetrating Frangible bullets are designed to overcome the Frangible bullet's inability to shoot through barriers. They penetrate further into the target before releasing their load or fragmenting. Examples of Penetrating Frangible rounds include: the Glaser Silver Safety Slug (containing No. 6 birdshot); the LeMas Ltd. "Blended Metal Technology" bullet (which supposedly penetrate hard materials like armor easily, but fragment rapidly and very destructively when they hit soft materials like flesh or drywall); and the MagSafe Defender and MAX rounds (containing No. 2, 3, or 4 birdshot embedded in epoxy).

In game terms, Penetrating Frangible bullets do extra damage (typically +2 DCs) and have the Advantage *Penetrating* (+½). They do not take the three Limitations imposed upon standard Frangible rounds.

Reversed Ogive

Reversed Ogive bullets (also called THV ammunition) have a special concave cutting edge. This not only allows the bullet to achieve very high velocities, it imparts an armor-piercing effect *and* allows the bullet to transfer more of its energy to the target via increased hydrostatic shock.

In game terms, Reversed Ogive bullets bullets do +2 DCs damage and have the Advantages *Armor Piercing* (+½) and *+1 Increased STUN Multiplier* (+¼) (in addition to any from caliber).

Rubber

Rubber bullets are non-lethal rounds intended for use against rioters, prisoners, and other targets the shooter wishes to disable but not kill. However, note that the term "non-lethal" does not mean harmless — Rubber bullets can break bones and cause other serious injuries, depending on where they hit.

In game terms, Rubber bullets do Normal Damage instead of Killing Damage, in DCs equivalent to the RKA for their caliber.

Semi-Armor Piercing

A Semi-AP round is better than Standard ammunition, but worse than true AP rounds, when it comes to penetrating armor. Typically they have a steel insert, or a specially-shaped nose, to achieve the semi-AP effect.

In game terms, Semi-AP rounds do the same damage as Standard rounds and have the *Semi-Armor Piercing* (+¼) Advantage (see *Dark Champions,* page 97).

Silent

These unusual bullets have an internal piston that traps the expanding gases from the exploding propellant and propels the bullet. As a result, noise, muzzle flash, and smoke are all considerably reduced, making it much more difficult than normal to perceive the shooter.

In game terms, Silent bullets do the same damage as Standard, but have the following additional power:

> *Change Environment 1" radius, -3 to Hearing Group PER Rolls and -1 to Sight Group PER Rolls to perceive, Multiple Combat Effects (19 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Linked (-½), No Range (-½), Real Weapon (-¼), Self Only (-½), other Limitations vary based on firearm. Total cost: varies.*

FICTIONAL BULLETS

Don't feel that you have to limit yourself to real-world forms of ammunition if your campaign welcomes a touch of the fantastic. Some fictional bullets that might be appropriate for some games include:

Anti-Vampire Bullets, which are like liquid-filled Explosive bullets, except that the liquid is holy water or garlic juice. The holy water version's also good for use against demons and similar entities that can't stand the touch of holy things.

Blessed Bullets, bullets specially blessed by a priest so that they have "holy" properties.

Silver Bullets, just the thing for taking down werewolves or pretending to be the Lone Ranger.

Tranq Bullets, high-tech tranquilizer darts in a sabot so they can be fired from a regular firearm. They could contain poison, various drugs, or the like instead of knockout juice.

Wooden Bullets, whose projectiles are made from hardened wood instead of lead so that they affect vampires just as if they were wooden stakes... provided the character shoots the vampire through the heart, of course.

Spent Uranium

Spent Uranium bullets are made from depleted (non-radioactive) uranium, which is heavier than lead. As such, the same amount of powder that would be used with a lead bullet makes an SU bullet move more slowly — but it has greater momentum, meaning better armor penetration and more energy transference when it hits the target.

In game terms, Spent Uranium rounds do the same damage as Standard bullets, but have the Advantages *Armor Piercing* (+½) and *+1 Increased STUN Multiplier* (+¼) (in addition to any from caliber).

Tumbler

Unlike other bullets, which are designed to spin along their long axis and hence fly straight, Tumbler bullets tumble end-over-end towards the target. This makes the round tear into the target and ricochet around inside him, causing grievous internal wounds.

The "tumbling" effect is most easily achieved with high-velocity Standard rounds (*i.e.,* rifle rounds, not handgun rounds), and is created by decreasing the barrel-twist rate (to, *e.g.,* 1-in-14, meaning one twist to 14 inches of barrel). This is a function of gun design, not ammunition design; Tumbler is listed here because it involves changing the flight of the bullet and requires a choice of ammunition.

One drawback to Tumbler rounds is that they're less accurate than normal bullets, particularly in cold weather (-1 OCV). This is a -0 Side Effect.

In game terms, the Tumbler does the same damage as Standard bullets, but with the "Tumbler effect" added in:

> *RKA +1d6 (15 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Activation Roll 11- (-1), Does Not Work If Bullet Is Bounced (-0), Only Applies If Bullet's Ordinary Damage Does BODY Damage (-½), Real Weapon (-¼), Side Effects (-1 OCV in cold weather, always occurs; -0), other Limitations vary based on firearm. Total cost: varies.*

Of course, the target does not get to apply his defenses to this +1d6, since the initial attack has already penetrated his defenses.

BULLET MODIFICATIONS

There are several ways to modify existing bullets. In some cases these modifications only work with certain types of bullets; others work with all types. The examples given in the Ammunition Summary Table and Firearms Cost/Upgrade Tables assume a Standard round.

Improved Propellant

Improved Propellants rounds are bullets made with improved powders. Improving the powders and propellants makes a bullet travel faster — sometimes as much as 200-300 fps (feet per second) faster.

In game terms, bullets with Improved Propellant add +1 Damage Class of damage to a bullet.

Magnum

Magnum is a trademarked name for certain kinds of bullets which contain more gunpowder, and thus have greater pressure and energy than normal rounds. This causes them to do more damage than an ordinary bullet of the same size. However, this means the weapons which fire them have to be heavier, to contain the force they generate when fired — a magnum gun can fire ordinary bullets, but an ordinary gun cannot fire magnum rounds without risk of an explosion or similar problems (decrease the chances for a Malfunction by 1; for example, if the Activation Roll for a Malfunction were normally 15-, in this case it becomes 14-).

In game terms, some of the ammunition listed on the Standard Ammunition Damage Table is Magnum, and this is reflected in the damage done. Magnum rounds cannot be made +P or +P+.

Match-Grade

A character can increase the accuracy of a particular gun through careful experimentation to determine the optimum round (in terms of projectile and propellant mix) for it. This requires the *Weaponsmith* Skill; characters can't buy Match-Grade ammunition "off the shelf."

In game terms, only Standard rounds and the various forms of Armor Piercing ammunition can be made Match-Grade, which is bought as a +1 OCV bonus for a firearm.

+P And +P+

+P and +P+ rounds are made by increasing the charge and pressure in a bullet while typically making the bullet somewhat smaller than normal. This results in a projectile which flies faster than normal and hits with greater energy. Furthermore, the lighter projectile stops more quickly when it hits its target, thus transferring more of its energy into the target.

In game terms, only Standard and Hollow Point rounds can be made +P or +P+. Either adds +1 point of damage to the gun's RKA. Magnum rounds cannot be made +P or +P+.

Poisoned

Poisoned bullets are simply normal bullets coated with cyanide, arsenic, or some other type of poison. Even the smallest bullet can carry enough of a potent poison to kill someone, and even an otherwise trivial flesh wound is enough to introduce it into the target's system.

Thus, even if they only cause a small wound, the victim can still die. These bullets are purchased by buying an appropriate poison with the Limitation *Bullet Must Do BODY* (-½). For example:

> *Drain CON 4d6, Delayed Return Rate (points return at the rate of 5 per Hour; +1), NND (defense is Life Support [appropriate Immunity]; +½), Ranged (+½) (120 Active Points); 4 Charges (-1), Bullet's RKA Must Do BODY (-½), Extra Time (onset time begins 1 Minute after victim is shot; -1½), Gradual Effect (4 Minutes; 1d6/1 Minute; -½), Linked (to poison's RKA; -½) (total cost: 24 points)* ***plus*** *RKA*

4d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (180 Active Points); No Range (-½), 4 Charges (-1), Bullet's RKA Must Do BODY (-½), Extra Time (onset time begins 1 Minute after victim is shot; -1½), Gradual Effect (4 Minutes; 1d6/1 Minute; -½) (total cost: 36 points). Total cost: 60 points.

Subsonic

Subsonic rounds are designed for use in silenced weapons; they are not, by themselves, silent. They travel slower than the speed of sound, so they do not create the distinctive "crack" typical bullets do when they break the sound barrier. They do approximately 75% of the damage of regular bullets of the same type. The example given in the chart is a Standard bullet; other types of bullets can also be made Subsonic.

In game terms, the typical Subsonic bullet does slightly less damage than a Standard round (-1 point or -1 DC, depending on caliber).

Tracer

Tracer rounds contain chemicals which ignite when the bullet is fired, causing the bullet to glow and "trace" a path to the target, making it easier to correct aim to hit that target. They work best at night or in the dark, but are bright enough for daytime use. Similar to the Tracer is the Observation bullet, which emits a puff of smoke and a flash when it hits.

One drawback to Tracers is that they give away the shooter's position. Two variants correct that problem. The first is *dark ignition tracers,* which don't "light up" until they've traveled a hundred yards or more. The second is *dim tracers,* which glow in infrared and thus are only visible to personnel wearing nightvision goggles or the like.

In game terms, the Tracer effect can be combined with most other bullet types (though not with any type of Frangible round). It's bought as a +1 OCV bonus with the standard Limitations, plus *Cannot Apply To First Shot Against A Target* (-½). This means the shooter can't use the Level for his first shot against a given target, or to any subsequent shots that he takes in Phases after Phases in which he didn't fire at that target (in other words, he has to maintain a continuous "stream" of fire at the chosen target, firing at least once per Phase, to keep using the Level). The shooter only gets +1 OCV no matter how many bullets he fires, not +1 OCV per bullet.

Wadcutter

Wadcutter rounds are regular bullets with flat noses instead of the usual rounded nose. They tend to cut larger holes in the target. However, the flat nose may cause feed problems with automatic or semi-automatic guns (reduce Activation Roll to jam by 1).

In game terms, only Standard, CTA, Caseless, Gyrojet, Incendiary, and Spent Uranium rounds can be Wadcutters; Wadcutter can be combined with Subsonic or Tracer. A Wadcutter round does +1 point of damage. If subjected to the Optional Firearms Malfunction rules, Wadcutter rounds have an Activation Roll 1 point lower than normal (for example, if a gun would normally have a Malfunction on a 13-, with Wadcutter rounds it Malfunctions on a 12-).

Shotgun Ammunition

Shotguns are smoothbore guns — that is, their barrels aren't rifled, so the projectiles they fire don't spin the way bullets do. Instead of bullets, they fire shells. Most shells contain shot — lead pellets. The size of the pellets varies depending on the gauge of the shotgun (the larger the gauge, the smaller the shot). Shot size is ranked from #1 to #9, #1 being the largest. Buckshot, a type of shot which is larger than normal, is ranked from BB to 000. 00 ("double-ought") buckshot in a 12-gauge shell is the most common combat shot round. Other gauges include .410 (actually a caliber measurement), 28, 20, 16, 10, and even 4 for some combat shotguns.

A 12-gauge shotgun loaded with 00 buckshot fires nine pellets, each with about the same energy as a .32 bullet. This blast of multiple projectiles makes the shotgun a devastating combat weapon at close range — the shot inflicts tremendous damage. However, the further one gets from the shotgun, the more the shot spreads (in a roughly circular pattern) and the more energy it loses, making the shotgun a relatively poor weapon at long ranges. By about 40 meters (20") for most shotguns, the pattern has spread so much that the chance of scoring a disabling wound is comparatively slight (especially if the target has cover, wears body armor, or the like).

The spread on shot varies according to barrel length (the shorter the barrel, the faster the spread) and "choke" (the amount of restrictions reducing the barrel's diameter at its end). Some chokes are "shot diverters" that can cause shot to spread in a more rectangular or oval pattern, or "shot spreaders" that create greater spread. Some chokes are adjustable, allowing the user to vary the spread from one pull of the trigger to another. Some types of shot (such as cubic shot) can also affect the spread pattern.

SHOTGUNS IN THE HERO SYSTEM

In *HERO System* terms, a shotgun has most of the standard Limitations described on page 62 for all firearms (OAF, STR Minimum, Real Weapon, and Charges), and also has the Advantage *+1 Increased STUN Multiplier* (+¼) and the Limitation *Two-Handed* (-½). For game purposes, you should design shotguns as being intended to fire shot, though of course they can fire slugs or other rounds if necessary. If a character wants to carry and shoot the other type of ammunition, you can use the Firearms Cost/Upgrade Tables on pages 76-93 to determine the cost.

In addition to the Power Modifiers listed below for shot and slugs, a shotgun may have other Advantages and Limitations, depending on the type of shot or slug used.

SHOTGUN BORES

The method used to determine gauges for shotguns is a traditional system that's centuries old. Basically, "gauge" means the number of lead balls with a diameter equal to the bore of the shotgun needed to make one pound of that size ball. For example, a 10-gauge shotgun has a bore whose size is such that 10 lead balls of that diameter weigh one pound.

For reference purposes, here's the nominal measurement of the bore of barrels of different gauge shotguns.

4 gauge = .905 inch
10 gauge = .775 inch
12 gauge = .729 inch
16 gauge = .662 inch
20 gauge = .615 inch
24 gauge = .580 inch
28 gauge = .550 inch
.410 bore = .410 inch

AMMUNITION SUMMARY TABLE

Ammunition Type	.22	.32 .38	.40 9mm	.357 M .41 M 10mm	.45 ACP 11mm*	.44 M .45 WM*	.223 5.56mmN*	.50 AE 7.62mmN*	Notes
Standard	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	
AET	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	RP, CBB
AET Composite	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	CBB
Armor Piercing	½d6	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	AP
Armor Piercing Depleted Uranium	½d6	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	AP, Piercing 1, firestarting
Armor Piercing Explosive	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	AP
Armor Piercing Hardcore	½d6	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	AP, Piercing 1
Armor Piercing Hardcore Explosive	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	AP, Piercing 1
Armor Piercing Incendiary	½d6	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	AP, firestarting
Armor Piercing Saboted	½d6	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	AP, IPE (no rifling marks)
Cased Telescoped Ammunition	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	Slightly larger than normal
Caseless	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	IPE (no shell casings)
Duplex	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	RP
Electric	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	Linked EB 8d6, NND
Explosive	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	
Fiberglass/Plastic	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	IPE (-3 to Forensic Medicine)
Flechette	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	AP, IPE (no rifling marks), IMR2
Frangible	1d6+1	1½d6	2d6	2d6+1	2d6+1	2½d6	2½d6	3d6	RP, CBB, Not Through Barriers
Gyrojet	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	IPE (no shell casings), IMR2
Hollow Point	1d6	1d6+1	1½d6	2d6	2d6	2d6+1	2d6+1	2½d6	+1 STUN Multiplier
Hybrid Frangible/Hollow Point	1d6+1	1½d6	2d6	2d6+1	2d6+1	2½d6	2½d6	3d6	+1 STUN Multiplier, Penetrating, CBB
Improved Armor Piercing	½d6	½d6	1d6-1	1d6-1	1d6	1d6	1½d6	2d6-1	AP(x2)
Improved Propellant	1d6+1	1d6+1	1½d6	2d6-1	2d6	2d6+1	2d6+1	2½d6	
Incendiary	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	Firestarting
Match-Grade	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	+1 OCV
+P, +P+	1d6	1d6+1	1d6+2	1½d6+1	2d6	2d6+1	2d6+1	2d6+2	
Penetrating Frangible	1d6+1	1½d6	2d6	2d6+1	2d6+1	2½d6	2½d6	3d6	Penetrating
Poisoned	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	Carries poison
Reversed Ogive	1d6+1	1½d6	2d6	2d6+1	2d6+1	2½d6	2½d6	3d6	AP, +1 STUN Multiplier
Rubber	2d6 EB	3d6 EB	4d6 EB	5d6 EB	6d6 EB	6d6 EB	6d6 EB	7d6 EB	
Semi-Armor Piercing	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	Semi-AP
Silent	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	CE (-3 Hearing, -1 Sight)
Spent Uranium	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	AP, +1 STUN Multiplier
Subsonic	½d6	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	Moves at subsonic speeds
Tracer	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	+1 OCV
Tumbler	1d6-1	1d6	1d6+1	1½d6	2d6-1	2d6	2d6	2d6+1	RKA +1d6, Act 11-
Wadcutter	1d6	1d6+1	1d6+2	1½d6+1	2d6	2d6+1	2d6+1	2d6+2	

Listed damage is Killing Damage unless indicated otherwise

KEY

Act: Activation Roll
AP: Armor Piercing (the Advantage)
CBB: Cannot Be Bounced
CE: Change Environment
EB: Energy Blast
IMR2: Increased Maximum Range (x2)
IPE: Invisible Power Effects

M: Magnum
N: NATO
NND: No Normal Defense
Piercing1: 1 point of Piercing (Resistant)
RP: Reduced Penetration
Semi-AP: Semi-Armor Piercing
WM: Winchester Magnum
*: Rounds in these columns gain a +1 STUN Modifier from size in addition to other listed effects

Double-Barrelled Shotguns

Some types of shotguns, primarily ones intended for hunting, have two barrels (usually mounted side-by-side). They're typically "break-fed" — they open using a hinge on the bottom of the barrel near the trigger, allowing the shooter to insert one shell into each of the two barrels (in game terms, this would be bought as a clip of 2 Charges). Usually each of the barrels has its own trigger. This raises the possibility of a character pulling both triggers at once, and thus shooting an enemy with a double blast. In game terms, characters should buy such shotguns with Autofire (2 shots; +¼) and the Limitation *Both Shots Must Be At The Same Target* (-0). That way they don't have to use both barrels at once, but they can if they feel like it.

Shotguns And Hit Locations

Shotguns use the standard Hit Location rules. For shot, this can represent the part of the target's body that gets hit by the most pellets, or which bears the brunt of the shotgun blast.

SHOTGUN AMMUNITION TYPES

Here are descriptions of the many types of shotgun ammunition available to characters. For information on the cost of these shells and slugs, by gauge (and accounting for Charges and other factors), refer to the Firearms Cost/Upgrade Tables, pages 76-93.

Standard Shot

The basic description of shotguns, above, also describes shot. In game terms, a shotgun that fires shot does not take the *Beam* Limitation. However, it does have the Limitations *Limited Range* (20"; -¼), *Reduced By Range* (-¼) and *Reduced Penetration* (-¼).

Shot takes the Advantage *Area Of Effect* (One Hex; +½). Depending on the type of shot and choke used and the distance to the target, the spread pattern ranges from approximately five inches (about 0.06") to 58 inches (about 0.75"). In game terms, the best way to simulate this is with a One Hex Area Of Effect, which reflects both the spread of the shot and the relative ease of hitting a target at close quarters. At the GM's option, shots at targets within 10" of the shooter do not get the One Hex; they only affect one target and are against his standard DCV instead of DCV 3.

For game purposes, assume a shotgun firing shot has no choke or a cylinder choke (the least restrictive type). For guns with improved, modified, or full chokes (or variable chokes used on those "settings"), the GM should increase the Limited Range of the shotgun by +1", +2", and +3" respectively — but add the same amount to the distance over which the character does not get the benefit of the One Hex Area Of Effect, since the choke inhibits the spread of the pellets. (At the GM's option, shotguns loaded with buckshot — *i.e.,* virtually all shot-firing shotguns characters are likely to use — all function as if the character used a full choke.)

The damage listed for shotguns in this book and other *HERO System* books assumes the gun is loaded with 00 buckshot. If the shell contains smaller shot, reduce the damage to 50-75% of that listed.

Standard Slug

Some shells fire not shot, but *slugs* — a single, large, roughly bullet-shaped mass of metal. Slugs do not spread out the way shot does, but their size and force make them extremely lethal. However, since they're not fired from rifled barrels, they're not nearly as accurate as rifles.

In game terms, slugs have the *Beam* (-¼) Limitation, but not Reduced By Range or Reduced Penetration. They also have the Limitation *Limited Range* (50"; -¼).

Air Bomb

Air Bomb shells explode in mid-air near the target. They're designed to stun, injure, and incapacitate the target more than to kill.

In game terms, an Air Bomb shell is bought as an Energy Blast (with DCs equivalent to those in a Killing Attack shell of the same size), Area Of Effect (One Hex; +½) with the following Linked effect:

> *Sight and Hearing Group Flash 3d6, Area Of Effect (One Hex; +½) (30 Active Points); OAF (-1), Limited Range (20"; -¼), Linked (-½), Real Weapon (-¼), Two-Handed (-½), other Limitations vary based on firearm. Total cost: varies.*

Armor Piercing Slug

Armor Piercing Slugs are slugs specially designed to penetrate armor.

In game terms, Armor Piercing Slugs have the *Armor Piercing* (+½) Advantage, but do slightly less damage than Standard Slugs (from -1 point to -1 DC, depending on gauge).

Baton/Beanbag

Baton rounds are solid projectiles made of plastic, rubber, or wood designed to stun a target without inflicting serious harm. Beanbag projectiles are similar, but fire a small, sturdy beanbag filled with metal or rubber shot. Although intended to be non-lethal, these rounds can still cause serious injury or disability; a leg shot might, for example, cause numbness and pain that would prevent the target from walking for as much as a minute.

In game terms, these rounds are bought as an Energy Blast with DCs equivalent to those in a Killing Attack shell of the same size. They don't have Reduced By Range and Reduced Penetration, but do take the *Beam* (-¼) Limitation. They have a Limited Range of 20".

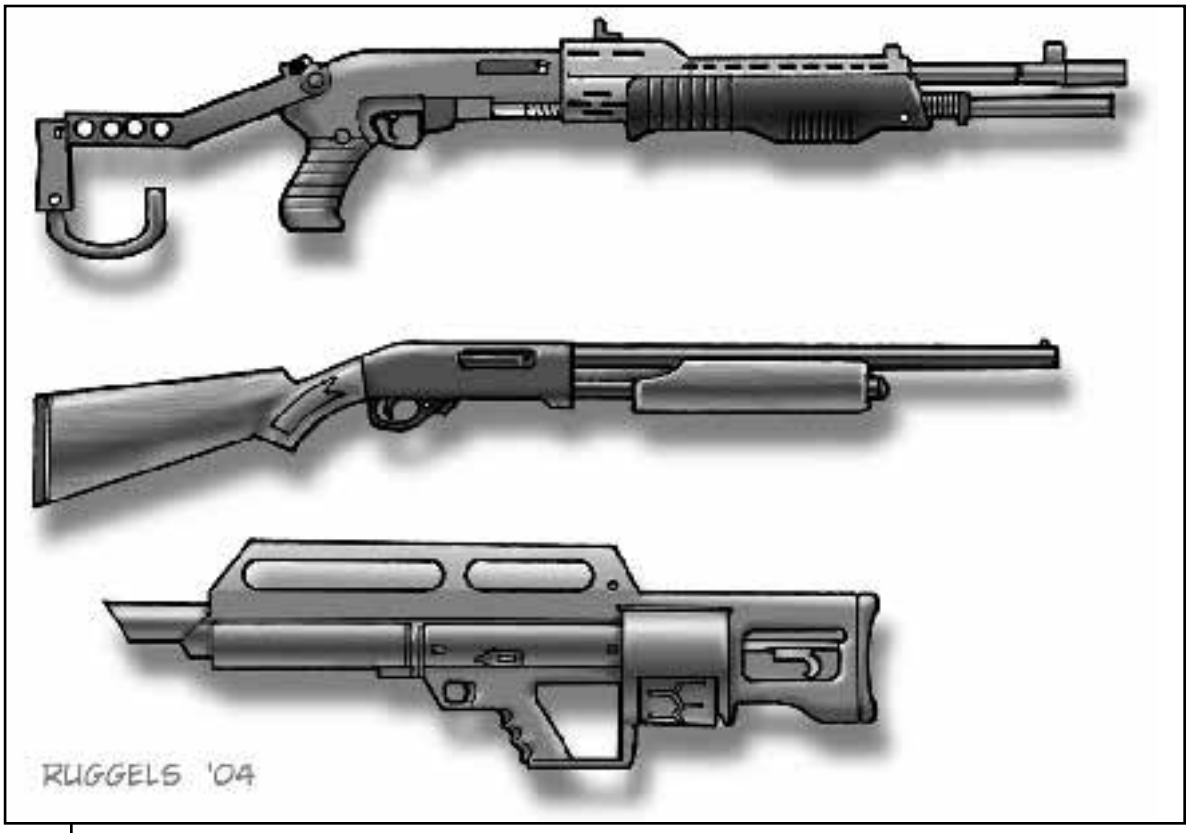
BRI Slug

BRI slugs are more like bullets than standard shotgun slugs. This construction is intended to increase their range and accuracy.

In game terms, BRI Slugs do not have the *Limited Range* (-¼) Limitation.

Buffered Shot

Buffered shot is designed to spread less than regular shot, which slightly extends the range of shot and makes it likely that more pellets hit the target.



In game terms, buffered shot changes a shotgun's Limited Range from 20" to 30" and removes the *Area Of Effect* (One Hex) Advantage. The gun does a little extra damage (from +1 point to +1 DC, depending on gauge).

Cubic Shot

Cubic Shot shells fire pellets that are cube-shaped instead of round. The cubic shot maximizes the spread of the pellets so that a target is hit. (Some shells achieve the same result by mixing small cards into ordinary shot.)

In game terms, a shotgun firing Cubic Shot has Area Of Effect (Cone) instead of One Hex, and replaces the *Limited Range* (-¼) Limitation with *No Range* (-½).

Explosive Slug

Explosive slugs explodes upon impact with the target, causing enormous damage. A properly-placed Explosive Slug can take out everyone in a small room or a car in one shot.

In game terms, an Explosive Slug is bought as if it were a slug, but it has the *Explosion* (+½) Advantage and the *Beam* (-¼) Limitation is removed. It affects ED, not PD.

Fireball

Fireball, or Incendiary, shells contain magnesium or some other flammable material that bursts into flame when it contacts the target, immolating him or it for several seconds.

In game terms, Fireball shells do the same damage as Standard Shot (though against ED rather than PD), but have the following additional effect:

RKA 1 point, Continuous (+1), Reduced Endurance (0 END to enable Uncontrolled effect; +½), Sticky (only affects flammables; +¼), Uncontrolled (effect ends when it runs out of fuel or oxygen, or someone extinguishes the flames; +½) (16 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Activation Roll 13- (-¾), Linked (-½), Real Weapon (-¼), other Limitations vary based on firearm. Total cost: varies.

Flare

Flare shells are something like Fireball shells, but are intended to blind the target temporarily, not injure him.

In game terms, a Flare shell is bought as a Sight Group Flash (with dice of effect equal to the RKA of the same gauge) with the Advantage *Explosion* (+½). It has a Limited Range of 20".

Flechette

Flechette shells are filled with tiny metal darts. The flechettes in this shell are bigger and stronger than those in a bullet, and fly further than standard buckshot. At close range Flechette shells are extremely lethal. (Similar rounds replace the metal darts with razor-like blades, circles or tubes of metal with sharpened forward edges, or the like.)

For game purposes, treat Flechettes as if they were Standard Shot with a Limited Range of 50", but they do a little extra damage (from +1 point to +1 DC, depending on gauge) and have the Advantage *Armor Piercing.*

Ice

Ice shells are used by assassins who want to kill without leaving traces. The impact of the ice-filled shell is still enough to kill, but the ice soon melts, leaving the exact cause of the injuries a mystery. Of course, this only works if the shooter can use the

shell very soon after removing it from the freezer, or else the ice in the shell melts, making it unusable.

In game terms, Ice shells are like Standard Shot, but also have the Advantage *Invisible Power Effects* (hide cause of death, imposes a -3 or greater penalty to Forensic Medicine rolls; +¼).

Linked Shot

Linked shot uses steel wire to connect the shot, thereby in theory inhibiting the spread and ensuring that more pellets hit their target. However, the greater air resistance slows the shot down, and the wire takes up room in the shell that would otherwise contain more pellets. Buffered shot accomplishes much the same result without these drawbacks.

In game terms, Linked shot does slightly less damage (from -1 point to -1 DC, depending on gauge), changes a shotgun's Limited Range from 20" to 30", and removes the *Area Of Effect* (One Hex) Advantage.

Lockbreaker

Lockbreaker rounds, also known as "lock-buster" or "Hatton" shells, are filled with lead or iron powder. When fired at a lock, they destroy the lock's internal workings, allowing the shooter (or his companions) to quickly pull or kick open the door. Its effects upon humans are not as great as those of ordinary shotgun shells.

In game terms, Lockbreaker shells do the same damage as Standard Shot, but take the Limitation *Half Effect On Targets Other Than Locks And Hinges* (-½). This halving of damage takes place before the application of Reduced Penetration, but after the application of Reduced By Range.

Rubber Shot

Rubber Shot shells were invented for anti-riot purposes. They're designed to stun the target with several .30 caliber rubber pellets. Although intended to be non-lethal, these rounds can still cause serious injury or disability; a leg shot might, for example, cause numbness and pain that would prevent the target from walking for as much as a minute.

In game terms, these rounds are bought as Standard Shot, but as an Energy Blast with DCs equivalent to those in a Killing Attack shell of the same size.

Saboted Slug

Some slug shells contain the slug in a sabot. This means the slug is smaller than it otherwise could be, but it can attain greater velocity. Its shape and speed give it significant penetrating power, and also make it likely to tumble.

In game terms, a saboted slug functions like a Standard Slug, but with 1 point of Piercing (Resistant). Characters can also buy the Tumbling effect (page 70) for it if desired (the sample rounds listed elsewhere in this book do not have the Tumbling effect).

Semi-Armor Piercing Slug

Semi-Armor Piercing Slugs are like AP Slugs, but have slightly less penetrating capability.

In game terms, Semi-Armor Piercing Slugs have the *Semi-Armor Piercing* (+¼) Advantage.

Silent

Silent shells are constructed so that the expanding gases that propel the round (a large metal and plastic flechette) forward are trapped inside the shell, which acts as a sort of "ram" to propel the flechette toward the target. Because the gases cannot escape properly, the shotgun is much quieter. A Silent round has to be relatively low-powered, and therefore (a) does slightly less damage than standard shells, and (b) cannot be fired in semi-automatic shotguns because it cannot cycle the action.

In game terms, Silent shells do slightly less damage (from -1 point to -1 DC, depending on gauge) than Standard Slugs and have less range (30"), but have the *Armor Piercing* (+½) Advantage. They also have the following additional power:

Change Environment 1" radius, -3 to Hearing Group PER Rolls and -1 to Sight Group PER Rolls to perceive, Multiple Combat Effects (19 Active Points [the addition of other Advantages, such as Charges, may change this]); OAF (-1), Linked (-½), No Range (-½), Real Weapon (-¼), Self Only (-½), STR Minimum (varies), other Limitations vary based on firearm. Total cost: varies.

Smoke

Smoke shells are miniature smoke grenades. Instead of injuring the target, they create a large cloud of thick smoke to blind the enemy, create temporary visual cover, or the like.

In game terms, Smoke shells of any gauge are bought as follows:

Change Environment 4" radius, -3 to Sight Group PER Rolls (21 Active Points); OAF (-1), Limited Range (20"; -¼), Real Weapon (-¼), STR Minimum (varies), a number of Continuing Charges lasting 1 Turn each that depends on the type of shotgun used. Total cost: varies.

Steel Shot

Some shot is made from steel instead of lead. Steel shot typically deforms less and spreads less than lead shot, and thus shoots with a denser pattern.

In game terms, Steel Shot does the same damage as Standard Shot, but does not have the *Area Of Effect* (One Hex; +½) Advantage, and its Limited Range increases to 30".

Tear Gas

Tear Gas shells fire finned projectiles that contain tear gas. They're used for riot control and other situations where the shooter needs to incapacitate people. The shell is specifically designed to penetrate walls and cars (if necessary) before releasing the gas. In game terms, regardless of gauge they're bought as follows:

SHOTGUN AMMUNITION SUMMARY CHART

Ammunition Type	.410	28, 24	20, 16	12	10	4	Notes
Standard Shot	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	AE1, LR (20"), RR, RP
Standard Slug	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	Beam, LR (50")
Air Bomb	5d6 EB	6d6 EB	7d6 EB	8d6 EB	9d6 EB	10d6 EB	AE1, LR (20"), Linked Flash 3d6
Armor Piercing Slug	1d6+1	2d6-1	2d6	2d6+1	2½d6	3d6	AP, Beam, LR (50")
Baton/Beanbag	5d6 EB	6d6 EB	7d6 EB	8d6 EB	9d6 EB	10d6 EB	Beam, LR (20")
BRI Slug	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	Beam
Buffered Shot	2d6-1	2d6+1	2½d6	3d6-1	3d6+1	3½d6	LR (30"), RR, RP
Cubic Shot	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	AEC, NR, RR, RP
Explosive Slug	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	Exp, LR (50")
Fireball	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	AE1, LR (20"), RR, RP, firestarting
Flare	5d6 Flash	6d6 Flash	7d6 Flash	8d6 Flash	9d6 Flash	10d6 Flash	Exp, LR (20")
Flechette	2d6-1	2d6+1	2½d6	3d6-1	3d6+1	3½d6	AP, LR (50"), RR, RP
Ice	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	AE1, IPE, LR (20"), RR, RP
Linked Shot	1d6+1	2d6-1	2d6	2d6+1	2½d6	3d6	LR (30"), RR, RP
Lockbreaker	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	AE1, LR (20"), RR, RP, ½ damage
Rubber Shot	5d6 EB	6d6 EB	7d6 EB	8d6 EB	9d6 EB	10d6 EB	AE1, LR (20"), RR, RP
Saboted Slug	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	Beam, LR (50"), Piercing1
Semi-AP Slug	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	Beam, LR (50"), Semi-AP
Silent	1d6+1	2d6-1	2d6	2d6+1	2½d6	3d6	AE1, AP, CE, LR (30")
Smoke	CE	CE	CE	CE	CE	CE	CE (-3 Sight PER in 4" radius)
Steel Shot	1½d6	2d6	2d6+1	2½d6	3d6	3d6+1	LR (30"), RR, RP
Tear Gas	8d6 Flash	8d6 Flash	8d6 Flash	8d6 Flash	8d6 Flash	8d6 Flash	AE2, Indirect, LR (50"), 1 Turn

Listed damage is Killing Damage unless indicated otherwise
All shotgun rounds have a +1 STUN Modifier.

KEY

1 Turn: Continuing Charges lasting 1 Turn each
AE1: Area Of Effect (One Hex)
AE2: Area Of Effect (One Hex Doubled)
AEC: Area Of Effect (Cone)
AP: Armor Piercing (the Advantage)
CE: Change Environment
EB: Energy Blast
Exp: Explosion
IPE: Invisible Power Effects
LR: Limited Range
NND: No Normal Defense
NR: No Range
Piercing1: 1 point of Piercing (Resistant)
RP: Reduced Penetration
RR: Reduced By Range
Semi-AP: Semi-Armor Piercing

Sight Group Flash 8d6, Area Of Effect (One Hex Doubled; +¾), Continuous (+1), Delayed Recovery (+2), Indirect (can penetrate walls and similar barriers within 30" of shooter, as described in text; +¼) (200 Active Points); OAF (-1), Limited Range (50"; -¼), Real Weapon (-¼), STR Minimum (varies), Two-Handed (-½), a number of Continuing Charges lasting 1 Turn each that depends on the type of shotgun used. Total cost: varies.

At the GM's option, if a tear gas round is fired directly at a target within 5" of the shooter (other than a barrier the shooter intends to shoot through, as described above), the shell strikes as a slug of the same gauge (but with -2 DCs of damage) before releasing the tear gas.

Firearms Cost/ Upgrade Tables

The accompanying tables list the Character Point costs for firearms using different types of ammunition, based on the number of shots (Charges) the gun has. These charts all assume the gun in question has a STR Min of 6-14.

These charts have several uses. The first and simplest is to determine the cost of a firearm intended to fire a given type of ammunition, based on the number of Charges the gun has. If you want the gun to have multiple Clips, just move one column to the right on the appropriate table for every x2 Clips. Thus, two columns to the the right is the cost of four clips, three is eight clips, and so forth (don't forget to allow for the doubling that occurs when you go from 13-16 Charges to 17-32 Charges, if appropriate).

Example: *Hammer wants to carry a .45 semi-automatic handgun loaded with Hollow Point ammunition. The gun has 12 Charges. Consulting the Hollow Point table, he finds out that this*

gun will cost 12 Character Points. If he wants to have two Clips, it will cost 13 points.

Second, the tables tell you the cost of upgrading a firearm to carry more rounds of ammunition. Look at the table to find out the cost of the gun with the number of Charges you want it to have. Subtract the gun's current cost from that amount, and the remainder is the Character Point cost of upgrading the gun to carry more rounds. (Of course, in a Heroic game, the character doesn't necessarily have to pay these points — he may get them for free, or now have to allocate more points to the gun from his Equipment Points.)

Example: *After some intense firefights, Hammer decides he wants to carry 16 rounds in his .45 instead of twelve. Looking at the Hollow Point chart, he discovers that his gun would cost 13 Character Points with 16 Charges. He subtracts 12 (the cost of his gun with 12 Charges) from 13 and gets 1 — that's the cost of upgrading his gun.*

Third, you can use these tables to determine the cost of carrying a single clip of a special type of ammunition. A character typically builds a gun with the type of bullets he expects to fire in it normally. However, he might also want to have a clip or two of different types of ammunition. To figure out the Character Point cost of a single clip of a given type of ammunition, find the cost of the gun with its regular ammunition (or Standard, if no other type is specified). Then find the cost of the gun with the exact same caliber of the type of bullet the character wants to have in the single clip (the character can choose whatever size of clip — *i.e.,* how many Charges the clip has). Then subtract the first number from the second number, and that tells you the cost of the single clip in Character Points. (If the cost is 0 or a negative number, the single clip costs 1 Character Point.)

Example: *Hammer decides he'd like to have a single clip with 12 rounds of Reversed Ogive ammunition for his .45. Consulting the Reversed Ogive table, he finds that his gun with Reversed Ogive ammo would cost 19 Character Points. He subtracts 12 (the cost of his gun with its regular round, Hollow Points) from 19 and gets 7 — that's the cost of his single clip of Reversed Ogive ammo.*

Later Hammer also decides he wants a clip of 16 rounds of Armor Piercing ammunition. Consulting the Armor Piercing table, he finds that his gun with 16 Charges of AP ammo would cost 13 Character Points. He subtracts 12 (the cost of his gun with 12 Charges of its regular round, Hollow Points) from 13 and gets 1 — that's the cost of his single clip of Armor Piercing ammo.

KEY

Title: The title of the table, and possibly other text on the page, explain what type of firearm the table applies to. This covers such variables as standard firearms or shotguns, the STR Minimum in question, whether the weapon requires one hand or two hands to fire, and so forth.

Name: The name of the type of ammunition the table applies to. Other pertinent information, such as relevant Power Modifiers, are listed here as well.

Caliber: The size of the bullet, which determines the base damage a gun does. For shotguns, this becomes Gauge.

DMG: The base damage the gun causes, depending on type and size of ammunition.

STUN: The STUN Multiplier for the gun. Larger-caliber bullets have a +1 STUN Multiplier, as do all shotgun rounds, and the tables reflect this.

AcP: The Active Points in the firearm. Note that this changes in the columns for 17 or more Charges, since that applies an additional Advantage to the weapon.

Charges: The numbered columns indicate the number of Charges the firearm has. For non-Autofire weapons, this ranges from 1 to 65-125. For Autofire firearms, this ranges from 9-12 to 126+.

1 Turn: Continuing Charges lasting 1 Turn each

Act: Activation Roll

AE1: Area Of Effect (One Hex)

AE2: Area Of Effect (One Hex Doubled)

AEC: Area Of Effect (Cone)

AP: Armor Piercing (the Advantage)

CBB: Cannot Be Bounced

CE: Change Environment

EB: Energy Blast

IMR2: Increased Maximum Range (x2)

IPE: Invisible Power Effects

LR: Limited Range

M: Magnum

N: NATO

NND: No Normal Defense

Piercing1: 1 point of Piercing (Resistant)

RP: Reduced Penetration

RR: Reduced By Range

Semi-AP: Semi-Armor Piercing

Win Mag: Winchester Magnum

STANDARD FIREARMS TABLES

These tables are for standard firearms (*i.e.,* ones firing bullets) loaded with Standard ammunition.

STANDARD AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Standard STR Min 6-14	.22	1d6-1	1d6-1	12	2	2	2	3	3	3	3	3	15/4	18/5	21/6
	.32, .38	1d6	1d6-1	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.40, 9mm	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.357 M, .41 M, 10mm	1½d6	1d6-1	25	4	5	5	5	6	6	7	7	31/9	37/11	44/13
	.45 ACP, 11mm	2d6-1	1d6	34	6	7	7	7	8	8	9	10	40/11	47/13	54/15
	.44 M, .45 Win Mag	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.223, 5.56mmN	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.50 AE, 7.62mmN	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20

STANDARD AMMUNITION, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Standard STR Min 6-14	.22	1d6-1	1d6-1	12	2	2	2	2	2	3	3	3	15/4	18/4	21/5
	.32, .38	1d6	1d6-1	15	2	3	3	3	3	3	3	4	19/5	22/5	26/6
	.40, 9mm	1d6+1	1d6-1	20	3	4	4	4	4	4	5	5	25/6	30/7	35/9
	.357 M, .41 M, 10mm	1½d6	1d6-1	25	4	4	5	5	5	5	6	6	31/8	37/9	44/11
	.45 ACP, 11mm	2d6-1	1d6	34	6	6	6	7	7	7	8	8	40/10	47/12	54/13
	.44 M, .45 Win Mag	2d6	1d6	37	6	7	7	7	8	8	9	9	45/11	52/13	60/15
	.223, 5.56mmN	2d6	1d6	37	6	7	7	7	8	8	9	9	45/11	52/13	60/15
	.50 AE, 7.62mmN	2d6+1	1d6	44	7	8	8	9	9	10	10	11	52/13	61/15	70/17

STANDARD AMMUNITION, NON-AUTOFIRE, TWO-HANDED, STR MIN 15-17															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Standard STR Min 15-17	.22	1d6-1	1d6-1	12	2	2	2	2	2	2	3	3	15/3	18/4	21/5
	.32, .38	1d6	1d6-1	15	2	3	3	3	3	3	3	3	19/4	22/5	26/6
	.40, 9mm	1d6+1	1d6-1	20	3	3	4	4	4	4	4	5	25/6	30/7	35/8
	.357 M, .41 M, 10mm	1½d6	1d6-1	25	4	4	4	5	5	5	5	6	31/7	37/9	44/10
	.45 ACP, 11mm	2d6-1	1d6	34	5	6	6	6	7	7	7	8	40/9	47/11	54/13
	.44 M, .45 Win Mag	2d6	1d6	37	6	6	7	7	7	8	8	9	45/11	52/12	60/14
	.223, 5.56mmN	2d6	1d6	37	6	6	7	7	7	8	8	9	45/11	52/12	60/14
	.50 AE, 7.62mmN	2d6+1	1d6	44	7	8	8	8	9	9	10	10	52/12	61/14	70/16

STANDARD AMMUNITION, NON-AUTOFIRE, TWO-HANDED, STR MIN 18+															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Standard STR Min 18+	.22	1d6-1	1d6-1	12	2	2	2	2	2	2	2	3	15/3	18/4	21/5
	.32, .38	1d6	1d6-1	15	2	2	3	3	3	3	3	3	19/4	22/5	26/6
	.40, 9mm	1d6+1	1d6-1	20	3	3	3	4	4	4	4	4	25/5	30/7	35/8
	.357 M, .41 M, 10mm	1½d6	1d6-1	25	4	4	4	4	5	5	5	5	31/7	37/8	44/10
	.45 ACP, 11mm	2d6-1	1d6	34	5	6	6	6	6	7	7	7	40/9	47/10	54/12
	.44 M, .45 Win Mag	2d6	1d6	37	6	6	6	7	7	7	8	8	45/10	52/11	60/13
	.223, 5.56mmN	2d6	1d6	37	6	6	6	7	7	7	8	8	45/10	52/11	60/13
	.50 AE, 7.62mmN	2d6+1	1d6	44	7	7	8	8	8	9	9	10	52/11	61/13	70/15

Standard Firearms Tables (Continued)

STANDARD AMMUNITION, AUTOFIRE, ONE-HANDED, STR MIN 6-14										
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**	**126+**
Standard AF5 STR Min 6-14	.22	1d6-1	1d6-1	18	5	5	21/6	24/7	27/8	30/9
	.32, .38	1d6	1d6-1	22	6	6	26/7	30/9	34/10	37/10
	.40, 9mm	1d6+1	1d6-1	30	8	9	35/10	40/11	45/13	50/14
	.357 M, .41 M, 10mm	1½d6	1d6-1	37	10	11	44/13	50/14	56/16	62/18
	.45 ACP, 11mm	2d6-1	1d6	47	12	13	54/15	61/17	67/19	74/21
	.44 M, .45 Win Mag	2d6	1d6	52	14	15	60/17	67/19	75/21	82/23
	.223, 5.56mmN	2d6	1d6	52	14	15	60/17	67/19	75/21	82/23
	.50 AE, 7.62mmN	2d6+1	1d6	61	16	17	70/20	79/23	87/25	96/27

STANDARD AMMUNITION, AUTOFIRE, TWO-HANDED, STR MIN 6-14										
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**	**126+**
Standard AF5 STR Min 6-14	.22	1d6-1	1d6-1	18	4	4	21/5	24/6	27/7	30/7
	.32, .38	1d6	1d6-1	22	5	5	26/6	30/7	34/8	37/9
	.40, 9mm	1d6+1	1d6-1	30	7	7	35/9	40/10	45/11	50/12
	.357 M, .41 M, 10mm	1½d6	1d6-1	37	9	9	44/11	50/12	56/14	62/15
	.45 ACP, 11mm	2d6-1	1d6	47	11	12	54/13	61/15	67/17	74/18
	.44 M, .45 Win Mag	2d6	1d6	52	12	13	60/15	67/17	75/19	82/20
	.223, 5.56mmN	2d6	1d6	52	12	13	60/15	67/17	75/19	82/20
	.50 AE, 7.62mmN	2d6+1	1d6	61	14	15	70/17	79/20	87/22	96/24

STANDARD AMMUNITION, AUTOFIRE, TWO-HANDED, STR MIN 15-17										
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**	**126+**
Standard AF5 STR Min 15-17	.22	1d6-1	1d6-1	18	4	4	21/5	24/6	27/6	30/7
	.32, .38	1d6	1d6-1	22	5	5	26/6	30/7	34/8	37/9
	.40, 9mm	1d6+1	1d6-1	30	7	7	35/8	40/9	45/11	50/12
	.357 M, .41 M, 10mm	1½d6	1d6-1	37	8	9	44/10	50/12	56/13	62/14
	.45 ACP, 11mm	2d6-1	1d6	47	10	11	54/13	61/14	67/16	74/17
	.44 M, .45 Win Mag	2d6	1d6	52	11	12	60/14	67/16	75/18	82/19
	.223, 5.56mmN	2d6	1d6	52	11	12	60/14	67/16	75/18	82/19
	.50 AE, 7.62mmN	2d6+1	1d6	61	13	14	70/16	79/19	87/20	96/23

STANDARD AMMUNITION, AUTOFIRE, TWO-HANDED, STR MIN 18+										
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**	**126+**
Standard AF5 STR Min 18+	.22	1d6-1	1d6-1	18	4	4	21/5	24/5	27/6	30/7
	.32, .38	1d6	1d6-1	22	5	5	26/6	30/7	34/7	37/8
	.40, 9mm	1d6+1	1d6-1	30	6	7	35/8	40/9	45/10	50/11
	.357 M, .41 M, 10mm	1½d6	1d6-1	37	8	8	44/10	50/11	56/12	62/14
	.45 ACP, 11mm	2d6-1	1d6	47	10	10	54/12	61/13	67/15	74/16
	.44 M, .45 Win Mag	2d6	1d6	52	11	11	60/13	67/15	75/17	82/18
	.223, 5.56mmN	2d6	1d6	52	11	11	60/13	67/15	75/17	82/18
	.50 AE, 7.62mmN	2d6+1	1d6	61	13	13	70/15	79/17	87/19	96/21

EXOTIC AMMUNITION TABLES

These tables are for standard firearms (*i.e.,* ones firing bullets) loaded with exotic forms of ammunition, such AET, Frangible, or Subsonic. All are for one-handed, non-Autofire weapons with a STR Minimum of 6-14.

AET AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
AET CBB, RP, STR Min 6-14	.22	1d6	1d6-1	15	2	3	3	3	3	3	3	4	19/5	22/5	26/6
	.32, .38	1d6+1	1d6-1	20	3	4	4	4	4	4	5	5	25/6	30/7	35/9
	.40, 9mm	1½d6	1d6-1	25	4	4	5	5	5	5	6	6	31/8	37/9	44/11
	.357 M, .41 M, 10mm	2d6	1d6-1	30	5	5	6	6	6	7	7	7	37/9	45/11	52/13
	.45 ACP, 11mm	2d6	1d6	37	6	7	7	7	8	8	9	9	45/11	52/13	60/15
	.44 M, .45 Win Mag	2d6+1	1d6	44	7	8	8	9	9	10	10	11	52/13	61/15	70/17
	.223, 5.56mmN	2d6+1	1d6	44	7	8	8	9	9	10	10	11	52/13	61/15	70/17
	.50 AE, 7.62mmN	2½d6	1d6	50	8	9	9	10	10	11	12	12	60/15	70/17	80/20

AET COMPOSITE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
AET Composite CBB, STR Min 6-14	.22	1d6	1d6-1	15	3	3	3	3	3	3	4	4	19/5	22/6	26/7
	.32, .38	1d6+1	1d6-1	20	3	4	4	4	4	5	5	5	25/7	30/8	35/9
	.40, 9mm	1½d6	1d6-1	25	4	5	5	5	5	6	6	7	31/8	37/10	44/12
	.357 M, .41 M, 10mm	2d6	1d6-1	30	5	6	6	6	7	7	7	8	37/10	45/12	52/14
	.45 ACP, 11mm	2d6	1d6	37	6	7	7	8	8	9	9	10	45/12	52/14	60/15
	.44 M, .45 Win Mag	2d6+1	1d6	44	8	8	9	9	10	10	11	12	52/14	61/16	70/19
	.223, 5.56mmN	2d6+1	1d6	44	8	8	9	9	10	10	11	12	52/14	61/16	70/19
	.50 AE, 7.62mmN	2½d6	1d6	50	9	9	10	10	11	12	12	13	60/16	70/19	80/21

ARMOR PIERCING AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Armor Piercing AP STR Min 6-14	.22	½d6	1d6-1	15	3	3	3	3	3	4	4	4	17/5	20/6	22/6
	.32, .38	1d6-1	1d6-1	18	3	4	4	4	4	4	5	5	21/6	24/7	27/8
	.40, 9mm	1d6	1d6-1	22	4	4	5	5	5	5	6	6	26/7	30/9	34/10
	.357 M, .41 M, 10mm	1d6+1	1d6-1	30	5	6	6	7	7	7	8	9	35/10	40/11	45/13
	.45 ACP, 11mm	1½d6	1d6	44	8	9	9	10	10	11	12	13	50/14	56/16	62/18
	.44 M, .45 Win Mag	2d6-1	1d6	47	8	9	10	10	11	12	12	13	54/15	61/17	67/19
	.223, 5.56mmN	2d6	1d6	52	9	10	11	11	12	13	14	15	60/17	67/19	75/21
	.50 AE, 7.62mmN	2d6	1d6	52	9	10	11	11	12	13	14	15	60/17	67/19	75/21

AP DEPLETED URANIUM AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Armor Piercing Depleted Uranium AP, Piercing 1, firestarting STR Min 6-14	.22	½d6	1d6-1	35	5	7	7	7	7	8	8	8	39/11	42/11	45/12
	.32, .38	1d6-1	1d6-1	38	6	7	8	8	8	8	9	9	42/11	46/13	50/14
	.40, 9mm	1d6	1d6-1	43	7	8	9	9	9	20	10	11	47/13	52/14	56/15
	.357 M, .41 M, 10mm	1d6+1	1d6-1	50	8	10	10	10	11	11	12	13	56/15	62/17	68/19
	.45 ACP, 11mm	1½d6	1d6	65	11	13	13	14	14	15	16	17	73/20	80/22	87/24
	.44 M, .45 Win Mag	2d6-1	1d6	68	11	13	14	14	15	16	17	18	77/21	84/23	92/25
	.223, 5.56mmN	2d6	1d6	74	12	15	15	16	17	17	18	20	83/23	91/25	99/28
	.50 AE, 7.62mmN	2d6	1d6	74	12	15	15	16	17	17	18	20	83/23	91/25	99/28

Exotic Ammunition Tables (Continued)

ARMOR PIERCING EXPLOSIVE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Armor Piercing Explosive AP CBB, STR Min 6-14	.22	1d6	1d6-1	22	4	4	4	5	5	5	5	6	26/7	30/8	34/9
	.32, .38	1d6+1	1d6-1	30	5	6	6	6	7	7	7	8	35/9	40/11	45/12
	.40, 9mm	1½d6	1d6-1	37	6	7	7	8	8	9	9	10	44/12	50/13	56/15
	.357 M, .41 M, 10mm	2d6	1d6-1	45	8	9	9	9	10	11	11	12	52/14	60/16	67/18
	.45 ACP, 11mm	2d6	1d6	52	9	10	10	11	11	12	13	14	60/16	67/18	75/20
	.44 M, .45 Win Mag	2d6+1	1d6	61	11	12	12	13	13	14	15	16	70/16	79/21	87/23
	.223, 5.56mmN	2d6+1	1d6	61	11	12	12	13	13	14	15	16	70/19	79/21	87/23
	.50 AE, 7.62mmN	2½d6	1d6	70	12	13	14	15	15	16	17	19	80/21	90/24	100/27

ARMOR PIERCING HARDCORE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Armor Piercing Hardcore AP, Piercing1 STR Min 6-14	.22	½d6	1d6-1	19	3	4	4	4	4	5	5	5	23/7	26/7	29/8
	.32, .38	1d6-1	1d6-1	22	4	4	5	5	5	5	6	6	26/7	30/9	34/10
	.40, 9mm	1d6	1d6-1	27	5	5	6	6	6	7	7	8	31/9	36/10	40/11
	.357 M, .41 M, 10mm	1d6+1	1d6-1	34	6	7	7	7	8	8	9	10	40/11	46/13	52/15
	.45 ACP, 11mm	1½d6	1d6	49	9	10	10	11	11	12	13	14	56/16	63/18	70/20
	.44 M, .45 Win Mag	2d6-1	1d6	52	9	10	11	11	12	13	14	15	60/17	67/19	75/21
	.223, 5.56mmN	2d6	1d6	58	10	12	12	13	14	14	15	17	66/19	74/21	82/23
	.50 AE, 7.62mmN	2d6	1d6	58	10	12	12	13	14	14	15	17	66/19	74/21	82/23

AP HARDCORE EXPLOSIVE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Armor Piercing Hardcore Explosive AP, Piercing1 STR Min 6-14	.22	1d6	1d6-1	27	5	5	6	6	6	7	7	8	31/9	36/10	40/11
	.32, .38	1d6+1	1d6-1	34	6	7	7	7	8	8	9	10	40/11	46/13	52/15
	.40, 9mm	1½d6	1d6-1	42	8	8	9	9	10	10	11	12	49/14	56/16	63/18
	.357 M, .41 M, 10mm	2d6	1d6-1	49	9	10	10	11	11	12	13	14	58/17	66/19	74/21
	.45 ACP, 11mm	2d6	1d6	58	10	12	12	13	14	14	15	17	66/19	74/21	82/23
	.44 M, .45 Win Mag	2d6+1	1d6	66	12	13	14	15	15	16	18	19	76/22	85/24	95/27
	.223, 5.56mmN	2d6+1	1d6	66	12	13	14	15	15	16	18	19	76/22	85/24	95/27
	.50 AE, 7.62mmN	2½d6	1d6	75	14	15	16	17	18	19	20	21	86/25	97/28	107/31

AP INCENDIARY AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Armor Piercing Incendiary AP, firestarting STR Min 6-14	.22	½d6	1d6-1	31	6	6	6	6	7	8	8	9	33/10	36/11	38/12
	.32, .38	1d6-1	1d6-1	34	6	6	7	7	8	8	9	10	37/11	40/12	43/14
	.40, 9mm	1d6	1d6-1	38	7	7	8	8	9	9	10	11	42/12	46/14	50/16
	.357 M, .41 M, 10mm	1d6+1	1d6-1	46	8	9	8	10	11	11	12	14	51/15	56/16	61/19
	.45 ACP, 11mm	1½d6	1d6	61	11	12	12	13	14	15	16	18	67/19	73/21	79/24
	.44 M, .45 Win Mag	2d6-1	1d6	64	11	12	13	13	15	16	16	18	81/20	78/22	84/25
	.223, 5.56mmN	2d6	1d6	68	12	13	14	14	16	17	18	20	77/22	84/24	92/27
	.50 AE, 7.62mmN	2d6	1d6	68	12	13	14	14	16	17	18	20	77/22	84/24	92/27

Exotic Ammunition Tables (Continued)

ARMOR PIERCING SABOTED AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Armor Piercing Saboted AP, IPE (no rifling marks on bullet) STR Min 6-14	.22	½d6	1d6-1	17	3	3	4	4	4	4	4	5	20/6	22/6	25/7
	.32, .38	1d6-1	1d6-1	21	4	4	4	5	5	5	6	6	24/7	27/8	30/9
	.40, 9mm	1d6	1d6-1	26	5	5	5	6	6	6	7	7	30/9	34/10	37/11
	.357 M, .41 M, 10mm	1d6+1	1d6-1	35	6	7	7	8	8	9	9	10	40/11	45/13	50/14
	.45 ACP, 11mm	1½d6	1d6	50	9	10	10	11	12	12	13	14	56/16	62/18	69/20
	.44 M, .45 Win Mag	2d6-1	1d6	54	10	11	11	12	13	13	14	15	61/17	67/19	74/21
	.223, 5.56mmN	2d6	1d6	60	11	12	13	13	14	15	16	17	67/19	75/21	82/23
	.50 AE, 7.62mmN	2d6	1d6	60	11	12	13	13	14	15	16	17	67/19	75/21	82/23

CASED TELESCOPED AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Cased Telescoped STR Min 6-14	.22	1d6	1d6-1	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.32, .38	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.40, 9mm	1½d6	1d6-1	25	4	5	5	5	6	6	7	7	31/9	37/11	44/13
	.357 M, .41 M, 10mm	2d6	1d6-1	30	5	6	6	7	7	7	8	9	37/11	45/13	52/15
	.45 ACP, 11mm	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.44 M, .45 Win Mag	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.223, 5.56mmN	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.50 AE, 7.62mmN	2½d6	1d6	50	9	10	10	11	12	12	13	14	60/17	70/20	80/23

CASELESS AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Caseless IPE (leaves no shell casings) STR Min 6-14	.22	1d6-1	1d6-1	15	3	3	3	3	3	4	4	4	18/5	21/6	24/7
	.32, .38	1d6	1d6-1	19	3	4	4	4	4	5	5	5	22/6	26/7	30/9
	.40, 9mm	1d6+1	1d6-1	25	4	5	5	5	6	6	7	7	30/9	35/10	40/11
	.357 M, .41 M, 10mm	1½d6	1d6-1	31	6	6	6	7	7	8	8	9	37/11	44/13	50/14
	.45 ACP, 11mm	2d6-1	1d6	40	7	8	8	9	9	10	11	11	47/13	54/15	61/17
	.44 M, .45 Win Mag	2d6	1d6	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.223, 5.56mmN	2d6	1d6	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.50 AE, 7.62mmN	2d6+1	1d6	52	9	10	11	11	12	13	14	15	61/17	70/20	79/23

DUPLEX AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Duplex RP, STR Min 6-14	.22	1d6	1d6-1	15	3	3	3	3	3	3	4	4	19/5	22/6	26/7
	.32, .38	1d6+1	1d6-1	20	3	4	4	4	4	5	5	5	25/7	30/8	35/9
	.40, 9mm	1½d6	1d6-1	25	4	5	5	5	5	6	6	7	31/8	37/10	44/12
	.357 M, .41 M, 10mm	2d6	1d6-1	30	5	6	6	6	7	7	7	8	37/10	45/12	52/14
	.45 ACP, 11mm	2d6	1d6	37	6	7	7	8	8	9	9	10	45/12	52/14	60/15
	.44 M, .45 Win Mag	2d6+1	1d6	44	8	8	9	9	10	10	11	12	52/14	61/16	70/19
	.223, 5.56mmN	2d6+1	1d6	44	8	8	9	9	10	10	11	12	52/14	61/16	70/19
	.50 AE, 7.62mmN	2½d6	1d6	50	9	9	10	10	11	12	12	13	60/16	70/19	80/21

Exotic Ammunition Tables (Continued)

ELECTRIC AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Electric EB 8d6, NND (defense is rED), Linked STR Min 6-14	.22	1d6-1	1d6-1	92	19	21	22	24	26	28	30	32	105/37	118/41	131/46
	.32, .38	1d6	1d6-1	95	20	22	23	24	26	29	31	33	109/38	122/42	136/47
	.40, 9mm	1d6+1	1d6-1	100	21	23	24	25	28	30	32	35	115/40	130/45	145/50
	.357 M, .41 M, 10mm	1½d6	1d6-1	105	21	24	25	26	29	31	34	36	121/42	137/47	154/53
	.45 ACP, 11mm	2d6-1	1d6	114	23	26	27	28	31	33	26	39	130/44	147/49	164/55
	.44 M, .45 Win Mag	2d6	1d6	117	24	26	28	29	32	34	37	40	135/46	152/51	170/57
	.223, 5.56mmN	2d6	1d6	117	24	26	28	29	32	34	37	40	135/46	152/51	170/57
	.50 AE, 7.62mmN	2d6+1	1d6	124	25	27	29	31	33	36	39	42	142/48	161/53	180/60

EXPLOSIVE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Explosive STR Min 6-14	.22	1d6	1d6-1	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.32, .38	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.40, 9mm	1½d6	1d6-1	25	4	5	5	5	6	6	7	7	31/9	37/11	44/13
	.357 M, .41 M, 10mm	2d6	1d6-1	30	5	6	6	7	7	7	8	9	37/11	45/13	52/15
	.45 ACP, 11mm	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.44 M, .45 Win Mag	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.223, 5.56mmN	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.50 AE, 7.62mmN	2½d6	1d6	50	9	10	10	11	12	12	13	14	60/17	70/20	80/23

FIBERGLASS/PLASTIC AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Fiberglass/ Plastic IPE (-3 to Forensic Medicine rolls) STR Min 6-14	.22	1d6-1	1d6-1	15	3	3	3	3	3	4	4	4	18/5	21/6	24/7
	.32, .38	1d6	1d6-1	19	3	4	4	4	4	5	5	5	22/6	26/7	30/9
	.40, 9mm	1d6+1	1d6-1	25	4	5	5	5	6	6	7	7	30/9	35/10	40/11
	.357 M, .41 M, 10mm	1½d6	1d6-1	31	6	6	6	7	7	8	8	9	37/11	44/13	50/14
	.45 ACP, 11mm	2d6-1	1d6	40	7	8	8	9	9	10	11	11	47/13	54/15	61/17
	.44 M, .45 Win Mag	2d6	1d6	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.223, 5.56mmN	2d6	1d6	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.50 AE, 7.62mmN	2d6+1	1d6	52	9	10	11	11	12	13	14	15	61/17	70/20	79/23

FLECHETTE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Flechette AP, IMR2, IPE (leaves no rifling marks on flechette) STR Min 6-14	.22	1d6	1d6-1	30	5	6	6	7	7	7	8	9	34/10	37/11	41/12
	.32, .38	1d6+1	1d6-1	40	7	8	8	9	9	10	11	11	45/13	50/14	55/16
	.40, 9mm	1½d6	1d6-1	50	9	10	10	11	12	12	13	14	56/16	62/18	69/20
	.357 M, .41 M, 10mm	2d6	1d6-1	60	11	12	13	13	14	15	16	17	67/18	75/21	82/23
	.45 ACP, 11mm	2d6	1d6	67	12	13	14	15	16	17	18	19	75/21	82/23	90/26
	.44 M, .45 Win Mag	2d6+1	1d6	79	14	16	17	17	19	20	21	23	87/25	96/27	105/30
	.223, 5.56mmN	2d6+1	1d6	79	14	16	17	17	19	20	21	23	87/25	96/27	105/30
	.50 AE, 7.62mmN	2½d6	1d6	90	16	18	19	20	21	22	24	26	100/29	110/	120/34

Exotic Ammunition Tables (Continued)

FRANGIBLE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Frangible CBB, No Effect Through Barriers, RP, STR Min 6-14	.22	1d6+1	1d6-1	20	3	3	4	4	4	4	4	5	25/6	30/7	35/8
	.32, .38	1½d6	1d6-1	25	4	4	4	5	5	5	5	6	31/7	37/9	44/10
	.40, 9mm	2d6	1d6-1	30	5	5	5	6	6	6	7	7	37/9	45/11	52/12
	.357 M, .41 M, 10mm	2d6+1	1d6-1	35	6	6	6	7	7	7	8	8	44/10	52/12	61/14
	.45 ACP, 11mm	2d6+1	1d6	44	7	8	8	8	9	9	10	10	52/12	61/14	70/16
	.44 M, .45 Win Mag	2½d6	1d6	50	8	9	9	9	10	10	11	12	60/14	70/16	80/19
	.223, 5.56mmN	2½d6	1d6	50	8	9	9	9	10	10	11	12	60/14	70/16	80/19
	.50 AE, 7.62mmN	3d6	1d6	56	9	10	10	11	11	12	12	13	67/16	79/19	90/21

GYROJET AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Gyrojet IMR2, IPE (leaves no shell casings) STR Min 6-14	.22	1d6-1	1d6-1	18	3	4	4	4	4	4	5	5	21/6	24/7	27/8
	.32, .38	1d6	1d6-1	22	4	4	5	5	5	5	6	6	26/7	30/9	34/10
	.40, 9mm	1d6+1	1d6-1	30	5	6	6	7	7	7	8	9	35/10	40/11	45/13
	.357 M, .41 M, 10mm	1½d6	1d6-1	37	7	7	8	8	9	9	10	11	44/13	50/14	56/16
	.45 ACP, 11mm	2d6-1	1d6	47	8	9	10	10	11	12	12	13	54/15	61/17	67/19
	.44 M, .45 Win Mag	2d6	1d6	52	9	10	11	11	12	13	14	15	60/17	67/19	75/21
	.223, 5.56mmN	2d6	1d6	52	9	10	11	11	12	13	14	15	60/17	67/19	75/21
	.50 AE, 7.62mmN	2d6+1	1d6	61	11	12	13	13	14	15	16	17	70/20	79/23	87/25

HOLLOW POINT AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Hollow Point +1 STUN Multiplier STR Min 6-14	.22	1d6	1d6	19	3	4	4	4	4	5	5	5	22/6	26/7	30/9
	.32, .38	1d6+1	1d6	25	4	5	5	5	6	6	7	7	30/9	35/10	40/11
	.40, 9mm	1½d6	1d6	31	6	6	6	7	7	8	8	9	37/11	44/13	50/14
	.357 M, .41 M, 10mm	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.45 ACP, 11mm	2d6	1d6+1	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.44 M, .45 Win Mag	2d6+1	1d6+1	52	9	10	11	11	12	13	14	15	61/17	70/20	79/23
	.223, 5.56mmN	2d6+1	1d6+1	52	9	10	11	11	12	13	14	15	61/17	70/20	79/23
	.50 AE, 7.62mmN	2½d6	1d6+1	60	11	12	13	13	14	15	16	17	70/20	80/23	90/26

HYBRID FRANGIBLE/HP AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14

NAME	CALIBER	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Hybrid Frangible/ Hollow Point +1 STUN Multiplier, Penetrating CBB, STR Min 6-14	.22	1d6+1	1d6	35	6	7	7	7	8	8	9	9	40/11	45/12	50/13
	.32, .38	1½d6	1d6	44	8	8	9	9	10	10	11	12	50/13	56/15	62/16
	.40, 9mm	2d6	1d6	52	9	10	10	11	11	12	13	14	60/16	67/18	75/20
	.357 M, .41 M, 10mm	2d6+1	1d6	61	11	12	12	13	13	14	15	16	70/19	79/21	87/23
	.45 ACP, 11mm	2d6+1	1d6+1	70	12	13	14	15	15	16	17	19	79/21	87/23	96/26
	.44 M, .45 Win Mag	2½d6	1d6+1	80	14	15	16	17	18	19	20	21	90/24	100/27	110/29
	.223, 5.56mmN	2½d6	1d6+1	80	14	15	16	17	18	19	20	21	90/24	100/27	110/29
	.50 AE, 7.62mmN	3d6	1d6+1	90	16	17	18	19	20	21	22	24	101/27	112/30	124/33

Exotic Ammunition Tables (Continued)

IMPROVED ARMOR PIERCING AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Improved Armor Piercing AP (x2) STR Min 6-14	.22	½d6	1d6-1	20	4	4	4	4	5	5	5	6	22/6	25/7	27/8
	.32, .38	½d6	1d6-1	20	4	4	4	4	5	5	5	6	22/6	25/7	27/8
	.40, 9mm	1d6-1	1d6-1	24	4	5	5	5	6	6	6	7	27/8	30/9	33/9
	.357 M, .41 M, 10mm	1d6-1	1d6-1	24	4	5	5	5	6	6	6	7	27/8	30/9	33/9
	.45 ACP, 11mm	1d6	1d6	34	6	7	7	7	8	8	9	10	37/11	41/12	45/13
	.44 M, .45 Win Mag	1d6	1d6	34	6	7	7	7	8	8	9	10	37/11	41/12	45/13
	.223, 5.56mmN	1½d6	1d6	56	10	11	12	12	13	14	15	16	62/18	69/20	75/21
	.50 AE, 7.62mmN	2d6-1	1d6	61	11	12	13	13	14	15	16	17	67/19	74/21	81/23

IMPROVED PROPELLANT AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Improved Propellant STR Min 6-14	.22	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.32, .38	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.40, 9mm	1½d6	1d6-1	25	4	5	5	5	6	6	7	7	31/9	37/11	44/13
	.357 M, .41 M, 10mm	2d6-1	1d6-1	27	5	5	6	6	6	7	7	8	34/10	40/11	47/13
	.45 ACP, 11mm	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.44 M, .45 Win Mag	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.223, 5.56mmN	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.50 AE, 7.62mmN	2½d6	1d6	50	9	10	10	11	12	12	13	14	60/17	70/20	80/23

INCENDIARY AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Incendiary Firestarting STR Min 6-14	.22	1d6-1	1d6-1	28	5	5	5	6	7	7	7	8	32/9	37/10	41/12
	.32, .38	1d6	1d6-1	31	6	6	6	6	7	8	8	9	36/10	40/11	66/13
	.40, 9mm	1d6+1	1d6-1	36	7	7	7	7	9	9	9	11	42/12	49/14	55/16
	.357 M, .41 M, 10mm	1½d6	1d6-1	41	7	8	7	8	10	10	11	12	48/14	56/16	64/19
	.45 ACP, 11mm	2d6-1	1d6	51	9	10	10	10	12	12	13	15	59/16	67/17	74/21
	.44 M, .45 Win Mag	2d6	1d6	54	10	10	11	11	13	13	14	16	64/18	72/20	80/23
	.223, 5.56mmN	2d6	1d6	54	10	10	11	11	13	13	14	16	64/18	72/20	80/23
	.50 AE, 7.62mmN	2d6+1	1d6	61	11	12	12	13	14	15	16	18	71/20	81/22	90/26

MATCH-GRADE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Match-Grade +1 OCV STR Min 6-14	.22	1d6-1	1d6-1	17	4	4	4	5	5	5	5	5	20/6	23/7	26/8
	.32, .38	1d6	1d6-1	20	5	5	5	5	5	6	6	6	24/7	27/8	31/9
	.40, 9mm	1d6+1	1d6-1	25	6	6	6	6	7	7	7	8	30/9	35/11	40/12
	.357 M, .41 M, 10mm	1½d6	1d6-1	30	6	7	7	7	8	8	9	9	36/11	42/13	49/15
	.45 ACP, 11mm	2d6-1	1d6	39	8	9	9	9	10	10	11	12	45/13	52/15	59/17
	.44 M, .45 Win Mag	2d6	1d6	42	9	9	10	10	11	11	12	13	50/15	57/17	65/19
	.223, 5.56mmN	2d6	1d6	42	9	9	10	10	11	11	12	13	50/15	57/17	65/19
	.50 AE, 7.62mmN	2d6+1	1d6	49	10	11	11	12	12	13	14	15	57/17	66/19	75/22

Exotic Ammunition Tables (Continued)

STANDARD +P AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Standard +P STR Min 6-14	.22	1d6	1d6-1	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.32, .38	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.40, 9mm	1d6+2	1d6-1	23	4	5	5	5	5	6	6	7	29/8	34/10	40/11
	.357 M, .41 M, 10mm	1½+1	1d6-1	27	5	5	6	6	6	7	7	8	34/10	40/11	47/13
	.45 ACP, 11mm	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.44 M, .45 Win Mag	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.223, 5.56mmN	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.50 AE, 7.62mmN	2d6+2	1d6	47	8	9	10	10	11	12	12	13	57/16	66/19	76/22

PENETRATING FRANGIBLE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Penetrating Frangible Penetrating STR Min 6-14	.22	1d6+1	1d6-1	30	5	6	6	7	7	7	8	9	35/	40/11	45/13
	.32, .38	1½d6	1d6-1	37	7	7	8	8	9	9	10	11	44/	50/14	56/16
	.40, 9mm	2d6	1d6-1	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.357 M, .41 M, 10mm	2d6+1	1d6-1	52	9	10	11	11	12	13	14	15	61/17	70/20	79/23
	.45 ACP, 11mm	2d6+1	1d6	61	11	12	13	13	14	15	16	17	70/20	79/23	87/25
	.44 M, .45 Win Mag	2½d6	1d6	70	13	14	15	15	16	17	19	20	80/	90/26	100/29
	.223, 5.56mmN	2½d6	1d6	70	13	14	15	15	16	17	19	20	80/	90/26	100/29
	.50 AE, 7.62mmN	3d6	1d6	79	14	16	17	17	19	20	21	23	90/	101/29	112/32

POISONED AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Poisoned Carries a poison STR Min 6-14	.22	1d6-1	1d6-1	12	2	2	2	3	3	3	3	3	15/4	18/5	21/6
	.32, .38	1d6	1d6-1	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.40, 9mm	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.357 M, .41 M, 10mm	1½d6	1d6-1	25	4	5	5	5	6	6	7	7	31/9	37/11	44/13
	.45 ACP, 11mm	2d6-1	1d6	34	6	7	7	7	8	8	9	10	40/11	47/13	54/15
	.44 M, .45 Win Mag	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.223, 5.56mmN	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.50 AE, 7.62mmN	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20

REVERSED OGIVE AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Reversed Ogive AP, +1 STUN Multiplier STR Min 6-14	.22	1d6+1	1d6	35	6	7	7	8	8	9	9	10	40/11	45/13	50/14
	.32, .38	1½d6	1d6	44	8	9	9	10	10	11	12	13	50/14	56/16	62/18
	.40, 9mm	2d6	1d6	52	9	10	11	11	12	13	14	15	60/17	67/19	75/21
	.357 M, .41 M, 10mm	2d6+1	1d6	61	11	12	13	13	14	15	16	17	70/20	79/23	87/25
	.45 ACP, 11mm	2d6+1	1d6+1	70	13	14	15	15	16	17	19	20	79/23	87/25	96/27
	.44 M, .45 Win Mag	2½d6	1d6+1	80	14	16	17	18	19	20	21	23	90/26	100/29	110/31
	.223, 5.56mmN	2½d6	1d6+1	80	14	16	17	18	19	20	21	23	90/26	100/29	110/31
	.50 AE, 7.62mmN	3d6	1d6+1	90	16	18	19	20	21	22	24	26	101/29	112/32	124/35

Exotic Ammunition Tables (Continued)

RUBBER AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14														
NAME	**CALIBER**	**DMG**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Rubber STR Min 6-14	.22	EB 2d6	10	2	2	2	2	2	2	3	3	12/3	15/4	17/5
	.32, .38	EB 3d6	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.40, 9mm	EB 4d6	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.357 M, .41 M, 10mm	EB 5d6	25	4	5	5	5	6	6	7	7	31/9	37/11	44/13
	.45 ACP, 11mm	EB 6d6	30	5	6	6	7	7	7	8	9	37/11	45/13	52/15
	.44 M, .45 Win Mag	EB 6d6	30	5	6	6	7	7	7	8	9	37/11	45/13	52/15
	.223, 5.56mmN	EB 6d6	30	5	6	6	7	7	7	8	9	37/11	45/13	52/15
	.50 AE, 7.62mmN	EB 7d6	35	6	7	7	8	8	9	9	10	44/13	52/15	61/17

SEMI-ARMOR PIERCING AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Semi-Armor Piercing Semi-AP STR Min 6-14	.22	1d6-1	1d6-1	15	3	3	3	3	3	4	4	4	18/5	21/6	24/7
	.32, .38	1d6	1d6-1	19	3	4	4	4	4	5	5	5	22/6	26/7	30/9
	.40, 9mm	1d6+1	1d6-1	25	4	5	5	5	6	6	7	7	30/9	35/10	40/11
	.357 M, .41 M, 10mm	1½d6	1d6-1	31	6	6	6	7	7	8	8	9	37/11	44/13	50/14
	.45 ACP, 11mm	2d6-1	1d6	40	7	8	8	9	9	10	11	11	47/13	54/15	61/17
	.44 M, .45 Win Mag	2d6	1d6	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.223, 5.56mmN	2d6	1d6	45	8	9	9	10	11	11	12	13	52/15	60/17	67/19
	.50 AE, 7.62mmN	2d6+1	1d6	52	9	10	11	11	12	13	14	15	61/17	70/20	79/23

SILENT AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Silent CE (-3 to Hearing Group PER Rolls and -1 to SIght Group PER Rolls) STR Min 6-14	.22	1d6-1	1d6-1	31	5	6	6	7	7	7	8	8	34/10	37/12	30/15
	.32, .38	1d6	1d6-1	34	6	7	7	7	7	8	9	9	38/11	41/13	45/16
	.40, 9mm	1d6+1	1d6-1	39	7	8	8	8	9	9	10	11	44/13	49/16	54/19
	.357 M, .41 M, 10mm	1½d6	1d6-1	44	7	9	9	9	10	10	12	12	50/15	56/18	63/22
	.45 ACP, 11mm	2d6-1	1d6	53	9	11	11	11	12	12	14	15	59/17	66/20	73/24
	.44 M, .45 Win Mag	2d6	1d6	56	10	11	12	12	13	13	15	16	64/19	71/22	79/26
	.223, 5.56mmN	2d6	1d6	56	10	11	12	12	13	13	15	16	64/19	71/22	79/26
	.50 AE, 7.62mmN	2d6+1	1d6	63	11	13	13	14	14	15	17	18	71/21	80/24	89/29

SPENT URANIUM AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Spent Uranium AP, +1 STUN Multiplier STR Min 6-14	.22	1d6-1	1d6	21	4	4	4	5	5	5	6	6	24/7	27/8	30/9
	.32, .38	1d6	1d6	26	5	5	5	6	6	6	7	7	30/9	34/10	37/11
	.40, 9mm	1d6+1	1d6	35	6	7	7	8	8	9	9	10	40/11	45/13	50/14
	.357 M, .41 M, 10mm	1½d6	1d6	44	8	9	9	10	10	11	12	13	50/14	56/16	62/18
	.45 ACP, 11mm	2d6-1	1d6+1	54	10	11	11	12	13	13	14	15	61/17	67/19	74/21
	.44 M, .45 Win Mag	2d6	1d6+1	60	11	12	13	13	14	15	16	17	67/19	75/21	82/23
	.223, 5.56mmN	2d6	1d6+1	60	11	12	13	13	14	15	16	17	67/19	75/21	82/23
	.50 AE, 7.62mmN	2d6+1	1d6+1	70	13	14	15	15	16	17	19	20	79/23	87/25	96/27

Exotic Ammunition Tables (Continued)

SUBSONIC AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Subsonic Moves below the speed of sound, and so creates no "crack" STR Min 6-14	.22	½d6	1d6-1	10	2	2	2	2	2	2	3	3	12/3	15/4	17/5
	.32, .38	1d6-1	1d6-1	12	2	2	2	3	3	3	3	3	15/4	18/5	21/6
	.40, 9mm	1d6	1d6-1	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.357 M, .41 M, 10mm	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.45 ACP, 11mm	1½d6	1d6	25	4	5	5	5	6	6	7	7	31/9	37/11	44/13
	.44 M, .45 Win Mag	2d6-1	1d6	27	5	5	6	6	6	7	7	8	34/10	40/11	47/13
	.223, 5.56mmN	2d6	1d6	30	5	6	6	7	7	7	8	9	37/11	45/13	52/15
	.50 AE, 7.62mmN	2d6	1d6	30	5	6	6	7	7	7	8	9	37/11	45/13	52/15

TRACER AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Tracer +1 OCV, Cannot Apply To First Shot Against A Target STR Min 6-14	.22	1d6-1	1d6-1	17	4	4	4	5	5	5	5	5	20/6	23/7	26/8
	.32, .38	1d6	1d6-1	20	5	5	5	5	5	6	6	6	24/7	27/8	31/9
	.40, 9mm	1d6+1	1d6-1	25	6	6	6	6	7	7	7	8	30/9	35/11	40/12
	.357 M, .41 M, 10mm	1½d6	1d6-1	30	6	7	7	7	8	8	9	9	36/11	42/13	49/15
	.45 ACP, 11mm	2d6-1	1d6	39	8	9	9	9	10	10	11	12	45/13	52/15	59/17
	.44 M, .45 Win Mag	2d6	1d6	42	9	9	10	10	11	11	12	13	50/15	57/17	65/19
	.223, 5.56mmN	2d6	1d6	42	9	9	10	10	11	11	12	13	50/15	57/17	65/19
	.50 AE, 7.62mmN	2d6+1	1d6	49	10	11	11	12	12	13	14	15	57/17	66/19	75/22

TUMBLER AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Tumbler RKA +1d6, Activation Roll 11-, base bullet must do BODY damage STR Min 6-14	.22	1d6-1	1d6-1	27	5	5	5	6	6	6	7	7	34/9	40/11	47/13
	.32, .38	1d6	1d6-1	30	6	6	6	6	6	7	8	8	38/10	44/12	52/14
	.40, 9mm	1d6+1	1d6-1	35	7	7	7	7	8	8	9	10	44/12	52/15	61/17
	.357 M, .41 M, 10mm	1½d6	1d6-1	40	7	8	8	8	9	9	11	11	50/14	59/17	70/20
	.45 ACP, 11mm	2d6-1	1d6	53	9	11	11	11	12	11	14	15	62/17	73/20	84/23
	.44 M, .45 Win Mag	2d6	1d6	56	10	11	12	12	13	12	15	16	67/19	78/22	90/25
	.223, 5.56mmN	2d6	1d6	56	10	11	12	12	13	12	15	16	67/19	78/22	90/25
	.50 AE, 7.62mmN	2d6+1	1d6	63	11	13	13	14	14	14	17	18	74/21	87/24	100/28

WADCUTTER AMMUNITION, NON-AUTOFIRE, ONE-HANDED, STR MIN 6-14															
NAME	**CALIBER**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Wadcutter STR Min 6-14	.22	1d6	1d6-1	15	3	3	3	3	3	4	4	4	19/5	22/6	26/7
	.32, .38	1d6+1	1d6-1	20	4	4	4	4	5	5	5	6	25/7	30/9	35/10
	.40, 9mm	1d6+2	1d6-1	23	4	5	5	5	5	6	6	7	29/8	34/10	40/11
	.357 M, .41 M, 10mm	1½+1	1d6-1	27	5	5	6	6	6	7	7	8	34/10	40/11	47/13
	.45 ACP, 11mm	2d6	1d6	37	7	7	8	8	9	9	10	11	45/13	52/15	60/17
	.44 M, .45 Win Mag	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.223, 5.56mmN	2d6+1	1d6	44	8	9	9	10	10	11	12	13	52/15	61/17	70/20
	.50 AE, 7.62mmN	2d6+2	1d6	47	8	9	10	10	11	12	12	13	57/16	66/19	76/22

STANDARD SHOTGUN TABLES

These tables are for shotguns loaded with Standard Shot or Standard Slugs.

SHOTGUNS, SHOT, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Standard Shot AE1 LR(20"), RR, RP, STR Min 6-14, 2H	.410	1½d6	1d6	44	7	7	8	8	8	9	9	10	50/11	56/12	62/14
	28, 24	2d6	1d6	52	8	9	9	9	10	10	11	11	60/13	67/15	75/17
	20, 16	2d6+1	1d6	61	9	10	11	11	12	12	13	13	70/15	79/17	87/19
	12	2½d6	1d6	70	11	12	12	13	13	14	15	15	80/19	90/20	100/22
	10	3d6	1d6	79	12	13	14	14	15	16	17	17	90/20	101/22	112/25
	4	3d6+1	1d6	87	13	14	15	16	17	17	18	19	100/22	112/25	125/28

SHOTGUNS, SLUGS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Standard Slugs Beam, LR(50"), STR Min 6-14, 2H	.410	1½d6	1d6	31	5	5	6	6	6	6	7	7	37/9	44/10	50/12
	28, 24	2d6	1d6	37	6	6	7	7	7	8	8	9	45/11	52/12	60/14
	20, 16	2d6+1	1d6	44	7	8	8	8	9	9	10	10	52/12	61/14	70/16
	12	2½d6	1d6	50	8	9	9	9	10	10	11	12	60/14	70/16	80/19
	10	3d6	1d6	56	9	10	10	11	11	12	12	13	67/16	79/19	90/21
	4	3d6+1	1d6	62	10	11	11	12	12	13	14	15	75/18	87/20	100/23

SHOTGUNS, SHOT, AUTOFIRE, TWO-HANDED, STR MIN 6-14										
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**	**126+**
Standard Shot AE1, AF5 LR(20"), RR, RP, STR Min 6-14, 2H	.410	1½d6	1d6	81	17	18	87/19	94/21	100/22	106/23
	28, 24	2d6	1d6	97	20	21	105/23	112/25	120/27	127/28
	20, 16	2d6+1	1d6	114	24	25	122/27	131/29	140/31	149/33
	12	2½d6	1d6	130	27	29	140/31	150/33	160/35	170/38
	10	3d6	1d6	146	31	32	157/35	169/37	180/40	191/42
	4	3d6+1	1d6	162	34	36	175/39	187/41	200/44	212/47

SHOTGUNS, SLUGS, AUTOFIRE, TWO-HANDED, STR MIN 6-14										
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**	**126+**
Standard Slugs AF Beam, LR(50"), STR Min 6-14, 2H	.410	1½d6	1d6	44	10	10	50/12	56/13	62/15	69/16
	28, 24	2d6	1d6	52	11	12	60/14	67/16	75/18	82/19
	20, 16	2d6+1	1d6	61	13	14	70/16	79/19	87/20	96/23
	12	2½d6	1d6	70	15	16	80/19	90/21	100/23	110/26
	10	3d6	1d6	79	17	19	90/21	101/24	112/26	124/29
	4	3d6+1	1d6	87	19	20	100/23	112/26	125/29	137/32

EXOTIC SHOTGUN AMMUNITION TABLES

These tables are for shotguns loaded with exotic forms of ammunition, such Air Bomb, Fireball, or Smoke. All are for two-handed, non-Autofire weapons with a STR Minimum of 6-14.

AIR BOMB SHELL, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14

NAME	GAUGE	DMG	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Air Bomb AE1, Sight and Hearing Group Flash 3d6 LR(20"), STR Min 6-14, 2H	.410	EB 5d6	67	11	13	13	14	15	15	17	18	74/21	80/23	86/27
	28, 24	EB 6d6	75	12	14	15	16	16	17	19	20	82/23	90/26	97/30
	20, 16	EB 7d6	82	14	15	16	17	18	18	20	22	91/25	100/28	109/33
	12	EB 8d6	90	15	17	17	19	20	20	22	24	100/27	110/31	120/35
	10	EB 9d6	97	16	18	19	20	21	22	24	26	109/30	120/33	131/38
	4	EB 10d6	105	17	20	20	22	23	24	26	28	117/32	130/36	142/41

ARMOR PIERCING SLUGS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14

NAME	GAUGE	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Armor Piercing Slugs AP Beam, LR(50"), STR Min 6-14, 2H	.410	1d6+1	1d6	35	6	6	6	7	7	7	8	8	40/9	45/11	50/12
	28, 24	2d6-1	1d6	47	7	8	8	9	9	10	10	11	54/13	61/14	67/16
	20, 16	2d6	1d6	52	8	9	9	10	10	11	11	12	60/14	67/16	75/18
	12	2d6+1	1d6	61	10	11	11	12	12	13	13	14	70/16	79/19	87/20
	10	2½d6	1d6	70	11	12	13	13	14	15	15	16	80/19	90/21	100/23
	4	3d6	1d6	79	13	14	14	15	16	17	17	19	90/21	101/24	112/26

BATON/BEANBAG SHELL, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14

NAME	GAUGE	DMG	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Baton/Beanbag Beam, LR(20"), STR Min 6-14, 2H	.410	EB 5d6	25	4	4	4	5	5	5	5	6	31/7	37/9	44/10
	28, 24	EB 6d6	30	5	5	5	6	6	6	7	7	37/9	45/11	52/12
	20, 16	EB 7d6	35	6	6	6	7	7	7	8	8	44/10	52/12	61/14
	12	EB 8d6	40	6	7	7	8	8	8	9	9	50/12	60/14	70/16
	10	EB 9d6	45	7	8	8	9	9	9	10	11	56/13	67/16	79/19
	4	EB 10d6	50	8	9	9	9	10	10	11	12	62/15	75/18	87/20

BRI SLUGS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14

NAME	GAUGE	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
BRI Slugs Beam, STR Min 6-14, 2H	.410	1½d6	1d6	31	5	6	6	6	6	7	7	8	37/9	44/11	50/12
	28, 24	2d6	1d6	37	6	7	7	7	8	8	9	9	45/11	52/13	60/15
	20, 16	2d6+1	1d6	44	7	8	8	9	9	10	10	11	52/13	61/15	70/17
	12	2½d6	1d6	50	8	9	9	10	10	11	12	12	60/15	70/17	80/20
	10	3d6	1d6	56	9	10	11	11	12	12	13	14	67/17	79/20	90/22
	4	3d6+1	1d6	62	10	11	12	12	13	14	15	15	75/19	87/22	100/25

BUFFERED SHOT SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14

NAME	GAUGE	DMG	STUN	AcP	1	2	3	4	5-6	7-8	9-12	13-16	17-32	33-64	65-125
Buffered Shot LR(30"), RR, RP, STR Min 6-14, 2H	.410	2d6-1	1d6	34	5	6	6	6	6	7	7	7	40/9	47/10	54/12
	28, 24	2d6+1	1d6	44	7	7	8	8	8	9	9	10	52/11	61/13	70/15
	20, 16	2½d6	1d6	50	8	8	9	9	9	10	10	11	60/13	70/15	80/18
	12	3d6-1	1d6	52	8	9	9	9	10	10	11	11	63/14	73/16	84/19
	10	3d6+1	1d6	62	9	10	11	11	12	12	13	14	75/17	87/19	100/22
	4	3½d6	1d6	69	11	11	12	12	13	14	14	15	82/18	96/21	110/24

Exotic Shotgun Ammunition Tables (Continued)

CUBIC SHOT SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Cubic Shot AE: Cone NR, RR, RP, STR Min 6-14, 2H	.410	1½d6	1d6	56	8	9	9	10	10	11	11	12	62/13	69/14	75/16
	28, 24	2d6	1d6	67	10	11	11	12	12	13	13	14	75/16	82/17	90/19
	20, 16	2d6+1	1d6	79	12	13	13	14	14	15	16	17	87/18	96/20	105/22
	12	2½d6	1d6	90	13	14	15	16	16	17	18	19	100/21	110/23	120/25
	10	3d6	1d6	101	15	16	17	18	18	19	20	21	112/24	124/26	135/28
	4	3d6+1	1d6	112	17	18	19	19	20	21	22	24	125/26	137/29	150/32

EXPLOSIVE SLUGS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Explosive Slugs Explosion LR(50"), STR Min 6-14, 2H	.410	1½d6	1d6	44	7	8	8	9	9	10	10	11	50/12	56/14	62/15
	28, 24	2d6	1d6	52	9	9	10	10	11	11	12	13	60/15	67/17	75/19
	20, 16	2d6+1	1d6	61	10	11	12	12	13	13	14	15	70/17	79/20	87/22
	12	2½d6	1d6	70	12	13	13	14	15	15	16	17	80/20	90/22	100/25
	10	3d6	1d6	79	13	14	15	16	17	17	19	20	90/22	101/25	112/28
	4	3d6+1	1d6	87	14	16	17	17	18	19	20	22	100/25	112/28	125/31

FIREBALL SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Fireball Shells AE1, firestarting LR(20"), RR, RP, STR Min 6-14, 2H	.410	1½d6	1d6	60	10	10	11	11	12	13	13	15	66/16	72/17	78/20
	28, 24	2d6	1d6	68	11	12	12	12	14	14	15	16	76/18	83/20	91/23
	20, 16	2d6+1	1d6	77	12	13	14	14	16	16	17	18	86/20	95/22	103/25
	12	2½d6	1d6	86	14	15	15	16	17	18	19	20	96/24	106/25	116/28
	10	3d6	1d6	95	15	16	17	17	19	20	21	22	106/25	117/27	128/31
	4	3d6+1	1d6	103	16	17	18	19	21	21	22	24	116/27	128/30	141/34

FLARE SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14														
NAME	**GAUGE**	**DMG**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Flare Shells Explosion LR(20"), STR Min 6-14, 2H	.410	Sight Flash 5d6	37	6	7	7	7	8	8	9	9	44/11	50/12	56/14
	28, 24	Sight Flash 6d6	45	7	8	9	9	9	10	11	11	52/13	60/15	67/17
	20, 16	Sight Flash 7d6	52	9	9	10	10	11	11	12	13	61/15	70/17	79/20
	12	Sight Flash 8d6	60	10	11	11	12	13	13	14	15	70/17	80/20	90/22
	10	Sight Flash 9d6	67	11	12	13	13	14	15	16	17	79/20	90/22	101/25
	4	Sight Flash 10d6	70	12	13	13	14	15	15	16	17	87/22	100/25	110/27

FLECHETTE SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Flechette Shell AE1, AP LR(50"), RR, RP, STR Min 6-14, 2H	.410	2d6-1	1d6	61	9	10	11	11	12	12	13	13	67/15	74/16	81/18
	28, 24	2d6+1	1d6	79	12	13	14	14	15	16	17	17	87/19	96/21	105/23
	20, 16	2½d6	1d6	90	14	15	16	16	17	18	19	20	100/22	110/24	120/27
	12	3d6-1	1d6	94	14	16	16	17	18	19	20	21	105/23	115/25	126/28
	10	3d6+1	1d6	112	17	19	19	20	21	22	24	25	125/28	137/30	150/33
	4	3½d6	1d6	124	19	21	22	22	24	25	26	27	137/30	151/33	165/37

Exotic Shotgun Ammunition Tables (Continued)

ICE SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Ice Shells AE1, IPE (hide cause of death) LR(20"), RR, RP, STR Min 6-14, 2H	.410	1½d6	1d6	50	8	8	9	9	9	10	10	11	56/12	62/14	69/15
	28, 24	2d6	1d6	60	9	10	10	11	11	12	13	13	67/15	75/17	82/18
	20, 16	2d6+1	1d6	70	11	12	12	13	13	14	15	15	79/17	87/19	96/21
	12	2½d6	1d6	80	12	13	14	14	15	16	17	18	90/20	100/22	110/24
	10	3d6	1d6	90	14	15	16	16	17	18	19	20	101/22	112/25	124/27
	4	3d6+1	1d6	100	15	17	17	18	19	20	21	22	112/25	125/28	137/30

LINKED SHOT SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Linked Shot LR(30"), RR, RP, STR Min 6-14, 2H	.410	1d6+1	1d6	25	4	4	4	4	5	5	5	5	30/7	35/8	40/9
	28, 24	2d6-1	1d6	34	5	6	6	6	6	7	7	7	40/9	47/10	54/12
	20, 16	2d6	1d6	37	6	6	6	7	7	7	8	8	45/10	52/11	60/13
	12	2d6+1	1d6	44	7	7	8	8	8	9	9	10	52/11	61/13	70/15
	10	2½d6	1d6	50	8	8	9	9	9	10	10	11	60/13	70/15	80/18
	4	3d6	1d6	56	9	9	10	10	11	11	12	12	67/15	79/17	90/20

LOCKBREAKER SHOT SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Lockbreaker Shot AE1 Half Effect vs. Non-Doors, LR(20"), RR, RP, 2H	.410	1½d6	1d6	44	6	7	7	7	8	8	8	9	50/10	56/11	62/12
	28, 24	2d6	1d6	52	7	8	8	9	9	9	10	10	60/12	67/13	75/15
	20, 16	2d6+1	1d6	61	9	9	10	10	11	11	12	12	70/14	79/16	87/17
	12	2½d6	1d6	70	10	11	11	12	12	13	13	14	80/16	90/18	100/20
	10	3d6	1d6	79	11	12	13	13	14	14	15	16	90/18	101/20	112/22
	4	3d6+1	1d6	87	12	13	14	14	15	16	16	17	100/20	112/22	125/25

RUBBER SHOT SHELL, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14														
NAME	**GAUGE**	**DMG**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Rubber Shot AE1 LR(20"), RR, RP, STR Min 6-14, 2H	.410	EB 5d6	37	6	6	6	7	7	7	8	8	44/10	50/12	56/12
	28, 24	EB 6d6	45	7	7	8	8	9	9	9	10	52/11	60/13	67/15
	20, 16	EB 7d6	52	8	9	9	9	10	10	11	11	61/13	70/15	79/17
	12	EB 8d6	60	9	10	10	11	11	12	13	13	70/15	80/18	90/20
	10	EB 9d6	67	10	11	12	12	13	13	14	15	79/17	90/20	101/22
	4	EB 10d6	75	11	12	13	14	14	15	16	17	87/19	100/	112/25

SABOTED SLUGS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Saboted Slugs Piercing1 Beam, LR(50"), STR Min 6-14, 2H	.410	1½d6	1d6	35	6	6	6	7	7	7	8	8	37/9	44/10	50/12
	28, 24	2d6	1d6	41	7	7	7	8	8	9	9	10	45/11	52/12	60/14
	20, 16	2d6+1	1d6	47	7	8	8	9	9	9	10	11	52/12	61/14	70/16
	12	2½d6	1d6	54	9	9	10	10	11	11	12	13	60/14	70/16	80/19
	10	3d6	1d6	60	10	10	11	11	12	13	13	14	67/16	79/19	90/21
	4	3d6+1	1d6	66	11	11	12	13	13	14	15	15	75/18	87/20	100/23

Exotic Shotgun Ammunition Tables (Continued)

SEMI-ARMOR PIERCING SLUGS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Semi-Armor Piercing Slugs Semi-AP Beam, LR(50"), STR Min 6-14, 2H	.410	1½d6	1d6	37	6	6	7	7	7	8	8	9	44/10	50/12	56/13
	28, 24	2d6	1d6	45	7	8	8	9	9	9	10	11	52/12	60/14	67/16
	20, 16	2d6+1	1d6	52	8	9	9	10	10	11	11	12	61/14	70/16	79/19
	12	2½d6	1d6	60	10	10	11	11	12	13	13	14	70/16	80/19	90/21
	10	3d6	1d6	67	11	12	12	13	13	14	15	16	79/19	90/21	101/24
	4	3d6+1	1d6	75	12	13	14	14	15	16	17	18	87/20	100/23	112/26

SILENT SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Silent Shells AP, CE (-3 Hearing, -1 Sight) Beam, LR(30"), 2H	.410	1d6+1	1d6	54	9	10	10	11	11	11	13	13	59/15	64/18	69/21
	28, 24	2d6-1	1d6	66	10	12	12	13	13	13	15	16	73/19	80/21	86/25
	20, 16	2d6	1d6	71	11	13	13	14	14	11	16	17	79/20	86/23	94/27
	12	2d6+1	1d6	80	13	15	15	16	16	17	18	19	89/22	98/26	106/29
	10	2½d6	1d6	89	14	16	17	17	18	19	20	21	99/25	109/28	119/32
	4	3d6	1d6	98	16	18	18	19	20	21	27	24	109/27	120/31	131/35

SMOKE SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14														
NAME	**GAUGE**	**DMG**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Smoke Shells CE (-3 Sight Group PER Rolls, 4") LR(20"), STR Min 6-14, 2H	Any	Change Environment 4", -3 to Sight Group PER Rolls, Continuing Charges lasting 1 Turn each	21	4	4	4	4	5	5	26/6	31/7	37/9	42/10	47/11

STEEL SHOT SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14															
NAME	**GAUGE**	**DMG**	**STUN**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Steel Shot LR(30"), RR, RP, STR Min 6-14, 2H	.410	1½d6	1d6	31	5	5	5	6	6	6	6	7	37/8	44/10	50/11
	28, 24	2d6	1d6	37	6	6	6	7	7	7	8	8	45/10	52/11	60/13
	20, 16	2d6+1	1d6	44	7	7	8	8	8	9	9	10	52/11	61/13	70/15
	12	2½d6	1d6	50	8	8	9	9	9	10	10	11	60/13	70/15	80/18
	10	3d6	1d6	56	9	9	10	10	11	11	12	12	67/15	79/17	90/20
	4	3d6+1	1d6	62	9	10	11	11	12	12	13	14	75/17	87/19	100/22

TEAR GAS SHELLS, NON-AUTOFIRE, TWO-HANDED, STR MIN 6-14														
NAME	**GAUGE**	**DMG**	**AcP**	**1**	**2**	**3**	**4**	**5-6**	**7-8**	**9-12**	**13-16**	**17-32**	**33-64**	**65-125**
Tear Gas Sight Group Flash 8d6 AE2, Indirect LR(50"), STR Min 6-14, 2H	Any	Sight Group Flash 8d6 AE2, Delayed Recovery, Indirect, Continuing Charges lasting 1 Turn each	200	38	40	42	44	47	50	210/52	220/55	230/57	240/60	250/62

FIREARMS ACCESSORIES

There are many accessories characters might wish to buy for their guns (or sometimes for other weapons, such as bows). Some are defined as Advantages for the gun's RKA, others as separate Powers. A table at the end of this section gives the Character Point costs for various accessories.

Some accessories are built to attach to any firearm, or any of a group of firearms. Others attach to the integral mounting rails built into many modern firearms, such as the standardized P-rail used on NATO firearms. Some manufacturers make P-rails that attach to guns which don't have integral ones.

Standard Firearm Accessories

The following types of accessories are available for standard firearms. (At the GM's option, characters can mount some of them, such as flashlights and some sights, on shotguns as well.)

BRASS CATCHER

A character who doesn't want to leave the shells ejected from an automatic and semi-automatic firearm lying around as evidence can attach a *brass catcher* to the side of his gun. This is a small box or bag that catches and holds the now-empty casings. In game terms this is bought as a naked Advantage, *Invisible Power Effects* (leaves no shell casings; +¼) with OAF (-1), Real Weapon (-¼), and Side Effects (increases weapon's PER Mod by +1, always occurs; -½). (See the Firearms Accessories Table for costs, if necessary; if the table doesn't list the Active Point cost of a character's gun, either use the next highest Active Point total listed or recalculate the cost on your own.)

CAMERAS

Some of the latest assault rifles are designed (or are being designed) to include cameras mounted on the weapon. The camera transmits a picture back to a lens worn over the user's eye. The shooter uses the camera to see around corners without having to expose any part of his body — he simply pokes the gun around the corner so he can see what the camera sees. The camera can also transmit pictures back to a commander or database so that rear-echelon leaders can see what the field soldiers see.

In game terms, a rifle-mounted camera is No Range Clairsentience (Sight Group) with a battery (Continuing Fuel Charge) that offers about three hours of performance.

FLASHLIGHTS AND SPOTLIGHTS

This device is a small, high-powered flashlight that attaches to the gun (usually underneath the front of the barrel, or to the front of the trigger guard). In game terms, it's bought this way: Sight Group Images 1" radius, +4 to PER Rolls (22 Active Points); OAF (-1), Limited Range (10"; -¼), Only To Create Light (-1), Real Weapon (-¼), 1 Continuing Fuel Charge (batteries; easily replaced; 1 Hour; -0) (total cost: 6 points).

Rifles, assault rifles, and other large weapons can potentially carry much larger spotlights if necessary; these mount to the top of the weapon. For these, extend the length of the Limited Range. Some spotlights generate infrared or ultraviolet light, but characters need special equipment (such as nightsight goggles) to see such beams. For these, change the *Only To Create Light* (-1) Limitation to *Only To Create IR (or UV) Light* (-1¼) (total cost: 6 points).

FLASH SUPPRESSORS

Flash suppressors hide the muzzle flash of a gun from normal sight. They're usually found only on rifles, but it's assumed characters could make or buy flash suppressors for handguns if they wished. Flash suppressors can be combined with silencers, but not with recoil compensators.

In game terms, a flash suppressor is bought as Invisible to Normal Sight (+¼) for firearms of various Active Points with the Limitations *OAF* (-1) and *Real Weapon* (-¼). (See the Firearms Accessories Table for costs, if necessary; if the table doesn't list the Active Point cost of a character's gun, either use the next highest Active Point total listed or recalculate the cost on your own.) The Invisible Power Effects only covers the muzzle flash; the character firing the gun has to use Stealth or other means to conceal the gun itself.

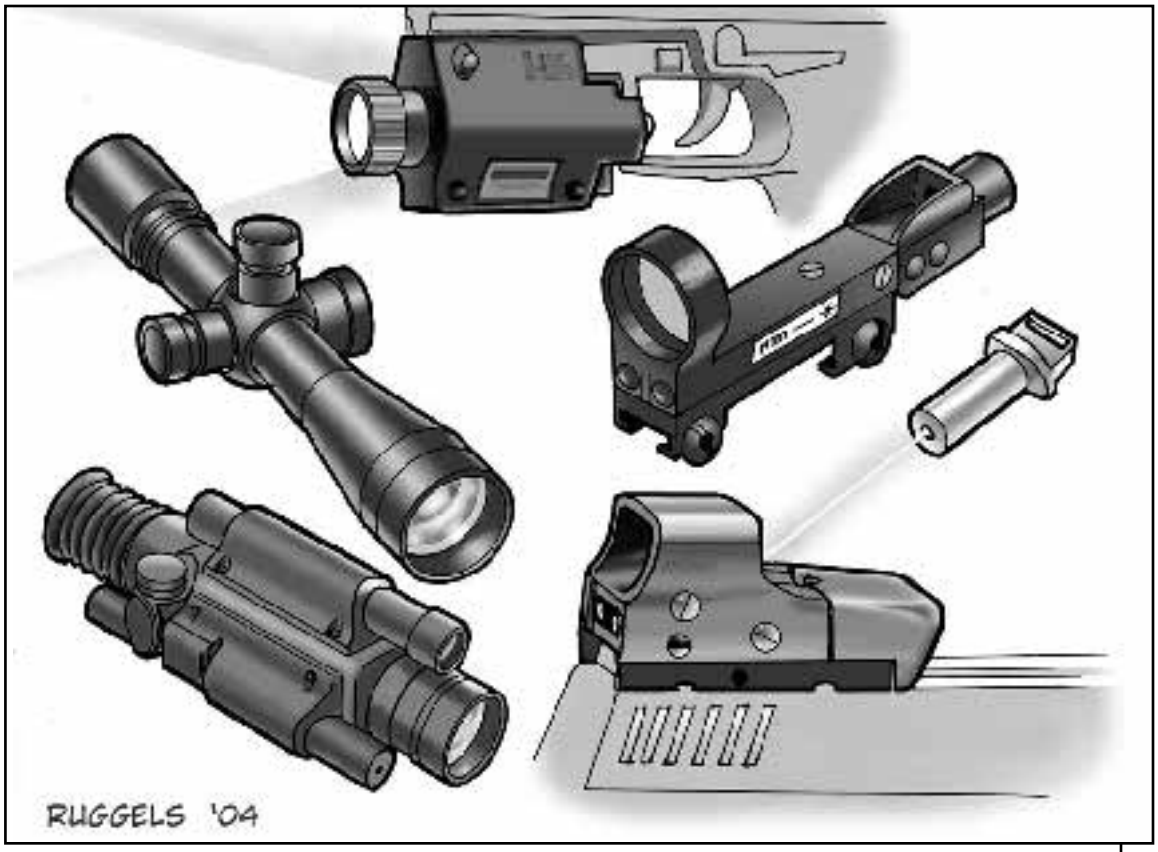
Rifle Grenade Launcher

Most modern flash suppressors also act as rifle grenade launchers. Rifle grenades are 22mm grenades fired from the end of a rifle using special blank cartridges (or ordinary ball ammunition if the grenade is equipped with a "bullet trap"). Characters who want their flash suppressors to have this capability can, with the GM's permission, buy them as Multipowers (one slot with the naked *Invisible Power Effects* Advantage, one with STR only for throwing grenades, as in the table on page 113). Alternately, the GM can simply allow all flash suppressors to function this way at no cost.

LANYARDS

A lanyard is a cord attached to a gun (usually on the bottom of the grip for a revolver or other guns with solid grips, other places for any gun that inserts the magazine into the grip). When looped around the shooter's wrist, a lanyard makes it impossible for the character to drop his gun (or be disarmed), unless the cord somehow breaks.

In game terms, a lanyard is defined as follows: Telekinesis (4 STR), Reduced Endurance (0 END; +½) (9 Active Points); OAF (-1), No Range (-1), Only To Hold Onto/Recover One Gun (-2), Real Weapon (-¼) (total cost: 2 points). The character can use the Telekinesis as a Zero-Phase Action to "reel the gun in" when he's Disarmed or has to let it go for some reason.



RANGEFINDERS

These small but handy devices use a laser to measure the exact distance to the target. They're bought as Absolute Range Sense, OAF (-1), Real Weapon (-¼), Only When Shooter Braces And/Or Sets (-1).

RECOIL COMPENSATORS

As discussed on *Dark Champions,* page 194, guns have recoil when fired, and this recoil can throw off a character's aim. *Recoil compensators,* also known as muzzle brakes, help to reduce recoil by channeling some of the explosive force of a gun's discharge upward at the end of the barrel. They're most often found on automatic weapons (*i.e.,* weapons with the *Autofire* Advantage), but there are recoil compensators for some handguns.

Recoil compensators come in two types. The first attaches to a gun's muzzle, thus extending the length of the barrel by an inch or two (usually this has no game effect, but the GM might increase the gun's PER Mod by 1 if appropriate). The second involves cutting or drilling holes into the barrel itself, and thus adds no length... but the permanent alteration to the barrel means the gun can never use a silencer or flash suppressor.

In game terms, recoil compensators are bought as Recoil Skill Levels — Penalty Skill Levels that diminish or negate the recoil penalty. They have the Limitations *OAF* (-1) and *Real Weapon* (-¼), and *Side Effects* (+1 to firearm's Hearing PER modifier, always occurs; -½) (see the Firearms Accessories Table for costs, if necessary). Because they're PSLs, the device doesn't improve the character's OCV until after his first shot against a single target — all it can do is counteract some or all of the OCV penalty for recoil. The device only works when a character uses Autofire, Multifire, or Rapid Fire against a single target; it has no effect on Autofire or Rapid Fire penalties when the character attacks multiple targets.

Handguns should not buy recoil compensators that provide more than +1 OCV. Other types of firearms can buy any type of recoil compensator, unless the GM rules otherwise.

Characters cannot use recoil compensators together with a silencer and/or a flash suppressor. In fact, a recoil compensator makes a gun louder.

SIGHTS AND SCOPES

Characters can buy sights and scopes for almost any kind of gun. They range from simple iron sights to telescopic scopes to laser-based sights. These devices help the shooter to aim better, and thus are bought as Combat (and/or Range) Skill Levels with the *OAF* (-1) and *Real Weapon* (-¼) Limitations (and possibly other Limitations, often including that they do not work unless the shooter uses the *Brace* and/or *Set* Combat Maneuvers (-1)). All guns come with standard iron sights (+0 OCV, +0 RMod) for free.

Some sights and scopes also include, or are combined with, a Rangefinder (see above). Typically a character only has one type of sight or scope on a gun, but it's possible to install more than one on some firearms. In that case, the GM should require the character to choose which one he's using for any given shot; characters can't combine the effects of two sights unless the text indicates otherwise or the GM specifically permits it.

Collimating And Reflex Sights

Collimating and reflex sights (*a.k.a.* red dot sights) have a lens on which the device electronically generates a dot (or other marker) that shows the weapon's point of aim. All the shooter has to do is adjust where the weapon's pointing until the dot overlays the target. Unlike with a laser sight, only the shooter can see the "aiming dot." These devices let the shooter keep both eyes open, and also improve his ability to acquire the target in low-light conditions.

Collimating and reflex sights have a range of about 250 meters (125").

Laser Sights

Also known as *targeting lasers,* laser sights work by placing a "dot" of laser light on the point where the gun is aimed, thus showing the shooter where his shot will hit. Unlike most sights, they don't require the shooter to Brace and/or Set. (Realistically, the GM might consider imposing that restriction, but dramatically they don't seem to require that sort of aiming.)

Laser sights that use standard light do not work well in smoke, mist, or similar conditions, or against brightly-colored backgrounds (and smoke or mist may make the entire beam visible, showing the enemy exactly where the character is). A -¼ Limitation, *Does Not Work In Adverse Conditions,* reflects these restrictions. Furthermore, standard laser sights are only useful out to 64" (a -¼ Limitation). But because the target can see the dot of laser light on him (and thus knows exactly where he'll get hit by the shot), a standard laser sight can improve some Presence Attacks (see *Dark Champions,* page 60).

Some laser sights use infrared lasers. These also only work out to a range of 64", but don't suffer from the other restrictions of standard laser sights. However, the shooter must have some means of perceiving IR light to use them (a -0 Limitation).

The 64" range restriction for either type of laser assumes a smaller, pistol-mounted laser sight. Larger models — about the size of a conventional flashlight — are available for long arms. These have a range of about 8,000 meters (4,000", or five miles)... though of course that doesn't mean the weapon can fire that far. To simulate these, remove the *Limited Range* (-¼) Limitation.

In game terms, laser sights provide +2 OCV. Small ones also provide +8 versus the Range Modifier (enough to cancel the Range Modifier at their maximum range of 64"); larger ones increase that to +14. At the GM's option, only half of the Range Skill Levels apply unless the character Braces and/or Sets.

Some devices combine a flashlight (or spotlight) and a laser sight.

Micrometer Sights

A micrometer sight is a precisely-calibrated sight that can be adjusted in micrometer increments for accurate distance shooting. In game terms it provides a significant number of Range Skill Levels, but requires Extra Time to prepare for use (a Full Phase, so all told aiming and shooting with a micrometer sight requires an Extra Phase). The character must take the Full Phase to adjust the sight before every shot, unless the last target he shot at is the same distance away from him as his current target.

Nightsight Scopes

Nightsight scopes (sometimes referred to as "starlight scopes") provide passive light enhancement — rather than generating any light on their own, they amplify the ambient light, thus theoretically "turning night into day" for the person looking through them (though the world seen through the scope appears in a monochrome green, not color). They also allow the user to see infrared light. They don't function in total darkness (since then there's no light for them to amplify), and they emit ultrasonic sound (which animals, and characters with proper equipment, can hear).

In game terms, a nightsight scope provides a PER Roll bonus to overcome darkness modifiers — +2 to +4, depending on the sophistication of the device. The Limitations on this are OAF (-1), Real Weapon (-¼), Only To Counteract Darkness Penalties (-½), Only When Shooter Braces And/Or Sets (-1), Requires Ambient Light (it won't work in total darkness; -¼), and Side Effect (character suffers a 2 x Effect Vulnerability to Sight Group Flashes based on bright light while looking through the scope, and may experience a minor Sight Group Flash from looking at a bright light, always occurs; -½). The device also provides Detect Infrared Light (Sight Group) with most of these same Limitations.

Telescopic Sights

Telescopic sights, or *scopes,* are telescope-like devices that mount on top of a firearm. They're rated by how much they magnify the target. For example, a x2.0 scope makes the target seem twice as large, effectively halving the range to it in terms of shooting accuracy when the shooter takes the time to aim. Additionally, telescopic sights amplify ambient light slightly, and usually have illuminated reticles, making it a little easier for the user to see at night.

In game terms, telescopic sights are bought as both Range Skill Levels and the *Telescopic* Sense Modifier for the Sight Group, all with the Limitations *OAF* (-1), *Real Weapon* (-¼), and *Only When Shooter Braces And/Or Sets* (-1). They also provide a minor Sight Group PER Roll bonus that only counteracts the darkness penalty.

Thermal Sights

Thermal sights (also referred to as a thermal-imaging weapon sights, or TWS) are passive infrared sensors — they perceive patterns of heat, such as the body heat given off by a person or animal, or the heat of a vehicle's engine. They can "see" through light obstacles, such as most foliage, but not heavy ones like walls. They require two minutes to "warm up" when activated, and have a battery life of about four to five hours.

In game terms, thermal sights are Infrared Perception (Sight Group) with OAF (-1), Extra Time (2 Minutes to activate; -¾), Real Weapon (-

¼), Only When Shooter Braces And/Or Sets (-1), 1 Continuing Fuel Charge lasting 5 Hours (-0).

Targeting Computer

The lastest advances in sighting and aiming technology are targeting computers, which can only be built into long arms such as assault rifles (though in more cinematic campaigns the GM could waive that restriction if desired). Using its built-in rangefinder, advanced nightsight device, video imager (equivalent to a telescopic sight), other sensors, and a dedicated ballistics computer, a targeting computer can accurately track the range to a target, improving the shooter's chance of hitting the target or placing a launched grenade just where he wants it to be when it explodes. Its battery has about three hours of power.

In game terms, a targeting computer provides various OCV Levels and Range Skill Levels with OAF (-1), Real Weapon (-¼), Only When Shooter Braces And/Or Sets (-1), and 1 Continuing Fuel Charge lasting 3 Hours (-0). Additionally it incorporates a Rangefinder, Type III Nightsight Scope, and a video imaging system that's equivalent to a x3 Telescopic Sight. The cost listed on the Firearms Accessories Table includes all of these devices (the listed RMod bonus includes both the computer's bonus and the bonus from its "x3 Telescopic Sight").

SILENCERS

Firearms make a lot of noise when fired. The expanding gases that propel a bullet create a loud "boom" as they leave the barrel, and the bullet itself makes a "crack" as it breaks the sound barrier. The accompanying table lists the standard Hearing PER Roll modifiers to hear various types of guns being fired.

Silencers, more accurately known as sound suppressors, trap the exploding gases given off when a gun is fired, thus muffling the sound of the explosion which propels the bullet forward. Silencers use baffles and/or absorbent materials to prevent the gases from escaping.

Silencers come in two types: integral and attached. An integral silencer is built into the gun and can't be detached. An attached silencer can be put on or taken off a gun as desired, but the muzzle of the gun has to be specially threaded to accept a silencer. Attaching or detaching this type of silencer takes a Full Phase (or a Half Phase if a character succeeds with a Fast Draw (Small Arms) roll). An attached silencer increases a gun's PER Mod (+1 for handguns, +2 or more for submachine guns and larger arms).

Most guns can be silenced, though submachine guns, rifles, and any gun capable of automatic fire need a silencer larger than those required for semi-automatic handguns (in other words, silencers aren't universally compatible; treat them as appropriate only for a single type of firearm). Revolvers cannot be silenced, because their open cylinder allow so much gas to escape. Shotguns cannot be silenced through conventional means, though Silent shells are available (see page 75).

Silencers tend to wear out — as more shots are taken, they allow more and more noise to leak through until they're effectively useless. For game purposes most GMs don't worry about this, but GMs in some high-"realism" games might want to give silencers Charges. Most modern silencers perform reasonably well for several hundred (or even thousand) shots.

In game terms, you can build silencers one of two ways. To create a "cinematic" silencer — one that functions with the efficiency of silencers in movies — apply Invisible to Hearing Group (+¼) to the firearm as a naked Advantage, with the Limitations *OAF* (-1) and *Real Weapon* (-¼).

More "realistic" silencers are built with Change Environment to diminish — but not necessarily entirely eliminate — the Hearing PER Roll modifier for various firearms. The Firearms Accessories Table lists the costs and qualities of various types of "realistic" silencers. Of course, even if a silencer completely negates a gun's Hearing PER Roll modifier, that doesn't mean a character can't hear the gun — just that he gets no bonus to do so.

Some silencers also act as flash suppressors; characters could combine both accessories into one device if the GM allows. Silencers are incompatible with recoil compensators.

Characters can make crude homemade silencers if they have appropriate materials and succeed with a Weaponsmith (Firearms) roll at -2. These function as Poor quality silencers, and only work for one shot. A lot of objects can function as "one-time silencers"; for example, firing through a pillow, towel, or similar object can effectively silence a bullet.

Other Firearm Sounds

Silencers only muffle the sound of the explosion that launches a bullet; they do not affect the sounds of the gun's parts operating or the "crack" made by bullets as they break the sound barrier.

To eliminate the supersonic crack, a gun has to fire Subsonic ammunition (see page 71). Alternately, some silencers are drilled with small holes to allow enough of the propellant gases to escape so that the bullet does not travel fast enough to break the sound barrier. Other silencers use "wipes" (a type of baffle) to slow the bullet down to subsonic speeds; these wear out quickly (in game terms, give them 20-32 Charges) and prevent the shooter from

FIREARMS NOISE

Type Of Firearm	Bonus To Hearing PER Rolls
Assault Rifle	+5
Handgun	+3
Rifle	+5
Shotgun	+5
Submachine Gun	+4
Other Situations	**Bonus To Hearing PER Rolls**
Cycling of the action	+1
Pulling back a gun's hammer	+1
Pumping a pump-action shotgun	+2
Reloading a clip	+1
Working a bolt action	+2

using any ammunition that expands on contact with the target (such as Hollow Point or Frangible rounds). This "slowing" effect reduces the damage caused by the bullet to about 75% of normal; use the damage figures for an equivalent Subsonic cartridge. In game terms, you can build these "slowing silencers" by applying a *Side Effects* Limitation (silencer makes gun do 75% of its regular damage, always occurs; -½).

To eliminate the sound of the action cycling, a gun needs a slide-stop (see below).

To eliminate the sound of the trigger being pulled and the hammer falling, a gun needs an electronic trigger, which means it has to use Caseless ammunition (see page 67).

SLIDE-STOP

Silencers cannot affect the mechanical action of a gun as the action cycles, which makes a distinct noise (+1 to Hearing PER Rolls to perceive). Semi-automatic firearms can be fitted with a *slide-stop* (also called a slide-lock) to prevent the action from cycling. The only mechanical sounds made by guns with this attachment are the trigger being pulled and the hammer falling. However, guns with slide-stops can only fire a single shot at a time; characters cannot use Autofire, Multifire, or Rapid Fire with them. Furthermore, the shooter has to cycle the action manually between shots (this requires a Half Phase Action).

In game terms, a slide-stop is typically bought as follows: Change Environment 1" radius, -1 to Hearing PER Rolls, Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), Self Only (only counteracts the noise caused by the gun's action cycling; -½), Side Effects (prevents multiple shots, always occurs; -½) (total cost: 2 points). (For a more cinematic slide-stop, buy the device as Invisible to Hearing Group, using the same cost as for cinematic silencers.)

Shotgun Accessories

The following accessories are specific to shotguns.

ROPETHROWER

Ropethrowers are an attachment to the barrel of a shotgun that uses the force of a fired shell to shoot a rope and grapnel. In game terms, characters can buy this as follows: Swinging 10" (10 Active Points); OAF (-1), Extra Time (Extra Phase; -¾), Uses 1 Charge From A Shotgun RKA (-¼), Real Weapon (-¼) (total cost: 3 points).

SHELL ADAPTER

A shell adapter allows a shotgun to fire normal bullets. The caliber of bullet is dictated by the size and type of shell adapter, but regardless of bullet type, using a shell adapter imposes a -1 OCV penalty on the shot. Inserting or removing a shell adapter takes 1 Minute.

In game terms, the best way to build this device is to have it convert a shotgun into a Multipower — one slot for shotgun rounds, one shot for the standard bullet the character could fire with the adapter, and Extra Time (1 Minute) on the Reserve to represent the time it would take to switch slots. Characters can build their own individual weapons that way if desired (or if the GM prefers), but building a shell adapter as a "generic" shotgun accessory that way would be needlessly complex. Therefore, the Firearms Accessories Chart simply indicates a cost of 1 Character Point (the GM can change this if necessary).

SHOTGUN BARREL FLATTENING

A character can increase the spread pattern of his shotgun by flattening the barrel slightly. This is bought as an additional +¼ Advantage to expand the shotgun's normal Area Of Effect (One Hex) into Area Of Effect (One Hex Doubled).

SHOT SPREADER

A shot spreader is essentially the opposite of a choke: it's a device to increase the spread pattern of shot as it emerges from the shotgun's muzzle. This allows the shooter to hit a lot of close targets with devastating effectiveness, but significantly decreases a shotgun's deadliness at greater ranges. In game terms, a shot spreader changes a shotgun's Area Of Effect (One Hex) to an Area Of Effect (Cone), and its Limited Range (20"; -¼) to No Range (-½). A character should recalculate the cost of his shotgun with these alterations.

FIREARMS ACCESSORIES TABLE

Standard Firearms Accessories

Name	A/R Cost	OCV	RMod	Notes
Brass Catcher				
10 Active Point gun	2/1	—	—	IPE (leaves no shell casings) (+¼)
20 Active Point gun	5/2	—	—	IPE (leaves no shell casings) (+¼)
30 Active Point gun	7/2	—	—	IPE (leaves no shell casings) (+¼)
40 Active Point gun	10/4	—	—	IPE (leaves no shell casings) (+¼)
50 Active Point gun	12/4	—	—	IPE (leaves no shell casings) (+¼)
60 Active Point gun	15/5	—	—	IPE (leaves no shell casings) (+¼)
70 Active Point gun	17/6	—	—	IPE (leaves no shell casings) (+¼)
80 Active Point gun	20/7	—	—	IPE (leaves no shell casings) (+¼)
90 Active Point gun	22/8	—	—	IPE (leaves no shell casings) (+¼)
100 Active Point gun	25/9	—	—	IPE (leaves no shell casings) (+¼)
Camera	25/10	—	—	Clairsentience (Sight Group), NR
Flashlight	22/6	—	—	+4 Sight Group PER in darkness, LR (10" or more)
Flash Suppressor				
10 Active Point gun	2/1	—	—	Invisible to Normal Sight (+¼)
20 Active Point gun	5/2	—	—	Invisible to Normal Sight (+¼)
30 Active Point gun	7/3	—	—	Invisible to Normal Sight (+¼)
40 Active Point gun	10/4	—	—	Invisible to Normal Sight (+¼)
50 Active Point gun	12/5	—	—	Invisible to Normal Sight (+¼)
60 Active Point gun	15/7	—	—	Invisible to Normal Sight (+¼)
70 Active Point gun	17/7	—	—	Invisible to Normal Sight (+¼)
80 Active Point gun	20/9	—	—	Invisible to Normal Sight (+¼)
90 Active Point gun	22/10	—	—	Invisible to Normal Sight (+¼)
100 Active Point gun	25/11	—	—	Invisible to Normal Sight (+¼)
Lanyard	9/2	—	—	Telekinesis (4 STR), Only On One Gun
Rangefinder	3/1	—	—	Absolute Range Sense, OBS
Recoil Compensator				
Type 1	3/1	+1	—	SE (+1 Hearing PER Rolls), Only Versus Recoil Penalties
Type 2	6/2	+2	—	SE (+1 Hearing PER Rolls), Only Versus Recoil Penalties
Type 3	9/3	+3	—	SE (+1 Hearing PER Rolls), Only Versus Recoil Penalties
Sights and Scopes				
Collimating/Reflex	46/14	+2	+10	LR (125"), OBS; also provides +2 PER versus darkness
Laser Sight				
Standard, Small	34/13	+2	+8	LR (64"), Not In Adverse Conditions
Infrared, Small	34/14	+2	+8	LR (64"), User Must Be Able To Perceive IR Light
Standard, Long Arm	52/21	+2	+14	Not In Adverse Conditions
Infrared, Long Arm	52/23	+2	+14	User Must Be Able To Perceive IR Light
Micrometer Sight	42/14	—	+14	OBS, Extra Phase to aim and shoot
Nightsight Scope				
Type I	9/2	—	—	+2 PER versus darkness, Detect Infrared Light, OBS
Type II	12/3	—	—	+3 PER versus darkness, Detect Infrared Light, OBS
Type III	15/3	—	—	+4 PER versus darkness, Detect Infrared Light, OBS
Telescopic Sight				
x2	20/7	—	+3	+3 vs. RMod for Sight Group, +1 PER vs. darkness, OBS
x3	26/9	—	+4	+4 vs. RMod for Sight Group, +1 PER vs. darkness, OBS
x4	38/11	—	+6	+6 vs. RMod for Sight Group, +1 PER vs. darkness, OBS
x6	56/17	—	+9	+9 vs. RMod for Sight Group, +1 PER vs. darkness, OBS
x8	74/23	—	+12	+12 vs. RMod for Sight Group, +1 PER vs. darkness, OBS
x10	92/29	—	+15	+15 vs. RMod for Sight Group, +1 PER vs. darkness, OBS

Firearms Accessories Table (Continued)

Name	A/R Cost	OCV	RMod	Notes
Thermal Sight	5/1	—	—	Infrared Perception (Sight Group), OBS
Targeting Computer	70/20	+2	+10	Type III Nightsight, x3 Telescopic Sight, Rangefinder, OBS
Silencer, Cinematic				
10 Active Point gun	2/1	—	—	Invisible to Hearing Group (+¼)
20 Active Point gun	5/2	—	—	Invisible to Hearing Group (+¼)
30 Active Point gun	7/3	—	—	Invisible to Hearing Group (+¼)
40 Active Point gun	10/4	—	—	Invisible to Hearing Group (+¼)
50 Active Point gun	12/5	—	—	Invisible to Hearing Group (+¼)
60 Active Point gun	15/7	—	—	Invisible to Hearing Group (+¼)
70 Active Point gun	17/7	—	—	Invisible to Hearing Group (+¼)
80 Active Point gun	20/9	—	—	Invisible to Hearing Group (+¼)
90 Active Point gun	22/10	—	—	Invisible to Hearing Group (+¼)
100 Active Point gun	25/11	—	—	Invisible to Hearing Group (+¼)
Silencer, Realistic				
Small, Poor Quality	5/1	—	—	CE (-1 Hearing PER Rolls), Reduces/Eliminates Firing Noise
Small, Average Quality	8/2	—	—	CE (-2 Hearing PER Rolls), Reduces/Eliminates Firing Noise
Small, High Quality	11/3	—	—	CE (-3 Hearing PER Rolls), Reduces/Eliminates Firing Noise
Large, Poor Quality	11/3	—	—	CE (-3 Hearing PER Rolls), Reduces/Eliminates Firing Noise
Large, Average Quality	14/4	—	—	CE (-4 Hearing PER Rolls), Reduces/Eliminates Firing Noise
Large, High Quality	17/5	—	—	CE (-5 Hearing PER Rolls), Reduces/Eliminates Firing Noise
Slide-Stop	7/2	—	—	CE (-1 Hearing PER Rolls), Cancels Out Action's Noise

Shotguns Accessories

Name	A/R Cost	OCV	RMod	Notes
Ropethrower	10/3	—	—	Swinging 10", Extra Time (Extra Phase), Uses 1 Shotgun Charge
Shell Adapter	-/1	—	—	Lets shotgun fire one type of bullet, 1 Minute to switch
Shotgun Barrel Flattening	var/var	—	—	Increase to AE1 Doubled
Shot Spreader	var/var	—	—	Changes shotgun to AEC and NR

KEY/NOTES

All devices have the Limitations *OAF* (-1) and *Real Weapon* (-¼)

A/R Cost: The Active Point/Real Point cost of the accessory.

OCV: The OCV modifier the accessory provides, if any. See page 200-01 for information on how this is bought, though the *Two-Handed* (-½) Limitation is not applied since these devices might be attached to handguns or the like.

RMod: The Range Modifier modifier the accessory provides, if any. See page 200-01 for information on how this is bought, though the *Two-Handed* (-½) Limitation is not applied since these devices might be attached to handguns or the like.

Notes: Pertinent notes and information about the accessory.

AEC: Area Of Effect (Cone)

CE: Change Environment

IPE: Invisible Power Effects

LR: Limited Range

NR: No Range

OBS: Only When Shooter Braces And/Or Sets (-1)

SE: Side Effects

FIREARMS MODIFICATIONS AND CUSTOMIZATION

Characters can modify, customize, or improve their guns in many different ways. Listed below are several examples, for which you can find the costs in the accompanying table (most take the Limitations *OAF* (-1) and *Real Weapon* (-¼)). See *Weaponsmith, Dark Champions,* page 83, for information about the time and skills needed to make these modifications.

Because the *HERO System* Attack Roll rules make each +1 OCV very effective, many of the listed modifications provide less than that — a +0.5 OCV modifier. To gain any benefit from these, a character has to install two different modifications that each provide +0.5 OCV (for a total of +1). For these purposes, a +0.5 OCV bonus costs 2 Character Points.

Some of the modifications are listed as costing no points. To discourage PCs from always taking them, the GM may want to change that to 1 Character Point.

Ambidextrous Conversion: Most guns are made to be shot by right-handed persons. This modification makes the gun easily usable by persons of either handedness.

Barrel Coating: A special microscopic coating applied to the inside of the barrel. This smooths the barrel, reduces fouling, and increases the gun's accuracy and the speed with which it can be fired.

Barrel Fluting: Fluting involves cutting radiused grooves down the length of a rifle's barrel. This allows the barrel to cool more quickly, thus extending its lifespan. In game terms, this has no effect, but reduces a rifle's weight by about 560-700 grams.

Clear Grips/Magazine: Semi-automatic guns can be equipped with clear plastic grips and/or magazines so that the shooter can see how much ammunition is left at any time (checking ammo status is a Zero-Phase Action).

Cryotreatment: Exposing a gun to controlled temperatures of -300 degrees Fahrenheit strengthens the steel in it. This decreases barrel warpage from the heat of shooting and thus improves accuracy.

Custom Grips/Stock: A custom grips or stock, specially molded to fit the user's hand and arm, can improve accuracy. This provides a +0.5 OCV bonus, but imposes a -1 OCV penalty whenever anyone else tries to use the gun.

Electronic Trigger: It's possible to replace the mechanical trigger in some guns with an electronic trigger, which is noiseless because it has no mechanical action — firing the gun is more like pressing a button than pulling a trigger. However, this only works for guns that fire Caseless ammunition, since an electronic charge cannot activate Standard ammunition. This modification does not work in conjunction with Improved Trigger or Hair Trigger.

Enlarged Magazine: Using the Firearms Cost/Upgrade Tables (pages 76-93), you can increase the size of a semi-automatic or automatic firearm's magazine. Some modern designs, such as the cylindrical magazine of the Calico M-950 or the C-Mag drum magazine for various assault rifles, pack a surprisingly large number of rounds into a small space — some don't even change the weapon's PER Mod.

Fine Tuning: General improvements by a gunsmith can make a gun more accurate (+.5 or +1 OCV).

Hair Trigger: A hair trigger fires the gun with only the slightest pressure (most triggers require several pounds of pressure). This makes the gun quicker to fire, which can be useful in a gunfight... but can also increase the chance of an accidental firing. If a character's Unluck activates or he rolls a fumble (*Dark Champions,* page 187), an accidental shooting is a definite possibility. This modification does not work in conjunction with Improved Trigger or Electronic Trigger.

Improved Bedding: Rifle barrels are "bedded" to prevent excessive barrel movement, which negatively affects aim. An improved bedding makes the barrel even steadier, improving aim beyond that of ordinary rifles. Only rifles can benefit from this modification.

Improved Firing Pin: One of the factors affecting accuracy is *locktime* — the amount of time between when the trigger is squeezed and the bullet is fired. In this interval, even if it's measured in microseconds, a shooter's aim can wander. An Improved Firing Pin, usually made of titanium, strengthens the spring. This decreases locktime and increases accuracy without adding to the weight of the gun.

Improved Range: A gunsmith can fine-tune a gun to improve its accuracy over long distances. Although this is most commonly done with rifles, the procedure also works with handguns.

Improved Trigger: Modifications to the trigger to make it easier and smoother to use, thus improving accuracy. This modification does not work in conjunction with Electronic Trigger or Hair Trigger.

Personalization: Some "smart" guns only work for their owners, thus making it impossible for an attacker to take the gun away and use it against its owner. A smart gun has devices in its grip which read the signal from a ring worn by the owner and only fire if the hand holding the gun is wearing the ring. (More technologically-advanced versions might have fingerprint or DNA readers built into the grip, or the like.) In *HERO System* terms, smart guns are Personal Foci instead of Universal Foci.

Pistol Stock: Some handguns have detachable, rifle-like stocks that the shooter can attach to stabilize the gun for long-distance shots. Attaching or detaching the stock requires a Half Phase Action (or a Zero-Phase Action if the character succeeds with a Fast Draw (Small Arms) roll).

Polygonal Rifling: Guns with polygonal rifling have a better gas seal, which creates the maximum "push" possible on the bullet and decreases barrel friction. This causes the bullet to travel faster and do more damage (RKA +1 point).

FIREARMS MODIFICATIONS AND CUSTOMIZATION TABLE

Name	A/R Cost	OCV	RMod	Notes
Ambidextrous Conversion	0	—	—	
Barrel Coating	2/1	+.5	+0	
Barrel Fluting	0	—	—	Reduces gun's weight
Clear Grips/Magazine	0	—	—	Shows how much ammuntion is left
Cryotreatment	2/1	+.5	+0	
Custom Grips/Stock	2/1	+.5	+0	-1 OCV for other users
Electronic Trigger	7/2	—	—	CE (-1 Hearing PER Rolls), cancels out trigger's noise, requires Caseless ammo
Fine Tuning I	2/1	+.5	+0	
Fine Tuning II	5/2	+1	—	
Hair Trigger	1/1	—	—	+1 Lightning Reflexes for shooting the gun
Improved Bedding	2/1	+.5	+1	
Improved Firing Pin	2/1	+.5	+0	
Improved Range I	3/1	+0	+1	+1 PER Mod
Improved Range II	6/2	+0	+2	+2 PER Mod
Improved Trigger	2/1	+.5	+0	
Personalization	0	—	—	Makes gun a Personal Focus
Pistol Stock	3/1	—	+1	+2 PER Mod
Polygonal Rifling	var/var	—	—	+1 point RKA
Sawed-Off Shotgun	var/var	—	—	Changes shotgun to Area Of Effect (Cone) and No Range
Size Reduction I	0	—	—	-1 PER Mod
Size Reduction II	0	—	-1	-2 PER Mod
Streamlining	2/1	—	—	+1 to Fast Draw (Small Arms)
Watertight	0	—	—	Makes gun watertight
Weight Reduction	0	—	—	Makes gun weigh up to 25% less

Sawed-Off Shotgun: A sawed-off shotgun is one that's had most of its barrel cut off for either or both of two purposes: to make it easier to conceal or to cause the shot to spread more quickly. In game terms, sawing off a shotgun's barrel changes the shotgun's Area Of Effect (One Hex) to an Area Of Effect (Cone), and its Limited Range (20"; -¼) to No Range (-½). The character should recalculate the cost of his shotgun with these alterations. Additionally, the shotgun's PER Mod drops from the usual +4 to +6 for most shotguns to +2 to +3.

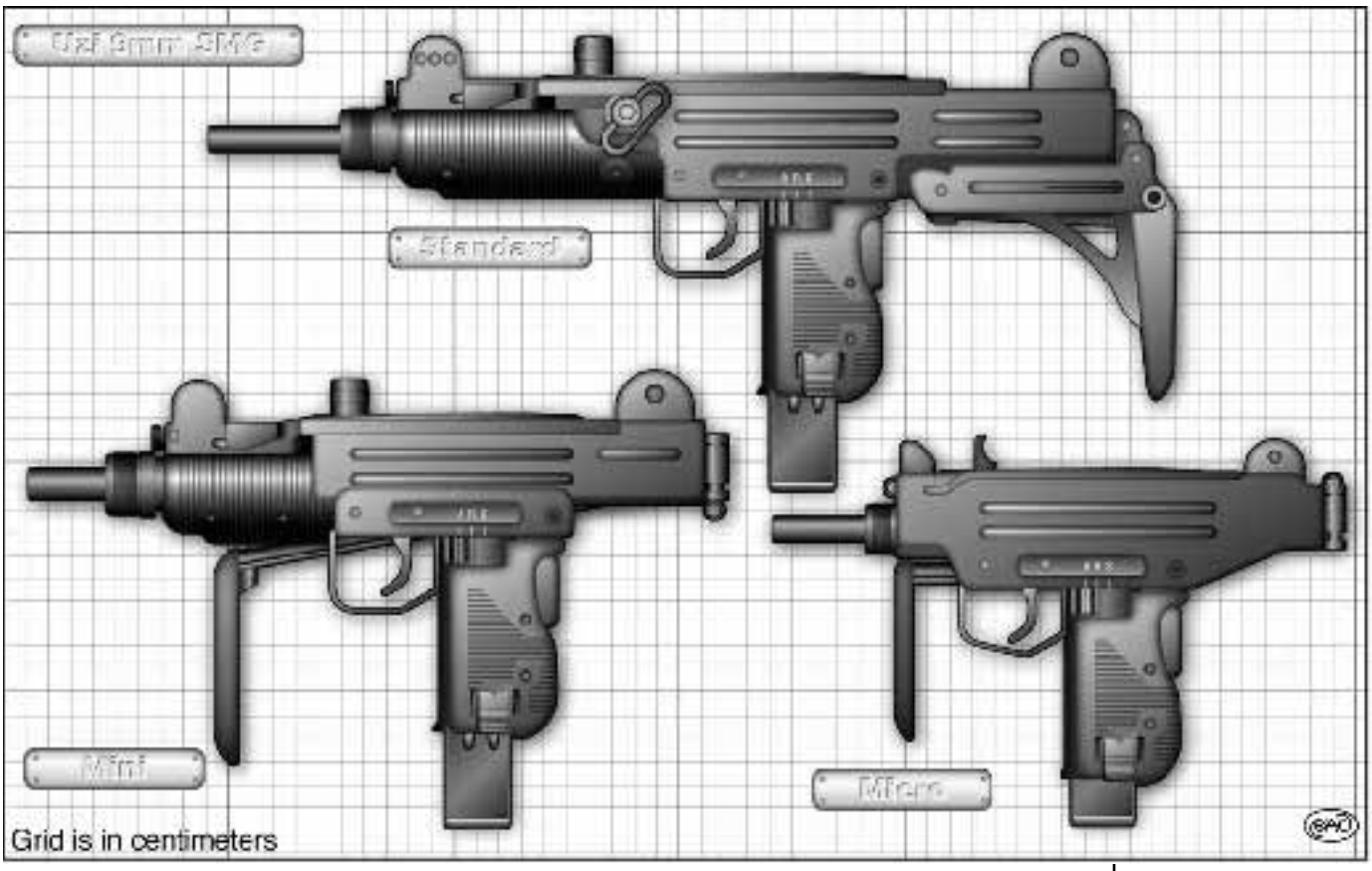
Characters can only convert double-barreled shotguns into sawed-off shotgun. Sawing off a pump-action shotgun would involve sawing off the magazine and pump as well.

Size Reduction: Removing or trimming away unnecessary metal and parts of a gun can reduce its size (*i.e.,* PER Mod) without significantly affecting its accuracy. In game terms, this changes the weapon's PER Mod.

Streamlining: By trimming and smoothing the edges of a gun, a gunsmith can make it easier to draw because it's less likely to snag on holster material or clothing.

Watertight: A gunsmith can create and seal a gun so that it's watertight.

Weight Reduction: By trimming away unnecessary metal and replacing some parts of the gun with lighter-weight equivalents, a character can make his gun weigh up to 25% less.



Disguised Weapons And Gadgets ⚠

The Concealment rules from pages 450-51 of the *HERO System 5th Edition, Revised* rulebook presume a character's concealing Obvious, Accessible Foci. Examples include a stilleto worn in an arm sheath under a character's sleeve, a small handgun tucked into the back of his pants underneath his sports jacket, or a straight razor hidden in a boot.

But many of the firearms and other weapons built for characters aren't just hidden, they're *disguised* — in other words, designed not to look like guns. Ever since guns were invented, people have tried to think up clever ways to hide them so they're available for surprise attacks. In *HERO System* terms, a disguised gun is an Inobvious Accessible Focus. The Inobvious part of the *Focus* Limitation corresponds to a Concealment "Skill" of 13- (11- base roll, +2 for the fact that the weapon is built into an object); extremely well made concealed weapons may merit higher Concealment "Skills." (If a character's building a disguised weapon with Character Points, he has to pay for this using the *Skill* Power; otherwise the GM can simply assign the appropriate modifiers.) When a character tries to spot a disguised object, he makes a PER Roll against the object's Concealment roll in a Skill Versus Skill Contest. A successful roll only reveals that there's something unusual in the construction of the item; the perceiving character has to perform a hands-on search in another PER Roll Versus Concealment Roll Contest to open the weapon up or determine what it does.

Naturally, once a character actually uses a disguised weapon, it's no longer Inobvious. When a character starts firing bullets from his cigarette case, its true function becomes apparent.

Unless the GM rules otherwise, all disguised guns should have a minimum -1 OCV penalty (and no Range Skill Levels) to reflect the relative difficulty of aiming them.

See the Disguised Guns Table for some guidelines regarding the capacity of disguised guns built into various objects.

DISGUISED GUNS TABLE

Object	Ammunition Capacity
Belt Buckle	1
Beverage Can	3-8
Book	6+
Briefcase	6+
Calculator	2-3
Camera/Videorecorder	3+
Cane/Crutch/Umbrella	10
Cast (for broken arm)	8
Cigarette	1
Cigarette case	2-6
Flashlight	10
Gloves	1
Knife Handle	1-3
Lighter	1-2
Lipstick	1
Pen	1

FIREARMS TABLES

The accompanying tables list many guns and other weapons characters might use.The weapons are listed alphabetically by category, in these categories:

Revolvers
Semi-Automatic Pistols
Submachine Guns
Rifles
Assault Rifles
Machine Guns
Shotguns
Grenades
Heavy Weapons

Several categories of information are given for these weapons. Some information (caliber, number of shots, weight) derives from real-world data, while some (OCV, damage) depends on the application of the *HERO System* rules and can be changed to suit individual campaigns and tastes.

The weapons listed were chosen for a variety of reasons: commonality (either in real life or in action-adventure movies and stories); interesting technology; intriguing appearance; and the like. If you don't find the gun you're looking for listed here, you can easily use the listed guns (as well as the Firearms Cost/Upgrades Tables on pages 76-93) as guidelines for creating the one you want.

Name: The name of the weapon. This may include a manufacturer and/or model number.

Cal: The weapon's caliber (for shotguns, this becomes "Ga," for Gauge). This is given in fractions of an inch or in millimeters (mm).

Many models of guns comes in multiple calibers, not just the one listed (this is particularly true for semi-automatic handguns), and a gunsmith can often rechamber a weapon to accept a different size cartridge. So if you like the look of a gun but not the caliber, feel free to change it to fire the type of bullet you want. Upgrading a gun to a larger caliber may diminish the number of rounds it can hold in a magazine, while downgrading to a smaller caliber may increase the weapon's ammo capacity.

OCV: The weapon's OCV modifier, bought as described on page 63.

RMod: The weapon's Range Modifier, bought as described on page 63.

Dam: The damage the weapon does (usually derived from the size of the bullet; see the Standard Ammunition Damage Table on page 64). All figures are Killing Damage unless contained within parentheses (which indicates Normal Damage).

STUNx: The STUN Modifier for the weapon. 1d6-1 is a normal STUN Modifier roll; 1d6 means the weapon has a +1 Increased STUN Modifier, 1d6+1 a +2 Modifier, and so forth.

Shots: The number of shots in the gun's cylinder or magazine (in game terms, how many Charges the gun has). Each gun comes with one "clip" of ammunition unless noted otherwise. If a gun can use more than one size clip, the largest or most common clip is listed. Guns with a "clip" of 1 shot are single-shot guns (often for target shooting) that the user must reload after each shot.

The listed number of Charges for semi-automatic firearms does not include having one round "in the pipe" (*i.e.,* chambering one round, then removing the magazine and replacing that round, so that the gun carries +1 round).

STR Min: The STR Min necessary to use the weapon effectively. See pages 478-79 of the *HERO System 5th Edition, Revised* rulebook for more information. Guns have the *STR Min Does Not Add/Subtract Damage* modifier, so a character without sufficient STR to fire a gun doesn't do any less damage, but does suffer the specified OCV penalty.

PER Mod: The PER Roll modifier to perceive the gun when it's concealed. See pages 450-51 of the *HERO System 5th Edition, Revised* rulebook for more information.

A/R Cost: The Active Point/Real Point Cost of the weapon, in Character Points. These costs use the expanded Killing Attack costs on *Dark Champions,* page 95, and include the standard Power Modifiers for various types of firearms (as described on pages 62 and 71).

Mass: The weight of the gun, in kilograms. Typically this is the unloaded weight; inserting a clip of ammunition adds a few grams.

Notes: Any notes about the weapon. All notes and abbreviations are explained at the end of the tables.

NOTES

1) The H&K MK23 SOCOM (more formally, the Mark 23 Mod 0) was developed by the U.S. Special Operations Command for America's special forces soldiers. It comes with a Small, High-Quality silencer that also functions as a flash suppressor, and an underbarrel laser sight. It typically fires Subsonic ammunition (this is accounted for in its damage).

2) The H&K P-11 is a five-shot pistol designed specifically for underwater firing. It fires a silent, case-

REVOLVERS

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
ADC Derringer	10mm	-1	-2	1½d6	1d6-1	2	6	+0	25/4	0.45	
Casull Fieldgrade	.454	+1	+0	2d6+1	1d6	5	12	+3	49/12	1.46	
Colt Anaconda	.44 M	+0	+0	2d6	1d6	6	11	+3	37/9	1.67	
Colt Detective	.38	+0	+0	1d6	1d6-1	6	9	+1	15/3	0.59	
Colt King Cobra	.357 M	+0	+0	1½d6	1d6-1	6	10	+2	25/6	1.30	
Colt Police Positive	.38	+0	+0	1d6	1d6-1	6	9	+1	15/3	0.45	
Colt Python	.357 M	+1	+0	1½d6	1d6-1	6	10	+2	30/8	1.36	
Derringer	.38	-2	-2	1d6	1d6-1	2	4	+0	15/3	0.45	
Freedom Arms M83	.50 AE	+0	+0	2d6+1	1d6	6	10	+2	44/10	1.53	
Korth Stainless	9mm	+1	+0	1d6+1	1d6-1	6	9	+3	25/7	1.24	
Linebaugh 475	.475	+0	+0	2d6+1	1d6	5	10	+2	44/10	1.12	
Llama Comanche	.38	+0	+0	1d6	1d6-1	6	9	+2	15/3	1.03	
Llama Super Comanche	.44 M	-1	+0	2d6	1d6	6	12	+3	37/8	1.42	
Remington XP-100R	.350	+1	+2	1½d6	1d6-1	4	11	+4	36/10	2.00	
Rossi M851	.38	+0	+0	1d6	1d6-1	6	8	+2	15/3	0.85	
Ruger Redhawk	.44 M	+0	+0	2d6	1d6	6	11	+3	37/9	1.49	
Ruger Security Six	.357 M	+0	+0	1½d6	1d6-1	6	10	+2	25/6	0.95	
S&W Model 10	.38	+0	+0	1d6	1d6-1	6	7	+2	15/3	0.86	
S&W Model 19	.357 M	+0	+0	1½d6	1d6-1	6	9	+1	25/6	0.86	
S&W Model 27	.357 M	+0	+0	1½d6	1d6-1	6	10	+2	25/6	1.29	
S&W 29 Silhouette	.44 M	+0	+0	2d6	1d6	6	10	+3	37/9	1.53	
S&W Model 36	.38	+0	+0	1d6	1d6-1	5	7	+1	15/3	0.69	
S&W Model 57	.41 M	+0	+0	1½d6	1d6-1	6	10	+3	25/6	1.36	
S&W .500 Magnum	.50 S&W M	+0	+0	2d6+1	1d6	5	13	+3	44/10	2.06	
S&W 586/686	.357 M	+0	+0	1½d6	1d6-1	6	10	+2	25/6	1.39	
S&W 625	.45 ACP	+0	+0	2d6-1	1d6	6	10	+2	34/8	1.28	
S&W Model 640-1	.357 M	+0	+0	1½d6	1d6-1	6	10	+1	25/6	0.59	
Taurus 454	.454	+1	+0	2d6+1	1d6	5	12	+3	49/12	1.65	
Taurus 669/669VR	.357 M	+0	+0	1½d6	1d6-1	6	10	+3	25/6	1.05	
Weatherby Mark V	.308	+1	+2	2d6+1	1d6	1	13	+4	55/13	2.00	
Wesson Supermag	.357 M	+0	+0	1½d6	1d6-1	5	12	+3	25/6	1.84	

SEMI-AUTOMATIC PISTOLS

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
AA Arms AP9	9mm	+0	+0	1d6+1	1d6-1	20	11	+3	25/7	1.59	
Accu-Tek HC-380	.380	+0	+0	1d6	1d6-1	10	7	+1	15/4	0.74	
American C.O.P.	.357 M	-2	-2	1½d6	1d6-1	4	6	+0	25/5	0.79	
AMT Automag IV	.45 Win Mag	+0	+1	2d6	1d6	7	10	+3	40/10	1.30	
AMT Automag V	.50 AE	+1	+0	2d6+1	1d6	7	13	+3	49/13	1.30	
AMT Backup	.380	+1	-1	1d6	1d6-1	5	10	+1	20/5	0.51	
AMT Javelina	10mm	+0	+1	1½d6	1d6-1	8	12	+3	28/7	1.10	
Australian SAP	.223	+1	+1	2d6	1d6	30	10	+5	53/16	1.80	
.44 Automag	.44 M	+0	+0	2d6	1d6	7	14	+4	37/9	1.50	
Beretta Model 84F	.380	+0	+0	1d6	1d6-1	13	10	+2	15/4	0.69	
Beretta Model 92/92FS	9x19mm	+0	+0	1d6+1	1d6-1	15	9	+2	20/6	1.00	
Beretta Model 8000	9x19mm	+1	+0	1d6+1	1d6-1	15	9	+1	25/8	0.95	
Bren Ten	10mm	+1	+0	1½d6	1d6-1	11	9	+1	30/9	0.94	
Browning BDA 9C	9x19mm	+1	+0	1d6+1	1d6-1	14	10	+2	25/8	0.91	
Browning Hi Power	9x19mm	+0	+0	1d6+1	1d6-1	20	7	+2	25/7	0.93	
Calico M-110	.22 LR	+1	+0	1d6	1d6-1	100	11	+3	29/9	1.70	RC1
Calico M-950/Liberty III	9x19mm	+1	+0	1d6+1	1d6-1	100	12	+3	43/13	2.10	RC1
Claridge Hi-Tec	9x19mm	+1	+1	1d6+1	1d6-1	30	10	+3	33/10	1.70	
Colt 2000	9x19mm	+1	+1	1d6+1	1d6-1	15	10	+2	28/9	0.81	

Semi-Automatic Pistols (Continued)

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Colt Double Eagle	10mm	+1	+0	1½d6	1d6-1	8	10	+2	30/8	1.09	
Colt Govt. Mk. IV	9x19mm	+1	+0	1d6+1	1d6-1	9	9	+2	28/8	1.16	RC1
Colt M1911/M1911A1	.45 ACP	+1	+0	2d6-1	1d6	7	9	+2	39/10	1.10	
CZ 75/CZ 85	9x19mm	+0	+0	1d6+1	1d6-1	15	9	+2	20/6	0.98	
CZ100	.40	+1	+1	1d6+1	1d6-1	10	9	+3	28/8	0.64	
Desert Eagle .41	.41 M	+1	+0	1½d6	1d6-1	9	13	+3	30/9	1.90	
Desert Eagle .50	.50 AE	+1	+0	2d6+1	1d6	9	13	+3	49/14	1.90	
D Max Model 100P	10mm	+1	+1	1½d6	1d6-1	30	11	+4	39/12	2.00	
FN Five SeveN	5.7x28mm	+1	+0	1d6	1d6-1	20	8	+2	24/7	0.62	
Glock 17L	9x19mm	+1	+1	1d6+2	1d6-1	19	9	+2	39/12	0.66	PR
Glock 20	10mm	+0	+0	2d6-1	1d6-1	15	9	+1	30/8	0.64	PR
Glock 21	.45 ACP	+0	+0	2d6	1d6	13	9	+1	39/11	0.83	PR
Glock 27	.40	+1	+0	1d6+2	1d6-1	9	9	+2	30/8	0.62	PR
Göncz GA-9	9x19mm	+1	+2	1d6+1	1d6-1	30	11	+4	36/12	1.80	
Grendel P-12	.380	+0	+0	1d6	1d6-1	11	10	+1	15/4	0.71	
Grendel P-31	.22	+0	+0	1d6-1	1d6-1	30	10	+1	15/4	1.50	
Gyurza P-9/SR-1 Vektor	9x21mm	+0	+0	1d6+1	1d6-1	18	10	+2	25/7	1.18	
Hammerli 232	.22	+1	+1	1d6	1d6-1	6	9	+3	65/23	1.15	Micr, RC1
Hammerli 280/SP20	.32	+1	+2	1d6	1d6-1	6	9	+2	7⅓3	1.20	Micr, RC1
H&K HK4	.32 ACP	+1	+1	1d6	1d6-1	8	8	+2	23/7	0.48	
H&K MK 23 SOCOM	.458	+1	+1	2d6-1	1d6	12	10	+2	114/39	1.20	Sil (-3), FS, Laser, PR, 1
H&K P7K3	.380	+1	+0	1d6+1	1d6-1	13	9	+2	25/7	0.75	PR
H&K P7M13	9x19mm	+1	+0	1d6+2	1d6-1	13	9	+2	30/9	0.80	PR
H&K P9/P9S	9x19mm	+1	-1	1d6+2	1d6-1	9	9	+2	30/8	0.88	PR
H&K P-11	7.62x36mm Fle	+0	+0	1½d6	1d6-1	5	8	+2	68/17	1.20	AP, IMR2, IPE, LR(15"), Sil(-3), Watertight, 2
H&K USP Compact	.45	+1	+0	2d6	1d6	8	10	+2	44/11	0.79	PR
High Standard Trophy	.22 LR	+1	+1	1d6-1	1d6-1	10	6	+2	20/6	1.25	
Jericho 941	.41	+1	+1	1½d6	1d6-1	11	10	+2	33/10	1.00	
Kahr K9	9x19mm	+1	+0	1d6+1	1d6-1	7	8	+2	25/7	0.71	

Semi-Automatic Pistols (Continued)

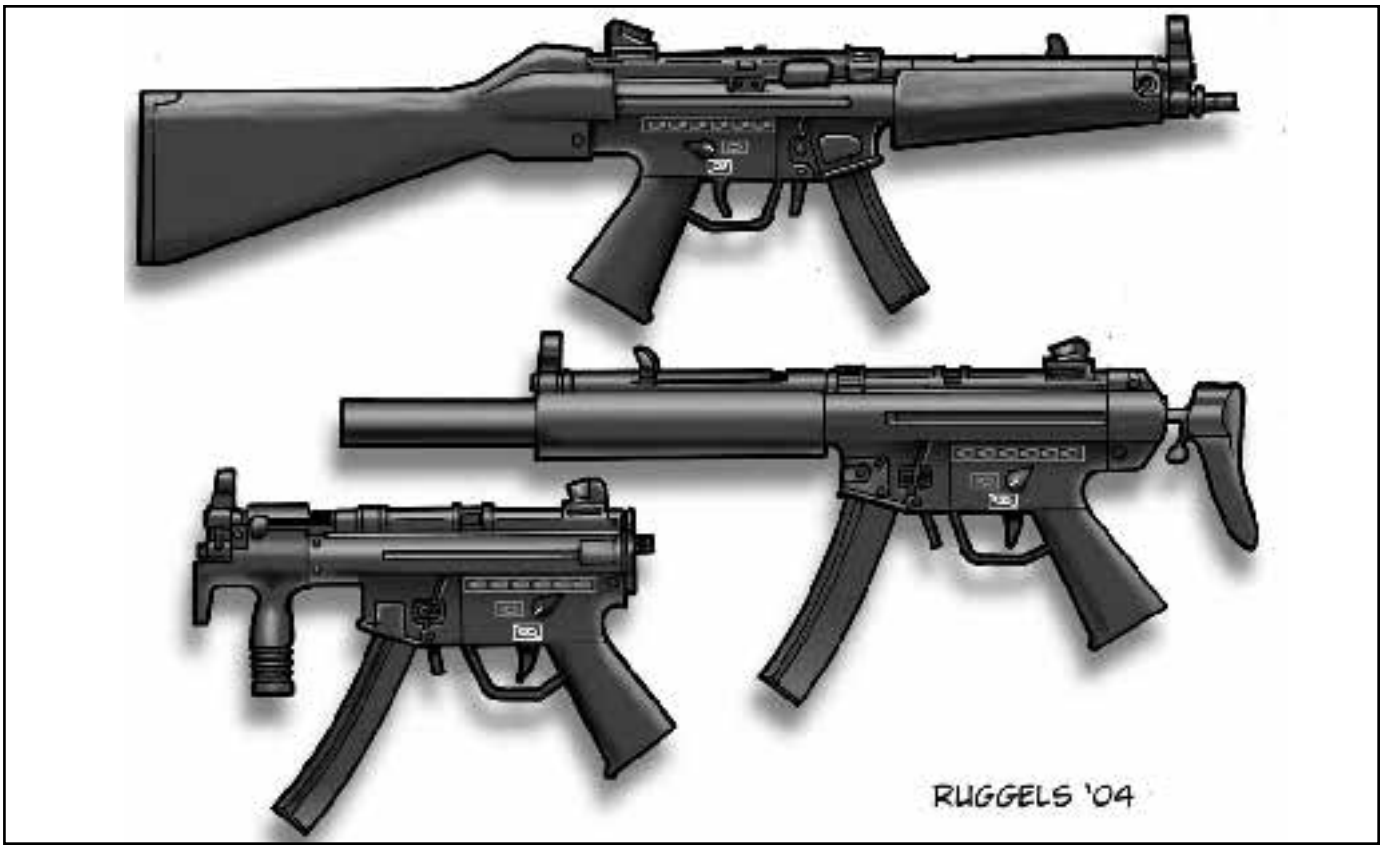
Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
L.A.R. Grizzly .45	.45 Win Mag	+1	+0	2d6	1d6	7	13	+3	42/11	1.49	
L.A.R. Grizzly 10mm	10mm	+1	+0	1½d6	1d6	7	12	+3	30/8	1.49	
Lorcin L-25	.25 ACP	+0	+0	1d6	1d6-1	7	8	+2	15/4	0.41	
Luger P-08	.30	+1	+0	1d6+1	1d6-1	32	8	+2	30/9	0.87	
MBA Gyrojet Pistol	13x36mm Gy	+2	+1	2d6-1	1d6-1	6	5	+2	53/14	0.50	IMR2, IPE
Makarov P6	9x18mm R	+0	+0	1d6+1	1d6-1	8	10	+3	28/7	0.70	Sil (-2)
Makarov PM	9x18mm R	+0	-1	1d6+1	1d6-1	8	6	+1	20/4	0.68	
Norinco Model 77B	9x19mm	+0	+0	1d6+1	1d6-1	9	9	+2	20/5	1.00	
O'Dwyer VLe	9x19mm Ca	+1	+1	1d6+1	1d6-1	24	8	+3	51/16	0.75	NP, AF3, 3
Para-Ordinance P13/P14	.45 ACP	+1	+0	2d6-1	1d6	13	10	+2	39/12	1.07	
Pardini/Fiocchi S&W	.32	+1	+1	1d6	1d6-1	5	10	+3	65/20	1.10	Micr
Pardini/Fiocchi SPE	.22 LR	+1	+2	1d6	1d6-1	5	10	+3	23/8	1.05	Micr
Ruger Mark II	.22 LR	+1	+1	1d6	1d6-1	10	10	+3	62/20	2.1	Micr
Ruger Model P90DC	.45 ACP	+1	+0	2d6-1	1d6	7	10	+2	39/10	0.90	
Ruger P94	9x19mm	+0	+0	1d6+1	1d6-1	15	8	+2	54/19	0.93	Laser
SIG P210-6	7.65x17mm	+1	-1	1d6	1d6-1	8	7	+2	20/5	0.98	
SIG/SAUER P226	9x19mm	+1	+0	1d6+1	1d6-1	15	8	+2	25/11	0.70	
SIG/SAUER P229	.40	+0	-1	1d6+1	1d6-1	12	8	+2	20/5	0.83	
S&W ASP	9x19mm	+1	+0	1d6+1	1d6-1	7	10	+2	25/7	0.62	Clear grips/magazine
S&W Mark 22 Model 0	9x19mm	+0	+0	1d6+1	1d6-1	8	10	+3	28/7	0.74	Sil (-2), 4
S&W Model 41	.22 LR	+1	+2	1d6	1d6-1	10	8	+3	23/8	1.20	
S&W Model 1006	10mm	+1	+0	1½d6	1d6-1	9	8	+3	30/9	0.80	
S&W Model 4506	.45 ACP	+1	+0	2d6-1	1d6	8	8	+3	39/10	1.15	
S&W Model 5904/5906	9x19mm	+1	+0	1d6+1	1d6-1	15	8	+3	25/8	1.06	
S&W SIGMA	.40	+1	+1	1d6+1	1d6-1	15	10	+3	28/9	0.74	
Sphinx AT-2000	.40	+1	+1	1d6+1	1d6-1	10	9	+3	28/8	1.03	
Sphinx 3000	9x19mm	+1	+1	1d6+1	1d6-1	16	10	+3	28/9	1.04	
Steyr GB	9x19mm	+1	+0	1d6+1	1d6-1	18	9	+3	30/9	0.84	
Steyr M40	.40	+1	+0	1d6+1	1d6-1	10	9	+2	25/7	0.78	
Steyr SPP	9x19mm	+1	+1	1d6+1	1d6-1	30	11	+3	33/10	1.30	
Tokarev TT-33	7.62x26mm R	+0	+0	1d6+1	1d6-1	8	9	+2	20/5	0.80	
Walther OSP/GSP	.32	+1	+1	1d6	1d6-1	5	10	+3	23/6	1.20	
Walther P5/P38	9x19mm	+0	+0	1d6+1	1d6-1	8	8	+2	20/5	0.80	
Walther P99	9x19mm	+1	+0	1d6+1	1d6-1	16	10	+2	25/8	0.72	
Walther PPK/S	.380 Auto	+1	-1	1d6	1d6-1	7	6	+1	20/5	0.59	
Wildey Magnum	.45 Win Mag	+0	+0	2d6	1d6	7	13	+3	37/9	1.98	

SUBMACHINE GUNS

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Agram 2000	9x19mm	+0	-1	1d6+1	1d6-1	32	12	+4	35/9	1.90	AF5
Ares FMG	9x19mm	+0	+0	1d6+1	1d6-1	32	10	+2/+3	35/9	2.25	AF5, ET(FP), 5
Baretta Model 93R	9x19mm	+0	+0	1d6+1	1d6-1	20	11	+2	33/10	1.12	AF3, RC1
Beretta M12/PM-12S	9x19mm	+1	+0	1d6+1	1d6-1	40	10	+5	45/13	3.00	AF5
Bison	9x18mm R	+0	+0	1d6+1	1d6-1	64	11	+4	40/11	2.10	AF5, clear magazine
Bushman IDW	.41	+1	+1	1½d6	1d6-1	32	10	+4	44/13	3.46	AF5
Bushmaster	.223	+1	+1	2d6	1d6	30	12	+4	68/20	2.38	AF5
BXP	9x19mm	+1	+0	1d6+1	1d6-1	32	10	+5	40/12	2.50	AF5
Calico 960A	9x19mm	+0	+0	1d6+1	1d6-1	100	10	+4	45/13	2.17	AF5
Colt CAR-15	9x19mm	+0	+0	1d6+1	1d6-1	30	12	+5	45/14	2.78	AF5, FS
Colt M733 Commando	5.56x45mm N	+1	+0	2d6	1d6	30	12	+4	82/26	3.20	AF5, FS
Colt M635 Commando	9x19mm	+1	+0	1d6+1	1d6-1	32	12	+5	50/26	2.59	AF5, FS
CZ Model 61 Skorpion	.32 Cz	+1	-1	1d6	1d6-1	20	8	+2	31/8	1.59	AF5
FN P90	5.7x28mm	+1	+0	2d6	1d6-1	50	10	+4	65/16	2.50	AF5, Tum, clear magazine
Glock 18C	9x19mm	+1	+1	1d6+2	1d6-1	19	9	+2	47/15	0.59	AF3, PR, RC1
H&K MP5 or 54	9x19mm	+1	+0	1d6+1	1d6-1	30	12	+4	40/12	2.60	AF5

Submachine Guns (Continued)

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
H&K MP5/10A3	10mm	+1	+0	1½d6	1d6-1	30	12	+4	49/15	2.67	AF5, clear magazine
H&K MP53	5.56x45mm N	+1	+0	2d6	1d6	25	12	+4	65/19	3.05	AF5
H&K MP5K/SP89	9x19mm	+1	+0	1d6+1	1d6-1	30	12	+4	40/12	2.00	AF5
H&K MP5K-PDW	9x19mm	+1	+0	1d6+1	1d6-1	15	12	+4	35/11	2.79	AF5
H&K MP5SD3	9x19mm	+1	+0	1d6	1d6-1	30	12	+5	52/16	2.52	AF5, FS, Sil (-4)
H&K MP7	4.6x30mm	+1	+1	2d6	1d6-1	40	12	+4	75/22	1.20	AF5
H&K MP2000	9x19mm	+1	+1	1d6+1	1d6-1	30	10	+4	60/18	2.78	AF5, Sil (-5)
H&K UMP	.45 ACP	+1	+1	2d6-1	1d6	25	11	+6	62/18	2.08	AF5
H&K VP70 Z	9x19mm	+0	+0	1d6+1	1d6-1	18	9	+2	36/11	0.82	AF3, RC2
Ilarco 180 SR/SB	.22 M	+1	+2	1d6	1d6-1	165	12	+6	56/17	2.60	AF8
Ingram MAC-10	.45 ACP	+1	+0	2d6-1	1d6	32	12	+3	59/17	2.84	AF5
Ingram MAC-11	.380 Auto	+1	+0	1d6	1d6-1	32	12	+3	31/9	1.59	AF5
Intratec TEC-9	9x19mm	+0	-1	1d6+1	1d6-1	32	12	+4	35/9	1.40	AF5
Intratec TEC-22	.22 LR	+0	+0	1d6	1d6-1	30	12	+4	21/6	1.50	AF5
JATI MATIC	9x19mm	+0	+0	1d6+1	1d6-1	40	10	+5	40/11	1.65	AF5
KFAMP Assault MP	9x19mm	+1	+0	1d6+1	1d6-1	108	12	+4	50/15	2.65	AF5
M3A1 "Grease Gun"	.45 ACP	+0	+0	2d6-1	1d6	30	12	+4	54/15	3.47	AF5 Only
Parker-Hale PDW	9x19mm	+1	+0	1d6+1	1d6-1	32	10	+4	38/12	2.10	AF3, RC1, 6
PPsh-41	7.62x25mm R	+1	-1	1d6+1	1d6-1	35	8	+6	45/12	3.60	AF5
Ruger MP9	9x19mm	+1	+0	1d6+1	1d6-1	32	12	+4	40/12	3.00	AF5
Sidewinder SS-1	9x19mm	+1	+0	1d6+1	1d6-1	45	12	+4	45/13	2.49	AF5
SITES Spectre M4	9x19mm	+1	+1	1d6+1	1d6-1	50	13	+5	48/14	2.90	AF5, 7
S&W M-76	9x19mm	+0	+1	1d6+1	1d6-1	36	12	+4	43/12	3.29	AF5
Stechkin APS	9x18mm R	+1	+0	1d6+1	1d6-1	20	12	+3	40/12	0.76	AF5
STEN Mark II	9x19mm	+1	+1	1d6+1	1d6-1	32	12	+4	43/13	2.80	AF5
Sterling L2A3	9x19mm	+2	+0	1d6+1	1d6-1	34	13	+4	50/15	2.72	AF5, 8
Sterling L34A1	9x19mm	+2	-1	1d6	1d6-1	34	10	+4	61/17	3.50	AF5, Sil (-3)
Steyr MPi69/MPi81	9x19mm	+0	+0	1d6+1	1d6-1	32	10	+4	35/10	3.10	AF5
Steyr TMP	.41	+1	+0	1½d6	1d6-1	30	10	+4	49/15	1.30	AF5
Thompson M1-A1	.45 ACP	+0	+0	2d6-1	1d6	50	13	+6	61/17	4.70	AF5



Submachine Guns (Continued)

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Thompson M-1928	.45 ACP	+0	+0	2d6-1	1d6	50	14	+6	61/17	4.90	AF5, 9
Uzi	9x19mm	+1	+0	1d6+1	1d6-1	40	12	+4	45/13	3.60	AF5
Mini-Uzi	9x19mm	+0	+0	1d6+1	1d6-1	20	12	+3	35/10	2.65	AF5
Micro-Uzi	9x19mm	+0	-1	1d6+1	1d6-1	15	12	+2	30/7	1.95	AF5
Viking	9x19mm	+1	+0	1d6+1	1d6-1	36	12	+3	45/13	2.72	AF5
Walther MPK/MPL	9x19mm	+1	+1	1d6+1	1d6-1	32	12	+4	43/13	2.80	AF5
Weaver PKS9 Ultralite	9x19mm	+1	+1	1d6+1	1d6-1	42	13	+5	48/14	2.77	AF5

RIFLES

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
AA Beowulf	.50	+1	+2	3d6	1d6	7	15	+5	67/16	4.00	2H, RC1
Anschutz Model 1913	.22 LR	+1	+2	1d6	1d6-1	1	10	+5	23/6	7.00	2H
Armalite AR-50	.50 B	+1	+2	3d6	1d6	1	16	+7	73/15	15.45	2H, RC2
Barrett Model 82A1	.50 B	+1	+4	3d6	1d6	11	15	+8	79/20	12.9	2H, RC2
Barrett M468	6.8x43mm	+1	+2	2d6	1d6	28	12	+5	62/17	3.31	2H, RC2
Barrett M99-1	.50 B	+1	+3	3d6	1d6	1	14	+7	76/16	9.54	2H, RC2
Calico M-105	.22 LR	+1	+1	1d6	1d6-1	100	12	+6	29/8	2.59	2H
Calico M951 Carbine	9x19mm	+1	+1	1d6+1	1d6-1	100	12	+6	46/13	2.16	2H, RC1
Colt Sporter HBAR	.223	+1	+2	2d6	1d6	30	12	+7	56/15	3.40	2H
Daewoo DR 200	.223	+1	+1	2d6	1d6	20	13	+6	53/14	4.10	2H
D Max Carbine	10mm	+1	+0	1½d6	1d6-1	30	11	+6	36/10	3.00	2H
DPMS Panther	.308 Win	+1	+0	2d6+1	1d6	10	14	+6	49/12	5.45	2H
FN Model 30-11	7.62x51mm N	+1	+2	2d6+1	1d6	10	14	+5	55/14	4.85	2H
Galil Sniper	7.62x51mm N	+1	+1	2d6+1	1d6	25	13	+5	60/16	6.40	2H
Galil SASR	.308	+1	+1	2d6	1d6	25	13	+6	53/14	6.40	2H
Grendel S-16	7.62x36mm	+1	+2	2d6-1	1d6	20	14	+5	73/20	4.80	2H, Sil (-5)
H&H African	.450 M	+0	+2	2½d6	1d6	2	16	+5	56/11	4.60	2H
H&K G3SG/1	7.62x51mm N	+1	+1	2d6+1	1d6	20	10	+5	75/23	5.54	2H, FS

Rifles (Continued)

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
H&K HK94SG1	9x19mm	+1	+1	1d6+1	1d6-1	30	14	+5	33/9	3.26	2H
H&K PSG-1	7.62x51mm N	+1	+2	2d6+1	1d6	20	15	+6	63/16	8.10	2H
H&K SR-9	.308	+1	+1	2d6+1	1d6	5	13	+6	52/12	4.95	2H
L96A1	.300 Win Mag	+1	+2	2½d6	1d6	10	15	+6	61/15	6.00	2H
M-1 Garand	.30-06	+0	+1	2d6+1	1d6	8	15	+7	47/10	4.40	2H
M21 Sniper	7.62x51mm N	+1	+2	2d6+1	1d6	20	15	+6	63/16	5.04	2H
M40A3	7.62x51mm N	+1	+2	2d6+1	1d6	5	15	+6	55/13	4.10	2H
MBA Gyrojet Carbine	13mm Gy	+1	+2	2d6-1	1d6-1	6	8	+4	51/12	2.50	2H, IMR2, IPE
McMillan M-87	.50 B	+1	+3	3d6	1d6	5	17	+8	70/16	9.52	2H
McMillan M-89	.308	+1	+3	2d6+1	1d6	20	13	+6	69/18	7.00	2H, Sil (-5)
McMillan M-93	12.7x99mm	+1	+3	3d6	1d6	20	15	+8	87/23	9.52	2H, RC2
RAI Model 500	12.7x99mm	+1	+3	3d6	1d6	1	15	+7	70/14	15.15	2H
Remington M24	7.62x51mm N	+1	+2	2d6+1	1d6	10	13	+6	55/14	4.00	2H
Remington M700	7.62x51mm N	+1	+2	2d6+1	1d6	5	10	+6	55/13	3.41	2H
Ruger Mini-14	5.56x45mm N	+1	+1	2d6	1d6	30	10	+5	53/14	3.10	2H
SAR-4800	.308	+1	+1	2d6+1	1d6	20	12	+6	60/16	4.30	2H
SSG 3000	7.62x51mm N	+1	+2	2d6+1	1d6	5	14	+7	70/19	5.40	2H, FS, RC1
SKS Carbine	7.62x54mm R	+1	+2	2d6+1	1d6	10	10	+7	55/14	3.90	2H
Springfield M1903	.30-06	+1	+1	2d6+1	1d6	5	13	+5	52/12	3.94	2H
Springfield SAR-8	.308 Win	+1	+0	2d6+1	1d6	20	14	+5	57/15	4.00	2H
Steyr AMR IWS 2000	15.2mm Fle	+1	+3	3½d6	1d6	5	20	+8	141/30	18.00	2H, AP, IMR2, IPE, RC1
Steyr SSG-69/69 PII	7.62x51mm N	+1	+3	2d6+1	1d6	10	15	+6	58/15	4.37	2H
SVD Dragunov	7.62x54mm R	+1	+2	2d6+1	1d6	10	15	+8	67/19	4.30	2H, FS
Technika Destroyer	14.5x114mm R	+1	+2	3d6+1	1d6	5	16	+8	73/16	26.00	2H
VSS Silent Sniper	9x39mm R	+1	+1	1d6+1	1d6-1	20	13	+6	57/16	2.60	2H, AP, Sil (-4)
Walther WA-2000	7.62x66mm	+1	+4	2½d6	1d6	6	13	+6	88/24	7.91	2H, FS, RC3
Winchester Model 70	.300 Win Mag	+1	+2	2½d6	1d6	3	12	+6	61/13	3.90	2H

ASSAULT RIFLES

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
AIWS	5x54mm	+1	+0	2d6	1d6-1	60	13	+6	72/19	3.14	2H, AF5, NP
AK-47/AKM-47	7.62x39mm R	+1	+1	2d6	1d6	30	14	+6	68/18	4.30	2H, AF5
AK-74/AKS-74	5.45x39.5mm R	+1	+1	2d6	1d6	30	14	+6	71/19	3.60	2H, AF5, RC1
AR-18	5.56x45m N	+0	+0	2d6	1d6	40	10	+6	84/24	3.17	2H, AF5, FS
Beretta AR 70/223	5.56x45mm N	+0	+0	2d6	1d6	30	13	+5	75/22	3.54	2H, AF5, FS
CETME C3	7.62x51mm N	+1	+0	2d6+1	1d6	20	12	+5	75/19	4.20	2H, AF5
Colt M4/M4A1 Carbine	5.56x45mm N	+1	+1	2d6	1d6	30	12	+5	71/19	2.54	2H, AF5, FS
Colt M16/M16A1	5.56x45mm N	+1	+1	2d6	1d6	30	13	+6	71/19	3.18	2H, AF5, FS
Colt M16A2/A4	5.56x45mm N	+2	+1	2d6	1d6	30	13	+6	88/27	5.78	2H, AF5, FS
Enfield L85A1/SA80	5.56x45mm N	+1	+0	2d6	1d6	30	13	+7	68/18	4.60	2H, AF5, FS
FA-MAS	5.56x45mm N	+1	+2	2d6	1d6	25	10	+6	74/20	3.70	2H, AF5, FS
FN-CAL	5.56x45mm N	+1	+1	2d6	1d6	30	15	+6	83/24	3.00	2H, AF5, FS
FN-F2000	5.56x45mm N	+1	+2	2d6	1d6	30	15	+6	86/25	3.60	2H, AF5, FS
FN-FAL	7.62x51mm N	+1	+2	2d6+1	1d6	20	16	+7	98/27	4.25	2H, AF5, FS
FN-FNC	5.56x45mm N	+1	+1	2d6	1d6	30	15	+6	80/23	3.80	2H, AF5, FS
Galil MAR	5.56x45mm N	+1	+1	2d6	1d6	35	13	+4	92/27	2.98	2H, AF5, FS
Galil SAR	7.62x51mm N	+1	+2	2d6+1	1d6	25	13	+5	98/28	4.30	2H, AF5, FS
H&K 33A2	5.56x45mm N	+1	+1	2d6	1d6	40	15	+5	92/27	3.65	2H, AF5, FS
H&K G3	7.62x51mm N	+1	+3	2d6+1	1d6	30	15	+5	84/21	4.25	2H, AF5
H&K G11	4.73x33mm Ca	+2	+1	2d6	1d6-1	50	15	+5	71/19	3.65	2H, AF5, IPE, RC2, NP, 10
H&K G33E/G41E	5.56x45mm N	+1	+2	2d6	1d6	25	15	+5	86/25	3.65	2H, AF5, FS
H&K G36	5.56x45mm N	+1	+1	2d6	1d6	30	15	+5	83/24	3.43	2H, AF5, FS
M-2 Carbine	.30	+0	+1	1½d6	1d6-1	30	14	+6	47/12	2.36	2H, AF5
M-14/M-14A1	7.62x51mm N	+1	+2	2d6+1	1d6	20	12	+7	8½1	4.12	2H, AF5

Assault Rifles (Continued)

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
M-19 SPIW	Fle	+1	+0	1½d6	1d6-1	50	11	+5	80/21	2.68	2H, AF5, AP, IMR2, IPE, NP
OICW (M29)	5.56x45mm N	+3	+11	2d6	1d6	30	15	+6	198/64	5.50	2H, AF5, FS, NP, 11
Ruger AC556F	5.56x45mm N	+1	+1	2d6	1d6	30	12	+5	83/25	3.15	2H, AF5, FS
SATS-G3	7.62x51mm N	+1	+1	2d6+1	1d6	20	15	+6	78/19	3.63	2H, AF5
SIG 550/551	5.56x45mm N	+1	+1	2d6	1d6	30	13	+6	83/25	4.10	2H, AF5, FS, clear magazine
SR88A	5.56x45mm N	+1	+1	2d6	1d6	30	13	+5	83/25	3.66	2H, AF5, FS
Stoner M22 or M23	5.56x45mm N	+1	+1	2d6	1d6	30	12	+5	68/18	3.70	2H, AF5
Steyr ACR	Fle	+1	+2	1½d6	1d6-1	30	12	+5	80/21	3.23	2H, AF5, AP, IMR2, IPE, NP
Steyr AUG	5.56x45mm N	+1	+2	2d6	1d6	30	12	+5	86/25	3.60	2H, AF5, FS, 12
Valmet 90	7.62x51mm N	+1	+1	2d6+1	1d6	20	14	+5	95/27	3.90	2H, AF5, FS
Vektor CR-21	5.56x45mm N	+3	+11	2d6	1d6	30	12	+5	129/39	3.80	2H, AF5, FS, Coll

MACHINE GUNS

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Light Machine Guns											**13**
Ares 5.56 LMG	5.56x45mm N	+1	+1	2d6	1d6	200	14	+6	90/21	4.91	AF5, Bulky
H&K Model 13	5.56x45mm N	+1	+1	2d6	1d6	100	14	+6	95/22	5.40	AF5, Bulky
H&K Model 21	7.62x51mm N	+1	+2	2d6+1	1d6	250	15	+7	125/28	7.30	AF10, Bulky
IMI Negev	5.56x45mm N	+1	+1	2d6	1d6	250	14	+5	105/24	7.60	AF10, Bulky
L7A2	7.62x51mm N	+1	+2	2d6+1	1d6	250	15	+6	125/28	10.90	AF10, Bulky
M60	7.62x51mm N	+1	+1	2d6+1	1d6	250	16	+7	152/40	10.51	AF10, Bulky, FS
M60E3	7.62x51mm N	+1	+2	2d6+1	1d6	250	16	+7	155/41	8.60	AF10, Bulky, FS
M249 SAW/FN Minimi	5.56x45mm N	+1	+1	2d6	1d6	200	15	+7	105/23	6.85	AF10, Bulky
PK	7.62x39mm R	+1	+2	2d6	1d6	250	14	+7	108/25	10.00	AF10, Bulky
RPD	7.62x39mm R	+1	+2	2d6	1d6	100	14	+7	10¼4	7.10	AF10, Bulky

Machine Guns (Continued)

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Stoner M207/Mk 23	5.56x45mm N	+1	+1	2d6	1d6	250	14	+7	105/24	5.65	AF10, Bulky
Ultimax 100 Mk III	5.56x45mm N	+1	+1	2d6	1d6	100	14	+6	103/29	5.50	AF5, Bulky, FS
Heavy Machine Guns											**13**
EX-34 Chain Gun	7.62x51mm N	+1	+1	2d6+1	1d6	1500	18	+7	122/24	13.70	AF10, Bulky, Crew3
FN-MAG/MAG-58	7.62x51mm N	+1	+1	2d6+1	1d6	250	16	+6	122/25	11.00	AF10, Bulky, Crew3
GAU 19/A	.50 B	+1	+1	3d6	1d6	1000	20	+7	154/29	33.60	AF10, Bulky, Crew3
KPV	14.5x114mm	+1	+4	3d6+1	1d6	1000	23	+8	179/35	49.25	AF10, Bulky, Crew3
M2HB Heavy Barrel	.50 B	+1	+4	3d6	1d6	110	20	+7	163/32	38.00	AF10, Bulky, Crew3
M134 Minigun	7.62x51mm N	+1	+4	2d6+1	1d6	1500	18	+8	148/30	16.30	AF20, Bulky, Crew3
XM-214 Six-Pac Minigun	5.56x45mm N	+1	+4	2d6	1d6	1000	20	+7	139/26	15.00	AF20, Bulky, Crew3

SHOTGUNS

Name	Gauge	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Generic Shotguns											
.410 Shot	.410	+0	+0	1½d6	1d6	5	8	+5	44/8	3.00	2H, AE1, LR(20"), RR, RP
.410 Shot, DB	.410	+0	+0	1½d6	1d6	2	8	+5	75/12	3.00	2H, AE1, AF2, LR(20"), RR, RP
.410 Shot, Sawed-Off	.410	+0	+0	1½d6	1d6	2	8	+3	94/15	2.25	2H, AEC, AF2, NR, RR, RP
.410 Slug	.410	+0	+0	1½d6	1d6	5	8	+5	31/6	3.00	2H, LR(50")
28, 24 Shot	28, 24	+0	+0	2d6	1d6	5	10	+5	52/10	3.00	2H, AE1, LR(20"), RR, RP
28, 24 Shot, DB	28, 24	+0	+0	2d6	1d6	2	10	+5	90/15	3.00	2H, AE1, AF2, LR(20"), RR, RP
28, 24 Shot, Sawed-Off	28, 24	+0	+0	2d6	1d6	2	10	+3	105/17	2.25	2H, AEC, AF2, NR, RR, RP
28, 24 Slug	28, 24	+0	+0	2d6	1d6	5	10	+5	37/6	3.00	2H, LR(50")
20, 16 Shot	20, 16	+0	+0	2d6+1	1d6	5	11	+5	61/12	3.00	2H, AE1, LR(20"), RR, RP
20, 16 Shot, DB	20, 16	+0	+0	2d6+1	1d6	2	11	+5	105/17	3.00	2H, AE1, AF2, LR(20"), RR, RP
20, 16 Shot, Sawed-Off	20, 16	+0	+0	2d6+1	1d6	2	11	+3	122/19	2.25	2H, AEC, AF2, NR, RR, RP
20, 16 Slug	20, 16	+0	+0	2d6+1	1d6	5	11	+5	44/9	3.00	2H, LR(50")
12 Shot	12	+0	+0	2½d6	1d6	5	12	+5	70/13	3.00	2H, AE1, LR(20"), RR, RP
12 Shot, DB	12	+0	+0	2½d6	1d6	2	12	+5	120/20	3.00	2H, AE1, AF2, LR(20"), RR, RP
12 Shot, Sawed-Off	12	+0	+0	2½d6	1d6	2	12	+3	140/22	2.25	2H, AEC, AF2, NR, RR, RP
12 Slug	12	+0	+0	2½d6	1d6	5	12	+5	50/10	3.00	2H, LR(50")
10 Shot	10	+0	+0	3d6	1d6	5	12	+5	79/15	3.00	2H, AE1, LR(20"), RR, RP
10 Shot, DB	10	+0	+0	3d6	1d6	2	12	+5	135/22	3.00	2H, AE1, AF2, LR(20"), RR, RP
10 Shot, Sawed-Off	10	+0	+0	3d6	1d6	2	12	+3	157/25	2.25	2H, AEC, AF2, NR, +RR, RP
10 Slug	10	+0	+0	3d6	1d6	5	12	+5	56/11	3.00	2H, LR(50")
4 Shot	4	+0	+0	3d6+1	1d6	5	13	+5	87/17	3.00	2H, AE1, LR(20"), RR, RP
4 Shot, DB	4	+0	+0	3d6+1	1d6	2	13	+5	150/25	3.00	2H, AE1, AF2, LR(20"), RR, RP
4 Shot, Sawed-Off	4	+0	+0	3d6+1	1d6	2	13	+3	175/28	2.25	2H, AEC, AF2, NR, RR, RP

Shotguns (Continued)

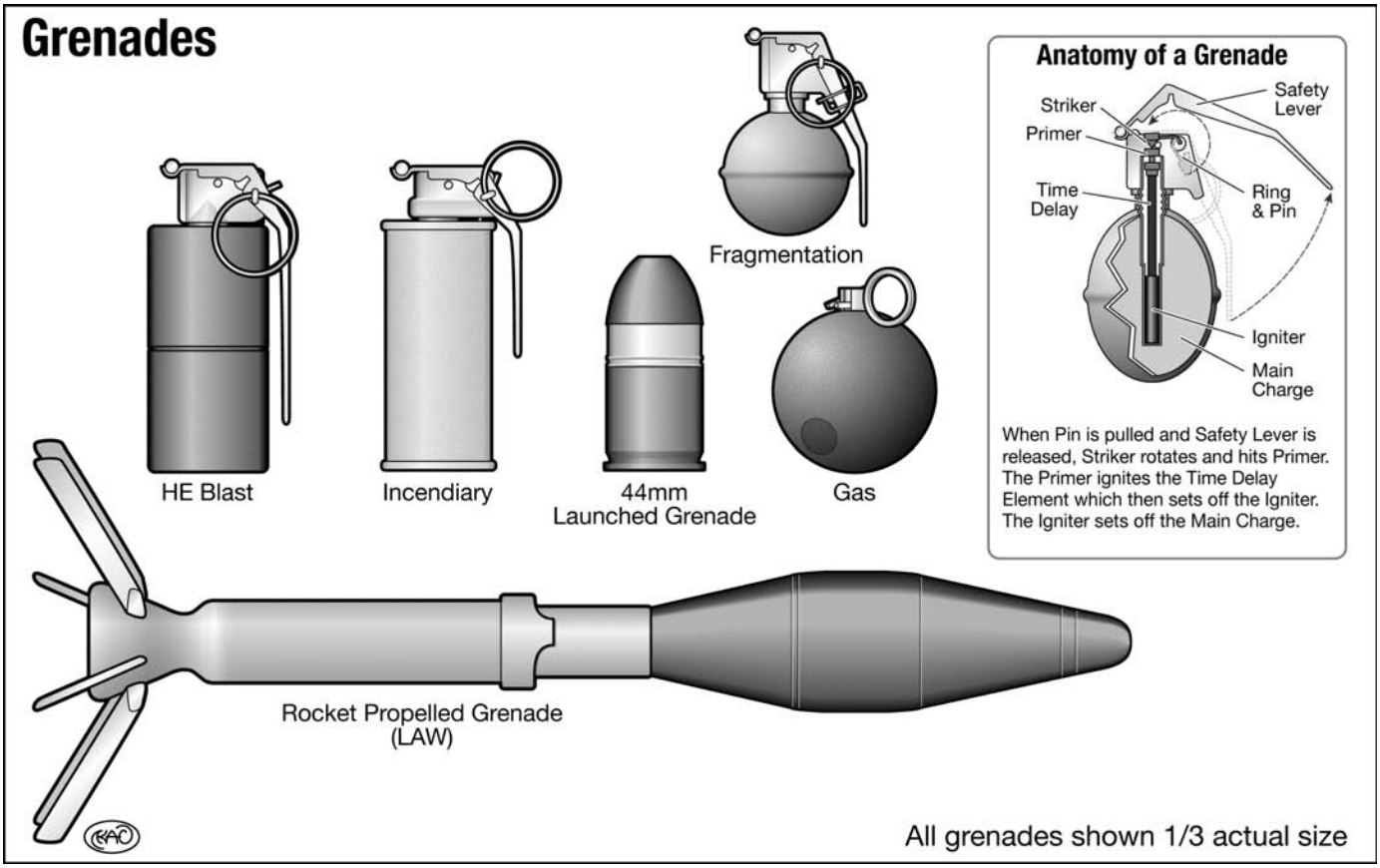
Name	Gauge	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
4 Slug	4	+0	+0	3d6+1	1d6	5	13	+5	62/12	3.00	2H, LR(50")
Specific Shotguns											
AAI CAWS	Fle	+1	+0	3d6	1d6	12	12	+5	154/34	4.08	2H, AE1, AF3, IPE, LR(50"), NP, RC1
Atchisson Assault	12	+0	+0	2½d6	1d6	20	13	+6	140/31	5.20	2H, AF5, LR(50")
Benelli 121-M1	12	+1	+0	2½d6	1d6	8	12	+4	70/14	3.30	2H, AE1, LR(20"), RR, RP
Benelli M4/M1014	12	+1	+0	2½d6	1d6	6	12	+4	75/15	3.80	2H, AE1, LR(20"), RR, RP
Bernardelli B4	12	+0	+0	2½d6	1d6	8	12	+5	70/14	3.45	2H, AE1, LR(20"), RR, RP
Daewoo USAS-12	12	+0	+0	2½d6	1d6	28	13	+6	80/19	5.50	2H, AF5, LR(50")
Entry Team Striker	12	+0	+0	2½d6	1d6	12	10	+5	120/24	4.20	2H, AE1, AF3, LR(20"), RR, RP
Franchi PA3/215	12	+0	+0	2½d6	1d6	3	12	+3	50/9	2.27	2H, LR(50")
Franchi SPAS-12	12	+0	+0	2½d6	1d6	8	12	+5	70/14	4.35	2H, AE1, LR(20"), RR, RP
Franchi SPAS-15	12	+0	+0	2½d6	1d6	6	12	+5	70/13	3.80	2H, AE1, LR(20"), RR, RP, 14
Ithaca MAG-10	10	+0	+0	3d6	1d6	2	12	+4	56/10	4.87	2H, LR(50")
Ithaca Stakeout	20	+1	+0	2d6+1	1d6	4	11	+4	66/13	1.59	2H, AE1, LR(20"), RR, RP
Jackhammer Mk 3A-2	12	+0	+0	2½d6	1d6	10	13	+5	106/48	4.57	2H, AF5, LR(50"), NP, 15
KS-23M	4	+0	+0	3d6+1	1d6	3	14	+5	87/15	3.20	2H, AE1, LR(20"), RR, RP
Mossberg M500 ATP8	12	+0	+0	2½d6	1d6	8	12	+4	70/14	3.10	2H, AE1, LR(20"), RR, RP
Mossberg 590	12	+0	+0	2½d6	1d6	9	12	+5	70/15	3.10	2H, AE1, LR(20"), RR, RP
Olin/H&K CAWS	12	+1	+0	2½d6	1d6	10	12	+5	65/15	4.32	2H, AF3, LR(50"), NP
Remington 870 P	12	+0	+0	2½d6	1d6	8	12	+3	70/14	3.40	2H, AE1, LR(20"), RR, RP
Winchester 1300	12	+0	+0	2½d6	1d6	7	12	+5	70/14	3.10	2H, AE1, LR(20"), RR, RP

GRENADES

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Grenade Launchers											**16**
Armscor Multishot GL	40mm	+0	+1	130 STR	6	12		+7	133/20	5.30	MR(10")
Arwen 37	37mm	+1	+1	(8d6)	—	5	10	+6	48/10	3.10	LR(30"), 17
BG15	40mm	+0	+0	110 STR	1	8		+6	110/14	0.90	MR(15"), underslung
H&K 69A1/79	40mm	+0	+0	110 STR	1	8		+6	110/13	1.80	MR(7")
Mk 19 Model 3	40mm	+1	+1	2½d6X	1d6	100	13	+8	168/38	32.90	AF5, MGL
M79	40mm	+0	+1	100 STR	1	8		+5	103/13	2.70	MR(10")
M203/PIM203	40mm	+0	+1	110 STR	1	8		+6	113/14	1.40	MR(15"), underslung
MM-1	40mm	+0	+0	(8d6X)	—	12	10	+6	60/13	6.00	MR(6")
Talon	40mm	+0	+1	110 STR	1	8		+6	113/14	1.40	MR(15")
Grenade Rounds											
20/22mm Fragmentation	20 or 22mm	—	—	1½d6X	1d6	1	—	+2	44/10	0.40	
24mm Fragmentation	24mm	—	—	2d6X	1d6	1	—	+2	52/12	0.40	
30mm Fragmentation	30mm	—	—	2d6+1X	1d6	1	—	+2	61/14	0.40	
40mm Fragmentation	40mm	—	—	2½d6X	1d6	1	—	+2	70/16	0.40	
52mm Fragmentation	52mm	—	—	3d6X	1d6	1	—	+2	79/19	0.40	

Grenades (Continued)

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
20/22mm Concussive	20 or 22mm	—	—	(5d6X)	—	1	—	+2	37/9	0.40	
24mm Concussive	24mm	—	—	(6d6X)	—	1	—	+2	45/11	0.40	
30mm Concussive	30mm	—	—	(7d6X)	—	1	—	+2	52/12	0.40	
40mm Concussive	40mm	—	—	(8d6X)	—	1	—	+2	60/14	0.40	
52mm Concussive	52mm	—	—	(9d6X)	—	1	—	+2	67/16	0.40	
FERRET	40mm	—	—	Tear gas		1	—	+2	210/56	0.40	Indirect, 18
M397A1 Airburst	40mm	—	—	3d6X	1d6	1	—	+2	79/19	0.40	19
M433 HEDP	40mm	—	—	2½d6X	1d6	1	—	+2	90/21	0.40	AP
Rubber Impact	40mm	—	—	(8d6)	—	1	—	+2	40/9	0.40	
Hand Grenades											
Fragmentation	—	+0	+0	1d6X	1d6-1	1	RBS	+2	22/5	0.40	
Fragmentation	—	+0	+0	1d6+1X	1d6-1	1	RBS	+2	30/7	0.40	
Fragmentation	—	+0	+0	1½d6X	1d6-1	1	RBS	+2	37/8	0.40	
Fragmentation	—	+0	+0	2d6X	1d6-1	1	RBS	+2	45/10	0.40	
Concussive	—	+0	+0	(5d6X)	—	1	RBS	+2	22/5	0.40	
Concussive	—	+0	+0	(6d6X)	—	1	RBS	+2	30/7	0.40	
Concussive	—	+0	+0	(7d6X)	—	1	RBS	+2	37/8	0.40	
Concussive	—	+0	+0	(8d6X)	—	1	RBS	+2	45/10	0.40	
Smoke	—	+0	+0	CE 4"	—	1	RBS	+2	21/6	0.25	-3 Sight PER for 3 Turns, 20
Stun Grenade	—	+0	+0	See text	—	1	RBS	+2	67/14	0.40	21
Tear Gas	—	+0	+0	Tear gas	—	1	RBS	+2	200/53	0.25	22
M460/M465	—	+0	+0	(6d6)	—	1	—	+2	45/9	0.40	AE1, NR, 23



HEAVY WEAPONS

Name	Cal	OCV	RMod	Dam	STUNx	Shots	STR Min	PER Mod	A/R Cost	Mass	Notes
Armbrust 300	67mm	+0	+0	6½d6	1d6	1	12	+6	275/30	6.30	2H, AE2, AP, ET(1T), IPE, SFW, 24, 25
ASP 30mm	30mm	+1	+1	3d6+1	1d6	100	14	+8	170/37	47.6	2H, AF5, AP, Crew2
FIM-92A Stinger SAM	—	+2	+0	5d6X	1d6	1	12	+6	197/23	15.7	2H, Crew2, ET(1T), IMR5, NRM, SFW, 24
Flamethrower	—	+0	+0	See text		10	—	+9	191/67	22.7	AE Line or Cone (see text), 26
Kovrov RPG-7V	85mm	+0	+0	7d6+1X	1d6	1	12	+6	192/21	9.25	2H, ET(EP), MR(5"), SFW
M18 Recoilless Rifle	57mm	-1	+3	6d6+1	1d6	1	15	+8	18½9	21.0	2H, AP, Crew2, 27
M47 Dragon	140mm	-1	+0	9d6	1d6	1	12	+5	236/22	17.0	2H, AP, Crew2, ET(1T), MR(35"), SFW
M67 Recoilless Rifle	90mm	+0	+1	7d6+1	1d6	1	15	+7	195/22	15.9	AP, Crew2, 27
M72A3 LAW Rocket	66mm	+0	+1	6½d6X	1d6	1	12	+5	228/26	2.13	2H, AP, ET(EP), SFW
M202A1 Flash	66mm	+0	+0	6½d6X	1d6	4	13	+6	229/41	12.1	2H, ET(1T), SFW, 28
MDHC Mk 153 SMAW	83mm	+0	+0	7d6+1X	1d6	1	12	+6	247/25	16.6	2H, AP, Crew2, ET(1T), SFW
Metal Storm Cannon	7.62mm	+1	+1	2d6+1	1d6	540	12	+10	174/35	50.0	AF40, AP, Crew5, NP, 29
SA-7B Grail	70mm	+1	+0	7d6X	1d6	1	12	+6	267/29	4.71	ET(1T), IMR2, MR(250"), NRM, SFW, 24
Wire Guided Missile	—	+0	+0	8d6X	1d6	1	12	+6	420/56	64.0	AP (x2), Crew4, ET(1T), IRM5, NRM

KEY:

AE1: Area Of Effect (One Hex)
AE2: Area Of Effect (One Hex Doubled)
AEC: Area Of Effect (Cone)
AF: Autofire; the number after the letters indicates the maximum number of shots
ACP: Automatic Colt Pistol
AP: Armor Piercing
Auto: Automatic
B: Browning
Ca: Caseless
CAWS: Close Assault Weapon System
Coll: Collimating/reflex site
Crew: Crew-Served (number indicates standard size of crew)
Cz: Czech
DB: Double-barrelled
ET: Extra Time (1T means 1 Turn; EP means Extra Phase, FP means Full Phase)
Fle: Flechette
FS: Flash Suppressor
Gy: Gyrojet
FS: Flash Suppressor
H&K: Heckler & Koch, a German gun manufacturer
IMR: Increased Maximum Range (the number indicates the multiplier)
IPE: Invisible Power Effects
Laser: weapon has a laser sight
LAW: Light Anti-tank Weapon
LR: Long Rifle
LR(X"): Limited Range (number indicates range)
M: Magnum
MGL: Mounted Grenade Launcher. These must be mounted on a tripod or vehicle to be fired, and two or three men of ordinary strength are needed to lift them (*i.e.,* they're Bulky).
micr: micrometer sights
mm: millimeter
MR: Minimum Range (a -¼ Limitation indicating the weapon can't affect targets nearer than the indicated distance; see page 100)
N: NATO round
NP: Not produced (a weapon that was or is experimental, was cancelled before it entered production, or the like)
NR: No Range
NRM: No Range Modifier
Only: Autofire only, no single shots (a -0 Limitation; see page 100)
PR: Polygonal rifling (the effect of this is already listed in the table's damage figure)
R: Russian
RBS: Range Based On STR
RC: Recoil Compensator (1, 2, or 3 indicates type)
RL: Russian Long
RP: Reduced Penetration
RR: Reduced By Range
SAM: Surface-to-Air Missile
SFW: Shoulder-fired weapon (characters need WF: Shoulder-Fired Weapons to use one of these properly, and they typically have the *Bulky* and *Extra Time* Limitations)
Sil: Silenced (number in parentheses indicates penalty to Hearing PER Rolls)
S&W: Smith & Wesson (an American gun manufacturer)
Tum: Tumbler (bullets have the tumbling effect; see page 208; the extra die of damage is already listed on the chart)
Underslung: A grenade launcher meant to be attached underneath the barrel of an assault rifle or like weapon; it can't be used if not so attached.
WinMag: Winchester Magnum
X: Explosion

less dart (for which you can use the Flechette and Silent round rules). The rounds come pre-loaded in a cylinder that can only be reloaded at the factory. It has an electronic trigger and is waterproofed. Above water its effective range is about thirty meters (15"); its effective range underwater is about half that.

3) The O'Dwyer Smartgun is an experimental (as of 2004) creation of the MetalStorm company. (Most attributes of the pistol are speculative.) It uses MetalStorm's patented technology, which fits multiple bullets into a barrel and fires them one at a time with an electrical charge. Since it fires electronically, it has few moving parts, which minimizes recoil and increases accuracy. (In game terms, it has the equivalent of a Type 2 recoil compensator and an electronic trigger.) Additionally, the gun only works for its owner (who wears a special ring); others cannot fire it (*i.e.,* it's a Personal Focus).

The Smartgun has four barrels arranged in a square pattern, each holding six 9mm bullets. Alternately, the user can fill some barrels with other rounds (typically non-lethal ones), then select which barrel to use with a selector switch. (In game terms, you could build this as a Multipower; the gun in the weapon list is assumed to fire Standard ammunition only.) It can fire up to three bullets with a single pull of the trigger, propelling them so fast that they all leave the barrel before the recoil has time to throw off the shooter's aim. Thus, all three bullets strike the target in nearly the same spot.

4) The S&W Mark 22 Model 0 "Hush Puppy" is the standard suppressed pistol for U.S. Navy SEAL teams. With special plugs, the user can carry it underwater without damaging it (in game terms, it's bought as Waterproofed).

5) The Ares FMG is a folding submachine gun. The weapon folds up into a 26.2 x 8.4 x 3.5 cm box, and the user can unfold and fire it in less than two seconds (in game terms, it has the -¼ Limitation *Extra Time* (Full Phase to activate). When it's folded, use the smaller PER Modifier.

6) The Parker-Hale PDW is built with a low cyclic rate and other features that help to minimize "climb" and make the gun easy to control. In game terms, this makes it function as if equipped with a Type 1 recoil compensator.

7) The Spectre M-4 commonly comes with a four-column clip "file system," thus allowing the firer to carry 200 rounds of ammunition. This counts as a "rapid reloading" device (see *Dark Champions,* page 194).

8) There is special "compact" version of the Sterling L2A3 known as the Sterling Mark 7. In game terms, it's the same as the L2A3, but has a +3 PER Modifier.

9) The Thompson M1928 is heavy, can jam easily when it gets dirty, and can be noisy when carried. In game terms, reduce all Activation Rolls for Malfunction by 1.

10) The H&K G11 is an experimental rifle using Caseless ammunition and many other advances that kept weight and recoil to a minimum. Its magazines had clips on the sides so the user can carry two extra magazines attached to the one in the rifle (this counts as a "rapid reloading" device; see *Dark Champions,* page 194). Although it attracted great interest in many quarters, the reunification of Germany resulted in its never being manufactured; only about 100 were produced. A squad automatic weapon (SAW) version with 300 rounds was in design when the program was cancelled.

11) The OICW (Objective Individual Combat Weapon) is a weapons system being developed by the U.S. Army to replace the current M16A2/M203 assault rifle/grenade launcher weapon issued to American soldiers. As of 2004, the Army designates this weapon the M29, and expects to place an initial order of approximately 45,000 units (costing $10,000-12,000 each, plus $25-$30 each for the 20mm grenades) to be fielded by special units by 2008-09.

The OICW incorporates a 5.56mm assault rifle with an under-mounted launcher for 20mm "smart" grenades. Its enhancements and electronics include a targeting computer, infrared/laser aiming device, laser range finder/digital compass/GPS tracking device, and a thermal weapon sight. The targeting computer uses the rangefinder and other electronics to "program" the smart grenades to explode at a predesignated range, significantly increasing the chance of killing the target even if there's no direct hit. The grenades have a minimum range of about 50m (25") and a maximum range of about 1000m (500").

Cost	Power
15	*OICW:* Multipower, 60-point reserve; all OAF (-1), STR Minimum (15; STR Minimum Cannot Add/Subtract Damage; -1¼), Real Weapon (-¼), Two-Handed (-½)
1u	1) *5.56x45mm Rounds:* RKA 2d6, +1 Autofire (5 shots; +½), Increased STUN Multiplier (+¼), 30 Charges (+¼) (60 Active Points); OAF (-1), STR Minimum (15; STR Minimum Cannot Add/Subtract Damage; -1¼), Beam (-¼), Real Weapon (-¼), Two-Handed (-½)
1u	2) *20mm "Smart" Grenade Launcher:* RKA 1½d6, Explosion (+½), Increased Maximum Range (500"; +¼) (50 Active Points); OAF (-1), Minimum Range (25"; -¼), STR Minimum (15; STR Minimum Cannot Add/Subtract Damage; -1¼), Real Weapon (-¼), Two-Handed (-½), 6 Charges (-¾)
2	*Inherent Accuracy:* +1 OCV (5 Active Points); OAF (-1), Real Weapon (-¼), Two-Handed (-½)
1	*Inherent Accuracy:* +1 versus Range Modifier (3 Active Points); OAF (-1), Real Weapon (-¼), Two-Handed (-½)
20	*Targeting Computer:* See page 97
7	*Flash Suppressor:* Invisible to Normal Sight (+¼) for up to a 60 Active Point firearm (15

Active Points); OAF (-1), Real Weapon (-¼)
10 *Camera:* Clairsentience (Sight Group), 1 Continuing Fuel Charge (easily recharged, 3 Hours; +¼) (25 Active Points); OAF (-1), No Range (-½)
1 *Thermal Sight:* Infrared Perception (Sight Group) (5 Active Points); OAF (-1), Extra Time (2 Minutes to activate; -¾), Real Weapon (-¼), Only When Shooter Braces And/Or Sets (-1), 1 Continuing Fuel Charge lasting 5 Hours (-0)
5 *GPS Tracker:* Detect Exact Position On Earth 16- (Radio Group) (10 Active Points); OAF (-1)
1 *Compass:* Bump Of Direction (3 Active Points); OAF (-1)
Total cost: 64

12) The Steyr AUG can convert into a carbine, rifle, or light machine gun by switching barrels and other attachments. If desired, characters could build this weapon as a Multipower with the Limitation *Extra Time* (Full Phase to change slots; -½) on the reserve.

13) Machine guns fall into two categories, Light and Heavy. Light machine guns (LMGs) realistically usually have a two-man firing team, but they don't necessarily have to, so they don't get the *Crew-Served* Limitation. They do, however, qualify as Bulky Foci. Heavy machine guns (HMGs) take the *Crew-Served* (3 men; -½) Limitation in addition to Bulky; they have to be mounted on a tripod or vehicle. Most machine guns are belt-fed, though some LMGs can mount small boxes of about 30 rounds if necessary.

14) The Franchi SPAS-15 is a semi-automatic military shotgun that fires an especially powerful 12-gauge shell. These shells are too powerful for most shotguns (they will not allow the breech to close if used in them).

15) The Jackhammer Mark 3A-2, an experimental weapon designed (but never manufactured) by Pancor, has a casing made primarily of fiberglass and plastic, though the inner workings are still steel. It uses a cylindrical magazine that holds 10 shells (in this example, it's filled with slugs). If necessary, the user can detach the magazine and use it as a landmine! The magazine casing is designed to withstand the blast so it can be reused. A special silencer, with a life of 10 shots, can be attached to the Jackhammer.

Cost Power
42 *Pancor Jackhammer Mark 3A-2:* Multipower, 106 Active Points; all OAF (-1), Real Weapon (-¼), 10 Charges for entire Multipower (-¼)
2u 1) *Shotgun with Slugs:* RKA 2½d6, Autofire (5 shots; +½), +1 Increased STUN Multiplier; OAF (-1), Beam (-¼), Limited Range (50"; -¼), STR Minimum (13; STR Minimum Cannot Add/Subtract Damage; -1), Real Weapon (-¼), Two-Handed (-½)
4u 2) *Magazine As Landmine:* RKA 5½d6, Trigger (putting sufficient pressure on it; +¼); OAF (-1), No Range (character must place landmine; -½), Real Weapon (-¼), Requires Multiple Charges (1 Charge for base 2½d6 damage, +1 DC per additional Charge; -0)
Total cost: 48 points.

16) Grenade launchers are devices used to launch grenade rounds. In game terms, most are bought as STR with the Limitations *OAF* (-1), *Real Weapon* (-¼), and *Only To Make Standing Or Prone Throws Of Grenades* (-2). Charges applies as an Advantage or Limitation, as appropriate. The STR does *not* add to the character's STR for throwing purposes, it substitutes for his STR. A launcher may also provide a RMod bonus or penalty. Some of the multi-shot grenade launchers are described as standard weapons, with one type of grenade chosen as a default, for ease of presentation.

Grenade rounds are the grenades fired from a grenade launcher. They can't be thrown like hand grenades.

Hand grenades are hand-thrown explosive weapons; they can't be launched from grenade launchers. The character pulls the pin and throws the grenade, which detonates after a short amount of time. In game terms, it's usually easiest to assume that grenades explode in the Phase in which they're thrown; in campaigns emphasizing realism, the GM may want to delay the explosion by 1-3 Segments.

17) The Arwen 37 is a British grenade launcher that fires different types of 37mm grenades (for game purposes, these have the same effect as 40mm grenades). The one in the table is loaded with "impact" rounds, but any other grenade type could be substituted.

18) The FERRET grenade round is a tear gas grenade, built as follows. It has an armor-piercing capability that allows it to penetrate walls and barriers before releasing the tear gas.

Sight Group Flash 8d6, Area Of Effect (4"; +1), Continuous (+1), Delayed Recovery (+2), Indirect (can penetrate walls and similar barriers within 30" of shooter; +¼) (210 Active Points); OAF (-1), Limited Range (50"; -¼), Real Weapon (-¼), 1 Continuing Charge lasting 1 Turn (-1¼). Total cost: 56 points.

19) The M397A1 is an "airburst" grenade. It contains a miniature fuse that "bounces" the grenade into the air when it hits the ground, causing it to explode at head level rather than at ground level. When it's used against a standing opponent, all shots with this grenade should be considered High Shots and the Hit Location rolled accordingly.

20) The smoke grenade is built as follows:

Change Environment 4" radius, -3 to Sight Group PER Rolls (21 Active Points); OAF (-1), Range Based On STR (-¼), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (-1). Total cost: 6 points.

21) This is a generic stun grenade, built as follows:

Energy Blast 3d6, NND (defense is any rPD; +1), Explosion (+½) (37 Active Points); OAF

(-1), Range Based On STR (-¼), Real Weapon (-¼), 1 Charge (-2) (total cost: 8 points) ***plus*** *Sight and Hearing Group Flash 3d6, Explosion (+½) (30 Active Points); OAF (-1), Linked (-½), Range Based On STR (-¼), Real Weapon (-¼), 1 Charge (-2) (total cost: 6 points). Total cost: 14 points.*

22) Here's the effect of the tear gas hand grenade:

Sight Group Flash 8d6, Area Of Effect (6"; +1), Continuous (+1), Delayed Recovery (+2) (200 Active Points); OAF (-1), Range Based On STR (-¼), Real Weapon (-¼), 1 Continuing Charge lasting 1 Turn (-1¼). Total cost: 53 points.

23) The M460 is known as a "Thunderstrip." It's 30.5 x 7.6 x 2.5 cm and is made to slip underneath doors or through open windows. The M465 is the "Thunder Rod," a cylinder 35.5 cm long with a 1.7 cm diameter designed to slip through holes made by a 12-gauge shotgun slug.

24) These are one-shot weapons — the rocket tube is discarded after the rocket is fired. This is bought as Charges which Never Recover (an additional -2 Limitation).

25) The Armbrust 300 is a one-shot rocket launcher designed to destroy tanks. It is smokeless, flashless, virtually noiseless, and uses a counter-weight system to eliminate most of the recoil and backblast. This is bought as Invisible Power Effects (the special effects of the power, but not its source, are undetectable; +¼). The blast covers a 2" radius.

26) Flamethrowers are devices for projecting flame. They consist of a bulky, heavy backpack which holds the fuel (either ordinary liquid fuel, thickened fuel, or various incendiary chemicals). Thickened fuels (such as napalm) tend to burn the best and have the greatest range.

In *HERO System* terms, flamethrowers are bought as Multipowers. Each slot is a Killing Attack. The first slot creates a Line of fire, the second a Cone. Both are Continuous (since the user can simply hold down the trigger and keep filling the area with flame) and Mobile (since the character can "wave" the area of flame back and forth slowly). However, both of these slots also have a -0 Side Effect: if the flamethrower is fired at a target which is too close (closer than 3") or is fired into the wind, there's an 11- chance that fuel will splash on the firer, inflicting 1½d6 Killing Damage.

Some flamethrowers have a third slot — an Area of Effect (Any Shape) that simulates the flamethrower's capacity to make "cold shots." A cold shot involves spraying unlit fuel onto an area, then lighting it.

A flamethrower has an overall number of Charges indicating how many seconds' worth of fuel it has. However, the fires set by the flamethrower may continue to burn long after the user is out of fuel, and flammable objects that come into contact with them may also catch fire (if the GM prefers, he can charge Character Points for this, using the same effect as for Incendiary Ammunition on page 69).

Some sample flamethrowers include: the M2A1 and M9A1-7, American models with ten seconds' worth of fuel; the LPO-50, a Soviet flamethrower with nine seconds' worth of fuel; and the HAFLA-35L, a one-shot German flamethrower

"pistol" with enough fuel to ignite an 8"x2" area. The one in the list, and described below, is typical of the American flamethrowers.

Cost	Powers
55	*Flamethrower:* Multipower, 191-point base; all OAF Bulky (-1½), Real Weapon (-¼), Two-Handed (-½), 10 Charges for entire Multipower (-¼)
5u	1) *Firebolt:* RKA 3d6, Area of Effect (27" Line; +1), Armor Piercing (+½), Continuous (+1), Mobile (character can move Line 6" per Phase, but starting hex of Line must always remain in the hex immediately in front of him; +¾) (191 Active Points); OAF Bulky (-1½), No Range (-½), Real Weapon (-¼), Side Effect (see text; -0), Two-Handed (-½)
5u	2) *Wide-Angle Firebolt:* RKA 3d6, Area of Effect (15" Cone; +1), Armor Piercing (+½), Continuous (+1), Mobile (character can move Line 6" per Phase, but starting hex of Line must always remain in the hex immediately in front of him; +¾) (191 Active Points); OAF Bulky (-1½), No Range (-½), Real Weapon (-¼), Side Effect (see text; -0), Two-Handed (-½)
2u	3) *Cold Shot:* RKA 3d6, Area of Effect (5" Any Area; +1), Armor Piercing (+½) (112 Active Points); OAF Bulky (-1½), Extra Time (a minimum of an Extra Phase between spraying the fuel and lighting it; -¾), No Range (-½), Real Weapon (-¼), Two-Handed (-½)

Total cost: 67 points.

27) The M18 57mm and M67 90mm Recoilless Rifles are single-shot, reloadable weapons fired from the shoulder or from a tripod (they use WF: Shoulder-Fired Weapons). The typical ammunition is an AP round, but high explosive and others are available. They are Bulky Foci, and have the same "backblast" Side Effect as the M202A1.

28) The M202A1 Flash is a four-shot napalm rocket launcher firing the M74 napalm rocket. It's built as follows:

> *RKA 6½d6, Explosion (-1 DC/2"; +¾), +1 Increased STUN Multiplier (+¼) (200 Active Points); OAF Bulky (-1½), Extra Time (1 Turn; -1¼), Real Weapon (-¼), Side Effect (has a backblast of an RKA 1d6, Area Of Effect (4" Cone) behind it, always occurs; -0), Two-Handed (-½), 4 Charges (-1) (total cost: 36 points)* ***plus*** *RKA 1 point, Area Of Effect (equal to size of Explosion; +2½), Continuous (+1), Reduced Endurance (0 END to enable Uncontrolled effect; +½), Sticky (only affects flammables; +¼), Uncontrolled (effect ends when it runs out of fuel or oxygen, or someone extinguishes the flames; +½) (29 Active Points); OAF Bulky (-1½), Activation Roll 13- (-¾), Linked (-½), Real Weapon (-¼), Two-Handed (-½), 4 Charges (-1) (total cost: 5 points). Total cost: 41 points.*

29) The MetalStorm Cannon is a putative heavy weapon that would take full advantage of the MetalStorm firing technology described above for the O'Dwyer VLe "smart gun." In theory the MetalStorm system of stacking bullets in the barrel of a gun and then firing the bullets electronically could allow for a cyclic rate of fire (*i.e.,* an ideal, theoretical maximum assuming no need to reload or other problems) of a million rounds per minute, given a gun with about 36 barrels.

OTHER WEAPONS

Guns aren't the only weapons modern-day characters use (or have used against them). They'll come into contact with many other implements of destruction during their adventuring careers.

HAND-TO-HAND COMBAT WEAPONS

Sometimes characters can't fight their enemies at range with guns — they have to get in close and use their fists and any weapons designed for such fighting.

CLUBS

A "club" is any object a character can use to do do Normal Damage to another character in combat. Clubs that characters pay Character Points (or Resource Points) for are built with the Power *Hand-To-Hand Attack* and usually have the Advantage *Reduced Endurance* (0 END; +½) and the Limitations *OAF* (-1), *Real Weapon* (-¼), and *Hand-To-Hand Attack* (-½). The accompanying table lists several, ranging from actual weapons to "weapons of opportunity" characters might lay their hands on during a fight. Characters can also throw some of these objects, doing the maximum of their STR damage or the object's DEF+BODY, whichever is less.

KNIVES

Knives and similar bladed weapons — prison "shanks," bayonets, perhaps even the occasional sword — are common in many games. They're built as HKAs with the Advantage *Reduced Endurance* (0 END; +½) and the the Limitations *OAF* (-1) and *Real Weapon* (-¼).

Some knives are made to be thrown. These have the Advantage *Range Based On STR* (+¼) (or, more elaborately, are built as a Multipower, with one HKA slot, and one slot with HKA, Range Based On STR, 1 Recoverable Charge, and Lockout). At the GM's option, characters can throw knives without RBS, but at a -2 OCV penalty (characters can eliminate this penalty by buying the WF *Thrown Standard Knives*).

The accompanying table lists several bladed weapons common to the modern-day action-adventure genre, and their Active and Real Point costs.

EXPLOSIVES

An explosive is a substance which rapidly creates tremendous heat and pressure when properly activated. Explosives are generally divided into "low" and "high" types, as explained below. In the *HERO System*, working with explosives is a function of the Skill *Demolitions.*

The accompanying table lists suggested damage ratings for explosives. However, because determining a particular bomb's power depends upon how it's constructed and other variables, these figures should be considered guidelines the GM can alter or adapt as he sees fit.

LOW EXPLOSIVES

Low explosives, also known as deflagrating explosives, do not really explode — they burn very, very quickly. They create relatively low pressure and more of an effect of "heaving" than of shattering (or "brisance"). However, using a sufficient quantity of low explosive causes a detonating effect similar to high explosives (see below).

The low explosive most commonly used today is black powder (and its modern improvement, smokeless powder), a mixture of carbon (charcoal, 15%), sulfur (10%), and potassium nitrate (saltpetre, 75%). It's basically insensitive to impact and friction, requiring a flame and/or heat to initiate the explosion. For bullets, an impact-sensitive explosive charge ignites the powder; for pipe bombs and other improvised munitions, a fuse of some sort is required. Working with black powder is easy; the GM should add +1 to +3 to a character's Demolitions roll in appropriate circumstances.

HIGH EXPLOSIVES

High, or detonating, explosives have such a rapid chemical reaction when activated that they produce immense pressure and shattering force (brisance). Detonation waves from high explosives often exceed 20,000 feet per second.

High explosives can be further divided into two types. The first is *primary or initiating explosives.* Fire/heat, impact, or friction can readily detonate these substances. Because of this sensitivity, they're rarely used for actual demolitions — instead, they're used in initiating devices (such as blasting caps) to set off safer explosives. Primary explosives include diazodinitrophenol (DDNP), fulminate-chlorate mixtures, lead azide, lead styphnate, mercury fulminate, silver azide, and silver fulminate.

The second type of high explosive is the *secondary (or noninitiating) explosive.* These are mixed

together to produce the right combination of sensitivity, brisance, and stability for particular jobs. The most important secondary explosives include ammonium picrate, cyclonite (RDX and HMX), dynamite, and TNT.

DETONATION METHODS

There are five main types of fuses, or methods of detonating the primer charge that sets off a bomb:

■ flame fuses

■ chemical fuses

■ electric fuses (including radio-controlled fuses)

■ mechanical fuses (including impact fuses and "tremblers" that trigger a bomb if it's moved)

■ pressure fuses (which go off when a certain amount of pressure is applied, whether by foot [as with land mines] or by reaching a certain barometric pressure [as with some terrorist bombs placed on airplanes]).

The type of fuse chosen depends on the explosive used and the type of bomb. Flame works for black powder, for example, but not for plastique. An elaborate radio-controlled electrical fuse or a pressure fuse isn't needed for a kamikaze bombing run with a truckful of dynamite, but would be ideal for many types of terrorist bombings.

Simple fuses impose no penalty to Demolitions rolls to disarm the explosive. Complex electrical, chemical, mechanical, or pressure fuses could impose a -1 to -4 penalty to Demolitions.

MODERN HAND-TO-HAND WEAPONS TABLE

Weapon	OCV	Damage	STUNx	STR Min	BODY	DEF	Mass	A/R Cost	Notes
Clubs									
Blackjack	0	2d6 N	—	5	2	3	0.50	15/5	
Bottle	0	1d6 N	—	3	1	1	1.0	N/A	After the first hit, a bottle no longer functions as an HA, but rather as an HKA ½d6.
Brass Knuckles	0	2d6 N	—	5	2	3	0.5	15/5	
Brick	0	2d6 N	—	8	2	5	2.0	N/A	
Chain	0	3d6 N	—	8	3-4	5	2.0	N/A	
Chair/stool	0	2-4d6 N	—	10	3-5	3-5	5.0	N/A	
Claw hammer	0	3d6 N	—	5	2	3	0.9	N/A	The hammer's claw is an HKA 1 point.
Lead Pipe	0	3d6 N	—	8	2	5	0.5	N/A	
Nightstick/Billy club	0	3d6 N	—	8	3	3	0.9	22/8	
Pistol butt	0	2d6 N	—	8	2	3	Var	15/5	
Rifle butt	0	3d6 N	—	10	3	3	Var	22/8	
Roll of coins in fist	0	1d6 N	—	3	1	2	0.02	N/A	
Shot gloves	0	2d6 N	—	8	2	3	1.50	15/5	Gloves with pockets on the outside of the fingers filled with lead shot. They impose a -2 penalty on all DEX Rolls and Agility Skill Rolls involving the hands, and a -2 OCV penalty on attacks which require the hand to grip or use a weapon (a Side Effect [-½]).
Tire iron	0	3d6 N	—	8	3	5		N/A	
Tonfa	0	3d6 N	—	8	3	3		22/8	
Two-by-Four	0	3d6 N	—	8	2	3		N/A	
Knives And Bladed Weapons									
Bayonet	0	1d6-1	0	6	3	5	0.8	18/8	
Combat knife#	0	1d6-1	0	6	3	5	0.8	21/8	Can Be Thrown
Fiberglass knife*	0	½d6	0	4	2	5	0.4	20/9	Can Be Thrown, IPE (metal detectors)
Machete	0	1d6	0	10	5	5	1.1	22/8	
Punch dagger	0	½d6	0	4	2	5	0.3	15/7	
Shank, shiv#	0	½d6	0	4	2	5	0.4	17/7	Can Be Thrown
Stiletto&	0	½d6 AP	0	5	3	5	0.7	22/9	Can Be Thrown
Survival knife#	0	1d6-1	0	6	3	5	0.8	21/8	Can Be Thrown
Switchblade#	0	½d6	0	4	2	5	0.3	17/7	Can Be Thrown
Trenchknife#	0	1d6/2d6 N	0	6	3	5	1.0	21/10	HKA Can Be Thrown

Adding Damage:

#: Add +1 DC of damage per full +6.25 points of STR used above the STR Minimum.
*: Add +1 DC of damage per full +7.5 points of STR used above the STR Minimum.
&: Add +1 DC of damage per full +8.75 points of STR used above the STR Minimum.

See the Key and Notes for the Firearms Tables on page 252 for an explanation of abbreviations and terms. The "N" in the damage column stands for "Normal Damage."

SHAPED CHARGES

A shaped charge allows the force of an explosion to be aimed, roughly. Pressure waves are emitted by an explosion at right angles to the explosive, so by shaping the explosive, a bomber can provide some direction to the force of the explosion. A shaped charge typically uses a cone of metal or glass surrounded by a high-strength explosive (such as TNT or RDX). The detonation vaporizes the cone and projects it in the desired direction as an immensely hot and powerful "jet" of particles. This jet strikes the target and literally forces it to "flow" away from the point of impact. However, a shaped charge only uses a small percentage of the force of the explosion (about 15%), so the explosion is not totally contained or channeled.

Setting up a shaped charge requires a Demolitions roll at -0 to -3, depending upon the circumstances and the materials available.

TYPES OF EXPLOSIVES

Here are some of the common types of explosives used in the modern world for various industrial, military, criminal, and terrorist activities.

Ammonium Picrate

Ammonium picrate (or explosive D) is made of picric acid and ammonium. It's used in situations calling for an explosive that's particularly resistant to impact. For example, ammonium picrate is sometimes used in anti-tank shells because of its ability to pierce armor without exploding — tests have shown it can be fired through twelve inches of armor and detonate on the other side! Picric acid itself is explosive, but is no longer used militarily because of its sensitivity. There is no modifier to Demolitions for working with ammonium picrate.

ANFO

ANFO, a combination of ammonium nitrate and fuel oil, is a favorite of terrorists because its ingredients are all legally available — the Oklahoma City bombing, for example, involved an ANFO bomb. ANFO's legitimately used in mining, construction, and other industries. There is no modifier to Demolitions for working with ANFO.

Ammonoium nitrate absorbs water easily. If it's not stored in a watertight container or environment, it may not detonate as well (reduce damage by 25-50%).

Dynamite

Invented by Alfred Nobel in 1867, dynamite is a combination of nitroglycerin and various substances which absorb large amounts of the nitroglycerin, making it relatively safe to handle (it's still sensitive to fire/heat and extreme impact, and if it gets wet tends to break down and becomes as volatile as nitroglycerine). The manufacturing process incorporates antacids and other stabilizers to make dynamite even safer to use. Today, demolitions experts use various mixtures of explosives and bases to achieve different results. For example, there's gelatin dynamite which has great water resistance and more blasting power than comparable dynamites, and can be molded into crude shapes. Another development is low-freezing dynamite, which works well in extremely cold conditions. Using dynamite adds +1 or +2 to a character's Demolition roll in appropriate circumstances.

Dynamite has many commercial uses (such as the construction industry). That means it's widely available (though it usually requires a license or other authorization to purchase); it's generally sold in sticks.

Foam Explosive

Foam explosive is an explosive substance with the appearance and consistency of shaving cream or the like. Designed primarily for detonating landmines, it can stick to objects and delivers a low-powered blast — but one that's strong enough to make a mine go off, or open a door. Compared to other explosives, it makes very little noise, so it's ideal for some of the covert missions characters perform. Working with it entails no Demolitions penalty.

Initiators

Initiators are explosive devices used to start larger explosions. They include blasting caps and detonating cord.

Blasting caps, both basic and electric, are small cylindrical devices used to initiate explosions. They consist of a base charge (usually RDX or PETN), a priming charge (usually lead azide or silver azide), and a flash charge (usually lead styphnate), all contained in an aluminum or copper shell. Mercury fulminate used to be an important blasting cap ingredient, but is no longer commonly used. A basic blasting cap is set off by a fuse, whereas an electrical blasting cap has two wires running through it that let the demolitionist detonate it with electricity (allowing for precise timing of an explosion). Working with blasting caps (*e.g.,* crimping them onto a timing fuse and detonating cord) can be quite dangerous, imposing a -2 to the Demolitions roll.

Detonating cord (detcord, also called primacord) is a cord made with a core of sensitive explosive (such as PETN or RDX) surrounded by a plastic or cloth covering. It's usually used together with blasting caps, and enables the demolitionist to time explosions precisely. Working with it entails no Demolitions penalty.

Lead Azide

Lead azide ($Pb(N_3)_2$) is a primary explosive used in a variety of military explosives and in initiators. It tends to be more stable than many other primary explosives, particularly at higher temperatures, so a cover charge of lead styphnate (or another more sensitive explosive) is often added to ensure detonation. A related chemical, silver azide, is more powerful and is used similarly, but is more sensitive to heat. There's no modifier to Demolitions for working with lead azide.

Mercury Fulminate

Mercury fulminate (mercuric cyanate, $HgC_2N_2O_2$) is a grey-white powder that explodes at 160° C (320° F). It's both a primary and a secondary explosive, and is sensitive to electricity, fire/heat, impact, and friction (-2 to Demolitions rolls in appropriate circumstances). It was discovered in the late 1600s, and was used for many years in initiators and commercial explosives. Because cheaper and better replacements were found, it fell out of use in the 1970s, but characters may still chance across some here and there, or even discover an illegal lab manufacturing it for terrorists.

Nitroglycerin

This explosive oil or liquid was discovered by Ascanio Sobrero in 1846. It's one of the principal ingredients in dynamite. By itself, nitroglycerin is extremely sensitive and very dangerous to handle (-3 or more to Demolitions rolls), so it's rarely used without stabilizers.

PETN

PETN (pentaerythritol tetranitrate) was invented in 1891. It's cheaply and easily produced, and is as strong as nitroglycerin but safer to handle. Because it's almost insoluble, it's commonly used

for underwater demolitions work. There's a -1 modifier to Demolitions for working with PETN.

RDX And HMX

RDX (cyclonite) is one of the most common military explosives in use today. HMX is similar, but denser and with a higher melting point and explosion temperature. Both are white crystalline solids that are extremely stable. They're usually mixed with TNT to desensitize them. RDX is as powerful as nitroglycerin, HMX is slightly more powerful.

RDX is used to produce *plastique,* or plastic explosive (PE), of which Semtex (a combination of RDX and PETN, in varying ratios) is one variety. PEs are about 80% RDX and 20% oils, waxes, and plastics. They're very stable, requiring both heat and impact to detonate — a blasting cap or other initiator will do it, but by itself an electrical charge, fire, or impact won't set plastique off. Plastique can be safely molded into an infinite number of forms, and is extremely powerful, even in small amounts — a single block (0.56 kg) can create a 30 cm square hole in 10mm thick steel plate! Thus, PEs are a favorite of the military, terrorists, and criminals. The American military uses four types designated C1 through C4, each of which is useful in a different temperature range. C4, for example, remains plastic down to -70° F, and does not leak up to 170° F.

RDX is also the primary ingredient in many military composite explosives, such as Composite A3 and Composition B4.

Working with RDX, HMX, plastique, or other composite explosives including RDX or HMX adds +1 to +2 to Demolitions rolls in appropriate circumstances.

TNT

TNT (trinitrotoluene), which differs from dynamite, is one of the principal military explosives. Made from toluene and nitric acid, it's stable and insensitive to impact, friction, and electricity (+1 to +2 to Demolitions rolls). It does not readily absorb water, and may be stored indefinitely in temperate areas.

TNT is usually melted and used to fill bombs, either by itself or in combination with other substances (binary explosives): ammonium nitrate (amatol); ammonium picrate (picratol); HMX (octol); PETN (pentolite); RDX (cyclotol); RDX and ammonium (torpex); tetryl (tetrytol); and so forth. TNT binary explosives can be very powerful — for example, cyclotol and pentolite have detonation pressures as high as 4,000,000 pounds per square inch.

Incendiaries

Incendiaries are chemicals designed to start fires and/or burn people. They're usually used in firebombs and flamethrowers, but characters may also want to build incendiary grenades, pellets, and other weapons. Working with incendiaries is a function of the *Demolitions* Skill.

Fire Bottle/Molotov Cocktail

A fire bottle is a primitive incendiary grenade — a bottle filled with gasoline and sulfuric acid, then wrapped in a rag or piece of paper. Just prior to use, the wrapper is soaked with a sugar-potassium chlorate mixture (which is very sensitive). Upon impact, the chemicals mix and the reaction ignites the gasoline. The Molotov cocktail, a bottle filled with some flammable liquid and with a rag stuffed in the top and lit, counts as a crude fire bottle.

Gelled Gasoline

Gelled gasoline is ordinary gasoline which has been gelled by the use of chemicals or improvised substances (such as soap powder, lye, wax, or animal blood). Charcoal may be added to increase the mixture's flammability. Essentially, gelled gasoline is a primitive form of napalm (see below), and like napalm it sticks to surfaces. Working with it imposes a -1 penalty to Demolitions rolls.

Incendiary Brick

This object looks like an ordinary brick, but is made of potassium chlorate, sulfur, sugar, iron filings, and wax. It burns relatively slowly and is normally used to set fire to buildings and other flammable objects. Creating or using one imposes no Demolitions penalty.

Magnesium

The metallic element magnesium is an incendiary substance which burns at very high temperatures and is easily manufactured and handled. It can get hot enough to melt mild steels, and often scatters molten bits of metal about, increasing the chances of setting secondary fires. Even worse, using water to try to put out a magnesium fire may create an explosive mix of hydrogen and some other gases. Working with magnesium imposes no Demolitions penalty.

Napalm

Modern napalm is made of gasoline, benzene, and polystyrene thickener. Earlier forms of napalm were advanced forms of gelled gasoline, but modern napalm is a liquid. It's used by militaries for many different kinds of weapons. By varying the amount of thickener and the additives, a demolitionist can impart different properties to it (such as increased burning time, increased fluidity, and so forth). Napalm sticks to surfaces (even vertical ones), so the victim cannot simply wipe it off.

Napalm is not self-igniting — it requires some sort of initiating heat (such as from an electric spark or another incendiary substance) to set off. Working with it imposes no Demolitions penalty.

EXPLOSIVES AND INCENDIARIES

Name	Suggested Effect	Scaling
Explosives		
Ammonium Picrate (1 liter)	EB 9d6 Explosion	+1d6 per +1 liter
ANFO	(0.45 kg)	EB 10d6 Explosion +1d6 per +0.45
Black powder (0.45 kg)	EB 2d6 Explosion	+1d6 per +0.45 kg
Dynamite (one .25 kg stick)	EB 5d6 Explosion	+1d6 per +1 stick
Foam explosive (one .25 kg can)	EB 4d6 Explosion per quarter-can used	+1d6 per +quarter can
HMX (0.45 kg)	EB 13d6 Explosion	+2d6 per +0.45 kg
Initiator		
Blasting cap	RKA 1 point	+1 point per +1 cap
Detonating cord (.3 m)	RKA ½d6	+½d6 per +.3 meter
Lead azide (0.45 kg)	EB 12d6 Explosion	+2d6 per +0.45 kg
Mercury fulminate (0.45 kg)	EB 9d6 Explosion	+1d6 per +0.45 kg
Nitroglycerin (1 liter)	EB 12d6 Explosion	+2d6 per +1 liter
PETN (1 liter)	EB 13d6 Explosion	+2d6 per +1 liter
RDX (0.45 kg)	EB 12d6 Explosion	+2d6 per +0.45 kg
Plastique (one 0.56 kg block)	EB 15d6 Explosion	+5d6 per +1 block
TNT (0.45 kg)	EB 12d6 Explosion	+1d6 per +0.45 kg
Amatol (0.45 kg)	EB 12d6 Explosion	+1d6 per +0.45 kg
Cyclotol (0.45 kg)	EB 14d6 Explosion	+1d6 per +0.45 kg
Pentolite (0.45 kg)	EB 14d6 Explosion	+1d6 per +0.45 kg
Tetrytol (0.45 kg)	EB 13d6 Explosion	+1d6 per +0.45 kg
Torpex (0.45 kg)	EB 10d6 Explosion	+1d6 per +0.45 kg
Incendiaries		
Fire bottle/Molotov cocktail	RKA 1-2d6, 1 Hex, 1 Turn/Charge	N/A
Gelled gasoline (1 liter)	RKA 3d6, Explosion, 1 Turn/Charge	Increase size of Explosion by a +¼ Advantage for each +2 liters
Incendiary brick	RKA 1d6, 1 Turn/Charge	N/A
Magnesium (0.25 kg)	RKA ½d6, 1 Turn/Charge	RKA +1 point per +.25 kg, to a maximum of +10 points
Napalm (1 liter)	RKA 2d6, Explosion, 1 Turn/Charge	Increase size of Explosion by a +¼ Advantage for each +1 liter
Paraffin-Sawdust	RKA 1½d6, 1 Turn/Charge	
Thermite (one 0.10 kg pellet)	RKA 2d6, Armor Piercing, 1 Hex, 1 Turn/Charge	RKA +1 point per +.10 kg, to a maximum of +10 points
Thermate (one 0.10 kg pellet)	RKA 2½d6, Armor Piercing, 1 Hex, 1 Turn/Charge	RKA +1 point per +.10 kg, to a maximum of +10 points
White Phosphorus (0.25 liter)	RKA 3d6, Armor Piercing; Trigger (on contact with air), 1 Turn/Charge; plus Change Environment 2" radius (smoke cloud), -3 to Sight Group PER Rolls, 1 Turn/Charge	RKA +1 point per +0.25 liter, to a maximum of +10 points

For explosives, the GM may substitute the equivalent DCs in Killing Damage, if preferred.
Incendiary devices, and many explosives, set flammable objects on fire (sometimes their heat alone ignites nearby objects). The GM can apply the incendiary effect from Incendiary bullets (page 206) if desired.

Paraffin-Sawdust

This incendiary is a simple mix of paraffin wax or beeswax and sawdust. It burns slowly and is used to set fire to flammable objects and buildings. It can be carried and stored safely; working with it provides a +2 Demolitions bonus.

Thermite

Thermite is made of powdered ferric oxide and powdered or granular aluminum. When lit it creates molten iron aluminum oxide, and can produce temperatures as high as 2,400° C under proper conditions. It has many commercial uses (such as welding) in addition to its military applications.

Thermite requires strong heat to ignite it (more than a match), so igniter materials (such as magnesium, white phosphorus, or depleted uranium flakes) are added when it's used for military purposes. (In game terms, working with it involves no Demolitions penalty.) However, its stability also means characters can safely carry and store it, and that it burns strongly once lit. It's easy to use in cold and windy situations, and can burn through metal containers to ignite any flammable objects they hold.

Demolitionists can mix thermite with pyrotechnic agents to form a more volatile compound called thermate. Neither thermite and thermate can be doused with water.

White Phosphorus

White phosphorus (WP, or "Willie Pete") is most often used to ignite other incendiaries, but can be used on its own. It is pyrophoric (self-igniting) — it burns on contact with air. It's stored underwater. Working with it entails a -2 Demolitions penalty.

A WP incendiary consists of white phosphorus dissolved in carbon disulfide (or some other solvent to keep it away from air). To use it, a demolitionist pours it on the item he wants to burn. Once the solvent evaporates, the WP bursts into flame, creating large clouds of dense white smoke. For military purposes, sometimes plastic white phosphorus (PWP) is used; this is a rubbery solution that binds the WP together so it cannot disperse freely. WP cannot be doused with water.

RESTRAINTS AND NON-LETHAL WEAPONS

Not every weapon needs to kill or injure the target. Sometimes it's sufficient — even desirable — to simply incapacitate an enemy.

BLINDING LASER

Although portable laser weapons able to deliver enough energy to kill a target are not (yet) technologically feasible, military engineers have developed laser weapons intended to blind an opponent or visual sensor (either temporarily or permanently). There are two models: a small model which mounts underneath the barrel of an assault rifle; and a larger model with much greater range and power.

Underbarrel Blinding Laser: *Sight Group Flash 4d6 (20 Active Points); OAF (-1), Real Weapon (-¼), 12 Charges (-¼). Total cost: 8 points.*

Blinding Laser

Cost	Power
48	*Blinding Laser:* Multipower, 105-point base, 32 Charges for entire Multipower (+¼); all OAF Bulky (-1½), Real Weapon (-¼)
1u	1) *Dazzling Setting:* Sight Group Flash 6d6, Increased Maximum Range (525"; +¼); OAF Bulky (-1½), Real Weapon (-¼)
3u	2) *Blindness Setting:* Major Transform 7d6 (sighted person or sensor to blind person or sensor); OAF Bulky (-1½), All Or Nothing (-½), Limited Target (sighted beings/objects; -¼), Real Weapon (-¼)

Total cost: 52 points.

HANDCUFFS

Handcuffs and various related restraints (such as thumbcuffs, legcuffs, and flexible plastic-strip restraints) are bought as Entangles with several Limitations. See *Contortionist, Dark Champions* page 69, and *Lockpicking, Dark Champions* page 73, for rules on escaping from them.

Handcuffs: *Entangle 3d6 (standard effect: 3 BODY), 6 DEF, Takes No Damage From Attacks (+½) (67 Active Points); OAF (-1), Cannot Form Barriers (-¼), Set Effect (hands only; -1), Does Not Prevent Use Of Accessible Foci (-1), No Range (-½), Must Follow Grab Or Target Must Be Willing (-½), 1 Recoverable Charge (-1¼), Can Be Escaped Automatically With Modified Lockpicking Or Contortionist Roll (-½). Total cost: 9 points.*

MACE/PEPPER SPRAY

Mace and pepper spray are chemical agents designed to blind an attacker (and in the process cause some discomfort and pain). They come in small spray canisters, and are often carried by women and corrections officers. The spray may be liquid, or it may be a foam. In either case, it can get around glasses and other forms of eye protection that do not offer total protection; only solid eye coverings, such as goggles or a sealed helmet, offer a defense against this weapon.

Mace/Pepper Spray: *Sight Group Flash 5d6, NND (defense is solid eye covering; +1), Delayed Recovery (+2) (100 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), 12 Charges (-¼) (total cost: 33 points)* ***plus*** *Energy Blast 3d6, NND (defense is solid eye covering; +1) (30 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), 12 Charges (-¼) (total cost: 10 points). Total cost: 43 points.*

PNUEGUN

The PnueGun is a small tube which uses compressed carbon dioxide to fire a small, hard beanbag up to 150 feet. The force of the impact is enough to stun a man and knock him down.

PnueGun: *Energy Blast 6d6 (30 Active Points); OAF (-1), Limited Range (22"; -¼), Real Weapon (-¼), 1 Charge (-2). Total cost: 7 points.*

SHOCKBATON

This riot control baton contains a small battery capable of providing a localized high-voltage shock. It also emits a loud crackling noise to frighten off attackers.

Cost	Power
2	*Schockbaton — Baton:* HA +2d6 (10 Active Points); OAF (-1), Hand-To-Hand Attack (-½), Real Weapon (-¼)
27	*Shockbaton — Incapacitating Touch:* Energy Blast 8d6 NND (defense is insulated ED; +1) (80 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), 12 Charges (-¼)

Total cost: 29 points.

SLICKNESS SPRAY

This is a chemical spray or foam, such as the product Riotril, which coats hard surfaces (stairs, roads, floors, and the like) so that they become too slick to stand on. Criminals and rioters can't keep their feet, and cars that drive across slicked-up roads lose traction and control. After the substance dries, it can be peeled up easily.

Slickspray: *Change Environment 16" radius (normal hard surfaces to extremely slippery hard surfaces), -4 to DEX Rolls to move on (34 Active Points); OAF (sprayer; -1), Only Affects Characters Who Are Moving On The Ground (-¼), Real Weapon (-¼), 1 Continuing Charge lasting 5 Minutes (-¾). Total cost: 11 points.*

SONIC AND ACOUSTIC WEAPONS

The military has experimented with sonic weapons and riot-control devices for many years. High-pitched, high-decibel sound can cause headaches, feelings of nausea, confusion, vertigo, and similar symptoms with no visible cause. Sound below the pitch of human hearing is also dangerous — it can shake buildings and rupture internal organs in some cases. Sonic (or acoustic) weapons could be set for low-intensity or high-intensity (in other words, nonlethal or lethal effects). They can be used offensively, or defensively (for example, to set up a "barrier" which would effect anyone walking into it). Sonic weapons can even penetrate buildings to affect the occupants (in *HERO System* terms, they're Indirect).

Cost	Power
20	*Sonic Cannon:* Multipower, 32-point base, 100 Charges for entire reserve (+¾); all OAF Bulky (-1½), Real Weapon (-¼)
1u	1) *Nonlethal Pain Effect:* Energy Blast 2d6, NND (defense is Hearing Flash Defense, earplugs, or solid coverings over the ears; +1), Continuous (+1), Indirect (+¼); OAF Bulky (-1½), Limited Range (20"; -¼), Real Weapon (-¼)
1u	2) *Lethal Effect:* RKA ½d6, Continuous (+1), Indirect (+¼); OAF Bulky (-1½), Limited Range (20"; -¼), Real Weapon (-¼)
1u	3) *Vertigo Effect:* DEX Drain 1d6, Limited Range (20"; +¼), Continuous (+1), Indirect (+¼); OAF Bulky (-1½), Real Weapon (-¼)

Total cost: 23 points.

Sonic Barrier Generator: *Energy Blast 4d6, NND (defense is Hearing Flash Defense, earplugs, or solid coverings over the ears; +1), Area Of Effect (24" Line; +1¼), Continuous (+1), Indirect (+¼) (90 Active Points); OAF Bulky (-1½), No Range (device generates the line directly from itself; -½), Real Weapon (-¼). Total cost: 28 points.*

STICKY FOAM

Sticky foam, or sprayfoam, is a rapid-hardening foam used to restrain prisoners, rioters, and similar targets. The dispenser is a flamethrower-like backpack tank with a spraygun that attaches to the tank via a hose. The foam is so sticky and quick-setting that it can instantly trap targets; it's virtually impossible to remove without a special liquid solvent. The U.S. Marines used this technology in Somalia in 1995. Potential problems arise include the fact that the solvent is potentially toxic, the spray can be lethal if sprayed directly into the target's face (he suffocates), and the weapon has a very short range and affects an entire area indiscriminately.

Sprayfoam: *Entangle 3d6, 3 DEF, Area Of Effect (One Hex Doubled; +¾) (52 Active Points); OAF Bulky (-1½), Cannot Form Barriers (-¼), Limited Range (5"; -¼), Side Effect (victim can suffocate if sprayed directly in the face; -0), Susceptible (to special solvent; -¼), 16 Charges (-0). Total cost: 16 points.*

TASERS

Tasers shock the victim with 2,000 or more volts of electricity — enough to knock him out, but not kill him (though a character could create a taser with lethal levels of voltage). They come in two varieties. The first works over a short range. It projects a small metal dart into the victim; the dart's attached to the weapon via a wire down which the electricity travels. Characters need WF: Small Arms to use this type of taser. The other type, used with WF: Fist-Loads, requires the character to touch the target with the device.

Taser (Ranged): *Energy Blast 8d6, NND (defense is insulated ED; +1) (80 Active Points); OAF (-1); Limited Range (4"; -¼), 1 Recoverable Use (-1¼). Total cost: 23 points.*

Taser (Non-Ranged): *Energy Blast 8d6, NND (defense is insulated ED; +1) (80 Active Points); OAF (-1); No Range (-½), 12 Charges (-¼). Total cost: 29 points.*

WMDs

In the modern world, the most terrifying weapons a nation or group can wield are so-called "weapons of mass destruction": chemical weapons, biological weapons, and nuclear bombs capable of killing thousands or millions of people in mere seconds or hours.

Because of these weapons' incredible destructive capabilities, GMs frequently use them as plot elements in *HERO System* scenarios. Therefore, GMs and players alike may find it helpful to have an understanding of how they work, and how to simulate their effects in game terms. Of course, most of the time the exact effects of the weapon don't matter — it's just a plot device and doesn't need a write-up. But occasionally it could matter — for example, when a PC's base of operations is located on the edges of a nuclear blast's effect and the GM must answer the question of exactly what happens to him and his vital equipment.

CHEMICAL AND BIOLOGICAL WEAPONS

Second only to nuclear weapons (see below) in their capacity for killing large numbers of people, chemical and biological weapons are cheap and relatively easy to make. They're increasingly used in warfare, especially by Third World nations that can't make nuclear weapons. Because of the intrigue that surrounds them, the ease with which they can be manufactured and used, and the vast numbers of deaths they can cause, chemical and biological weapons are likely to be the subject of many scenarios, so this section briefly discusses the major types of them and provides *HERO System* statistics for several.

Biological Weapons

Biological weapons come in four basic types: bacterial infections (which cause plague, anthrax, brucellosis, and typhoid fever); fungal infections (which cause desert fever); rickets infections (which cause typhus, purple fever, and Queensland fever); and viral infections (which cause smallpox, yellow fever, and some of the deadlier kinds of flu).

Discussing various types of diseases, and the biological mechanisms by which they infect people, is beyond the scope of this book. The GM can use the examples given below — which involve anthrax, brucellosis, and bubonic plague, three diseases frequently used as biological weapons — to create other bioweapons if he desires.

These biological weapons are built using Drain, which has No Range. Their range depends on the launching system used to fire them (if any). The listed defense against them is the appropriate Immunity; a character can also protect himself by remaining within a hermetically-sealed, airtight environment during the lifespan of the biological organisms involved — which in some cases may be years or decades (the *Extra Time* Limitations provide a description of the basic course of the disease, but victims may remain infectious for longer periods, and in some cases the biological organisms remain viable for much longer).

BUBONIC PLAGUE ("THE BLACK DEATH")

This disease is ypically carried by fleas that live on rats, and passed on to humans when the fleas bite them after the rats come into close contact with people. Bubonic plague is often referred to as "the black death" because of the black buboes (swellings) and black skin blotches it causes (from internal bleeding). It attacks quickly, typically killing the victim within five days after exposure. Mere hours after contracting the disease, the victim begins to feel chilled, feverish, nauseous, and eventually delirious. He also experiences severe pain, boils, and black buboes as large as an apple in the armpits and groin which ooze pus and blood. An even more virulent form, pneumonic plague, spreads through the air and causes continuous fever and the spitting of blood instead of swelling.

Curing bubonic plague requires treatment with streptomycin or tetracycline within the first 15 hours of the onset of symptoms. Beyond that point, the disease has progressed too far to save the victim.

Bubonic Plague Bioweapon, First Effect: *Drain CON 5d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (187 Active Points); OAF Bulky (-1½), Extra Time (one hour's onset time [sometimes more]; -3), Gradual Effect (5 Days, 1d6/day; -1¾), Real Weapon (-¼), 1 Charge (-2). Total cost: 20 points.*

Bubonic Plague Bioweapon, Second Effect: *Drain STR 5d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (187 Active Points); OAF Bulky (-1½), Extra Time (begins to affect victim one day after first effect; -4), Gradual Effect (5 Days, 1d6/day; -1¾), Real Weapon (-¼), 1 Charge (-2). Total cost: 18 points.*

Bubonic Plague Bioweapon, Third Effect: *Drain COM 3d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (112 Active Points); OAF Bulky (-1½), Extra Time (begins to affect victim one day after first effect; -4), Gradual Effect (3 Days, 1d6/day; -1¾), Real Weapon (-¼), 1 Charge (-2). Total cost: 11 points.*

Bubonic Plague Bioweapon, Fourth Effect: *Drain BODY 5d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (187 Active Points); OAF Bulky (-1½), Extra Time (begins to affect victim one day after second effect; -4), Gradual Effect (5 Days, 1d6/day; -1¾), Real Weapon (-¼), 1 Charge (-2). Total cost: 18 points.*

Bubonic Plague Bioweapon, total cost: *67 points.*

For the pneumonic variety of the plague, increase the Drain BODY to 6d6, and make all effects Sticky (representing the ease with which the disease passes from person to person).

INHALATION ANTHRAX

Anthrax, a particularly deadly disease can contaminate an area for decades and make it totally unfit for human habitation. Different types of anthrax spread by contact, ingestion, or inhalation; this bioweapon uses the inhalation form of the disease. Several days after a person becomes infected, he suffers fever, fatigue, and coughing. Thereafter he often seems to improve slightly, but then experiences shock and dies within 24 hours despite attempts at treatment.

Inhalation Anthrax Bioweapon, First Effect: *Drain CON 3d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (112 Active Points); OAF Bulky (-1½), Extra Time (½d6+1 days' onset time [sometimes more]; -4), Gradual Effect (6 Hours, 1d6/2 hours; -1½), Real Weapon (-¼), 1 Charge (-2). Total cost: 11 points.*

Inhalation Anthrax Bioweapon, Second Effect: *Drain END 4d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (150 Active Points); OAF Bulky (-1½), Extra Time (½d6+1 days' onset time [sometimes more]; -4), Gradual Effect (6 Hours, 1d6/1½ hours; -1½), Real Weapon (-¼), 1 Charge (-2). Total cost: 15 points.*

Inhalation Anthrax Bioweapon, This Effect: *Drain BODY 6d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (225 Active Points); OAF Bulky (-1½), Extra Time (begins to affect victim one day after first effect has taken full effect; -4), Gradual Effect (6 Hours, 1d6/2 hours; -1½), Real Weapon (-¼), 1 Charge (-2). Total cost: 22 points.*

Inhalation Anthrax Bioweapon, total cost: *48 points.*

Chemical Weapons

"Chemical weapons" refers to any sort of gas, lethal or otherwise, that's used as a weapon (some are also used in liquid form). They range from simple irritating and incapacitating gases to gases so lethal that the merest whiff of them causes almost instant unconsciousness and death. They're grouped into two different categories, incapacitating and lethal, based on their effect.

Chemical weapons are built using Powers that have No Range, or take the *No Range* (-½) Limitation. Their range depends on the launching system used to fire them (if any).

INCAPACITATING AGENTS

Incapacitating agents render the target incapable of fighting without killing him. There are two kinds: physical and psychological.

Physical Incapacitating Agents

Physical incapacitators affect the target's health and physical ability to fight. Examples include:

CN/CS: CN and CS are lachrymatory gases (tear gases) that cause uncontrollable weeping and coughing. The stronger tear gases used by the military may also sicken and incapacitate the victim (add to CS/CN the effects of ES gas). CS smells something like apple blossoms, CN like pepper.

CN/CS Gas Shell: *Sight Group Flash 12d6, Area Of Effect (24" Radius; +1), Continuous (+1), Delayed Recovery (+2) (300 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 80 points.*

ES: ES gas makes the victim extremely nauseous and diarrhetic. The discomfort and weakness last for about a day, give or take.

ES Gas Shell: *Drain CON 4d6, Area Of Effect (17" Radius; +1), Continuous (+1), Delayed Return Rate (points return at the rate of 5 per 6 Hours; +1¼), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (210 Active Points); OAF (-1), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1) (total cost: 65 points)* ***plus*** *Drain END 4d6, Area Of Effect (13" Radius; +1), Continuous (+1), Delayed Return Rate (points return at the rate of 5 per 6 Hours; +1¼), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (210 Active Points); OAF (-1), Linked (-½), Real Weapon*

(-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1) (total cost: 56 points) ***plus*** *Drain STR 3d6, Area Of Effect (17" Radius; +1¼), Continuous (+1), Delayed Return Rate (points return at the rate of 5 per 6 Hours; +1¼), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (165 Active Points); OAF (-1), Linked (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1) (total cost: 44 points). Total cost: 165 points.*

Sneezing Powder: Here's an example of a *neutralizing agent,* an incapacitating agent designed to neutralize just one person for a short period of time: a powder that induces uncontrollable sneezing

Entangle 5d6, 5 DEF, Takes No Damage From Attacks (+½) (75 Active Points); OAF Fragile (-1¼), No Defense (-1½), Range Based On STR (-¼), Does Not Work In Winds Or Rain (-¼), 1 Charge (-2). Total cost: 12 points.

Vomiting Gases: Vomiting or regurgitant gases, such as some forms of DM (adamsite), induce retching, coughing, sneezing, and similar symptoms that effectively incapacitate the victim In concentrated doses (such as if used indoors), they sometimes prove fatal. The effects of mild exposure usually fade within about 30 minutes; stronger exposures may affect the victim for hours.

Vomiting Gas Shell: *Drain CON 3d6, Area Of Effect (11" Radius; +1), Continuous (+1), Delayed Return Rate (points return at the rate of 5 per 20 Minutes; +¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (142 Active Points); OAF (-1), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1) (total cost: 44 points)* ***plus*** *Entangle 6d6, 6 DEF, Takes No Damage From Attacks (+½), Area Of Effect (11" Radius; +1), Continuous (+1) (210 Active Points); OAF (-1), Does Not Work Against Targets With Life Support (Self-Contained Breathing or appropriate Immunity) (-½), Linked (-¼), No Range (-½), Real Weapon (-¼), Susceptible (effects of Entangle end immediately if victim is removed from gas cloud and gets one recovery of Drained points of CON; -1), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1) (total cost: 38 points). Total cost: 82 points.*

Psychological Incapacitating Agents

Psychological incapacitators weaken the victim's mental acumen and often cause hallucinations and psychotic behavior. LSD has been used as a psychological incapacitator; another type is BZ, whose effects are similar to LSD. The problem with these agents is that the victim's actions are not controllable — sometimes, making a soldier hallucinate or become psychotic is the last thing the enemy wants (though a master criminal determined to wreak havoc in a city may think it's just what he needs). Thus, use of these agents is infrequent at best.

LSD/BZ Gas Shell: *Drain INT 2d6, Area Of Effect (10" Radius; +1¼), Continuous (+1), Delayed Return Rate (points return at the rate of 5 per 20 Minutes; +¾), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (100 Active Points); OAF (-1), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1) (total cost: 31 points)* ***plus*** *Mental Illusions 8d6, Area Of Effect (10" Radius; +1), Continuous (+1), NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1) (160 Active Points); OAF (-1), Based On CON (ED applies; -1), Linked (-¼), No Conscious Control (cannot control the hallucinations the victim experiences; -1), No Range (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1) (total cost: 27 points). Total cost: 58 points.*

LETHAL AGENTS

Lethal agents come in five types: asphyxiants; blistering agents; haemotoxins; nerve gases; and toxins.

Asphyxiants

Asphyxiant gases kill by disrupting the body's ability to breath and attacking the respiratory tract. The two best-known types are chlorine and phosgene. Phosgene is a colorless gas with the odor of new-mown hay. It causes the victim to cough, choke, and drown in his own mucus and bodily fluids.

Phosgene Gas Shell: *RKA 6d6, Area of Effect (576" [about 0.7 miles]; +2), Continuous (+1), NND (defense is LS [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1) (540 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 144 points.*

Blistering Agents

Blistering agents (also called vesicants) cause horrible burns and blisters to exposed skin. If they contact the eyes, they permanently blind the victim. If directly inhaled, they kill. They can also cause death indirectly if the sores they create become infected or if the suffering victim commits suicide (a not uncommon result).

Victims who survive the initial attack of a blistering agent take months to heal — the ulcerating sores caused by the gas scab over, and then the scabs fall off and the sores ulcerate once more. In addition to the horrible sores, a surviving victim may suffer from bronchopneumonia.

Blistering agents may come in two forms: gas (the most common) or liquid. The best known blistering agent is mustard gas (also known as HD), including distilled mustard (which is colorless and smells like garlic) and nitrogen mustard (which is

colorless and smells like fish or soap). Similar to mustard gas is Lewisite, which has similar effects but is stronger (RKA 6d6).

Mustard Gas Shell

Mustard Gas Shell, First Effect (burns, blisters, and ulcerating sores): *Drain DEX, CON, BODY, and COM 2d6, four Characteristics simultaneously (+1), Area of Effect (480" [about 0.5 miles]; +2¼), Continuous (+1), Delayed Return Rate (points return at the rate of 5 per 3 Months; +2¼), NND (defense is LS [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1) (190 Active Points); OAF (-1), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 58 points.*

Mustard Gas Shell, Second Effect (death from inhalation): *RKA 5d6, Area of Effect (480" [about 0.5 miles]; +2), Continuous (+1), NND (defense is LS [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1) (450 Active Points); OAF (-1), No Range (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 120 points.*

Mustard Gas Shell, Third Effect (blindness): *Major Transform 5d6 (sighted person to blind person, heals back via eye transplant), Area of Effect (480" [about 0.5 miles]; +2), Continuous (+1), NND (defense is LS [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1) (450 Active Points); OAF (-1), Limited Target (sighted beings; -¼), No Range (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 112 points.*

Mustard Gas Shell, total cost: *290 points.*

Haemotoxins

Haemotoxins attack the blood and the circulatory system. They tend to cause instant unconsciousness, followed by death within seconds from respiratory failure. Cyanide acid and cyanogen gas are the two most common forms; for more information, refer to *Poisons,* below.

Nerve Gases

Nerve gases are among the most feared chemical warfare agents. These colorless and odorless gases attack the central nervous system, disrupting nerve transmissions throughout the body. A single drop of the liquid form or a whiff of the gaseous form can be fatal within five to ten minutes.

Initially, exposure to a nerve agent causes the victim's nose to run and his vision to blur. He has difficulty breathing, and he soon begins to vomit and/or defecate. Mental disturbances come next, followed by coma, spasms, paralysis, and death from respiratory failure. Atropine (a poisonous substance) and oxime are antidotes, but still leave the victim incapacitated for days.

Nerve gases come in two basic types: the "G" and "V" series. The "G" series includes Tabun (GA), Sarin (GB, the gas used in the Aum Shinrikyo subway attacks in Tokyo), and Soman (GD). The faster-acting "V" series includes VE, VM, and VX.

Nerve Gas Shell: *RKA 8d6, Area of Effect (768" [about 0.95 miles]; +2), Continuous (+1), NND (defense is LS [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1) (720 Active Points); OAF (-1), Gradual Effect (16 Minutes, 1d6/2 minutes; -¾), No Range (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 160 points.*

Toxins

Toxins include phytotoxins and zootoxin (poisons derived from plants and animals, respectively; see *Poisons,* below) and microbe toxins. Microbe toxins are poisons created by microscopic organisms. They include B (an enterotoxin) and TZ (a saxitoxin, frequently found in spoiled mollusks or shellfish; .05 of a gram can kill a human being).

The best-known microbe toxin is botulin, also called X or A, which causes botulism (a lethal form of food poisoning). From .00007-.00015 of a gram of botulin is enough to kill, depending upon whether it's ingested or enters the body via a wound or injection. About 1-2 hours after being infected (*i.e.,* after being exposed to the microbes via a gas or eating contaminated food), the victim begins to suffer from gastrointestinal cramps, vomiting, abdominal pain, dryness of the mouth, and motor and visual disturbances. Death follows from paralysis of the respiratory system.

Botulin Gas Shell: *RKA 4d6, Area of Effect (384" [about 0.5 miles]; +2), Continuous (+1), NND (defense is LS [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1) (360 Active Points); OAF (-1), Extra Time (1-2 hours' onset time; -3), Gradual Effect (4 Hours; 1d6/hour; -1¼), No Range (-½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 45 points.*

Not all toxins are designed to affect humans and animals. *Phytotoxic agents* are poisonous substances manufactured for use against plants, to clear away vegetation and allow soldiers to see the enemy. The best-known phytotoxic agent is Agent Orange, used by the United States in Vietnam.

NUCLEAR WEAPONS

Even more terrifying than biological and chemical weapons are nuclear weapons. Whereas chemical and biological warfare agents may have the capacity to affect everyone in a particular area, nuclear weapons can instantaneously wipe out entire cities and kill tens of thousands of people (if not hundreds of thousands or millions). The major nations of the world possess enough nuclear weapons to kill most of Earth's population in a very few minutes (and, according to some theories, condemn the survivors to a slow, painful death from radiation or "nuclear winter"). As of early 2005, countries known or suspected to possess nuclear weapons (or nuclear capability and materials) include the United States, several former Soviet states (Russia, Ukraine, Belarus, and Kazakhstan), the United Kingdom, France, China, India, Iran, Israel, North Korea, Pakistan, and South Africa. Many others have expressed strong interest in creating their own nuclear bombs.

How Nuclear Bombs Work

There are basically two types of nuclear bombs: fission bombs and fusion bombs. Fission bombs work by splitting apart the large atoms of the elements uranium or plutonium. On detonation, the bomb uses high explosives to force two chunks of the fissionable material together, thus splitting one atom, which causes a chain reaction of fissioning atoms and a tremendous release of energy. Scientists refer to the smallest amount of uranium or plutonium needed to achieve this chain reaction as the "critical mass."

Fusion bombs are generally three to four times as powerful as fission bombs. They work by fusing two or more atoms together to form a different element. Usually they fuse deuterium atoms to form helium-3, or deuterium and tritium atoms to form helium-4. To cause this result, a fusion bomb uses a fission bomb as a "trigger."

For either type of bomb, the amount of material needed to produce the nuclear explosion is surprisingly small — approximately 25 kg (55 pounds) of enriched uranium, or a mere 8 kg (18 pounds) of plutonium, are all that's needed to make a bomb as powerful as the one used on Hiroshima (the United States and Russia can make a miniature nuke out of as little as 2.7 kg [6 pounds] of plutonium, but terrorists and criminals do not have such resources). This makes it easy for the GM to run all sorts of scenarios involving the theft or smuggling of uranium or plutonium (both of which are produced in certain types of nuclear reactors).

The construction of the bomb mechanism itself is far easier than acquiring the uranium or plutonium — in the past, college undergraduates have designed workable nuclear devices using only declassified United States government documents and readily available materials. It would certainly be possible for clever terrorists, unscrupulous scientists (including former Soviet nuclear scientists hired by criminals), or master villains to do the same. However, the machinery and technological parts needed to build the bomb may not be so easy to acquire; in many cases they are quite rare, and require highly specialized skills to build or use.

Physicists rate the force of a nuclear explosion by comparing it to an equivalent amount of tons of TNT. A kiloton equals a thousand tons of TNT, and a megaton equals a million tons. The smallest American nuclear explosive is .1 kiloton, and various nations have bombs ranging into the tens of megatons or higher. Nuclear warheads have been placed on every type of launch system, from relatively short-range artillery to intercontinental ballistic missiles (ICBMs).

The Effects Of A Nuclear Explosion

This section describes the effects of a one-megaton (1 MT) nuclear bomb using the *HERO System 5th Edition* rules. Common Limitations for the nuclear bomb described below include: OAF Bulky (-1½), 1 Charge which Never Recovers and destroys bomb (-4 or less; in some cases this Charge lasts for more than a single Phase); No Range (the launching system must supply the Range for the bomb; -½); and Requires A Systems Operation Roll (-½) (total -6½, less with a Continuing Charge).

The effects of a nuclear explosion can be roughly summarized as follows:

- initial explosion (immediate release of radiation, thermal blast/flash, electromagnetic pulse [EMP])
- blast wave and wind effects
- fires, and
- lingering radiation and fallout.

Many of a nuke's effects include the Advantage *Explosion.* For ease of game play, ignore any other Advantages on the power when calculating the dropoff of the Explosion — just subtract 1 DC per hex (or other indicated distance) as if there were no other Advantages on the power.

Ground Bursts And Air Bursts

Many of a nuke's effects vary substantially depending upon whether the attack was a "ground burst" or an "air burst."

In a ground burst, some or all of the nuclear fireball touches the ground. A ground burst creates a large mushroom cloud, a crater, and tremors. For example, a 1 MT bomb creates approximately a 200 meter (100") crater 50-70 meters (25-35") deep (in ordinary soil), and its mushroom cloud may be as much as thirteen miles wide and ten miles high.

In an air burst, the fireball does not touch ground. For a 1 MT bomb, this means it would have to be detonated about 2,000 feet to half a mile above the ground). An air burst nuclear explosion doesn't create a crater or tremors, but has a greater EMP.

NUCLEAR VARIABILITY

Much of the information in this section is subject to change depending on many different factors. The weather, the topography, the accuracy of the bomb, and how perfectly it detonates can all affect the actual explosion and the effects it has. Furthermore, a lot of the information about nuclear explosions (whether public or classified) remains subject to interpretation and debate. This book features what the author deems the best information; in some cases it's been altered slightly to fit the game better. Players who prefer to rely on other data or interpretations can easily recalculate the effects of the bomb to fit their own ideas.

FIRST EFFECT: IMMEDIATE RADIATION

First, a nuclear explosion releases tremendous amounts of radiation (in the form of neutrons and gamma rays). The radiation doesn't cover as large an area as the heat or blast effects, but is nonetheless deadly (particularly to Desolidified characters who might otherwise survive the explosion). Scientists measure the amount of radiation released in roentgens and Roentgen Absorbed Dose (rads), which describe the effects of radiation on humans (see *Star Hero,* pages 282-83, for more information). A 1 MT bomb irradiates about a 1 mile (1.6 km, or 804.5") radius area with over 19,000 rads, enough to kill humans instantly (if near the blast) or within minutes or hours (if slightly farther away). However, by 2 miles this drops off to about 24 rads, which is not likely to have much effect on humans. People caught between one and two miles are likely to absorb enough radiation to cause them a slow and painful death in days or weeks. Humans lacking special equipment or senses cannot detect radiation (this sort of intense burst doesn't even do STUN damage), but survivors feel its effects for the rest of their lives (however short those lives may be).

Initial Radiation: *Drain BODY 20d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Safe Environment: High Radiation]; +1), Does BODY (+1), Area Of Effect (One Hex Doubled, but targets in outer ring of hexes take only half damage; +¾), Affects Desolidified (+½), Continuous (+1), Invisible Power Effects (creation of radiation field is perceivable, field itself afterwards is not; +½), MegaArea (each hex is 1 mile wide and broad; +½) (1,600 Active Points); OAF Bulky (-1½), Gradual Effect (everyone takes half of their damage immediately; and the other half as 1d6 per Day; -1), Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Continuing Charge which lasts 1 Hour, Never Recovers, and destroys bomb (-2¼) (total cost: 266 points)* ***plus*** *Drain CON 10d6, Delayed Return Rate (points return at the rate of 5 per Week; +1¾), NND (defense is Life Support [Safe Environment: High Radiation]; +1), Area Of Effect (One Hex Doubled, but targets in outer ring of hexes take only half damage; +¾), Affects Desolidified (+½), Continuous (+1), Invisible Power Effects (creation of radiation field is perceivable, field itself afterwards is not; +½), MegaArea (each hex is 1 mile wide and broad; +½) (700 Active Points); OAF Bulky (-1½), Linked (-½) Gradual Effect (everyone takes half of their damage immediately; and the other half as 1d6 per Day; -1), Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Continuing Charge which lasts 1 Hour, Never Recovers, and destroys bomb (-2¼) (total cost: 108 points). Total cost: 374 points.*

NUCLEAR WEAPON THERMAL BLAST RADIUS

Minimum Range	Maximum Range	Game Range	Damage	Effects
0	2.25 miles	up to 1500"	20-16d6	Metals vaporize
1.8 miles	3.5 miles	1501-2500"	15-10d6	Metals melt
3.25 miles	7.1 miles	2501-5000"	9-6d6	Rubber and plastic ignites and melts
5.1 miles	8.0 miles	5001-6000"	5-4d6	Wood and other flam- mables burst into flame or char
7.5 miles	10.2 miles	6001-7200"	4-3d6	Skin suffers third- degree burns
9.25 miles	13.25 miles	7201-10000"	3-2d6	Skin suffers second- degree burns
11.5 miles	18.3 miles	10001-14732"	1d6	Skin suffers first- degree burns

SECOND EFFECT: FLASH

When a nuclear bomb explodes, it immediately releases about one-third to one-half of its energy in the form of a blast of thermal energy. The nuclear fireball formed by the explosion of a 1 MT bomb is as hot as the heart of the sun and is more than 300 feet (about 45") wide less than a thousandth of a second after detonation. It continues to grow (and to rise off the ground) until it's about 2,000 feet to half a mile (403") wide. The heat and light energy travel at just under the speed of light, and last for about two seconds.

One of the effects from this release of energy is that persons looking in the direction of the blast suffer flash-blindness or permanent eye damage (retinal burns and possibly total blindness) because of the brightness of the light. Estimates on the reach of this effect range from 13 miles to 27 miles (21 km to 43.2 km) during the day, and 53 miles to 70 miles (112 km) at night (for the effect calculated below, ranges of approximately 50 miles [40,250"] at night and 13 miles [10,465"] in the daytime have been chosen).

This effect is a Transform that covers a smaller area in the daytime. Victims who take twice their BODY from the effect are permanently blinded. Other victims suffer varying degrees of eye injury (with minuses to Sight Group PER Rolls) and heal from them as they would normally. In game terms, the *Partial Transform* Advantage represents this: a victim who suffers a Cosmetic Transform suffers a -2 to all Sight Group PER Rolls; one who suffers a Minor Transform suffers a -4 to all Sight Group PER Rolls.

Cost Power

27 *Blinding Flash:* Major Transform 9d6 (sighted beings to blind beings, heals back via eye transplantation or the like), Partial Transform (+½) (202 Active Points); OAF Bulky (-1½), Limited Target (sighted beings; -¼), No Range (-½), Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Charge which Never Recovers and destroys bomb (-4)

14 *Daytime Flash:* Explosion (+½) and MegaArea (each hex is 1 km wide and broad; +¼) for Blinding Flash (102 Active Points); OAF Bulky (-1½), Limited Target (sighted beings; -¼), No Range (-½), Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Charge which Never Recovers and destroys bomb (-4)

4 *Nighttime Flash:* Increase to Explosion (-1 DC/2"; +¾) and MegaArea (each hex is 1 km wide and broad; +¼) for Blinding Flash (+33 Active Points); OAF Bulky (-1½), Only At Night (-½), Limited Target (sighted beings; -¼), No Range (-½), and Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Charge which Never Recovers and destroys bomb (-4)

Total cost: 45 points

THIRD EFFECT: THERMAL BLAST

All of the heat and light described above do more than just blind people. The heat energy vaporizes metals, ignites tremendous fires (see below), and burns people. The heat travels at just under the speed of light and lasts for about two seconds.

Thermal Blast: *RKA 20d6, Explosion (dropoff as indicated by accompanying table; +½), MegaArea (1" = ½ km, or about 1/3 mile; +¼) (525 Active Points); OAF Bulky (-1½), No Range (-½), Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Charge which Never Recovers and destroys bomb (-4). Total cost: 72 points.*

The accompanying chart (based primarily on one found in the book *Weapons,* by the Diagram Group) summarizes the exact effects and range of a 1 MT thermal blast. An object suffers lesser burns if it's colored white (subtract up to 3 DC), and greater burns if it's black (add up to 3 DC). The same applies to people, based on their clothing. For notes on the possible effects of fires, see below.

FOURTH EFFECT: ELECTROMAGNETIC PULSE (EMP)

When a nuclear bomb explodes, the radiation it emits ionizes atoms for many miles around (with some airbursts, for more than 50 miles!). This takes mere fractions of a second, but can generate thousands of volts of radio wave-like energy. This energy doesn't affect humans, but it disrupts or destroys electrical circuits.

EMP: *Dispel 20d6, all Electrical Circuit powers simultaneously (+2), Area Of Effect (26" Radius; +1), MegaArea (each 1" = 1 km wide and broad; +¼), Indirect (attacks all parts of objects, such as all walls in a building, +¾), Invisible Power Effects (creation of EMP is perceivable, field itself afterwards is not; +½) (330 Active Points); OAF Bulky (-1½), No Range (-½), Requires A Systems Operation Roll*

BLAST WAVE TABLE

Range	Game Range	Damage	Effects
Up to 1.4 miles	up to 1127"	20-16d6	30 psi/670 mph winds: total destruction
1.5-1.8 miles	1128-1449"	15-11d6	20 psi/470 mph winds: massive structures and reinforced concrete destroyed
1.9-2.0 miles	1450-1610"	10-9d6	15 psi/380 mphwinds: multistory buildings damaged and sometimes destroyed
2.1-2.5 miles	1611-2013"	8-7d6	10 psi/290 mph winds: factories and commercial structures destroyed
2.6-3.1 miles	2014-2496"	6d6	7 psi/225 mph winds: residential structures destroyed
3.2-3.8 miles	2497-3059"	5d6	5 psi/160 mph winds: residential and light commercial structures badly damaged or destroyed
3.9-4.8 miles	3060-3864"	4d6	3 psi/116 mph winds: walls of steel-framed buildings blown away, dwellings badly damaged, vehicles overturned, persons in the open killed
4.9-5.9 miles	3865-4750"	3-2d6	2 psi/70 mph winds: wooden buildings and similar structures damaged
6.0-10.0 miles	4751-8050"	2-1d6	1 psi/48 mph winds: little appreciable affect

(no Active Point penalty; -¼), 1 Charge which Never Recovers and destroys bomb (-4). Total cost: 45 points.

FIFTH EFFECT: BLAST WAVE

The blast wave is probably the most devastating part of a nuclear explosion. The force of the explosion creates massive pressure that travels outward in a wave, accompanied by incredibly strong winds. Sometimes this effect reflects off of the ground, thereby increasing its own power (a "mach wave"). Scientists refer to the blast effect as "static overpressure" (SO), and measure it in pounds per square inch (psi) over the standard atmospheric pressure. The extreme increase in pressure can destroy buildings miles away from the center of the blast because it affects all parts of the building and crushes the structure. Anybody inside when a building collapses is likely to die. But SO has relatively little effect on soft, malleable objects like human beings — as little as 5 psi obliterates the average residential house, but a human can withstand 30 psi before suffering injury. Unless the GM rules otherwise for some reason, the SO should not affect characters, unless the characters are unusually non-resilient (for example, they're made of metal or the like).

However, the intense winds, known as "dynamic pressure" (DP), do affect humans. They pick up all of the rubble, shards of glass, bits of metal, and other debris created by the SO and throw it against everything in their path, such as people. They also overturn cars, uproot trees, pull people out of buildings, and slam people against other objects with lethal force. As a result, one way or another a 1 MT blast kills or injures everyone within about five miles.

The effects of the blast wave can last for several seconds, depending upon the size of the bomb; with a 1 MT bomb, they should last no more than half a Turn. The accompanying table, also adapted from *Weapons,* describes the effects of a 1 MT blast wave.

Cost	Power
140	*Blast Wave (Static Overpressure):* RKA 20d6, Explosion (dropoff as indicated by accompanying table; +½), MegaArea (1" = ½ km, or about 1/3 mile, wide and broad; +¼), Continuous (+1), Indirect (attacks all parts of objects, such as all walls in a building, +¾) (1,050 Active Points); OAF Bulky (-1½), No Range (-½), Requires A Systems Operation Roll (no Active Point penalty; -¼), Little Or No Effect On Soft, Malleable Objects (including living creatures; -1), 1 Continuous Charge lasting 6 Segments which Never Recovers and destroys bomb (-3¼)
161	*Blast Wave (Winds):* RKA 20d6, Explosion (dropoff as indicated by accompanying table; +½), MegaArea (1" = ½ km, or about 1/3 mile, wide and broad; +¼), Continuous (+1), Double Knockback (+¾) (1,050 Active Points); OAF Bulky (-1½), No Range (-½), Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Continuous Charge lasting 6 Segments which Never Recovers and destroys bomb (-3¼)

Total cost: 301 points.

SIXTH EFFECT: NEGATIVE PRESSURE

After the explosion creates the static overpressure and winds blowing outward, air has to rush back in to fill the vacuum left by the outrushing winds. This effect, though much gentler than dynamic pressure, can still cause damage due to blown objects and the like.

Negative Pressure: *RKA 3d6, Area Of Effect (9" Radius; +1), MegaArea (1" = 1 km wide and broad; +¼), Continuous (+1) (146 Active Points); OAF Bulky (-1½), No Range (-½), Requires A Systems Operation Roll (no Active Point penalty; -¼), 1 Continuous Charge lasting 1 Turn which Never Recovers and destroys bomb (-3¼). Total cost: 22 points.*

SEVENTH EFFECT: FIRES

The tremendous heat generated by a nuclear explosion ignites any flammable objects not destroyed outright. The so-called "fire zone" within which this effect occurs covers a 5-10 mile radius for a 1 MT bomb. However, the bomb's blast wave may put out many fires (the GM decides whether this occurs, and to what extent it ameliorates the fire damage).

Ignite Flammable Objects: *RKA 1 point, Area Of Effect (16" Radius; +2), MegaArea (1" = 1 km wide and broad; +¼), Continuous (+1), Indirect (attacks all parts of objects, such as all walls in a building, +¾), Penetrating (+½), Reduced Endurance (0 END; +½), Sticky (only affects flammables; +¼), Uncontrolled (keeps burning until extinguished or fuel is consumed; +½) (34 Active Points); OAF Bulky (-1½), No Range (-½), Requires A Systems Operation Roll (no Active Point penalty; -¼). Total cost: 10 points.*

NUCLEAR BOMB COST AND EFFECTS SUMMARY

So, here are the total effects and costs for a 1 MT nuclear bomb:

Effect	Effects	Active Points	Real Points
Radiation burst	Drain BODY 20d6 + Drain CON 10d6	2,300	374
Flash	Major Transform 9d6 (to blind person)	337	45
Thermal blast	RKA 20d6	525	72
EMP	Dispel 20d6, all Electrical Circuit powers	330	45
Blast, SO	RKA 20d6	1,050	140
Blast, winds	RKA 20d6	1,050	161
Negative pressure	RKA 3d6	146	22
Ignite object	RKA 1 point, Penetrating, Sticky, Uncontrolled	34	10
Firestorm	Aid Fire Powers 4d6	348	93
Total:		**6,120**	**962**

It's possible for the fires to join together in two ways to cause even more damage. First, there could be a conflagration: the fires spread out of control and devastate many square miles of still-standing structures and plant life. Second, and even worse, is the firestorm, in which the fires join together in a central area and begin to suck in oxygen. The inrushing oxygen feeds the fire, turning it into a raging, self-sustaining inferno that only ends when it destroys everything flammable. No one can accurately predict whether a firestorm will start; Hiroshima suffered one but Nagasaki, which is hillier, only experienced a conflagration.

In game terms, this effect is a Continuous Aid; for these purposes, assume the bomb has SPD 2.

Firestorm: *Aid Fire Powers 4d6, two Fire Powers (the RKA and the maximum effect of this Aid) simultaneously (+½), Can Add Maximum Of 60 Points' Worth Of Fire Powers, Delayed Return Rate (points fade at the rate of 5 per Hour; +1), Area Of Effect (25" Radius; +1), MegaArea (1" = ½ km, or about 1/3 mile, wide and broad; +¼), Continuous (+1), Trigger (when Ignite Flammable Objects takes effect; +¼), Uncontrolled (keeps working until fires burn out or are extinguished; +½), Reduced Endurance (0 END; +½) (348 Active Points); OAF Bulky (-1½), Activation Roll 11- (-1), Requires A Systems Operation Roll (no Active Point penalty; -¼). Total cost: 93 points.*

EIGHTH EFFECT: RADIATION, FALLOUT, AND NUCLEAR WINTER

The lingering radiation created by a nuclear detonation can last weeks, months, or years. It's been estimated that 1 MT explosion would force the evacuation of all people in a 4,900 square mile area around the explosion for at least a week (and in the 1,400 square mile area immediately around the explosion for a month or more). As a basic rule of thumb, GMs can use the seven-tenths rule: seven hours after the explosion, the radiation levels drop to one-tenth of what they were one hour after the explosion; 49 (7 x 7) hours afterwards, 1/100th, and so forth. For the effects of radiation, refer to pages 282-83 of *Star Hero.* Remember that in some genres (like *Champions*), radiation can have some unusual effects.

In addition to the localized radiation, the radioactive debris kicked into the atmosphere by a nuclear explosion eventually descends to Earth as fallout. The pattern of fallout from a given nuclear explosion depends mainly on how high it goes and what the prevailing weather conditions (particularly the wind) are like.

Lastly, a few authorities believe a large nuclear exchange would kick so much dust and smoke into the air that it would blot out the sun, creating "nuclear winter." In the worst-case scenario, this would mean the extinction of life on Earth as temperatures dropped below freezing and food production became impossible. However, many experts question these doomsday predictions, and in any event it would require a major nuclear exchange to create this effect (something that's unlikely to happen in most gaming campaigns).

Because the effects of radiation, fallout, and nuclear winter are so unpredictable, no game statistics are given for them. The GM should adjudicate their effects on his campaign himself.

POISONS

Although not precisely "weapons," poisons have been used by assassins and murders for centuries, and are common features in many campaigns (particularly *Dark Champions* and *Fantasy Hero* games). Besides the threat of venomous animals, characters may have to deal with unscrupulous courtiers introducing poison into their food and drink at the King's feast, assassins wielding poison-smeared blades, jungle tribesmen with poisoned blowgun darts, and the like. Poisoning has become less common as a form of killing in the modern world because of the ready availability of guns and knives, but characters will still find plenty of assassins and killers out there using poisons. In many cases, poisons are the weapon of choice because they are virtually undetectable, or because their delayed effect allows the assassin to get far away from his victim and/or to strike days before the victim develops symptoms and dies.

In *HERO System* terms, lethal poisons are typically built as RKAs, NND Does BODY (the defense being the appropriate Life Support [Immunity]), OAF Fragile, No Range, and Charges. Nonlethal poisons, such as knockout drugs, are usually bought as Drains (often with NND as well); many lethal poisons also have a Linked Drain CON effect (since even if someone survives the poison, it makes him weak and ill). Gradual Effect is a common Limitation for either type, but not necessarily required; so is Extra Time (representing an onset time before the Gradual Effect starts to occur).

USING POISONS

Characters can use poison in many different ways.

INTRODUCING THE POISON

An attacker can introduce a poison into a character's body in one of three ways.

Injected Poisons

The first is *injection* — the poison is violently placed into the body by means of an animal's stinger, a bladed or pointed weapon, or the like. This type of poison takes the Limitation *HKA Must Do BODY Damage* (-½), since it's Linked or related to an HKA of some sort that must pierce the skin. Charges is another common Limitation, representing the contents of a poison reservoir, the amount of poison smeared on a blade, or the like.

Venomous animals obviously don't need to make any Skill Rolls or the like to ready their venoms. Applying poison to a blade for use against an enemy normally does not require a Skill Roll, either, provided the character has plenty of time (at least 5 Minutes) and a peaceful environment in which to do the job. If the character has to apply the poison more quickly, crisis conditions exist (such as being in the middle of a battle), or the GM wants to restrict the use of poison, a character who's applying poison to a weapon must make a DEX Roll. If the roll succeeds, he applies the poison without difficulty. If it fails by 1-3, the poison was improperly applied and has no effect; the character has simply wasted the poison. If it fails by 4, the character accidentally poisons himself and takes damage (either full damage, or something less, depending on the GM's judgment).

Animals' venoms do not expire or become weakened as long as the animal lives. However, at the GM's option, a poison placed on a blade or the like wears off if not used (every successful use of it consumes a Charge, of course). For every hour that passes since the poison was applied, either remove one Charge, or reduce all remaining Charges by 1 Damage Class.

In most cases, the poison on a blade is visible, and has an odor; characters may make a PER Roll to perceive it. Poisons built with the *Invisible Power Effects* Advantage don't suffer from this drawback.

Ingested Poisons

Second, characters can *ingest* a poison, either by eating/drinking it, or in the case of poison gas inhaling it. An attacker has to get the poison to the victim some way — hide it in his wine, pump it into the room he's in — so he can take it into his body. Gaseous poisons take no Limitation (except perhaps one reflecting the fact that they don't work in high winds or rain), but GMs may allow other ingested poisons to take a -½ Limitation, *Must Be Ingested*.

Introducing poison into someone's food requires planning and skill. Either the attacker must have access to the character's food as it's being cooked/prepared, or he has to put the poison in it right before he gives it to the character. To do the latter, he has to hide his actions from the character in some way — either conceal the food/drink behind something for a second, or make a Sleight Of Hand roll (opposed by the character's PER Roll).

When a character confronts food and drink he suspects may be poisoned, he can ask for a PER Roll to try to detect the toxin. (In the case of poisons so strong they're difficult to conceal in food, the GM may allow a PER Roll regardless of whether the character asks for one.) If the poison matches or blends in with the color of the food/

drink, the character receives no bonus to his PER Roll (and may even suffer a penalty); if the two don't match, he may receive a +1 or +2 bonus. The character may also taste a tiny amount of the food/drink in the hope of detecting the poison without exposing himself to a damaging dose. If the food/drink has a strong flavor, he receives no bonus (and may even suffer a penalty); if the poison overpowers the flavor of the food/drink, he gets a +1 (or higher) bonus.

Contact Poisons

Lastly, some poisons are so lethal that simply touching them can kill a character — even the tiniest amount seeps through the skin and into the body. Contact poisons don't take any unusual Limitations, though they sometimes have Trigger (when character touches poisoned object; +¼). Characters can apply and detect contact poisons as they do injected poisons.

EFFECTS OF POISON

Typically, the purpose of poison is to kill. However, not all poisons have fatal effects; some just make the victim sick or dizzy, or knock him out.

In the real world, poisons generally make the victim feel ill, then cause cramps, convulsions, and eventually death (see below for many examples). Sometimes they have other minor effects, like raising (or lowering) body temperature, causing drowsiness or drunkenness-like effects, impairing the senses slightly, or mildly discoloring some part of the body. In a Fantasy setting, poisons can have many horrific effects that heighten the drama of the situation. They could, for example, cause extreme insanity prior to death, strongly discolor the victim's body, make the victim bleed from the pores, or the like. Players and GMs should be fiendishly clever in their descriptions of a poison's effects.

CREATING POISONS

Characters who want to make their own poisons must buy the Professional Skill *Brew Poison* (in Fantasy or pre-modern settings) or the Science Skill *Pharmacology/Toxicology* (in modern or advanced societies). Making poisons requires the proper equipment — kettles, glassware, ingredients, and the like. In Fantasy campaigns, many alchemists brew poisons, since they've already got the supplies.

To make a poison, a character must make a Skill Roll. This takes a minimum of 1 Minute per 10 Active Points in the poison, and may take much longer. The character suffers a penalty of -1 per 10 Active Points to his Skill Roll, but may gain extra time bonuses for taking longer than the prescribed amount of time. The GM may impose other bonuses or penalties as he sees fit.

If the character's roll succeeds, he has made the poison properly, and now has a number of "doses" equal to the Charges in the poison's *HERO System* write-up. If the roll fails by 1-3, he fails to create the poison — or, in the GM's discretion, may create a much weaker toxin. If the roll fails by 4 or more, the character not only does not create any poison at all, but in the GM's discretion he may have suffered some calamity (a laboratory explosion or the like).

Harvesting Poison

Characters who fight venomous animals and monsters may have the chance to "harvest" poison from the corpses of their defeated foes. The GM must first determine if the creature has any poison left; it may have used it all up in battle, or the characters' attacks could have pierced its reservoir and spilled all the venom. (If necessary, determine this randomly; on a roll of 11-, the animal's venom reservoir is intact.)

To harvest the poison reservoir, a character must make a roll. If he has an appropriate Knowledge Skill (such as KS: Animals), he only has to make a DEX Roll to do the job properly. If he lacks an appropriate KS, he must make an 8- roll (to judge where to find the reservoir) *and* make a DEX Roll. If any of these rolls fail, the character loses all the poison.

Once a character has extracted a venom reservoir, he must store it properly, or else the venom evaporates, expires, or weakens. Use the rules for injected poisons, above, but diminish the venom per *day,* rather than per hour.

POISON IN THE CAMPAIGN

In Heroic-level games, characters typically can buy poisons with money instead of Character Points. This may cause problems in the game. Eager for its potent offensive power, characters may suddenly invest heavily in poisons and use them constantly, throwing off campaign balance.

Gamemasters who want to restrict the use of poison in the campaign have several options. First, make poisons difficult to create and obtain. Lengthen the creation time (and increase the perils of poison-brewing). Make poison so rare that it's difficult to find in the market, and incredibly expensive to purchase. Possession of poison may also be illegal, causing characters further problems when they try to buy or carry it.

Second, make poisons difficult to use. Increase the speed with which they weaken or evaporate. Require a character to make a DEX Roll in every Phase he uses a poisoned weapon, with failure meaning he has accidentally poisoned himself. Give poison-using characters a *Reputation* Disadvantage that makes it hard for them to live or work with folk who object to poison use.

Third, if necessary, forbid characters to use poison altogether. After all, it's not heroic — it's something assassins, thieves, and other Evil people do. While heavy-handed, this method may prove the best and easiest for many campaigns.

HEALING AND POISONS

Most poisons have antidotes. If someone administers the antidote to a poisoning victim, the toxin causes no further damage, but the antidote does not heal damage already taken.

In most cases, use of Paramedics should have little, if any, effect on a poison that's already in a character's system. The GM should only allow a character to make Paramedics rolls to diminish the effect

of poison if he has special knowledge of the subject — such as KS: Poisons or the like. Of course, the GM can always make exceptions; for example, if a character got to a snakebite victim right after he was bit, perhaps the character could use his *Paramedics* Skill to put a torniquet on the wound, make an incision, and suck out some of the poison. But once the poison starts to degrade a person's flesh, internal organs, and/or nervous system, often there's nothing medicine can do to help him (particularly the primitive medicine of Fantasy-era settings).

A spell or ability using the *Healing* Power can heal damage already taken from poison, but it doesn't stop further damage from accruing if the poison has a Gradual Effect. However, at the GM's option, a character could use a Healing-based spell to counteract "future" poison damage from a poison already in the character's system. Alternately, this may require a Transform (poisoned person to non-poisoned person).

CLASSIFYING POISONS

Since the defense against most poisons is Life Support (Immunity), you should classify any poison you create (thus defining the proper Immunity for it). You have two options.

First, you can use the categories already defined for Immunity (see page 198 of the *HERO System 5th Edition, Revised*). Although simple and easy, this method lacks Fantasy flavor.

Second, you can create categories specific to your campaign, based on the source of the poison, who makes it, and other factors (this is particularly appropriate for *Fantasy Hero* campaigns). The accompanying text box provides an example system, using as a guideline a cost of 2 Character Points for poisons specific to a race, group, or location, and 3 Character Points for poisons from specific types of animals or plants.

EXAMPLE FANTASY IMMUNITIES

Cost	Poison
3	Animal Poisons (other than serpent and spider poisons)
2	Deep Elf Poisons
2	Orcish Poisons
3	Plant Poisons of the Eastern Realms
3	Plant Poisons of the Western Realms
3	Serpent Poisons
2	Poisons of the Silverleaf Guild
3	Spider Poisons
2	Tornathian Ingested Poisons
2	Toxins of Thfn
3	Turakian Poisons

EXAMPLE REAL-WORLD POISONS

In addition to these poisons, you can find other examples on pages 28-30 of the *HERO System Bestiary.*

ABRIN

Abrin is a phytotoxin (poison derived from plants) found in the seeds of a tropical plant variously known as jequirity bean, precatory bean, paternoster pea, or rosary pea (*Abrus precatorius*). The onset of its effects usually occurs within two days, but may take only a few hours; they include vomiting, diarrhea, gastrointestinal problems, convulsions, coma, and death from cardiac failure. Abrin may also cause ulcers in the mouth. Even a single bean from this plant can be fatal to a child or a weak adult. Immunity to abrin costs 1 point.

Abrin: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Extra Time (onset time begins no earlier than 6 Hours after victim ingests poison; -3½), Gradual Effect (6 Hours, 1d6/3 Hours; -1½), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 8 points)* ***plus*** *RKA 4d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (180 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time begins no earlier than 6 Hours after victim ingests poison; -3½), Gradual Effect (6 Hours, 1d6/1½ Hours; -1½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 19 points). Total cost: 27 points.*

ACONITE

This phytotoxin comes from the roots of the aconite plant (*Aconitum napellus*), also known as monk's-hood or wolfsbane. It's also found in the leaves and roots of larkspur.

In its pure form, aconitine, this poison is a white crystalline alkaloid. It's extremely virulent and fast-acting — death occurs almost instantaneously following ingestion. Aconitine can also be absorbed through the skin. Symptoms in longer-lasting cases (which usually last no more than an hour or two) include tingly skin (an important "giveaway" symptom in many cases), numbness or burning of the mouth and throat, stomach pain, vomiting, loss of coordination, feeling "cold," diarrhea, convulsions, and death from cardiac and respiratory failure. Doctors cannot detect aconite via an autopsy unless they run special tests. Immunity to aconite costs 2 points.

Aconite: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1), Invisible Power Effects (can't be detected with autopsy; +¼) (75 Active Points); OAF Fragile (-1¼), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total*

cost: 18 points) ***plus*** *RKA 5d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1), Invisible Power Effects (can't be detected with regular autopsy; +¼) (244 Active Points); OAF Fragile (-1¼), No Range (-½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 57 points). Total cost: 75 points.*

ANTIMONY

Antimony is a silvery-white metallic element that can kill if ingested. It does not dissolve in water. Available in many common items (for example, certain kinds of batteries, glass, enamels, and matches), it can be used as an immediate poison or as a chronic (long-term) poison in small doses (such as in someone's food). With a large dose, the onset of the symptoms is immediate; they include depression, violent vomiting, severe diarrhea, gastrointestinal pain, unconsciousness, and spasms. Death follows in 30 minutes to several hours from circulatory and respiratory failure. When used in small doses over a long period, antimony causes extreme depression, nausea, and loss of appetite; it eventually kills through exhaustion. In this case the victim probably won't realize he's being poisoned. Antimony tends to preserve the body and inhibits decomposition. Immunity to antimony costs 2 points.

Antimony (chronic poisoning): *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Gradual Effect (small doses given over the course of 1 month, -2¼), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 11 points)* ***plus*** *RKA 3d6+1, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (150 Active Points); OAF Fragile (-1¼), No Range (-½), Gradual Effect (small doses given over the course of 1 month, -2¼), Must Be Ingested (-½), 4 Charges (-1) (total cost: 23 points). Total cost: 34 points.*

ARSENIC

Arsenic, an element, is one of the poisons most often used by killers in murder mysteries because it's so readily available (it has many uses in industry, gardening, and other fields). In its pure form it's a lustrous, brittle, grey-colored metal with a smell like garlic but no particular taste. In other forms, it may be yellow, white, or red; and a powder (usually odorless), a gas, or a liquid. A concentrated dose can kill within hours once it takes effect, but may not begin taking effect for up to a few days. The symptoms include severe stomach pain, vomiting, diarrhea, thirst, cold and clammy skin, leg cramps, depression, collapse, delirium, convulsions, coma, and death from dehydration and heart failure in 6-12 hours. If the victim survives the attack, he experiences stomach pain, decreased reflexes, and a burning sensation on the soles of his feet.

Arsenic is most often administered in small doses over a long period of time, just like antimony (use that write-up for chronic arsenic poisoning). Long-term effects include loss of appetite and weight, irritability and depression, nausea, numbness and/or itchiness of the skin, mottled pigmentation on the hands and feet, jaundiced skin, and a thickening of the nails. Death eventually occurs from dehydration and heart failure.

Doctors can easily detect arsenic in an autopsy by performing simple tests. The victim's stomach occasionally becomes crimson-colored and/or has small arsenic particles in it. Arsenic is also readily detectable in urine, hair, and other bodily substances. Immunity to arsenic costs 3 points.

Arsenic (concentrated dose): *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Extra Time (onset time begins no earlier than 3 Hours after victim ingests poison; -3), Gradual Effect (6 Hours, 1d6/3 Hours; -1½), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 8 points)* ***plus*** *RKA 3d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (135 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time begins no earlier than 3 Hours after victim ingests poison; -3), Gradual Effect (6 Hours, 1d6/2 Hours; -1½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 15 points). Total cost: 23 points.*

ATROPINE

Atropine is an alkaloid derived from the belladonna plant (*Atropa belladonna*). A neurotoxin (a poison that attacks the central nervous system and its functions), it kills within 24 hours after ingestion (sometimes longer) by interfering with the respiratory system. Its initial symptoms appear within three hours, and include a dry mouth, dilated pupils, staggering and loss of coordination, a flushed face and dry skin, increased heartbeat and respiration, and restlessness and manic activity (symptoms similar to drunkenness in some respects). Later, the victim goes into depression and stupor, his face becomes bluish from lack of oxygen, his heartbeat slows, and he dies from asphyxia. Immunity to atropine costs 1 point.

Atropine: *RKA 4d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (180 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time begins no earlier than 3 Hours after victim ingests poison; -3), Gradual Effect (1 Day, 1d6/6 Hours; -1¾), Must Be Ingested (-½), 4 Charges (-1). Total cost: 20 points.*

CROTIN

Crotin (or croton) is a phytotoxin derived from the seeds of certain shrubs in the southwest United States, Asia, Africa, and some Pacific islands (for example, *Croton tiglium*, the purging croton). It causes burning pains in the mouth and stomach, vomiting, bloody diarrhea, collapse, and death

within 10-15 minutes to a few hours. Immunity to crotin costs 1 point.

Crotin: *RKA 3d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (135 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time begins no earlier than 10-15 Minutes after victim ingests poison; -2), Gradual Effect (1 Hour, 1d6/20 Minutes; -1¼), Must Be Ingested (-½), 4 Charges (-1). Total cost: 18 points.*

CURARE

Curare, one of the most infamous poisons, derives from a variety of South American plants. It must be injected into the body (it's harmless if swallowed), so it's frequently used to coat darts, blades, and other weapons. It kills almost immediately by paralyzing the nervous system. Two anaesthetic drugs, Pavulon and succinylcholine, have similar effects. Immunity to curare costs 3 points.

Curare: *RKA 4d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (180 Active Points); OAF Fragile (-1¼), No Range (-½), HKA Must Do BODY (-½), 4 Charges (-1). Total cost: 42 points.*

CYANIDE

Hydrogen cyanide, another common poison, may be used in liquid, powder, or gaseous form. It is a salt of prussic acid, and sees wide use in industrial processes such as photography, engraving, gold mining, steel hardening, and electroplating. It's available naturally in the seeds or pits of peaches, apricots, apples, and wild cherries. Its various salts include potassium cyanide, mercuric cyanide, and sodium cyanide. The salts are all whitish, crystalline powders, and are not lethal until dissolved in acid, producing hydrogen cyanide gas (which is colorless). Exposure to cyanide gas (the most common form) causes almost instantaneous death due to paralysis of the nervous system and attacks on the circulatory system. Liquid cyanide is used in "suicide capsules" hidden in fictional spies' teeth; the powdered and liquid forms have been used to poison foods and over-the-counter medicines (50-200 mg are enough to kill an adult in 15 minutes or less).

Cyanide smells like almonds to approximately 40% of the population (the ability to smell it is genetic). Doctors can easily detect its use via autopsy because it turns the skin and blood a bright red or pinkish color, and it may corrode the stomach if ingested. However, these effects dissipate with time as the cyanide in the blood decomposes.

Immunity to cyanide (in all of its forms) costs 3 points.

Cyanide Gas Shell: *RKA 5d6, Area of Effect (480" [about 0.5 miles]; +2), Continuous (+1), NND (defense is LS [Self-Contained Breathing or appropriate Immunity]; +1), Does BODY (+1) (450 Active Points); OAF (-1), No Range (range is provided by shell's launching system; -½), Real Weapon (-¼), 1 Continuing Charge lasting 3 Turns (removed by high winds or rain; -1). Total cost: 120 points.*

Cyanide Suicide Tooth: *RKA 5d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (225 Active Points); OIF (-½), No Range (-½), Self Only (-½), Must Be Ingested (-½), 1 Charge (-2). Total cost: 45 points.*

DIGITOXIN

Also known as digoxin, this extremely lethal poison is used in some forms as digitalis, a heart medicine. It derives from the plant foxglove. Its symptoms include loss of appetite, nausea and vomiting, diarrhea, decreased pulse and heartbeat, fatigue, convulsions, and death from respiratory failure. Death may occur almost immediately or take up to about one hour. Immunity to digitoxin costs 1 point.

Digitoxin: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Gradual Effect (may take up to 1 Hour; -0), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 16 points)* ***plus*** *RKA 4d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (180 Active Points); OAF Fragile (-1¼), No Range (-½), Gradual Effect (may take up to 1 Hour; -0), Must Be Ingested (-½), 4 Charges (-1) (total cost: 42 points). Total cost: 58 points.*

HEMLOCK

This plant comes in two varieties: poison hemlock and water hemlock. Poison hemlock is found in the temperate parts of North and South America, Europe, Asia, and northern Africa. It is most toxic when flowering. It is an ingested neurotoxin which causes gradual paralysis and weakness, ending in death from respiratory failure. Water hemlock, one of the most toxic plants on Earth, grows in temperate regions and is also an ingested neurotoxin; its symptoms include stomach pains, nausea, vomiting, excessive salivation, diarrhea, convulsions, and death. Immunity to hemlock (both varieties) costs 1 point.

Poison Hemlock: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Extra Time (onset time begins no earlier than 1 Minute after victim ingests poison; -1½), Gradual Effect (6 Hours, 1d6/3 Hours; -1½), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 8 points)* ***plus*** *RKA 3½d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (165 Active Points); OAF Fragile*

(-1¼), No Range (-½), Extra Time (onset time begins no earlier than 1 Minute after victim ingests poison; -1½), Gradual Effect (6 Hours, 1d6/1½ Hours; -1½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 23 points). Total cost: 31 points.

Water Hemlock: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Extra Time (onset time begins no earlier than 1 Minute after victim ingests poison; -1½), Gradual Effect (1 Hour, 1d6/30 Minutes; -1¼), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 10 points)* ***plus*** *RKA 5d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (225 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time begins no earlier than 1 Minute after victim ingests poison; -1½), Gradual Effect (1 Hour, 1d6/12 Minutes; -1¼), Must Be Ingested (-½), 4 Charges (-1) (total cost: 32 points). Total cost: 42 points.*

INSULIN

Insulin is a drug used to treat diabetes. In excessive quantities, it causes hypoglycemia, fatigue, irreversible brain damage, and death. Doctors can't detect its during an autopsy without the use of sophisticated radioimmunoassay tests. Immunity to insulin costs 1 point.

Insulin: *RKA 3d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1), Invisible Power Effects (can't be detected with regular autopsy; +¼) (146 Active Points); OAF Fragile (-1¼), Extra Time (onset time begins no earlier than 1 Hour after victim is exposed to poison; -3), Gradual Effect (1 Day, 1d6/8 Hours; -1¾), No Range (-½), HKA Must Do BODY (-½), 4 Charges (-1). Total cost: 16 points.*

MUSHROOMS

The *Amanita* genus of mushrooms is deadly poisonous to humans. Unfortunately, these mushrooms closely resemble several edible species. If ingested, they cause abdominal pain and cramps, nausea, vomiting, diarrhea, and possibly liver damage or jaundice. The victim will seem to improve for about two days, but then ongoing damage to his nervous system will finally kill him; there may be weakness or hallucinations prior to death. Death is not automatic; depending upon the species of mushroom the fatality rate ranges from 15-90%. Immunity to poisonous mushrooms costs 2 points.

Poisonous Mushroom: *Drain CON 3d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (105 Active Points); OAF Fragile (-1¼), Extra Time (onset time begins no earlier than 1 Hour after victim ingests poison; -3), Gradual Effect (up to 1 Week, 1d6/1 Day; -2), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 11 points)* ***plus*** *RKA 2½d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (120 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time begins no earlier than 1 Hour after victim ingests poison; -3), Gradual Effect (up to 1 Week, 1d6/1 Day; -2), Must Be Ingested (-½), 4 Charges (-1) (total cost: 13 points). Total cost: 24 points.*

NICOTINE

Nicotine, one of the principal substances in cigarettes (and thus easily obtained by straining it from tobacco), is extremely toxic. It can work if inhaled or ingested; it can also be absorbed through the skin. A few drops of pure nicotine can kill an adult human within an hour by causing respiratory failure; symptoms include nausea, vomiting, diarrhea, confusion, dizziness, and difficulty breathing. Immunity to nicotine costs 2 points.

Nicotine: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Extra Time (onset time begins no earlier than 1 Minute after victim ingests poison; -1½), Gradual Effect (1 Hour, 1d6/30 Minutes; -1¼), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 10 points)* ***plus*** *RKA 4½d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (210 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time begins no earlier than 1 Minute after victim ingests poison; -1½), Gradual Effect (1 Hour, 1d6/12 Minutes; -1¼), Must Be Ingested (-½), 4 Charges (-1) (total cost: 30 points). Total cost: 40 points.*

RICIN

Ricin is a phytotoxin derived from the seeds of the castor oil plant (*Ricinus communis*), which is found in the United States and the tropics. Even tiny amounts of pure ricin can be fatal. When used as a poison, it acts slowly, over the course of several days, but its symptoms are indistinguishable from many illnesses. They include: burning of the mouth, throat and stomach; abdominal pain and vomiting; diarrhea; convulsions; paralysis; and death from respiratory failure. Immunity to ricin costs 1 point.

Ricin: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Extra Time (onset time of 2 hours to 2 days; -3), Gradual Effect (up to several days; -1¾), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 8 points)* ***plus*** *RKA 5d6, NND (defense is Life Support [appro-*

priate Immunity]; +1), Does BODY (+1) (225 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time of 2 hours to 2 days; -3), Gradual Effect (up to several days; -1¾), Must Be Ingested (-½), 4 Charges (-1) (total cost: 25 points). Total cost: 33 points.

ROBIN

Robin is a phytotoxin derived from the bark of the North American locust tree (*Robinia pseudacacia*). It is effective when ingested, and kills within days dues to paralysis of the central nervous system. Immunity to robin costs 1 point.

Robin: *Drain CON 2d6, Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (70 Active Points); OAF Fragile (-1¼), Extra Time (onset time of 2 hours to 2 days; -3), Gradual Effect (up to several days; -1¾), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 8 points)* ***plus*** *RKA 3d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (135 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time of 2 hours to 2 days; -3), Gradual Effect (up to several days; -1¾), Must Be Ingested (-½), 4 Charges (-1) (total cost: 15 points). Total cost: 23 points.*

STRYCHNINE

Strychnine is an alkaloid phytotoxin derived from the seeds of the nuxvomica tree (*Strychnos nux-vomica*) of India and Hawaii. Fifty to 100 milligrams is enough to kill a human being (usually by injection or ingestion [it has a bitter taste]). Death can occur in a minute or two, but may take up to two hours.

Strychnine attacks the central nervous system, increasing its sensitivity. Symptoms generally appear within five to 15 minutes. At first, the victim experiences muscle twitches and difficulty breathing, but then suffers extremely violent convulsions in which all the body's muscles contract at once. Convulsive fits last 1-2 minutes, and usually after about three or four of them the victim dies from respiratory and cardiac distress. Any sound or light can trigger another convulsion. The victim remains alert between attacks. After death the facial muscles contort so the victim has a *risus sardonicus*, or sardonic rictus grin. The grin soon fades, and thereafter doctors must perform special blood tests to detect the use of strychnine. Immunity to strychnine costs 3 points.

Strychnine: *RKA 5d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1), Invisible Power Effects (can't be detected with regular autopsy; +¼) (244 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time of 1 Minute to 2 hours; -1½), Gradual Effect (5 Minutes, 1d6/Minute; -¾), Must Be Ingested (-½), 4 Charges (-1). Total cost: 37 points.*

TETRODOTOXIN

Tetrodotoxin (or tetraodontoxin) is an extremely potent zootoxin derived from the *fugu*, or puffer fish. Puffer fish is a delicacy in Japan, but if improperly prepared is deadly poisonous. The dangers of tetrodotoxin are also known in Haiti, where it is one of the ingredients in the powder used to turn people into "zombies" (see *The Ultimate Mystic*, page 120).

A neurotoxin, tetrodotoxin can kill in mere minutes in even tiny doses (.01 mg) if injected or ingested — but for unknown reasons it's only lethal about 60% of the time (pure tetrodotoxin, such as an assassin might use, might be 100% fatal). The victim experiences tingling sensations, loss of coordination, excessive salivation, weakness, nausea, vomiting, convulsions, and death from respiratory paralysis. There is no known antidote. Immunity to tetrodotoxin costs 1 point (3 points for Japanese people or others who frequently consume puffer fish).

Tetrodotoxin: *Drain CON and DEX 2d6, two Characteristics simultaneously (+½), Delayed Return Rate (points return at the rate of 5 per Day; +1½), NND (defense is Life Support [appropriate Immunity]; +1) (80 Active Points); OAF Fragile (-1¼), Extra Time (onset time of at least 1 Minute; -1½), Gradual Effect (5 Minutes, 1d6/2.5 minutes; -½), Linked (to RKA; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 13 points)* ***plus*** *RKA 3d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (135 Active Points); OAF Fragile (-1¼), No Range (-½), Extra Time (onset time of at least 1 Minute; -1½), Gradual Effect (5 Minutes, 1d6/1.5 minutes; -½), Must Be Ingested (-½), 4 Charges (-1) (total cost: 22 points). Total cost: 35 points.*

THALLIUM

Thallium is a poisonous metal. Typically, it's used as a poison after being irradiated, because radiation breaks it down into a microscopic powder that can't be removed from the body once ingested. The victim slowly dies of radiation poisoning. Immunity to thallium costs 1 point.

Thallium: *Drain CON and BODY 5d6, two Characteristics simultaneously (+½), Delayed Return Rate (points return at the rate of 5 per Month; +2), NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (275 Active Points); OAF Fragile (-1¼), Extra Time (onset time of at least 1 Minute; -1½), Gradual Effect (1 Week, 1d6/approximately 1 day; -2), HKA Must Do BODY (-½), 4 Charges (-1). Total cost: 38 points.*

EXAMPLE FICTIONAL POISONS

Here are three example fictional poisons suitable for many games (primarily *Fantasy Hero* campaigns).

Jekkara's Wine: Named for the God of Death, this ingestable poison works well with beer or ale, whose taste it resembles (-2 PER to detect in those substances; +0 to detect in any other food). The victim feels no effect for the first hour, giving the poisoner time to escape. Thereafter he becomes ill, and typically dies within the next few minutes, though a strong (*i.e.,* high BODY) victim may survive.

Drain CON 3d6, Delayed Return Rate (points return at the rate of 5 per Hour; +1), NND (defense is Life Support [appropriate Immunity]; +1) (90 Active Points); OAF Fragile (easily spilled or diluted poison; -1¼), 1 Charge (-2), Must Be Ingested (-½), Extra Time (onset time begins 1 Hour after victim consumes poison; -3), Gradual Effect (15 Minutes; 1d6/5 Minutes; -¾), Linked (to RKA; -½) (total cost: 10 points) ***plus*** *RKA 3d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (135 Active Points); OAF Fragile (easily spilled or diluted poison; -1¼), No Range (-½), 1 Charge (-2), Must Be Ingested (-½), Extra Time (onset time begins 1 Hour after victim consumes poison; -3), Gradual Effect (10 Minutes; 1d6/5 minutes; -¾) (total cost: 15 points). Total cost: 25 points.*

Silverleaf Chumetha Poison: One of many poisons developed by the feared Silverleaf Guild (a notorious band of assassins), *chumetha* is an injected poison used primarily on throwing blades and daggers. It causes almost instant pain, if not death.

RKA 3½d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1) (165 Active Points); OAF Fragile (easily spilled or diluted poison; -1¼), No Range (range, if any, must be supplied by thrown weapon; -½), 4 Charges (-1), HKA Must Do BODY (-½). Total cost: 39 points.

Red Tears: A contact poison typically used for traps, Red Tears takes its name from the effect it has on the victim. Within a few minutes of getting it on his skin, the victim becomes violently ill (often vomiting), and blood begins to ooze from his eyes as if he were crying bloody tears (it may also ooze from the mouth, nose, and under the fingernails). Death almost inevitably follows shortly thereafter.

Drain CON 4d6, Delayed Return Rate (points return at the rate of 5 per Hour; +1), NND (defense is Life Support [appropriate Immunity]; +1), Trigger (when character touches poisoned object; +¼) (130 Active Points); OAF Fragile (easily spilled or diluted poison; -1¼), 4 Charges (-1), Extra Time (onset time begins 1 Turn after victim touches poisoned object; -1¼), Gradual Effect (4 Minutes; 1d6/1 Minute; -½), Linked (to RKA; -½) (total cost: 24 points) ***plus*** *RKA 5d6, NND (defense is Life Support [appropriate Immunity]; +1), Does BODY (+1), Trigger (when character touches*

poisoned object; +¼) (244 Active Points); OAF Fragile (easily spilled or diluted poison; -1¼), No Range (-½), 4 Charges (-1), Extra Time (onset time begins 1 Turn after victim touches poisoned object; -1¼), Gradual Effect (5 Minutes; 1d6/1 Minute; -¾) (total cost: 42 points). Total cost: 66 points.

TAILORING POISONS

Characters can tailor poisons to their specific needs in many ways.

CONVERTING AN INGESTED POISON TO AN INJECTED POISON

Since *HKA Must Do BODY* (-½) and *Must Be Ingested* (-½) both have the same Limitation value, you can easily change an ingested poison to an injected one (or vice-versa) simply by switching Limitations, if appropriate.

BINARY POISONS

This is a variety of poison the user administers in two or more parts. None of the parts is lethal on its own — they can only kill when brought together. For example, an assassin might feed his victim the first part with dinner, then coat the victim's after-dinner cigar with the other part. In *HERO System* terms, you can build a binary poison by applying the Advantage *Trigger* (poison takes effect when all parts have been successfully administered; +¼) to a standard poison.

DMSO

DMSO (dimethyl sulfoxide) is not a poison, but a method of poison delivery. It converts ingested or injectable poisons into contact poisons — it allows such chemicals to transmit through the skin. In game terms, a poison + DMSO "cocktail" changes to a contact poison, which involves adding the *Trigger* Advantage and removing relevant Limitations.

TIME-RELEASE METHODS

It's possible to coat an ingested poison with other chemicals or place it inside tiny beads. This has the effect of delaying the onset of the poison by as much as two days (depending upon the poison and the time-release mechanism used). Characters may buy this as the Advantage *Time Delay* (+¼) for the poison.

MODERN EQUIPMENT

Chapter Four

ACQUIRING EQUIPMENT

Guns and knives aren't the only types of gear characters need. There's a whole array of other equipment, from body armor to nightsight devices to micro-electronic "bugs" to all kinds of vehicles, that help them with their war on crime. This chapter describes some of that gear.

But before they can use gear, characters have to obtain it (the same goes for weapons). How they obtain it depends on both setting considerations and game rules considerations. For these purposes, equipment is divided into four types:

Standard: Equipment is *Standard* if an ordinary, law-abiding citizen could acquire it without too much difficulty or the need to obtain a special license (or other form of permission). This includes a lot of equipment — many types of firearms, some types of body armor and surveillance devices, and so on — but not most law enforcement/military equipment such as submachine guns, grenades, and advanced body armors.

Street-Level Equipment: Equipment is *Street-Level* if it is low-level industrial, law enforcement, or military equipment not commonly available to law-abiding citizens. This includes submachine guns and assault rifles, many types of explosives, many types of body armor, and the like (but not heavy equipment such as machine guns or anti-tank rockets). It also includes equipment which characters need a license (or other form of permission) to buy, such as some security and surveillance devices.

In games using the Resource Point rules, the ability to buy Street-Level equipment with Equipment Points is a 3-point Perk.

Military Equipment: Equipment is *Military* if it is mid-level industrial, law enforcement, or military equipment not commonly available to law-abiding citizens. This includes some heavy weapons (such as machine guns and most types of grenades) and some types of body armor, but not really heavy weapons (such as flamethrowers, anti-tank missiles, or the like).

In games using the Resource Point rules, the ability to buy Military equipment with Equipment Points is a 5-point Perk.

Advanced Military Equipment: Equipment is *Advanced Military* if it's too dangerous, large, rare, expensive, or restricted to qualify as Military. This includes any type of military vehicle or heavy weapon.

In games using the Resource Point rules, the ability to buy Advanced Military equipment with Equipment Points is a 10-point Perk.

Obtaining Equipment In The Campaign World

In the campaign setting, typically characters can acquire equipment in four ways: buy it; steal it; requisition it; or create it.

BUY IT

The most common method of obtaining equipment is to buy it. Standard equipment tends to be readily and easily available this way, and may not even be that expensive.

For Street-Level, Military, and Advanced Military equipment, things aren't necessarily that simple. The character may need a license, permission from an administrative governmental agency, or the like just to buy the equipment (assuming he can afford it). Many types of equipment won't be available at all; they'll be restricted to only certain military or government users. That forces the character to go to the black market (or at least grey market) to do his shopping, and what he's looking for may or may not be available. See below for rules for buying restricted items.

STEAL IT

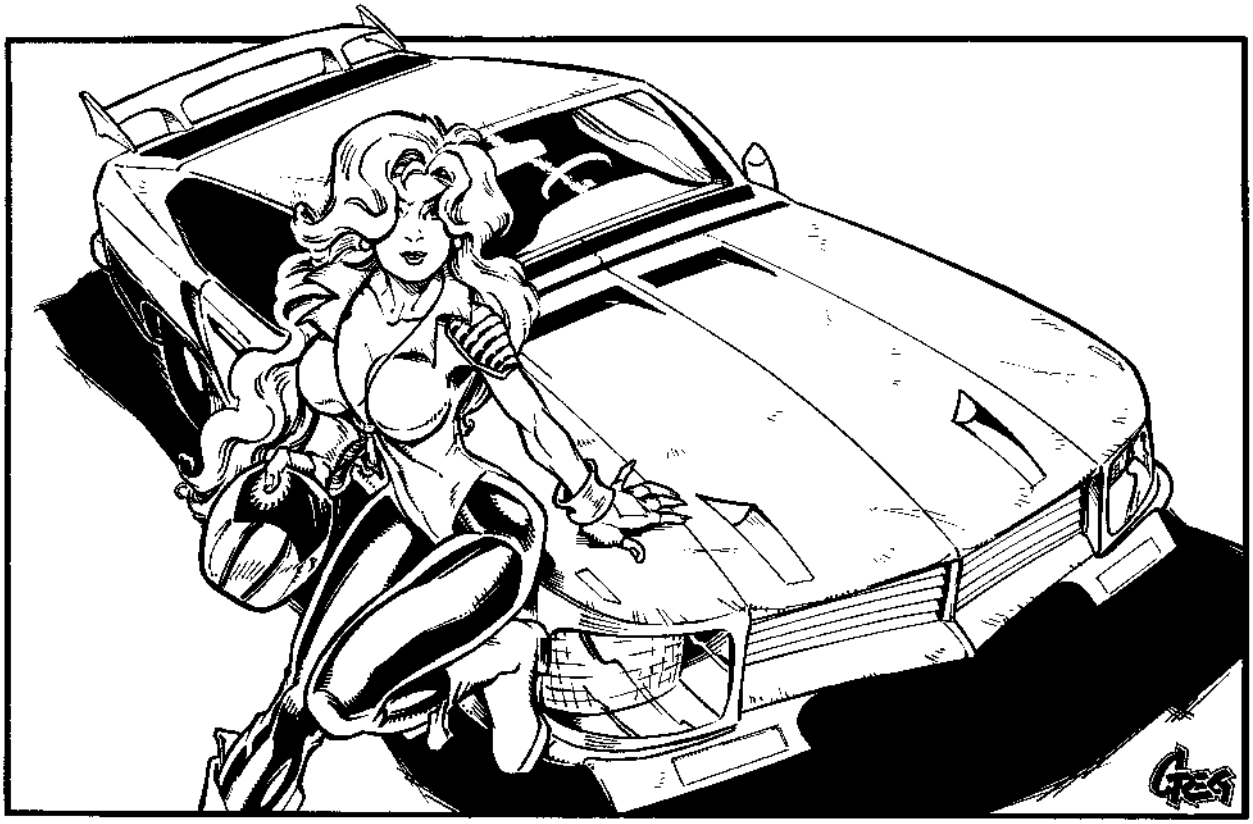
Characters can also obtain equipment by stealing it (or in similar ways, such as taking gear from defeated foes). Standard goods are pretty easy to steal; characters may not even need any special Skills to do so. The more advanced and dangerous types of gear are protected by increasingly tight security — everything from locks and alarms to guards and advanced protective technology. And this assumes, of course, that a character can find what he wants available for theft. Locating a "target" for theft may prove more difficult than actually stealing it.

REQUISITION IT

In campaigns where the PCs belong to a large organization — such as the military or an intelligence agency — characters may have the ability to requisition gear.

Characters can generally requisition any type of Standard equipment, assuming their organization has what they want (or can obtain it), their demands are not excessive, and they're not having any difficulties with the organization or their superior officers. Usually Standard gear is available when it's requested, or within one hour at most.

Requisitioning Street-Level equipment is more difficult. Unless he has explicit permission from an authorized official to requisition a particular



item, a character has to make a Bureaucratics roll at -3 to requisition Street-Level gear. Military and Advanced Military gear are even tougher — they require Bureaucratics rolls at -6 and -9, respectively. Of course, even if a character successfully puts in a requisition request, he may not get the gear immediately. If it's not in stock, he may have to wait days or weeks until what he wants is available.

The ability to requisition equipment comes from the *Membership* Perk (or the like) that a character pays for when he joins an organization. But it's not a free pass to get any weapon or gadget the character wants — if characters abuse it that way, or the GM treats their requisition requests leniently, the campaign may quickly become unbalanced. The GM can control characters' ability to requisition gear in two ways. First, he can rule that some types of equipment are only available to characters if they have permission from an authorized superior officer — and since the superior officer is an NPC, the GM can have him grant or deny permission as desired. Second, he can rule that the requested item simply isn't available for some reason (after all, not even the largest organization has unlimited resources).

Regardless of how they obtain it, characters who requisition gear are responsible for it. If it's a durable good of some sort (such as a rifle or a car), they're expected to keep it in good condition, use it responsibly, and return it intact at the end of the mission for which they requisitioned it. If it's a usable good, such as ammunition, they probably have to file reports indicating how they used it, and return any unused portions. A character who fails to return requisitioned equipment, who returns requisitioned equipment in damaged condition, or fails to file the proper reports may soon find that he's not allowed to requisition equipment anymore.

CREATE IT

Lastly, characters with the appropriate Skills can create the equipment they want. In some ways this poses the most problems for the GM, since it's largely unrestricted — the GM can't reasonably tell a character who's bought Weaponsmith that he can't build a gun, since that's what the Skill is *for.* However, a responsible GM can control the process in legitimate ways if the PCs start to abuse their ability to build gear.

First, he can strictly follow rules concerning how long such projects take. As noted on *Dark Champions,* page 83, building a new gun from scratch takes 1d6 weeks, possibly more. Given the busy life of most adventurers, it may take characters a lot more than 1-6 calendar weeks to get the work done.

Second, just because characters have the Skills they need doesn't mean they have the resources required. Creating equipment requires tools (often highly specialized ones), a workspace, and most of all the right raw materials. Finding and buying the raw materials and tools may be as expensive, difficult, and dangerous a process as buying the item the character wants to build.

Third, for some highly specialized or cutting-edge technological developments, the GM may require characters to buy one or more Background Skills to represent their knowledge of the subject. For example, a character who wants to design a new type of "armor piercing frangible" ammunition might have to buy SS: Ballistics and/or KS: Frangible Ammunition.

PRICES TABLE

Weapons	Equipment Category	Price Range
Assault rifle	Military	$3,000-20,000
Grenades (any type, per grenade)		
20/22mm	Military	$20-25
24mm	Military	$20-25
30mm	Military	$25-30
40mm	Military	$10-14
52mm	Military	$12-16
Handgun	Standard	$50-2,000
Knife	Standard	$20-100
Machine gun	Advanced Military	$4,000-30,000
Rifle, hunting	Standard	$500-3,000
Rifle, military	Military	$500-5,000
Shotgun, hunting	Standard	$500-2,000
Shotgun, military	Military	$800-4,000
Submachine gun	Street-Level	$1,000-5,000
Ammunition*		
.22	Standard	$5-8
.32, .38	Standard	$5-8
.40, 9mm	Standard	$5-8
.357 M, .41 M, 10mm	Standard	$8-12
.45 ACP, 11mm	Standard	$5-8
.44 M, .45 Win Mag	Standard	$8-12
.223, 5.56mmN	Standard	$10-15
.50 AE, 7.62mmN	Standard	$10-15
.410 gauge shot or slugs	Standard	$10-15
28, 24 gauge shot or slugs	Standard	$10-15
20, 16 gauge shot or slugs	Standard	$10-15
12 gauge shot or slugs	Standard	$12-18
10 gauge shot or slugs	Standard	$12-18
4 gauge shot or slugs	Standard	$15-20
Firearms Accessories		
Brass Catcher	Standard	$40-120
Camera	Military	$2,000-5,000
Flashlight	Standard	$100-250
Flash Suppressor	Standard	$150-300
Lanyard	Standard	$20-30
Rangefinder	Standard	$150-300
Recoil Compensator		
Type 1	Standard	$80-150
Type 2	Standard	$100-200
Type 3	Standard	$150-300
Sights and Scopes		
Collimating/Reflex	Standard	$250-2,000
Laser Sight		
Standard, Small	Standard	$300-500
Infrared, Small	Military	$400-600
Standard, Long Arm	Standard	$450-900
Infrared, Long Arm	Military	$500-1,000
Micrometer Sight	Standard	$50-300
Nightsight Scope		
Type I	Standard	$1,000-2,500
Type II	Standard	$2,000-4,000
Type III	Street-Level	$4,000-8,000
Telescopic Sight		
x2	Standard	$100-200
x3	Standard	$150-300
x4	Standard	$250-600
x6	Standard	$400-800
x8	Standard	$500-1,100
x10	Standard	$800-1,700

Sights and Scopes (Cont.)	Equipment Category	Price Range
Targeting Computer	Advanced Military	$12,000-20,000
Thermal Sight	Military	$4,000-10,000
Silencer		
Small, Poor Quality	Street-Level	$150-300
Small, Average Quality	Street-Level	$200-400
Small, High Quality	Street-Level	$500-1,000
Large, Poor Quality	Street-Level	$500-1,000
Large, Average Quality	Street-Level	$600-900
Large, High Quality	Street-Level	$750-1,200
Slide-Stop	Street-Level	$250-500
Gear	**Equipment Category**	**Price Range**
Body Armor†		
Level I	Standard	$200-300
Level II-A	Standard	$250-500
Level II	Standard	$300-700
Level III-A	Standard	$350-1,100
Level III plates		
Metal	Street-Level	$100-150
Ceramic	Street-Level	$150-250
Polyethylene	Street-Level	$300-400
Level IV plates		
Metal	Street-Level	$125-175
Ceramic	Street-Level	$200-300
Polyethylene	Street-Level	$350-600
Anti-IR Coating	Military	$250
Combat Wear		
Ballistic Face Shield	Street-Level	$45-80
Camouflage Clothing	Standard	$30-120
Combat Vest	Street-Level	$350-500
Gas Mask	Standard	$75-200
Helmet	Standard	$120-300
Holsters	Standard	$20-50
Security Devices		
Motion Detector	Standard	$25-100
Pressure Plate	Standard	$25-100
Sensory Equipment		
Bomb Detector	Standard	$100-200
Bugging equipment		
Bugs, various	Street-Level	$100-500
Bug detector	Standard	$150-300
Drug Detector	Standard	$150-300
Nightsight Goggles		
Generation 1	Standard	$200-400
Generation 2	Street-Level	$400-800
Generation 3	Military	$1,200-4,000
Radios, standard	Standard-Military	$50-1,000
Radios, encrypted	Military-Advanced Military	$200-1,200
Satellite Link	Advanced Military	$100,000 or more
Surveillance Scopes	Street-Level	$250-350
TEMPEST Gear	Street-Level	$1,000-4,000
Thermalvision Devices	Street-Level	$1,200-4,000
Wolf's Ears	Street-Level	$800-2,000
Underwater Equipment		
SCUBA Equipment	Standard	$850-6,000
SCBA Equipment	Standard	$1,000-8,000

*: Ammunition prices are for a 20-round box, and assume Standard ammunition, shot, or slugs. For exotic rounds, the GM should multiply the price in proportion to the usefulness; additionally, many exotic rounds count as Street-Level or Military equipment.

†: Prices listed for soft body armor are for 11- coverage. For 14- coverage, multiply the price by 30-60%.

Obtaining Equipment In Game Terms

In game terms, there are three ways characters can obtain equipment: Character Points; Resource Points; and Money.

CHARACTER POINTS

If a character's willing to spend Character Points on a piece of equipment, he doesn't have to justify where he got it or jump through any other hoops — he can provide whatever explanation he wants. However, the GM still has to approve the gear; just because a character has the Character Points to buy an H&K G11 doesn't mean the GM will let him have it.

See page 456 of the *HERO System 5th Edition, Revised* for rules about buying equipment.

RESOURCE POINTS

In campaigns using the optional Resource Points rules (*Dark Champions,* page 150), characters use their Equipment Points to "buy" equipment. But that doesn't free them of the obligation to explain where they got the gear — they can't simply allot their Equipment Points to any item they feel like and claim they have it. Before a character can allocate Equipment Points to have an item in his Kit, that item has to be in his Armory, and that means he has to obtain it in the game somehow (buy, steal, build, or the like). Additionally, for equipment more advanced than Standard, he has to have the appropriate Perk (see *Dark Champions,* pages 88, 153).

MONEY

In campaigns that don't use the Resource Points rules, characters typically get their equipment by buying it (and if Resource Points are used, they can buy equipment for their Armories). This is where the *Money* Perk can have a significant affect on play, and possibly even unbalance the campaign if the characters have too much money combined with too much access to sources of powerful equipment.

However, just because characters have money doesn't mean they can automatically obtain any equipment they want just by paying the market price. As mentioned above, many factors can complicate the process. Buying equipment is a three-stage process. First the characters have to find what they want. Then they have to negotiate a price. Finally, the transfer of goods must take place. Each of these stages is fraught with potential difficulties and adventure possibilities.

Finding The Goods

The first step in buying equipment is finding what the character wants for sale. In the case of Standard equipment, this is usually no problem — all the character has to do is consult the proper catalog/sales flyer/website/salesperson and place his order. If the item isn't available immediately, he'll probably receive it within a week, or at most two.

Street-Level equipment isn't so readily accessible. It may be for sale, but usually not to just anyone who asks. In game terms, the character has to either (a) have access to a legal source for the item, and the proper license/permission to purchase that item, or (b) succeed with a Streetwise roll at -3 to find someone who's willing to sell to him on the black market (or perhaps grey market). The character may need to falsify licenses or other documentation with Forgery as part of this process, conceal his identity with Disguise, or the like. Locating the right seller and obtaining the goods typically takes a minimum of a day, and may involve a week or more of legwork, phone calls, and shadowy meetings.

For Military equipment, the process is similar, though the black market is almost certainly the character's only resource. He has to succeed with a Streetwise roll at -6 to find someone who's willing to sell to him, and this takes a minimum of a week, and possibly as much as a month. During this time he may have to meet with several prospective sellers and try to convince them of his trustworthiness — an excellent opportunity for some roleplaying... and if things go wrong, maybe a close-quarters gunfight!

Advanced Military equipment is even more difficult to obtain, requiring success on a Streetwise roll at -9 and a minimum of two weeks' time to locate. Due to the blatant illegality of buying and selling such equipment, the persons involved are likely to be very dangerous... and very suspicious of any irregularities or problems. If things don't go as planned, they're inclined to shoot first and ask questions later (assuming they didn't plan to kill the characters and take their money regardless).

Negotiating A Price

In many cases, there's no fixed price for the sort of equipment characters want. Standard gear has clearly-established prices, and some Street-Level equipment might as well. But most Street-Level and better gear has a black market price that can fluctuate wildly based on demand, quality/scarcity of the goods, the relationship between buyer and seller, the seller's perception of the buyer's desperation, and other factors. The table on page 148 lists some suggested price ranges for various types of weapons and gear, but these are only guidelines — the GM should alter or adapt them as he sees fit.

The prices listed in the Prices Table are *legal prices* — what a character who's legally entitled to buy the item would pay in a fair market transaction. For a grey market transaction, multiply the listed price by x2 to x5. For a black market transaction, multiply the listed price by x3 to x10.

If the GM wants to roleplay the negotiation of the price, characters can use their *Trading* Skills to dicker. (If a character doesn't have Trading, he can use Persuasion at -2; if he has Persuasion, Seduction, or some other relevant Skill in addition to Trading, he can use it as Complementary to Trading.) After a period of appropriate roleplaying (offer, counter-offer, veiled threats, bluffing...), both parties make their role in a Skill Versus Skill

Contest, modified by the GM to reflect the quality of the roleplaying and other factors. If the seller wins, the price goes up five percent (5%) per point by which his roll exceeded the buyer's roll from the base price the GM sets; if the buyer wins, the price goes down five percent (5%) per point. In any event, either party can choose to walk away from the deal at any time; no one has to accept a deal he's not happy with.

Transfer Of Goods

After buyer and seller reach an agreement, they have to physically exchange the money for the goods. The specifics of this process depend on the goods being bought and the currency used. In most cases, the deal is a relatively simple one involving the physical exchange of the purchased good for cash. (Cinematically, characters seem able to fit a million dollars or more in a briefcase; realistically, a million dollars in United States currency is far too large to fit in any briefcase.) It's at this point that a double-cross is most likely to occur — one side or the other may try to get away with goods and cash alike. The GM should play the situation for maximum tension and excitement, if appropriate.

Of course, alternate arrangements are possible. Characters might conduct the entire transaction remotely, negotiating with a trusted seller via phone or Internet and paying by electronic transfer. The seller may want something other than cash — diamonds, bearer bonds, other weapons, the performance of some service. The possibilities for adventure are practically endless.

Once the characters have the goods, they may have to figure out how to transport them. If they're just buying a few guns, that's probably no problem. If they bought missiles, a tank, or fifty pallets of 5.56mm ammunition, hopefully they planned ahead. Given the value of their cargo, they'd best beware hijackers and other such problems.

Contacts

Other than Money, the Perk that tends to be the most useful when it comes to buying and selling equipment is Contacts. Many a character has a Contact who's a fence, an underworld armorer, or a black market arms dealer. Finding such a Contact and establishing a business relationship with him, or explaining the history between the two characters as part of a PC's background, can add an enjoyable dimension to the campaign.

A Contact who can provide characters with significant help when it comes to acquiring equipment almost always counts as having "extremely useful Skills or resources" and "significant Contacts of his own." It's not uncommon for him to have "access to major institutions" as well.

DEFENSIVE EQUIPMENT

With all the bullets, knives, clubs, explosives, and other dangers they're likely to encounter, characters want gear to defend themselves with almost as much as they want weapons.

BODY ARMOR

Modern science offers soldiers and law enforcement officers high-tech body armor which is as effective as any suit of metal armor worn by the knights of old. The Body Armor Table lists some sample armors for characters to use.

Body armor is typically bought as PD and ED Armor with the following Limitations: OIF (-½), Activation Roll (roll and value vary), Half Mass (-½), and Real Armor (-¼). The different entries for Activation Roll (which represent how much of the body the armor protects; see pages 487-88 of the *HERO System 5th Edition, Revised*) reflect varying levels of realism/cinematic action. Generally, a Mass of Normal Mass is a good approximation of "realistic," if you prefer that.

The *Real Armor* Limitation signifies that the armor is often uncomfortable, needs maintenance to continue to function properly, and may impede the character. At the GM's option, if the armor has an Activation Roll higher than 11-, the character suffers a -1 penalty on appropriate DEX Rolls and Agility Skill rolls for each point above 11- (for example, an Activation Roll 13- means a -2 penalty).

Characters can make soft body armor concealable (under sufficiently bulky clothes) by converting it from an OIF to an IIF (-¼). Hard body armor cannot realistically be made concealable.

BODY ARMOR TYPES

Roughly speaking, body armor comes in two types: soft and hard. Soft body armor is made of Kevlar or other substances (see below) that are tightly woven so they spread the impact of the bullet and prevent it from penetrating. Hard body armor is made of plates of ceramic, metal, or other substances, usually contained in pockets in soft armor.

BODY ARMOR SUBSTANCES

Typical soft body armor is made from Kevlar, a name trademarked by DuPont for products made with aramid fibers. Kevlar 29, the form most often used in body armor, is five times as strong as steel and does not burn (though it carbonizes at temperatures about 800° Fahrenheit). Although Kevlar body armor

BODY ARMOR TABLE

Type Of Armor	DEF	Activation Roll	A/R Cost	Mass	Notes
Soft Body Armor					
Kevlar (normal)					
Level I	3	14-	9/3	3.0	
Level I	3	11-	9/3	2.2	
Level II-A	6	14-	18/6	8.75	
Level II-A	6	11-	18/5	6.25	
Level II	7	14-	21/8	12.25	
Level II	7	11-	21/6	8.75	
Level III-A	8	14-	24/9	17.5	
Level III-A	8	11-	24/7	12.5	
Kevlar (enhanced), Spectra, Vectran					
Level I	4	14-	12/4	4.4	
Level I	4	11-	12/4	3.15	
Level II-A	7	14-	21/8	12.25	
Level II-A	7	11-	21/6	8.75	
Level II	8	14-	24/9	17.5	
Level II	8	11-	24/7	12.5	
Level III-A	9	14-	27/10	24.5	
Level III-A	9	11-	27/8	17.5	
Biosteel, carbon nanotubes					
Level I	5	14-	15/5	6.15	
Level I	5	11-	15/5	4.4	
Level II-A	8	14-	24/9	17.5	
Level II-A	8	11-	24/7	12.5	
Level II	9	14-	27/10	24.5	
Level II	9	11-	27/8	17.5	
Level III-A	10	14-	30/11	35.0	
Level III-A	10	11-	30/9	25.0	
Hard Body Armor					
Ceramic or polyethylene plates					
Level III					
Chest and back	+3	9-	9/2	1.3	Hit Locations 10-11
Chest, sides, back	+3	10-	9/3	1.75	Hit Locations 10-11, including sides
Level IV					
Chest and back	+3	9-	11/3	1.3	Hardened (+¼), Hit Locations 10-11
Chest, sides, back	+3	10-	11/3	1.75	Hardened (+¼), Hit Locations 10-11, including sides
Metal plates					
Level III					
Chest and back	+2	9-	6/2	0.95	Hit Locations 10-11
Chest, sides, back	+2	10-	6/2	1.25	Hit Locations 10-11, including sides
Level IV					
Chest and back	+2	9-	7/2	0.95	Hardened (+¼), Hit Locations 10-11
Chest, sides, back	+2	10-	7/2	1.25	Hardened (+¼), Hit Locations 10-11, including sides
Other Options					
Anti-IR Coating	—	—	14/6	—	Change Environment (-2 to Infrared Perception PER Rolls), 0 END, Persistent; No Range, Self Only
Armored Clothing	2	14-	6/2	2.0	

REALISM AND BODY ARMOR

The *HERO System* rules aren't design to precisely model how body armor works "realistically" – as always, the rules err on the side of dramatic action. If you want body armor to function a little more "realistically," consider all handgun rounds to have the *Reduced Penetration* Limitation when used against body armor. That way heavy rifle rounds still have a good chance to get through the lighter armors, but less powerful handgun rounds do not.

is less effective against bladed weapons than against bullets, it is still approximately 98% effective against such attacks (in game terms, its PD does not take any sort of Limitation). Kevlar deteriorates over time from exposure to ultraviolet light or human sweat. It's also less effective when wet (-1 DEF) unless waterproofed. It can be woven with fiberglass, graphite fibers, or metal fibers to increase its strength, or chemically treatened to make it tougher.

Spectra, an ultradense plastic, is another material currently used to make body armor. It's about ten times as strong as steel, or approximately twice as strong as Kevlar.

As of 2004, several other substances are being developed for potential use in soft body armor; they're listed on the Body Armor Table for GMs interested in running "near future" games, or games in which the PCs have technology more advanced than standard. Vectran is an artificial fiber that's five to ten times as strong as steel, or up to twice as strong as Kevlar. Biosteel is a spider silk fiber that's genetically produced using goats; it's up to 20 times as strong as steel (or as much as four times as strong as Kevlar). A third possibility is carbon nanotube fibers, which are even stronger than biosteel.

Hard body armors protect the wearer with plates made of steel, ceramic, or polyethylene. Steel loses its protective ability less quickly after multiple hits, and is cheaper. But ceramics and polyethylene provide better protection for only a third to half the weight of steel. The plates are typically inserted into pockets in soft body armor, and thus are defined in game terms as adding DEF to the DEF of soft armor. (If a character wears a plate by itself, consider it to provide DEF equal to 8 + its bonus over Hit Locations 10-11.)

Body armor can be treated to reduce the wearer's heat signature, making him harder to see with thermal scopes (*i.e.,* with Infrared Perception).

BODY ARMOR RATINGS

The Body Armor Table uses a system developed by the National Institute of Justice for ranking body armor. Here are the ratings and some of the types of bullets they're supposed to stop:

Rating	Resists These Rounds
Level I	.22 LR, .32, .38
Level II-A	.45 ACP, low-velocity .357 Magnum, low-velocity 9mm, 12 gauge buckshot
Level II	High-velocity .357 Magnum, low-velocity .44 Magnum, 10mm
Level III-A	High-velocity 9mm, high-velocity .44 Magnum, .308 Win
Level III	12 gauge slugs, 7.62mm, .308 Win, .30 carbine
Level IV	.30-06 AP

These ratings are used to determine the DEF the armor provides based on the average damage of the major rounds in question — not the maximum damage, since sometimes body armor doesn't work as well as expected (and sometimes it works better). Body armor's effectiveness depends on many factors.

The accompanying Body Armor Table lists the following for each type of body armor: the DEF (the PD/ED Armor it provides), A/R Cost (the armor's cost in Active and Real Points), Mass (the armor's weight in kilograms, using the rules on pages pages 487-88 of the *HERO System 5th Edition, Revised*), and any other pertinent information.

Characters may wear sectional body armor. For example, a character might have a suit of Level II body armor protecting most of his person (Activation Roll 14-), but Level IV ceramic plates around his torso (Hit Locations 10-13, Activation Roll 10-). Standard rules for sectional defenses apply.

COMBAT WEAR

Uniforms and body armor aren't the only things that characters might wear into combat.

Headgear

A variety of protective gear is available to cover a character's head and/or face.

GAS MASK

Effect:	**Life Support: Self-Contained Breathing plus Sight Group Flash Defense, Only Protects Against Tear Gas-Type Flashes**
Target/Area Affected:	**Self**
Duration:	**Constant/Persistent**
Range:	**Self**
Charges:	**1 Continuing Fuel Charge/0 END**
Breakability:	**4 DEF**

Description: A gas mask covers the entire head and either screens out harmful gases or gives the wearer his own self-contained air supply for a short time. This protection extends to tear gas.

Game Information: *Life Support: Self-Contained Breathing (10 Active Points); OIF (-½), 1 Continuing Fuel Charge (easy to replenish, 1 Hour; -0) (total cost: costs 7 points)* ***plus*** *Sight Group Flash Defense (10 points) (10 Active Points); OIF (-½), Only Protects Against Tear Gas-Type Flashes (-1) (total cost: 4 points). Total cost: 11 points.*

HELMETS AND FACE SHIELDS

Effect:	**Armor (8 PD/8 ED) on the head**
Target/Area Affected:	**Self**
Duration:	**Persistent**
Range:	**Self**
END Cost:	**0**
Breakability:	**8 DEF**

Description: None of the suits of body armor described above protect the head; for that, a character needs to wear a helmet. The PASGT helmet, the standard headgear of the modern U.S. military, is made of polyethylene or improved aramid fibers, making it more protective than the older steel

helmets but lighter in weight. Some versions are shaped to allow the wearer to easily mount a night-vision device or communications equipment.

Game Information: *Armor (8 PD/ED) (24 Active Points); OIF (-½), Activation Roll (protects Locations 3-4; -2), Half Mass (-½), Real Armor (-¼). Total cost: 6 points.*

Options:

1) Face Shields: Some soldiers and police officers also wear *ballistic face shields* — large plates of transparent protective material designed to protect the wearer's face. They offer relatively little resistance to bullets; their main purpose is to keep thrown rocks and debris from hitting the wearer in front (this also counts as a defense against NND Sight Group Flashes defined as thrown mud, powder, or the like). Some model face shields are worn on their own, others attach to a helmet. Character also, or alternately, buys: Armor (3 PD/3 ED) (9 Active Points); OIF (-½), Activation Roll (protects Location 4 when attacked from the front; -2), Half Mass (-½), Real Armor (-¼). Total cost: 2 points.

Holsters

Most holsters just do what the typical holster is designed to: carry a gun safely. But some types provide other benefits.

CONCEALMENT HOLSTER

Effect:	**+1 to Concealment for a particular handgun**
Target/Area Affected:	**Self**
Duration:	**Constant**
Range:	**Self**
END Cost:	**0**
Breakability:	**1 DEF**

Description: A Concealment holster is specially designed to help a character conceal a particular type of handgun.

Game Information: *+1 to Concealment (2 Active Points); IIF (-¼), Only For Hiding A Particular Handgun (-2). Total cost: 1 point.*

FAST DRAW HOLSTER

Effect:	**+1 to Fast Draw**
Target/Area Affected:	**Self**
Duration:	**Constant**
Range:	**Self**
END Cost:	**0**
Breakability:	**1 DEF**

Description: This type of holster is specially designed to allow the shooter to draw his gun quickly. (A variant on this is the springsleeve holster, which keeps a small gun hidden up a character's sleeve and uses a spring to thrust it into his hand when he flexes his arm properly.)

Game Information: *+1 to Fast Draw (Small Arms) (2 Active Points); OIF (-½). Total cost: 1 point.*

Tactical Vests And Clothing

CAMOUFLAGE CLOTHING

Effect:	**+1 to Stealth in appropriate settings**
Target/Area Affected:	**Self**
Duration:	**Constant**
Range:	**Self**
END Cost:	**0**
Breakability:	**1 DEF**

Description: The military has camouflage uniforms for all sorts of environments (for example, arctic, desert, forest/jungle, mountains, and urban), and *Dark Champions* characters can certainly use this sort of clothing. The GM determines when camo clothing offers a bonus to its wearer.

Game Information: *+1 to Stealth (2 Active Points); OIF (-½), Only Works In Appropriate Settings (-1). Total cost: 1 point.*

COMBAT VEST

Effect:	**Armor (4 PD/4 ED) plus various weapons**
Target/Area Affected:	**Self/Varies**
Duration:	**Persistent/varies**
Range:	**Self/varies**
END Cost:	**0/varies**
Breakability:	**4 DEF**

Description: This vest not only provides the wearer with protection in the torso region, it allows him to carry several weapons and gadgets easily. Characters can design their own vests with individualized selections of equipment.

Game Information:

Cost	Power
4	*Armored Vest:* Armor (4 PD/4 ED); OIF (-½), Activation Roll 11- (-1), Half Mass (-½), Real Armor (-¼)
17	*Combat Vest Weapons*: Multipower: 25-point reserve; all OIF (multiple OAFs, -½)
1u	1) *.41 Handgun:* RKA 1½d6; OAF (-1), Beam (-¼), Real Weapon (-¼), STR Minimum (10, STR Minimum Doesn't Add/Subtract Damage; -1), 2 clips of 12 Charges each (-0)
1u	2) *Combat Knife:* HKA 1d6 (up to 2d6 with STR); OAF (-1), Real Weapon (-¼)
1u	3) *Smoke Grenades:* Change Environment 4" radius, -3 to Sight Group PER Rolls; OAF (-1), Range Based On STR (-¼), Real Weapon (-¼), 4 Continuing Charges lasting 1 Turn each (-½)
1u	4) *Flashlight:* Sight Group Images 1" radius, +3 to PER Rolls; OAF (-1), Only To Create Light (-1), 1 Continuing Fuel Charge lasting 1 Hour (-0)

Total cost: 25 points.

POLICEMAN'S BELT

Effect:	Various weapons and useful tools
Target/Area Affected:	Varies
Duration:	Varies
Range:	Varies
END Cost:	Varies
Breakability:	1 DEF

Description: This is a slight variation on the traditional "Sam Browne" belt worn by police officers. Characters can also design their own belts with individualized selections of equipment.

Game Information:

Cost	Powers
53	*Policeman's Belt:* Multipower, 80-point reserve; all OIF (-½)
1u	1) *.41 Handgun:* RKA 1½d6; OAF (-1), Beam (-¼), Real Weapon (-¼), STR Minimum (10, STR Minimum Doesn't Add/Subtract Damage; -1), 2 clips of 12 Charges each (-0)
1u	2) *Handcuffs:* Entangle 3d6 (standard effect: 3 BODY), 6 DEF, Takes No Damage From Attacks (+½) (67 Active Points); OAF (-1), Cannot Form Barriers (-¼), Set Effect (hands only; -1), Does Not Prevent Use Of Accessible Foci (-1), No Range (-½), Must Follow Grab Or Target Must Be Willing (-½), 1 Recoverable Charge (-1¼), Can Be Escaped Automatically With Modified Lockpicking Or Contortionist Roll (-½)
1u	3) *Tonfa:* HA +3d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½), Real Weapon (-¼)
3u	4) *Pepper Foam Spray:* Sight Group Flash 5d6, NND (defense is solid eye covering; +1); OAF (-1), No Range (-½), Real Weapon (-¼), 12 Charges (-¼) **plus** Energy Blast 3d6, NND (defense is solid eye covering; +1); OAF (-1), No Range (-½), Real Weapon (-¼), 12 Charges (-¼)
1u	5) *Flashlight:* Sight Group Images 1" radius, +3 to PER Rolls; OAF (-1), Only To Create Light (-1), 1 Continuing Fuel Charge lasting 1 Hour (-0)
1u	6) *Walkie-Talkie:* Radio Listen and Transmit (Radio Group); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼)

Total cost: 61 points

SENSORY EQUIPMENT

Sometimes he who perceives the enemy first lives longest. These devices help characters perform reconnaissance, communicate with each other, detect enemies and other threats, and in general perceive the world around themselves.

COMMUNICATIONS GEAR

A group of characters — such as a team of PC heroes — needs a way to stay in touch with each other. Proper battlefield communications often contributes more to winning battles and ensuring the success of a mission than heavy firepower or the best body armor.

RADIOS

Effect:	**Radio Perception/Transmission**
Target/Area Affected:	**Self**
Duration:	**Persistent**
Range:	**Self**
END Cost:	**0**
Breakability:	**2 DEF**

Description: The typical communications gear for the modern era is the radio, which characters can buy in several different forms, as described below.

Game Information:

Radio Handset: *Radio Perception/Transmission (Radio Group) (10 Active Points); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 4 points.*

Radio Headset: *Radio Perception/Transmission (Radio Group) (10 Active Points); OIF (-½), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 6 points.*

Concealed Radio Headset: *Radio Perception/Transmission (Radio Group) (10 Active Points); IIF (-¼), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 7 points.*

Options:

1) Advanced Radios: In campaigns focusing on advanced technology, the GM might allow characters to substitute High-Range Radio Perception for Radio Perception/Transmission:

HRRP Handset: *HRRP (Radio Group) (12 Active Points); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 5 points.*

HRRP Headset: *HRRP (Radio Group) (12 Active Points); OIF (-½), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 7 points.*

Concealed HRRP Headset: *HRRP (Radio Group) (12 Active Points); IIF (-¼), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 8 points.*

2) Cell Phones: Alternately, in a game that takes place in an urban area, characters may rely on cellular phones instead of radios. Many modern cell phones allow characters to send images as well as sound.

Cellular Phone: *HRRP (Radio Group) (12 Active Points); OAF (-1), Affected As Sight And Hearing Group As Well As Radio Group (-½), Cellular Phone-Band Communications Only (-1), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 3 points.*

ENCRYPTED COMMUNICATIONS

Sometimes the ability to communicate doesn't do characters much good if they can't conceal what they're saying. In the *HERO System*, there are several ways to represent encrypting and decrypting transmissions:

Concealed

The first is to apply the *Concealed* Sense Modifier to the Sense doing the transmitting. In this case the special effect of the Sense Modifier could be one of two things: either "the transmission cannot be detected" (which is what Concealed is normally used for); or "even if detected, the transmission cannot be understood." The end result is the same — the enemy doesn't have a transmission he can comprehend (though in the latter case, intercepting the transmission may be enough for the enemy to determine the point of transmission). Decrypting this sort of encryption requires decoding equipment built with an Enhanced Sense that can "perceive" through the encryption. If a character buys a set of radios (or the like) which all have Concealed, it's safe to assume each of them can understand

BATTLE CODES

Another way for characters to keep their communications secret is to develop their own unique language — a "battle code," if you will. When used with an encryption system, a unique language (or a very rare real-world one, such as Navajo) provides a double layer of security. However, it may be vulnerable to characters or equipment with the *Universal Translator* Talent.

THE RANGE OF TRANSMIT

Usually it's not necessary to establish an exact range over which a Sense with the *Transmit* Sense Modifier can "broadcast" — the GM can simply establish ranges for Transmit on a case-by-case basis, depending on special effects, the technology used in the campaign, common sense, and dramatic sense. In situations where knowing the exact range is important, GMs can use one of two methods.

For strict precision, give any Sense with Transmit a broadcast range of 1 kilometer per Active Point. To increase this range, apply the *MegaScale* Advantage, with the +¼ level increasing it to 10 km per Active Point, and so on up the MegaScale Table from there. Characters may need to apply MegaScale as a naked Advantage, or put Senses in a Multipower (one slot MegaScaled, one not), to create both short-range and long-range communications systems.

For more "dramatic" results, assume a transmission can reach anywhere within an area defined by the GM (one city, one nation, one planet, one solar system, or the like). For each +5 Character Points, the character can increase the range of transmission by one step down the MegaScale Table.

(decrypt) the transmissions of the others — the encryption/decryption process is programmed or hardwired into the devices.

Encrypted Radio Handsets: *Radio Perception/Transmission (Radio Group), Concealed (-5 to Radio Group PER Rolls), Usable Simultaneously (up to eight persons at once; +1) (30 Active Points); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 13 points.*

Improved Encrypted Radio Handsets: *Radio Perception/Transmission (Radio Group), Concealed (-10 to Radio Group PER Rolls), Usable Simultaneously (up to eight persons at once; +1) (40 Active Points); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 18 points.*

Alternately, instead of relying on the fallible (but more "realistic") Concealed, characters can buy Invisible Power Effects (invisible to tracing) for their radios. That way, no matter how good a Systems Operation roll an enemy makes, he won't be able to perceive the transmission (he may not receive it at all, or at best it sounds like meaningless static from which he can determine nothing).

Ultimate Encrypted Radio Handsets: *Radio Perception/Transmission (Radio Group), Invisible To Tracing (+¼), Usable Simultaneously (up to eight persons at once; +1) (22 Active Points); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 10 points.*

Language Variable Power Pool

Another way to scramble transmissions is a Variable Power Pool for Languages. Only a person with another radio device, programmed with the same "language," can understand what's being sent. This method requires the GM's permission, since characters can't buy Skills in Power Frameworks without the GM's approval — but since this is an intriguing, fun, and not especially abusive construct, most GMs allow it.

To encrypt a transmission, the characters simply agree on which Language their radios will use. They don't necessarily have to be real languages; the characters can simply call them Language A, Language B, and so on. Identifying the language precisely doesn't matter; the Languages are just a way to represent the special effect of "encrypted communications" in *HERO System* terms.

The Language VPP method is cheap and easy, but it has some drawbacks. A successful Cryptography roll can decrypt a scrambler "language," but the users can counter the cryptographer by changing the computer-generated "language" at frequent intervals. This constitutes changing the Pool and requires 1 Minute. To change the Pool in just a Full Phase, the character must buy a Skill to do so, though GMs could let characters use Cryptography or Systems Operation instead of making them buy a separate Skill.

Radio Handset with Scrambled Transmission Option: *Radio Perception/Transmission (Radio Group) (10 Active Points); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0) (total cost: 4 points)* ***plus*** *Variable Power Pool (Scrambler Pool), 4 base + 2 control cost; OAF (-1), Only For One Language At A Time (-1), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0) (total cost: 5 points). Total cost: 9 points.*

This sort of scrambling is also vulnerable to certain types of decryption equipment. In game terms, you can represent that equipment with Universal Translator that Requires A Systems Operation Roll.

Mind Link

Another way to create a closed, untappable communications system is Mind Link. The character defines the number of radios he has, and that tells him how many people he can communicate with at once. (Alternately, he can buy Mind Link to Link with one other person who has bought the same power.) For true privacy/encryption, leave the Mind Link as a Mental Power, meaning that only other characters with appropriate Mental Powers, or decryption devices built with those Mental Powers, can penetrate the communications net. More realistically, characters should apply the Limitation *Affected As Radio And Hearing Groups, Not Mental Group* (-½) — that way things like Darkness to the Radio Group can block their transmissions.

Closed Radio Link (Type 1): *Mind Link, specific group of up to any 8 minds, No LOS Needed (35 Active Points); OAF (-1), Affected As Radio And Hearing Groups, Not Mental Group (-½), Does Not Provide Mental Awareness (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 13 points.*

Closed Radio Link (Type 2): *Mind Link, any one mind, No LOS Needed (25 Active Points); OAF (-1), Only Can Be Maintained With Others Who Have Mind Link (-1), Affected As Radio And Hearing Groups, Not Mental Group (-½), Does Not Provide Mental Awareness (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0). Total cost: 7 points.*

Cryptography

The fourth method is to give the radio equipment its own *Cryptography* Skill to represent its ability to encrypt its transmissions (and to decrypt those it receives, though as long as two users agree on the form of encryption the decryption is automatic). Decrypting this sort of encryption requires decoding equipment built with its own *Cryptography* Skill to crack the code in a Skill Versus Skill Contest; Systems Operation may serve as a Complementary Skill.

Radio Handset with Encryption System: *Radio Perception/Transmission (Radio Group) (10 Active Points); OAF (-1), Affected As Hearing Group As Well As Radio Group (-¼), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0) (total cost: 4 points)* ***plus*** *Cryptography 20- (25 Active Points); OAF (-1), Only To Encrypt/Decrypt Its Own Transmissions (-1), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0) (total cost: 8 points). Total cost: 12 points.*

Systems Operation

Similarly, a radio could be built with its own *Systems Operation* Skill. The character trying to send an encrypted transmission makes a Systems Operation roll to reflect his ability to hide/encrypt the transmission; a character trying to intercept the transmission makes a competing roll to locate/decrypt it. In either case, Computer Programming, Cryptography, and/or Electronics may act as Complementary Skills.

Radio Handset with Encryption System: *Radio Perception/Transmission (Radio Group) (10 Active Points); OAF (-1), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0) (total cost: 4 points)* ***plus*** *Systems Operation 20- (25 Active Points); OAF (-1), Only To Encrypt/Decrypt Its Own Transmissions (-1), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0) (total cost: 8 points). Total cost: 12 points.*

SIGHT ENHANCEMENT GEAR

Mankind has long sought for ways to improve peoples' ability to see. Here are some modern devices that do just that.

BINOCULARS

Effect:	**+6 versus the Range Modifier for Sight Group**
Target/Area Affected:	**Self**
Duration:	**Constant**
Range:	**Self**
END Cost:	**0**
Breakability:	**2 DEF**

Description: Binoculars increase a character's ability to see over a distance by magnifying the subject viewed. They range from small versions (including monoculars) that provide only slight amplification, to larger military and hunting models that also have electronic readouts on distance, direction, and the like.

Game Information: *+6 versus the Range Modifier for Sight Group (9 Active Points); OAF (-1). Total cost: 4 points.*

Options:

1) Large Binoculars: Increase to +10 versus the Range Modifier for Sight Group (15 Active Points); OAF (-1) (total cost: 7 points) **plus** Absolute Range Sense (3 Active Points); OAF (-1) (total cost: 1 point) **plus** Bump Of Direction (3 Active Points); OAF (-1) (total cost: 1 point). Total cost: 9 points.

NIGHTSIGHT DEVICES

Effect:	**+2 to +4 to Sight Group PER Rolls, Only To Counteract Darkness Penalties**
Target/Area Affected:	**Self**
Duration:	**Constant**
Range:	**Self**
Charges:	**1 Continuing Fuel Charge**
Breakability:	**2 DEF**

Description: Nightsight devices, sometimes known as night vision devices (NVDs), allow a character to see at night by amplifying ambient light (such as starlight). The user, who suffers from a slightly decreased field of vision, sees the world in a monochrome green, but he can see much more clearly in darkened conditions than someone without such enhancement. A nightsight device also allows the user to see infrared light (not heat patterns; that requires a thermal vision device [see below]), and may have a short-range infrared "flashlight" attached to improve visibility, allow him to read maps, and so forth. However, an NVD won't function in total darkness (it needs light to amplify). Nightsight devices emit ultrasonic sound (which animals, and characters with proper equipment, can hear).

Nightsight devices come in three "generations," and the higher the generation, the more sophisticated (and expensive) the device. In campaigns featuring more advanced (perhaps fictionally advanced) technology, it may be possible to shrink these often bulky devices down to much smaller sizes — perhaps even to lenses that would fit in the eyeholes of a mask.

Game Information:

Nightsight Goggles (Generation 1): *+2 to Sight Group PER Rolls (4 Active Points); OAF (-1), Only To Counteract Darkness Penalties (-½), Requires Ambient Light (it won't work in total darkness; -¼), Side Effect (character suffers a 2 x Effect Vulnerability to Sight Group Flashes based on bright light while looking through the scope, and may experience a minor Sight Group Flash from looking at a bright light, always occurs; -½), 1 Continuing Fuel Charge (battery, Easy to obtain; 3 Hours; -0) (total cost: 1 point)* ***plus*** *Detect Infrared Light (Sight Group) (3 Active Points); OAF (-1), Linked (-½), 1 Continuing Fuel Charge (battery, Easy to obtain; 3 Hours; -0) (total cost: 1 point). Total cost: 2 points.*

Nightsight Goggles (Generation 2): *As above, but +3 to Sight Group PER Rolls (6 Active Points for the first power). 9 Active Points; total cost 3 points.*

Nightsight Goggles (Generation 3): *As above, but +4 to Sight Group PER Rolls (8 Active Points for the first power). 11 Active Points; total cost 3 points.*

Infrared "Flashlight": *Sight Group Images, +3 to PER Rolls (19 Active Points); OAF (-1), Limited Range (2"; -¼), Only To Create Infrared Light (-1½), 1 Continuing Fuel Charge (easily refueled, 1 Hour; -0). Total cost: 5 points.*

SURVEILLANCE SCOPE

Effect:	Clairsentience (Sight Group)
Target/Area Affected:	Self
Duration:	Constant
Range:	No Range
Charges:	1 Continuing Fuel Charge
Breakability:	4 DEF

Description: A surveillance scope is a viewing device consisting of a flexible fiber optic cable with a miniaturized camera on one end. The other end connects to a viewing system (a device similar in size and shape to a laptop computer or portable television set; some scopes have much smaller viewing systems for easy portability). The user can insert the cable under doors, through holes in walls, around corners, or the like to see into other areas without exposing himself to attack (or, in some cases, letting the persons being viewed know they're under surveillance). A similar device, the borescope, can be drilled through a wall or door to look beyond it (characters can also use borescopes to look inside locked briefcases and other closed objects without having to open them). The user can make a Stealth roll to keep the people under surveillance from detecting the scope's presence, if appropriate.

Game Information: *Clairsentience (Sight Group) (20 Active Points); OAF (-1), Limited Perspective (character has a limited range of vision when using scope; -¼), No Range (-½), 1 Continuing Fuel Charge (battery, Easy to obtain; 1 Hour; -0). Total cost: 7 points.*

Options:

1) Nightsight Surveillance Scope: Add Generation 1 nightsight device. 24 Active Points; total cost 9 points.

THERMALVISION DEVICE

Effect:	Infrared Perception (Sight Group)
Target/Area Affected:	Self
Duration:	Constant
Range:	Self
Charges:	1 Continuing Fuel Charge
Breakability:	1 DEF

Description: Thermalvision devices allow a character to see heat patterns and traces, making it possible to see people (and many objects) in the dark based on their body heat. They have many mundane applications, such as detecting overheating components in electronic or mechanical equipment.

Game Information: *Infrared Perception (Sight Group) (5 Active Points); OAF (-1), 1 Continuing Fuel Charge (battery, Easy to obtain; 2 Hours; -0). Total cost: 2 points.*

BUGS AND BUG DETECTORS

Bugs are electronic tracking and/or listening devices. There are two basic kinds: those that emit a simple radio signal which can be traced (such as a character might put in an enemy's car so he could find the car anywhere in the city); and those that are actually miniature microphones and/or cameras, allowing a listener to hear or view what occurs in the vicinity of the bug. Either type of bug needs to be properly placed so that it's hidden but works as well as possible. This often involves sneaking into someone's office or home to plant the bug, and requires the *Bugging* and *Concealment* Skills for best results. Of course, where there are bugs, there are devices to detect and neutralize them as well, even if they're hidden inside walls or phone systems.

STANDARD VISUAL BUG

Effect:	**Clairsentience (Sight Group)**
Target/Area Affected:	**Special**
Duration:	**Constant**
Range:	**800"**
Charges:	**1 Continuing Fuel Charge**
Breakability:	**7 DEF**

Description: This is the typical sort of device used for visual electronic surveillance of a fixed location. It broadcasts what it "sees" over a range of one mile. Unless there's a direct wire connection between the bug and the reception equipment (which is unlikely), anything that interferes with radio transmissions can disrupt the bug's transmission temporarily or permanently. Because it's an Obvious Focus, a character has to use his *Concealment* Skill (with Bugging as a Complementary Skill) to hide it.

This bug has an internal battery able to power it for up to one week. The longer the bug's range, the larger its batteries have to be... but the easier it is to detect. Some visual bugs are extremely small (for example, pinhole lenses about 1/8 inch across), but most are at least a little larger than that.

Game Information: *Clairsentience (Sight Group), 8x Range (800", or 1 mile), 1 Continuing Fuel Charge (battery, Easy to obtain; 1 Week; +¾) (61 Active Points); OAF (-1), No Range (character must place bug at perception point before he can use the power; -½), Affected As Radio Group As Well As Sight Group (-¼). Total cost: 22 points.*

Options:

1) High-Powered Bug: Increase to 16x Range (1,600"). 4700 Active Points; total cost 25 points.

2) Low-Powered Bug: Decrease to 2x Range (200"). 44 Active Points; total cost 16 points.

3) Standard Audio Bug: This is the same sort of bug, but it picks up and transmits sound rather than visual images. Some of them are as small as pencil erasers. Change to Clairsentience (Hearing Group). 61 Active Points; total cost 22 points.

4) Standard Visual And Audio Bug: This bug picks up and transmits both visual images and sound. Change to Clairsentience (Sight and Hearing Groups). 79 Active Points; total cost 29 points.

5) Landline Connection: This bug has a direct, wired connection between itself and the unit that receives the image it transmits, making it much more difficult to disrupt the transmission. Remove Affected As Radio Group As Well As Sight Group (-¼). Total cost: 24 points.

6) Disguised Bug: This form of the Standard Bug is built into, or made to look like, an everyday object — a radio, a clock, a smoke detector, or just about anything else you can think of. Someone who examines the bug closely or takes it apart will soon realize what it is (or at least that it's not what it looks like). Change OAF (-1) to IAF (-½):

Standard Visual: Total cost 27 points

Standard Audio: Total cost 27 points

Standard Visual And Audio: Total cost 35 points.

7) Hard-To-Find Bug: This bug's transmissions are particularly difficult to find with bug detectors for some reason. Usually bugs like these are a little larger than normal, and thus harder to hide and easier to find than a normal bug. Add Concealed (-6 to PER Rolls with Detect Bugs).

Standard Visual: 72 Active Points; total cost 26 points.

Standard Audio: 72 Active Points; total cost 26 points.

Standard Visual And Audio: 89 Active Points; total cost 32 points.

Disguised Standard Visual: 72 Active Points; total cost 32 points.

Disguised Standard Audio: 72 Active Points; total cost 32 points.

Disguised Standard Visual And Audio: 89 Active Points; total cost 39 points.

8) Undercover Agent Audio Bug: This "bug" is a listening device worn by an undercover police officer (or the like). Concealed under the clothes, it transmits voices and noises in the wearer's vicinity to a nearby receiver. To the Standard Audio Bug, add Mobile Perception Point. 70 Active Points; total cost 25 points (for an OAF version) or 31 points (for an IAF version disguised as a a pen, a calculator, a watch, or the like).

TRACKING BUG

Effect:	**Images to Radio Group, +4 to PER Rolls**
Target/Area Affected:	**32" Radius**
Duration:	**Constant**
Range:	**RBS**
Charges:	**1 Continuing Recoverable Charge lasting 1 Week**
Breakability:	**1 DEF**

Description: This is a device which characters can attach to cars and other moving objects to follow them. It emits a distinctive radio signal which

identifies the bug's location. Tracking the beacon requires any specialized radio-perceiving device (one such device is assumed to come with the Tracking Bug when the character buys it, but he could also use other radio equipment if necessary).

The Tracking Bug can reliably be "picked up" on tracking equipment primarily within a 32" radius. However, much like a character can see the beam from a flashlight from far away without being inside the beam, characters outside the 32" radius may still be able to track the Tracer, if the GM so permits: from 33-64", the Image is at only +2 to PER Rolls; from 65-125", it's at +0; from 126-250" it's at -2; beyond that it would require an Extraordinary Skill Roll to locate it.

Game Information: *Images to Radio Group, +4 to PER Rolls, Increased Size (32" radius; +1¼), Usable As Attack (allows character to "stick" the Image to a target; +1), Range Based On STR (+¼),1 Continuing Recoverable Charge lasting 1 Week (stops functioning if it gets wet or experiences severe radio interference; +1) (76 Active Points); IAF Fragile (-¾), Set Effect (detectable signal; -1), Image Only Perceivable On Special Radio Frequencies (-0). Total cost: 28 points.*

Options:

1) Strong Bug: Increase to +6 to PER Rolls. 103 Active Points; total cost 37 points.

2) Weak Bug: Decrease to +2 to PER Rolls. 49 Active Points; total cost 18 points.

3) Broad-Signal Bug: Increase to Increased Size (125" radius; +1¾). 85 Active Points; total cost 31 points.

WIRETAP

Effect:	**Clairsentience (Hearing Group), Only For Defined Phones**
Target/Area Affected:	**Defined phone(s)**
Duration:	**Constant**
Range:	**800" (see text)**
Charges:	**1 Continuing Fuel Charge**
Breakability:	**7 DEF**

Description: This bug is installed in a telephone (or, in some cases, on a telephone trunk line leading to an entire office, entire building, or the like). It picks up and transmits all conversation that takes place over that phone, but doesn't hear other sounds.

Game Information: *Clairsentience (Hearing Group), 8x Range (800", or 1 mile), 1 Continuing Fuel Charge (battery, Easy to obtain; 1 Week; +¾) (61 Active Points); OAF (-1), No Range (character must place bug at perception point before he can use the power; -½), Can Only Hear Sound From Specific Telephone(s) (-1), Affected As Radio Group As Well As Sight Group (-¼). Total cost: 16 points.*

Options:

1) Strong Wiretap: Increase to 16x Range (1,600"). 70 Active Points; total cost 19 points.

2) Weak Wiretap: Decrease to 2x Range (200"). 44 Active Points; total cost 12 points.

3) Fax Tap: Similar devices exist to monitor and capture information coming through fax machine phone lines. Change to Clairsentience (Radio Group). Total cost: 16 points.

BUG DETECTOR

Effect: Detect Bugs 16-
Target/Area Affected: Self
Duration: Constant
Range: 10"
Charges: 1 Continuing Charge
Breakability: 4 DEF

Description: This devices detects bugs by perceiving the radio waves they generate. This means it only detects "active" bugs — bugs which are transmitting while the Detector is in use. It cannot detect bugs which are turned off or inactive (and some types of bugs are harder to detect than others), nor bugs using infrared light or other media than radio waves. Its batteries provide enough power for a total of one hour of operation.

Game Information: *Detect Active Bugs 16- (Radio Group), Increased Arc Of Perception (360 Degrees) (17 Active Points); OAF (-1), Affected As Sight Group As Well As Radio Group (-½), Limited Range (10"; -¼), 1 Continuing Fuel Charge (Easy to replace batteries, 1 Hour; -0). Total cost: 6 points.*

Options:

1) Strong Bug Detector: Increase to Detect Active Bugs 20-. 21 Active Points; total cost 8 points.

2) Weak Bug Detector: Decrease to Detect Active Bugs 13-. 14 Active Points; total cost 5 points.

MISCELLANEOUS SENSORY DEVICES

BOMB DETECTOR

Effect: Detect Explosives 16-
Target/Area Affected: Self
Duration: Constant
Range: Self
END Cost: 0
Breakability: 2 DEF

Description: This device detects nearby explosive substances by identifying the chemical vapors they give off. It needs to be near the explosives for approximately two seconds to detect them.

Game Information: *Detect Explosives 16- (Smell/Taste Group) (12 Active Points); OAF (-1), Extra Time (Extra Phase; -¾). Total cost: 4 points.*

DRUG DETECTOR

Effect: Detect Illegal Drugs 14-
Target/Area Affected: Self
Duration: Constant
Range: Self
END Cost: 0
Breakability: 2 DEF

Description: A Drug Detector senses the chemical vapors given off by illegal drugs. It can usually "sniff out" drugs even if they're hidden inside objects or their odor is "masked" by other substances. It does not indicate which drugs are present, and must be reasonably close to the drugs to detect them.

Game Information: *Detect Illegal Drugs 14- (Smell/Taste Group) (10 Active Points); OAF (-1). Total cost: 5 points.*

SATELLITE LINK

Effect: Various viewing abilities
Target/Area Affected: Self
Duration: Constant
Range: Self
END Cost: Varies
Breakability: 9 DEF

Description: This gadget uses the world-spanning satellite network to give the user a view of anything seen by satellite! The character uses the link to tap into the network and obtain a "feed" from it showing whatever can be seen in the target area at that time. There may not always be a satellite available that's watching what a character wants to see; in game terms, if the Activation Roll fails, the character's objective is in a "blind zone" (either because no satellite is "on target" or because weather blocks his view).

If there's a satellite in position, the character can see a lot — given the powerful IR and UV capabilities of many satellites, a link might be able to read the heat patterns of a building to determine its layout, how many people are in it (and where they are), and so forth.

A typical Satellite Link requires a large system of computer banks and monitors that must be kept in a Base.

At the GM's option, in a high-tech campaign it might be possible for characters to have a Satellite Link that only requires a laptop computer, or even a viewing device mounted on a bracer or large wristwatch-like device. For a laptop, change OAF Immobile (-2) to OAF (-1) (total cost: 20 points); for a bracer, change it to OIF (-½) (total cost: 26 points).

Game Information:

Cost	Power
9	*Satellite Link (Worldwide Viewing):* Clairsentience (Sight Group), MegaScale (1" = 1,000 km, can scale down to 1" = 1 km; +1¼); OAF Immobile (-2), Activation Roll 11- (can only see target area if satellites are available; -1), Requires A System Operations Roll (-½), Limited Vision (can only see what a satellite could see; -½)
1	*Satellite Link (IR Capability):* Infrared Perception (Sight Group); OAF Immobile (-2), Linked (-½)
1	*Satellite Link (UV Capability):* Ultraviolet Perception (Sight Group); OAF Immobile (-2), Linked (-½)
3	*Satellite Link (Penetrating IR Capability):* N-Ray Perception (stopped by anything that would block powerful IR sensors) (Sight Group); OAF Immobile (-2), Linked (-½)

Total cost: 14 points.

TEMPEST EQUIPMENT

Effect:	Detect Computer Radio Emissions 14-
Target/Area Affected:	Self
Duration:	Constant
Range:	Self
Charges:	1 Continuing Fuel Charge
Breakability:	3 DEF

Description: TEMPEST stands for "Transient Electromagnetic Pulse Emanation Standard." It refers to the amount of electromagnetic radiation given off by various types of computer equipment (monitors, cables, motherboards, and so forth). Using what's known as van Eck technology, TEMPEST gear monitors and records everything that passes across a computer's screen by perceiving and "reading" the electromagnetic radiation. This won't necessarily work over long distances (the normal rules for applying the Range Modifier to PER Rolls applies), and anything that provides the computer with Power Defense automatically blocks TEMPEST reading (as will placing a sheet of metal between the computer and the TEMPEST gear).

Game Information: *Detect Computer Radio Emissions 14- (Radio Group) (10 Active Points); OAF (-1), Blocked By Power Defense (-½), 1 Continuing Fuel Charge (batteries, Easy to obtain; 10 Hours; -0). Total cost: 4 points.*

WOLF'S EARS

Effect:	+4 PER for Hearing Group plus Hearing Group Flash Defense (10 points)
Target/Area Affected:	Self
Duration:	Constant
Range:	Self
Charges:	1 Continuing Fuel Charge
Breakability:	2 DEF

Description: This device serves two purposes. First, it enhances the user's hearing. Second, it screens out all sounds above a certain level, preventing the wearer from being deafened by explosions or gunshots.

Game Information:

Cost	Power
5	*Wolf's Ears (Hearing Enhancement):* +4 PER for Hearing Group; OIF (-½), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0)
7	*Wolf's Ears (Hearing Protection):* Hearing Group Flash Defense (10 points); OIF (-½), 1 Continuing Fuel Charge (battery, Easy to obtain; 6 Hours; -0)

Total cost: 12 points.

MISCELLANEOUS EQUIPMENT

Here are a few more pieces of equipment that don't belong in the categories above, or which are only appropriate for certain types of characters or campaigns. As always, characters should get the GM's approval before introducing any unusual devices into the game.

COSTUMED VIGILANTE GADGETS

Here are a few gadgets that costumed vigilantes might use. They're not particularly "realistic" (or at least, not entirely), but they're perfectly appropriate for many campaigns.

BILLY CLUB

Effect: HA +3d6, Energy Blast 6d6, Swinging 10", Clinging
Target/Area Affected: Varies
Duration: Varies
Range: Varies
END Cost: Varies
Breakability: 6 DEF

Description: A popular multi-purpose weapon and tool among martial artists and costumed vigilantes, the billy club looks like an ordinary stick-like club about a foot long and an inch or so in diameter, but it has several other uses and built-in devices. First, in addition to hitting people with it, the character can throw it at his foes; he must get it back (often by devoting a single Combat Skill Level to making it bounce back to him) before he can use the club for any purpose again. Second, the club can project a high-strength line and hook, allowing the user to swing (but if he does so, he can't use the club for anything else that Phase while the line retracts). Third, the club can extend just the hook, allowing the user to hold onto the club and hang from any projection or niche on a wall or slippery surface.

Game Information:

Cost	Powers
15	*Billy Club:* Multipower, 30-point reserve; all OAF (-1)
1u	1) *Club:* HA +3d6; OAF (-1), Hand-To-Hand Attack (-½)
1u	2) *Hurled Club:* Energy Blast 6d6; OAF (-1), Range Based On STR (-¼), 1 Recoverable Charge (-1¼), Lockout (cannot use any slot in Multipower until Charge is recovered; -½)
1u	3) *Swingline:* Swinging 10"; OAF (-1), Lockout (cannot use any other slot in same Phase in which Swinging is used; -½)
1u	4) *Hanging Onto Projections:* Clinging (normal STR); OAF (-1), Requires A STR Roll (-½), Cannot Resist Knockback (-¼), No Movement Allowed (-½)

Total cost: 19 points.

Options:

1) Strong Billy Club: Increase reserve to 40 points, and HA to +5d6, Energy Blast to 8d6, and Swinging to 20". Total cost: 24 points.

2) Simple Billy Club: This form of Billy Club lacks all the bells and whistles; it's just intended for use as a weapon. Remove Slots 3 and 4. Total cost: 17 points.

GLIDER CAPE

Effect: Gliding 12"
Target/Area Affected: Self
Duration: Constant
Range: Self
END Cost: 1
Breakability: 2 DEF

Description: The character's cape is designed with a special aerodynamic shape, and is cleverly reinforced, so he can glide through the air while wearing it.

Game Information: *Gliding 12" (12 Active Points); OAF (-1), Costs Endurance (-½). Total cost: 5 points.*

Options:

1) Faster Glider Cape: Increase to Gliding 15". 15 Active Points; total cost 6 points.

2) Slower Glider Cape: Decrease to Gliding 8". 8 Active Points; total cost 3 points.

3) Realistic Glider Cape: The character's ability to glide depends on his holding his body a certain way; if he moves the wrong way or tries to perform other actions than just gliding, he falls to earth. Add Requires A PS: Use Glider Cape Roll (-¼) and Gestures (throughout; -½). Total cost: 4 points.

4) Parachute Cape: The character cannot actually glide, but his cape can act as a parachute to keep him from hurting himself in falls. Add Limited Movement (character cannot gain altitude, and must move at least 12" downward for every 1" forward; -½). Total cost: 4 points.

5) Concealable Hangglider: The character's cape doesn't normally allow him to glide, but it (or his costume) conceals a hangglider-like device that lets him glide once it's activated. Change OAF (-1) to IAF (-½) and add Extra Time (Full Phase to activate; -¼). Total cost: 5 points.

FAST CARS

Characters often use or encounter vehicles in their adventures — everything from sleek sportscars, to powerful combat helicopters and jetfighters, to mighty tanks. For nearly 200 sample vehicles, most of them appropriate to the modern-day action-adventure genre, see *The Ultimate Vehicle* and *The HERO System Vehicle Sourcebook.*

MULTI-BRACER

Effect: Swinging 12" and various Attack Powers
Target/Area Affected: Varies
Duration: Varies
Range: Varies
Charges/END Cost: Varies
Breakability: 10 DEF

Description: Much like the Billy Club, the Multi-Bracer is a combination weapon/tool popular with martial artists and costumed vigilantes. The bracer has five sections, each with a specific device built into it: a blaster; a swingline; a knockout gas pellet projector; a tangleweb pellet projector; and a flash pellet projector.

Game Information:

Cost	Power
33	*Multi-Bracer:* Multipower, 50-point reserve; all OIF (-½)
1u	1) *Swingline:* Swinging 12"; OIF (-½)
2u	2) *Blaster:* RKA 2½d6 OIF (-½), 8 Charges (-½)
2u	3) *Knockout Gas Pellets:* Energy Blast 4d6, NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1), Explosion (+½); OIF (-½), 8 Charges (-½)
2u	4) *Mini-Bolos:* Entangle 5d6, 5 DEF; OIF (-½), 8 Charges (-½)
2u	5) *Flash Pellets:* Sight Group Flash 6d6, Explosion (+½); OIF (-½), 8 Charges (-½)

Total cost: 42 points.

Options:

1) Strong Bracer: Increase reserve to 60 points, Slot 1 to Swinging 20", Slot 2 to RKA 2½d6 Armor Piercing, Slot 3 to Explosion (-1 DC/3"; +1), Slot 4 to Entangle 6d6, 6 DEF, and Slot 5 to Flash 8d6. Total cost: 53 points.

2) Weak Bracer: Decrease reserve to 40 points, Slot 1 to Swinging 10", Slot 2 to RKA 1d6, Slot 3 to EB 3d6, Slot 4 to Entangle 4d6, 4 DEF, and Slot 5 to Flash 5d6. Total cost: 35 points.

3) Multi-Pistol: This form of the weapon is a pistol, not a bracer. Change OIF (-½) to OAF (-1) throughout. Total cost: 34 points.

UTILITY BELT

Effect: Various
Target/Area Affected: Varies
Duration: Varies
Range: Varies
END Cost: Varies
Breakability: 6 DEF

Description: A utility belt is a way to carry numerous small devices a character may find useful in crimefighting or combat situations. If a belt is not to the character's taste, other possibilities include a vest, a harness or bandolier with cartridge belt-like pockets, or the like.

The Utility Belt listed below carries an enormous number of gadgets, and creative players can undoubtedly think of more. A character may buy any or all of these gadgets, as desired. The GM may prefer to have a character pick a limited number of them — say, 15 or 20 at most — to keep things from getting out of hand.

Game Information:

Cost	Power
20	*Utility Belt:* Multipower, 30-point reserve; OIF (-½)
1u	1) *Advanced Lockpick Set:* +2 to Lockpicking; OAF (-1)
1u	2) *Billy Club:* HA +3d6, Reduced Endurance (0 END; +½); OAF (-1), Hand-To-Hand Attack (-½)
1u	3) *Bomb Defusing Kit:* +2 to Demolitions; OAF (-1), Only To Defuse Bombs (-¼)
1u	4) *Boomerang:* Energy Blast 4d6, Reduced Endurance (0 END; +½); OAF (-1)
1u	5) *Calculator:* Lightning Calculator; OAF (-1)
1u	6) *Crime Scene Kit:* +2 to Criminology; OAF (-1), 8 Charges (-½)
1u	7) *Fake Bomb:* Sight and Hearing Group Images 1" radius, -5 to PER Rolls; OAF (-1), 1 Charge (-2), Set Effect (fake bomb; -1)
1u	8) *Fear Darts:* Drain PRE 2d6, Range Based On STR (+¼); OAF (-1), Must Target Non-Armored Hit Locations (-¼), 6 Charges (-¾)
1u	9) *Flashlight:* Sight Group Images 1" radius, +4 PER Rolls; OAF (-1), Only To Create Light (-1), Limited Range (10"; -¼), 1 Continuing Fuel Charge (refueled by recharging, easy to obtain; 1 Hour; -0)
1u	10) *Flash Pellets:* Sight Group Flash 2d6; OAF (-1), 6 Charges (-¾), Range Based On STR (-¼)
1u	11) *Freeze Gas:* Minor Transform 3d6 (normal object to frozen stiff object, "heal" by thawing out at normal rate); OAF (-1), 4 Charges (-1), Limited Target (Freeze Gas is for use against the working parts of an alarm, a bomb, and so forth, not against living creatures; -½)
1u	12) *Laser Torch:* RKA 1 point, Penetrating (x2; +1); OAF (-1), No Range (-½), 1 Continuing Fuel Charge lasting 5 Minutes (battery, easy to replace; -½)
1u	13) *Medkit:* +2 to Paramedics; OAF (-1), 4 Charges (-1)

1u 14) *Miniature Climbing Rig:* +2 to Climbing; OAF (-1)
1u 15) *Mini-bolos:* Entangle 3d6, 3 DEF; OAF (-1), 3 Charges (-1¼)
1u 16) *Mini-camera:* Eidetic Memory; OAF (-1), Visual Images Only (-½)
1u 17) *Mini-Console:* HRRP (Radio Group); OAF (-1)
1u 18) *Mini-radios:* Mind Link, up to 4 minds at once; OAF (-1), Affected As Hearing And Radio Groups, Not Mental Group (-¼), Only Works With Others Who Have Same Mind Link (-1)
1u 19) *Mini-recorder:* Eidetic Memory; OAF (-1), Sound Only (-½)
1u 20) *Nightsight Monocular:* Infrared Perception (Sight Group) and +6 versus Range Modifier for Sight Group; OAF (-1)
1u 21) *Painkillers:* Physical and Energy Damage Reduction, Resistant, 25%; OAF (-1), 2 Continuing Charges lasting 1 Hour each (-0)
1u 22) *Paint Tag Bomb:* Cosmetic Transform 4d6 (normal person to person painted bright red, heal by washing with vinegar), Partial Transform (+½); OAF (-1), 4 Charges (-1), Range Based On STR (-¼)
1u 23) *Parabolic Mini-Mike:* +6 versus Range Modifier for Hearing Group; OAF (-1)
1u 24) *Rebreather:* Life Support (Expanded Breathing: Breathe Underwater); OAF (-1), 1 Continuing Fuel Charge (refueled through recharging system, easy to obtain; 1 Hour; -0)
1u 25) *Security Systems Analyzer:* +2 to Security Systems; OAF (-1)
1u 26) *Sleep Gas Pellets:* Energy Blast 3d6, NND (defense is Life Support [Self-Contained Breathing or appropriate Immunity]; +1); OAF (-1), 6 Charges (-¾), Range Based On STR (-¼)
1u 27) *Smoke Pellets:* Darkness to Sight Group 3" radius; OAF (-1), 8 Continuing Charges lasting 1 Turn each (removed by high winds or rain; -0), Range Based On STR (-¼)
1u 28) *Swingline:* Swinging 10", Reduced Endurance (0 END; +½); OAF (-1)
1u 29) *Thermite Pellets I:* RKA 1d6, Armor Piercing (+½), Explosion (+½); OAF (-1), 6 Charges (-¾), Range Based On STR (-¼)
1u 30) *Thermite Pellets II:* RKA 1d6, Continuous (+1); OAF (-1), 6 Continuing Charges lasting 1 Turn each (-¼), Range Based On STR (-¼)
1u 31) *Throwing Blades:* HKA ½d6 (up to 1d6+1 w/ STR), Armor Piercing (+½), Autofire (3 shots; +¼), Range Based On STR (+¼); OAF (-1), 6 Recoverable Charges (-¼)
1u 32) *Vertigo Darts:* Drain DEX 2d6, Range Based On STR (+¼); OAF (-1), Must Target Non-Armored Hit Locations (-¼), 6 Charges (-¾)
1u 33) *Weakness Darts:* Drain STR 2d6, Range Based On STR (+¼); OAF (-1), Must Target Non-Armored Hit Locations (-¼), 6 Charges (-¾)

Total cost: 53 points (assuming character buys all slots)

SECURITY DEVICES

Here are a few examples of devices used to secure areas. Characters who want to infiltrate those areas covertly have to use Security Systems to bypass or defeat them.

MOTION DETECTOR	
Effect:	**Detect Moving Persons/Objects 15-**
Target/Area Affected:	**Self (8" protected area)**
Duration:	**Persistent**
Range:	**Self (8" protected area)**
END Cost:	**0**
Breakability:	**8 DEF**

Description: Motion detectors use ultrasonic sound (or sometimes microwaves or other forms of energy) to detect whether anything is moving in their field of "vision" (which extends for about 50 feet in front of them). When someone moves into the protected area, he disturbs the "field," and the device registers this and activates the alarm. They're best used in high-security areas with hard surfaces where no movement is expected (*i.e.,* where guards don't patrol, there are no pets or cuckoo clocks, and so on). Rooms with soft or absorbent surfaces (such as thick carpet or heavy drapes) absorb more sound, so ultrasonic motion detectors don't work well in them (reduce the device's PER Roll by -2 or more).

Ultrasonic versions of this alarm can only cover a single enclosed area (since the sound waves bounce off walls and other solid surfaces). However, a single microwave-based motion sensor may cover multiple rooms (because microwaves reflect off metal, but not off glass, wallboard, wood, and the like). Because microwave-based motion detectors perceive through solid objects, they can be hidden behind a piece of furniture, a cover, or the like. On the other hand, this means a microwave-based motion detector might be triggered by innocuous movement outside the building it's installed in (such as a passing bird or car), and fluorescent lights and radio transmissions can sometimes cause false alarms.

Some poor-quality motion detectors won't register objects moving slowly. In game terms, this usually means moving at no greater speed than 1" per Turn. This requires a Stealth roll (in addition, the GM may require characters to make EGO Rolls to force themselves to move that slowly). If the character succeeds with his Stealth roll exactly, the sensor suffers a -1 penalty to its PER Roll; each point by which the Stealth roll is made beyond that increases the penalty by another -1. Better models can't be fooled by slow movement, and will even detect the presence of immobile objects that aren't normally in the area they cover.

Defeating motion sensors is difficult, at best. The easiest thing to do is avoid them, but if that's not possible, sometimes characters can overload or jam them with devices designed to broadcast the same frequency of sound (in game terms, such a device is a Change Environment that reduces the motion detector's PER Roll). Another possibility

would be to wear garments made of sound-absorbent material (even thick cloth or fur might do); this, too, would be defined as a Change Environment that diminished the device's PER Roll. If characters can get to the device's receiver without triggering it, covering up the receiver (say, with tape) may render it "blind" (or at least significantly reduce its PER Roll), though newer models have "anti-masking" features that trigger an alarm if any object is placed too close to them.

Game Information:

Cost	Power
4	*Motion Detector:* Detect Moving Persons/Objects 15- (Radio Group) (11 Active Points); OIF Immobile (-1½), Limited Range (8"; -¼)
13	*Secured System:* Change Environment 1" radius, -6 on Security Systems rolls, Reduced Endurance (0 END; -½), Persistent (-½) (40 Active Points); OIF Immobile (-1½), Self Only (only affects attempts to find or neutralize the system itself; -½)

Total cost: 17 points.

Options:

1) High-Quality System: Increase to Detect Moving Persons/Objects 17-. 13 Active Points (total cost 5 points); total cost of device 18 points.

2) Poor-Quality System: Decrease to Detect Moving Persons/Objects 13-. 9 Active Points (total cost 3 points); total cost of device 16 points.

3) Disguised System: Change OIF Immobile (-1½) to IIF Immobile (-1¼). Total cost:

Standard: 17 points.
High-Quality: 18 points.
Poor-Quality: 17 points.

4) More Secure Device: This type of motion detector is harder to bypass or defeat. Change to -8 on Security Systems rolls. 52 Active Points (total cost 17 points); total cost of device 21 points.

5) Less Secure Device: This type of motion detector is easier to bypass or defeat. Change to -3 on Security Systems rolls. 22 Active Points (total cost 7 points); total cost of device 11 points.

PRESSURE PLATES, MATS, AND SWITCHES

Effect:	**Detect Sufficient Weight/Pressure 16-**
Target/Area Affected:	**Self**
Duration:	**Persistent**
Range:	**Self**
END Cost:	**0**
Breakability:	**4 DEF**

Description: Placed under carpets, entry mats, and the like, pressure plates (also known as switch mats) trigger an alarm if any weight is placed on them. (If necessary, they can be programmed to ignore small weights, like the weight of a guard dog.) Advanced ones are too sensitive to fool, but poorer-quality ones can be defeated by characters who distribute their weight — for example, by placing a sheet of plywood or thick plastic over the plate before stepping on it. Other ways to defeat a pressure plate are to short it out, to cut the power to it (or its feed to the alarm system), or to avoid stepping on it (by climbing along the walls or ceiling, for example).

Pressure plates can also be used in the opposite way: they're placed underneath an object (such as an antique in a display case), and if the object is removed (*i.e.,* the pressure is lifted), they trigger an alarm. In this case they're often known as *pressure switches.* Characters can defeat a pressure switch in a variety of ways, including in some cases a simultaneous replacement of the removed object with one of equal weight (this requires a Sleight Of Hand roll at the same penalty for Security Systems rolls). More sensitive models — pressure transducers — register any change of pressure (increased or decreased) and are much harder to defeat (increase the penalty for defeating them by -2).

Game Information:

Cost	Power
4	*Pressure Plate:* Detect Sufficient Weight/Pressure 16- (Touch Group) (10 Active Points); OIF Immobile (-1½)
7	*Secured System:* Change Environment 1" radius, -3 on Security Systems rolls, Reduced Endurance (0 END; +½), Persistent (+½) (22 Active Points); OIF Immobile (-1½), Self Only (only affects attempts to find or neutralize the system itself; -½)

Total cost: 11 points.

Options:

1) High-Quality System: Increase to Detect Sufficient Weight/Pressure 18-. 12 Active Points (total cost 5 points); total cost of device 12 points.

2) Poor-Quality System: Decrease to Detect Sufficient Weight/Pressure 14-. 8 Active Points (total cost 3 points); total cost of device 10 points.

3) Disguised System: Change OIF Immobile (-1½) to IIF Immobile (-1¼). Total cost:

Standard: 12 points.
High-Quality: 13 points.
Poor-Quality: 11 points.

4) More Secure Device: This type of pressure plate is harder to bypass or defeat. Change to -4 on Security Systems rolls. 28 Active Points (total cost 9 points); total cost of device 13 points.

5) Less Secure Device: This type of pressure plate is easier to bypass or defeat. Change to -2 on Security Systems rolls. 16 Active Points (total cost 5 points); total cost of device 9 points.

SPY GADGETS

Spies, both real and cinematic, are known for the many clever devices they use to perform their clandestine tasks. Here are a few examples:

Real-World Spy Gadgets

The following gadgets are all examples of espionage gadgets actually built and used.

.22 BALLPOINT PEN GUN

Effect: RKA 1d6-1
Target/Area Affected: One character
Duration: Instant
Range: 60"
Charges: 1 Charge
Breakability: 2 DEF

Description: This single-shot gun looks like an ordinary fountain pen. By pulling back and releasing the "cap," the user fires it... though it's not very accurate, so he'd better be close to his target.

Game Information: *RKA 1d6-1 (12 Active Points); IAF (-½), Beam (-¼), Inaccurate (character is half OCV, and the Range Modifier accrues in 3" increments; -¼), Real Weapon (-¼), 1 Charge (-2). Total cost: 3 points.*

CONCEALED LOCKPICKS

Effect: Concealment 16-, Only To Hide Lockpick Set
Target/Area Affected: Self
Duration: Constant
Range: Self
END Cost: 0
Breakability: 1 DEF

Description: A character may need to carry a set of lockpicks into a location without anyone detecting them. This set is specially concealed inside a pen or like object. Since characters don't normally pay Character Points for ordinary tools, it's bought as a highly-Limited form of Concealment; for tools characters pay points for (such as lockpicks good enough to provide a Skill Roll bonus), you can simply buy them as IAFs instead of OAFs.

Game Information: *Concealment 16- (17 Active Points); IAF (-½), Only To Hide Lockpick Set (-2). Total cost: 5 points.*

TIE CAMERA

Effect: Eidetic Memory, Visual Images Only
Target/Area Affected: Self
Duration: Constant
Range: Self
Charges: 1 Continuing Fuel Charge
Breakability: 1 DEF

Description: This miniature camera takes pictures through a special tie-tack that keeps the agent's necktie in place. It's triggered by an activator concealed in the agent's pants pocket, and has enough film for 50 shots.

Game Information: *Eidetic Memory (5 Active Points); IAF (-½), Visual Images Only (-1), 1 Continuing Fuel Charge (film, easily replaced, 50 Seconds; -¾). Total cost: 1 point.*

Cinematic Spy Gadgets

And here are a few spy gadgets that you'll only find in spy movies, comic books, and the like.

AUTOMOBILE ACCESSOR

Effect: Security Systems and Electronics 20-, Only Work On Automobiles
Target/Area Affected: Self
Duration: Constant
Range: Self
END Cost: 0
Breakability: 5 DEF

Description: This devices uses radio and ultrasonic broadcasts to (a) disarm any automobile security devices, and (b) start any automobile without the key. It's small enough to carry concealed in a pocket, but is obviously something unusual.

Game Information:

Cost	Power
8	*Automobile Accessor (Defeat Security):* Security Systems 20- (25 Active Points); OAF (-1), Only Works On Automobile Security Devices (-1)
8	*Automobile Accessor (Start Automobiles):* Electronics 20- (25 Active Points); OAF (-1), Only To "Hotwire" Motor Automobiles (-1)

Total cost: 16 points.

LASER WATCH

Effect:	**RKA 1 point, Penetrating plus other abilities**
Target/Area Affected:	**One character/Self**
Duration:	**Instant/Constant**
Range:	**No Range/Self**
Charges:	**16 Charges/0 END**
Breakability:	**2 DEF**

Description: In addition to being a top-notch chronometer, this watch functions as a compass, GPS tracking unit, and miniature laser torch.

Game Information:

Cost	Power
1	*Laser Watch (Chronometer):* Absolute Time Sense (3 Active Points); OAF (-1)
2	*Laser Watch (Concealed Compass):* Bump Of Direction (3 Active Points); IAF (-½)
5	*Laser Watch (GPS Tracker):* Detect Exact Position On Earth 14- (Radio Group) (8 Active Points); IAF (-½)
3	*Laser Watch (Laser Torch):* RKA 1 point, Penetrating (+½) (7 Active Points); IAF (-½), No Range (-½), 16 Charges (-0)

Total cost: 11 points.

X-RAY CAMERA

Effect:	**N-Ray Perception and Eidetic Memory**
Target/Area Affected:	**Self**
Duration:	**Constant**
Range:	**Self**
Charges:	**1 Continuing Fuel Charge**
Breakability:	**2 DEF**

Description: This seemingly ordinary camera can be tuned to emit x-rays that let the character see through solid objects (and, if desired, take pictures of what he sees).

Game Information:

Cost	Power
5	*X-Ray Camera (X-Ray Viewing):* N-Ray Perception (Sight Group) (blocked by lead or gold) (10 Active Points); IAF (-½), Concentration (½ DCV throughout use; -½), 1 Continuing Fuel Charge (battery, easily replaced, 1 Hour; -0)
1	*X-Ray Camera (Photography):* Eidetic Memory (5 Active Points); OAF (-1), Visual Images Only (-1), 1 Continuing Fuel Charge (film, easily replaced, 50 Seconds; -¾)

Total cost: 6 points.

UNDERWATER EQUIPMENT

Here's some gear characters need for underwater missions.

SCUBA EQUIPMENT

Effect:	**Life Support (Self-Contained Breathing)**
Target/Area Affected:	**Self**
Duration:	**Constant**
Range:	**Self**
Charges:	**1 Continuing Fuel Charge**
Breakability:	**2 DEF**

Description: SCUBA (self-contained underwater breathing apparatus, or simply SCBA for models designed for out-of-water use) equipment allows a swimmer to remain underwater for long periods of time by breathing oxygen supplied by tanks worn on the back. When the user exhales, he creates a trail of bubbles.

Game Information: *Life Support (Self-Contained Breathing) (10 Active Points); OAF (-1), 1 Continuing Fuel Charge (oxygen tanks, Easy to obtain; 1 Hour; -0). Total cost: 5 points.*

Options:

1) Rebreather: A rebreather is an improved form of SCUBA technology, usable by characters who have TF: SCUBA. Unlike SCUBA gear, it does not create a trail of bubbles to give away the swimmer's position. Instead of releasing the swimmer's exhaled air, a rebreather recirculates, purifies, and supplements it with fresh oxygen, thus allowing the user to breathe it again. This has the additional effect of extending the time the user can remain underwater, but also tends to limit him to dives of no more than about 30 feet (5", or up to 7" for no more than about five minutes). Change to: Life Support (Self-Contained Breathing), Invisible Power Effects (leaves no bubble trail; +¼) (12 Active Points); OAF (-1), 1 Continuing Fuel Charge (oxygen tanks, Easy to obtain; 2 Hours; -0). Total cost: 6 points.

SCIENCE FICTION EQUIPMENT

Chapter Five

SCIENCE FICTION WEAPONS

Weapons are among Humanity's oldest technology, and are an area where progress is still rapid. Offensive systems and defenses are locked in a never-ending round of escalation.

MELEE WEAPONS

As advanced as weapons may get, sometimes nothing beats a good, old-fashioned club or axe. Melee weapons crop up in SF frequently, both in the fists of primitive natives and in the hands of characters also versed in the use of blasters and teleporters.

ALIEN BLADES

It has become common in recent film and television SF to give alien cultures their own unique bladed weapons. This usually allows for a certain amount of "ethnic bad-ass" effect — someone from another culture armed with a weird or archaic weapon is always more effective than a regular guy with a regular sword or knife.

Most alien weapons are simply varieties of HKA with spiky bits for added coolness. There are some principles to keep in mind, however. One is that size matters — an alien species uses weapons appropriate to its members' average size and strength. About 1/20 (one-twentieth) of lifting capacity is right. Another factor is alien anatomy. Boneless or tentacled aliens go for swinging weapons like axes and broadswords; short-limbed species may prefer thrusting weapons. It's also worth considering the anatomy of what the aliens usually fight. Aliens with natural body armor may develop armor-piercing hand weapons like rapiers and daggers, or whips and garrotes to entangle and strangle.

Alien Blade Weapons

Here are a few alien blade weapons from the Terran Empire setting:

Ackálian Sickle: The traditional hand weapon of the Ackálians, this is a one-handed sharp blade curved forward to strike point-first. The outer edge is sometimes sawtoothed for backhand slashes. Ackálians are strong enough to fight with one in each hand, and normally carry sickles in scabbards strapped to the thighs. Price: 660 credits, or more.

HKA 1d6 (plus STR), Reduced Endurance (0 END; +½) (22 Active Points); OAF (-1), STR Minimum (12; -½), Real Weapon (-¼). Total cost: 8 points.

Mon'dabi Cha'shur: The *cha'shur* is a weapon similar to an axe, but with a slightly downward-curving spike attached to the upper outer edge of the blade, pointing forward. Heavy, and often unwieldy, the weapon was originally designed to punch through the thick skins of Mon'da's many fearsome reptilian predators. Price: 1,350 credits, or more.

HKA 2d6 (plus STR), Reduced Endurance (0 END; +½) (45 Active Points); OAF (-1), STR Minimum (15; -¾), Real Weapon (-¼). Total cost: 15 points.

Se'ecra Wrist-Blades: Worn by the insectoid Se'ecra, this weapon consists of a heavy leather or metal wrist-band with one or more blades projecting outward. The shape and number of blades varies, but most have one to three blades that curve forward. Price: 450 credits, or more.

HKA ½d6 (plus STR), Reduced Endurance (0 END; +½) (15 Active Points); OAF (-1), STR Minimum (7; -½), Real Weapon (-¼). Total cost: 5 points.

ENERGY BLADES

A mainstay of Space Opera SF ever since *Star Wars,* energy blades have a variety of names: lightsabers, force swords, laser-blades, and so forth. Typically, they are rare, difficult to build, and/or restricted to a limited group of warriors. Possible explanations for them include molecularly-thin force-fields or energy fields, molecularly-thin wire stiffened by an internal force-field, and force-fields containing a laser bolt or superheated plasma. The blade can cut through any matter with its subatomically sharp "edge"; only another energy blade, or a force-field of some sort, can stop an energy blade. See *Star Hero,* page 44, for a possible Martial Arts style for energy blades.

A character armed with an energy blade can often use it to do other things besides cut, slash, and block. He may be able to deflect energy bolts (Missile Deflection), or even fire them himself from his blade (EB, RKA). A skilled user can weave such a "web" around himself that anyone who comes close gets hurt (RKA, Area Of Effect: One Hex, Trigger, No Range).

Presented below are two examples. One is a basic Energy Sword, which damages not only that which it strikes, but any matter which strikes it. The other is a more sophisticated Force Blade, that can also project a protective force screen around its wielder. Both require WF: Energy Blades.

Energy Sword: *RKA 3d6, NND (defense is ED Force Field/Force Wall, or being blocked by another energy blade; +1), Does BODY (+1), Reduced Endurance (0 END; +½) (157 Active Points); OAF (-1), No Range (-½) (total cost: 63 points)* ***plus*** *RKA 2d6, NND (defense is ED Force Field/Force Wall, or being blocked by another energy blade; +1), Does BODY (+1), Continuous (+1), Damage Shield (+½), Reduced Endurance (0 END; +½) (150 Active Points); OAF (-1), Linked (-¼), Only Affects Material Objects Which Strike Blade (-½) (total cost: 54 points). Total cost: 117 points. Price: 184,200 credits, or more.*

Cost	Force Blade
117	*Force Blade:* As Energy Sword, above
12	*Force Screen:* Force Field (6 PD/10 ED), Reduced Endurance (0 END; +½) (24 Active Points); OAF (-1)

Total cost: 129 points. Price: 198,600 credits, or more

Miscellaneous Science Fiction Melee Weapons

Here are a few more example melee weapons. Each requires its own WF to use properly.

Electric Whip: Also known as an Energy Whip, this weapon looks like a whip made out of a glowing strand of energy. Essentially, it's a blaster with a highly limited range, since the energy lash can only reach so far; however, skilled users can wrap the energy-strand around a target, causing him to keep taking damage until freed. Price: 3,000 credits, or more.

EB 8d6, Reduced Endurance (0 END; +½) (60 Active Points); OAF (-1), Limited Range (4"; -¼) (total cost: 27 points) ***plus*** *Continuous (+1) for power (40 Active Points); OAF (-1), Requires A Sleight Of Hand Roll (-½), Victim May Cancel Effect By Spending One Full Phase Unwrapping Self (-½) (total cost: 13 points). Total cost: 40 points.*

Inertial Gloves: These are heavy gauntlets equipped with rubber science inertia-enhancing generators. The user triggers the effect in mid-swing, so the gloves hit like a freight train. Price: 1,680 credits, or more.

HA +5d6, Double Knockback (+¾), Reduced Endurance (0 END; +½) (56 Active Points); OIF (-½), Hand-To-Hand Attack (-½). Total cost: 28 points.

Stun Rod: Law enforcement agents and soldiers on peacekeeping missions have long wished for a reliable way to subdue people without deadly force. Stun rods are the answer — a short baton with a contact-triggered neural stun pulse. The victim feels no pain, only numbness and weakness. Price: 2,250 credits.

EB 6d6, NND (defense is ED Force Field; +1), Reduced Endurance (0 END; +½) (75 Active Points); OAF (-1), No Range (-½). Total cost: 30 points.

RANGED WEAPONS

As popular as melee weapons may be, in most cases they can't beat a ranged weapon, whether it's a chemical-propellant gun or the most advanced disintegrator available. Here are some of the types of firearms available in *Star Hero* settings.

ADVANCED FIREARMS

During the past few centuries, guns have steadily improved in several areas: rate of fire, range, accuracy, and hitting power. But there's still plenty of room for improvement. Some of these can be combined, making for really devastating weapons.

Rate Of Fire: Early twenty-first century automatic rifles can fire half a dozen rounds per second, emptying a clip in less than a minute. More compact ammunition and other new technologies could improve both rate of fire and ammo capacity.

Range: Improved propellants, like liquid-explosive guns (which inject propellant into the barrel behind the bullet so it continues to accelerate until it leaves the muzzle) could dramatically increase the range (and damage) of rifles. The drawback is bulkier ammunition and fewer shots, though other improvements may mitigate these difficulties.

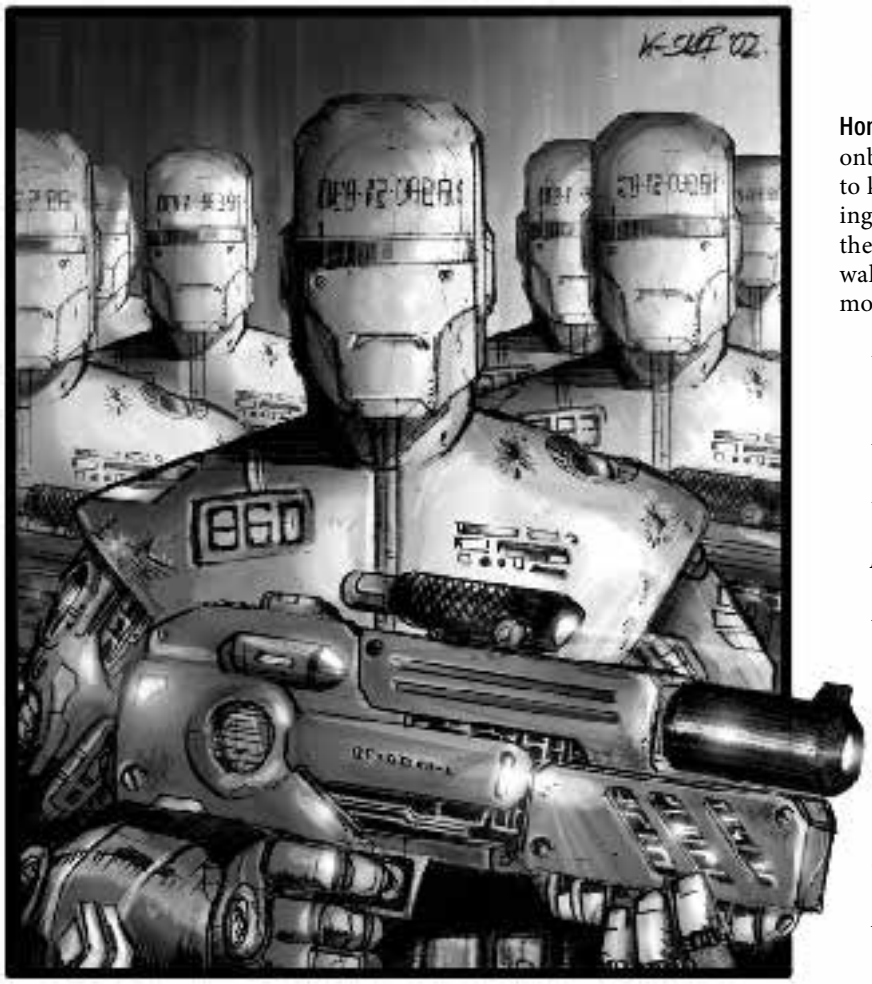
Accuracy: Electronic sights and targeting computers built into a rifle or a soldier's helmet could improve accuracy, especially at long range. As electronics get smaller, "smart bullets" become possible. They would have tiny sensors, a miniscule computer brain, and fins for guidance. The bullet could actually correct for wind, avoid tumbling in flight (unless that's desired), and even track a moving target to hit. Naturally, smart bullets wouldn't be cheap.

Damage: High-velocity bullets from a liquid-propellant gun would naturally hit harder and do more damage. Scientists are also working on tiny shaped-charge warheads to blast through armor. Science fiction bullets could incorporate all of these advances, and ones as yet unforeseen. Some might have cores of degenerate matter, making each one hit like a cannonball. The ultimate bullet would hold a small amount of antimatter in magnetic suspension — literally a "pocket nuke."

Example Advanced Firearms Technology

All of the example bullets assume an advanced round roughly the same size as a .45 cartridge. You can easily create other such rounds by altering the damage done.

Liquid-Propellant Sniper Rifle: This big gun fires extremely high-velocity rounds doing substantial damage at long range. It is large and clumsy, best used from a prepared concealed position. Later versions make the weapon smaller, lighter, and easier to handle, and eventually add automatic fire features. If you want to make the weapon inherently more accurate at range, add some Range Skill Levels on a Focus. Price: 2,100 credits, or more (Early and Later versions); 3,300 credits, or more (Autofire version).



Early Version: *RKA 2½d6, Armor Piercing (+½), Increased Maximum Range (1,500"; +¼) (70 Active Points); OAF Bulky (-1½), Real Weapon (-¼), STR Minimum (18; STR Minimum Doesn't Add To Damage; -1½), Two-Handed Weapon (-½), 6 Charges (-¾). Total cost: 13 points. (Later version is STR Min 12, and non-Bulky; total cost is 15 points.)*

Autofire Version: *RKA 2½d6, Armor Piercing (+½), Autofire (5 shots; +½), Increased Maximum Range (2,500"; +¼), 60 Charges (+½) (110 Active Points); OAF (-1), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½). Total cost: 29 points.*

Targeting Computers: Mounted in a visor and linked to a small camera on the weapon, a targeting computer shows the shooter exactly where his weapon is pointing. Early versions are relatively simplistic; more advanced targeting computers can take into account target movement, firer movement, wind, and other conditions for even greater accuracy. Price: 200 credits, or more (basic version); 400 credits, or more (expert system).

Basic Targeting Computer: *+2 OCV (10 Active Points); OAF Fragile (-1¼). Total cost: 4 points.*

Expert System Targeting Computer: *+4 OCV (20 Active Points); OAF Fragile (-1¼). Total cost: 9 points.*

Homing Bullets: These rounds have tiny fins, onboard sensors, and a built-in guidance chip to keep them flying straight. A dedicated targeting computer built into the weapon even allows the shooter to direct the bullets to fire around walls and other obstacles! Price: 2,250 credits, or more, per bullet.

RKA 2½d6, +1 Increased STUN Multiplier (+¼), Indirect (always originates from shooter, but can strike target from any angle; +½), No Range Modifier (+½) (90 Active Points); OAF (-1), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), Real Weapon (-¼), 12 Charges (-¼) (total cost: 26 points) ***plus*** *+1 OCV (5 Active Points); OAF (-1), Real Weapon (-¼) (total cost: 2 points). Total cost: 28 points.*

Shaped-Charge Bullets: These rounds contain a tiny shaped-charge warhead for better armor penetration. As with Homing Bullets, determine the round's base damage normally. Price: 2,250 credits, or more, per bullet.

RKA 2½d6, Armor Piercing (+½), +1 Increased STUN Multiplier (+¼) (70 Active Points); OAF (-1), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), Real Weapon (-¼), 12 Charges (-¼) (total cost: 20 points) ***plus*** *+1 OCV (5 Active Points); OAF (-1), Real Weapon (-¼) (total cost: 2 points). Total cost: 22 points.*

Antimatter Bullets: The ultimate in handheld firepower, these cinematic rounds carry a microscopic fragment of antimatter magnetically contained in the tip. On impact the antimatter contacts matter and annihilates itself in a tremendous bang. Should only be used at long ranges, due to blast effects. Price: 6,000 credits, or more, per bullet.

EB 20d6, Explosion (-1 DC/3"; +1) (200 Active Points); OAF (-1), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), Real Weapon (-¼), 4 Charges (-1). Total cost: 47 points.

GAUSS WEAPONS

Gauss weapons, or electromagnetic slugthrowers, use powerful magnetic fields to launch metal projectiles at high speeds. They have the advantange of being much quieter than chemical-propellant rifles, and can sustain very high rates of fire. Gauss weapons typically use very small caliber rounds, making their attacks Armor Piercing.

The chief disadvantage of Gauss weaponry is that like lasers and other energy weapons, they require a lot of energy. Early gauss weapons have disposable chemical-energy cartridges in a power pack; later ones have highly efficient batteries or capacitors. Heavy gauss guns use dedicated generators to achieve really massive rates of fire.

Early Gauss Cannon: This is a heavy gauss "assault cannon" intended for Cyberpunk-era games. It's not commercially available, but may be a top-secret military prototype or the latest from a megacorporation's laboratories. It has a very high rate of fire but requires large ammunition clips and an external power pack which pumps out a *lot* of waste heat. Price: 27,000 credits, or more (includes "cutting edge" modifier).

RKA 2d6, Armor Piercing (+½), Autofire (10 shots; +1), 4 clips of 30 Charges each (+½) (90 Active Points); OAF Bulky Fragile (-1¾), STR Minimum (17; STR Minimum Doesn't Add To Damage; -1¼), Real Weapon (-¼), Two-Handed Weapon (-½), Side Effect (automatic Change Environment +3 Temperature Levels over a 6" radius area, -1 Temperature Level per 2"; -¼). Total cost: 18 points.

Gauss Rifle: This is a more compact and handy gauss weapon with a lower rate of fire but more reasonable power requirements. It is a common military weapon in its time, and is highly accurate. Price: 2,250 credits, or more.

RKA 2d6, Armor Piercing (+½), Autofire (5 shots; +½), 4 clips of 30 Charges each (+½) (75 Active Points); OAF (-1), STR Minimum (13; STR Minimum Doesn't Add To Damage; -1), Real Weapon (-¼), Two-Handed Weapon (-½). Total cost: 20 points.

Gauss Pistol: A gauss pistol is more compact than the rifle, but sacrifices the high rate of fire and hitting power. Gauss pistols are very popular sidearms in military and police forces. Price: 1,320 credits, or more.

RKA 1½d6, Armor Piercing (+½), Autofire (3 shots; +¼) (44 Active Points); OAF (-1), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), Real Weapon (-¼), 15 Charges (-0). Total cost: 13 points.

Heavy Gauss Gun: Designed to take on armored foes and light vehicles, the heavy gauss gun fires relatively large projectiles at tremendous velocity. It is somewhat clumsy to carry, but the tremendous hitting power makes up for it. Price: 2,700 credits, or more.

RKA 3d6, Armor Piercing (+½), Autofire (5 shots; +½) (90 Active Points); OAF Bulky (-1½), STR Minimum (16; STR Minimum Doesn't Add To Damage; -1¼), Real Weapon (-¼), Two-Handed Weapon (-½), 15 Charges (-0). Total cost: 20 points.

LASERS

Lasers are real technology; probably all *HERO System* players have lasers in their homes, in the form of CD players or laser pointers. As of 2002, the Pentagon is developing real laser antimissile systems, and laser rangefinders and target designators are standard military gear. Lasers emit beams of coherent light, in which all the light waves are in phase with one another. They are perfectly straight, and remain tightly concentrated over long distances. Higher-powered lasers use more energetic photons, like ultraviolet light, x-rays, or gamma rays.

As weapons, lasers do damage by suddenly superheating the surface of whatever they hit. The energies are modest, but concentrated into so tiny an area that they cause significant damage. Solid materials melt and shatter, and living tissue burns. More powerful lasers pierce better, and x-rays do additional damage from radiation effects. In combat, lasers are useful because it is very hard to detect where they were fired from (they only show up in the air if smoke or other particulates render them visible), there is no recoil, and they can fire as long as the power holds out.

The main limitation for lasers (as with any directed-energy weapon) is power. Early optical lasers use chemical reactions for sudden bursts of energy; later ultraviolet ones are powered by advanced capacitors. Hand-held X-ray lasers depend on micro-fusion powercells (in other words, "rubber science" power). Most laser weapons have built-in laser sights, using a low-power beam to paint a spot on the target before firing.

In game terms, lasers are Killing Attacks with the *Beam* Limitation. Ultraviolet lasers are Armor Piercing, and X-Ray or Gamma-Ray lasers are Armor Piercing and Penetrating. Early lasers are bulky and fragile, but over time they become more compact and durable.

Optical and ultraviolet lasers are blocked by smoke and steam (reflected by a Limitation, since these phenomena are common); X-ray and gamma ray lasers are not, but special anti-laser aerosols do interfere with them normally.

Experimental Laser Rifle: This is an early optical laser weapon, suitable for Cyberpunk or near-future games. It's fragile and bulky, and depends on chemical power cartridges in a backpack power unit connected to the weapon by an armored hose. Price: 13,500 credits, or more (includes "cutting edge" modifier).

RKA 2d6, Increased Maximum Range (750"; +¼) (37 Active Points); OAF Bulky Fragile (-1¾), Beam (-¼), Real Weapon (-¼), STR Minimum (15; STR Minimum Doesn't Add To Damage; -1¼), Two-Handed Weapon (-½), Blocked By Smoke Or Steam (-¼), 8 Charges (-½). Total cost: 6 points.

Laser Rifle: This is a dependable optical laser, widely used for hunting and as a light military weapon. It is self-contained, although that reduces the number of shots it can fire. Price: 1,350 credits, or more.

RKA 2d6, Increased Maximum Range (750"; +¼) (37 Active Points); OAF (-1), Beam (-¼), Real Weapon (-¼), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), Blocked By Smoke Or Steam (-¼), 8 Charges (-½). Total cost: 8 points.

LASER FLASHING

Although it rarely turns up in science fiction films or stories, one application of laser weapons in the real world is as "dazzle lasers" to blind and disorient enemy troops. Gamemasters or players who like this option can convert laser weapons into Multipowers, with one slot for the Killing Attack described above, and the other for a Sight Group Flash with DCs equal to the laser's Killing damage. This setting may involve such a a low-powered beam that it is 0 END (requiring no Charges), or the entire Multipower may have one pool of Charges.

Laser Pistol: This early laser pistol is connected to a belt power pack by a cable. It is used as a military sidearm by vehicle pilots and artillery crews, or by police in situations calling for deadly force. It lacks the advanced focusing of its bigger siblings, and so is only useful at relatively short range. Price: 750 credits, or more.

RKA 1d6+1 (20 Active Points); OAF Fragile (-1¼), Beam (-¼), Real Weapon (-¼), STR Minimum (8; STR Minimum Doesn't Add To Damage; -1), Blocked By Smoke Or Steam (-¼), 16 Charges (-0). Total cost: 5 points.

UV Laser Pistol: An advanced laser pistol, this weapon is self-contained and can fire only a few times before recharging. Its beam can stop even armored opponents, making it a popular weapon among mercenaries and smugglers. Price: 1,050 credits, or more.

RKA 1d6+1, Armor Piercing (+½) (30 Active Points); OAF (-1), Beam (-¼), Real Weapon (-¼), STR Minimum (8; STR Minimum Doesn't Add To Damage; -1), Blocked By Smoke Or Steam (-¼), 8 Charges (-½). Total cost: 7 points.

Military UV Rifle: A rugged and powerful laser rifle used by front-line infantry, this weapon can punch through body armor and even damage some vehicles. Price: 9,000 credits, or more.

RKA 2d6, Armor Piercing (+½), Increased Maximum Range (1,125"; +¼) (52 Active Points); OAF (-1), Beam (-¼), Real Weapon (-¼), STR Minimum (12; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), Blocked By Smoke Or Steam (-¼), 8 Charges (-½). Total cost: 11 points.

Sustained-beam Laser Rifle: This is an old-style optical laser rifle upgraded with advanced power systems and cooling to allow a continuous high-power beam rather than a series of individual pulses. It is most effective as a way to burn through the defenses of large armored targets like military vehicles. Price: 3,150 credits, or more.

RKA 2d6, Continuous (+1), 30 Continuing Charges lasting up to 1 Turn each (+1¼) (82 Active Points); OAF (-1), Limited Range (100", -¼), Beam (-¼), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), Blocked By Smoke Or Steam (-¼). Total cost: 18 points.

X-Ray Laser Rifle: The ultimate hand-held laser weapon, the X-Ray rifle can bore through even tank armor and is strictly limited to military use in all but the most anarchic societies. Note that portable X-Ray lasers require very "rubbery" science, as currently the only known way to excite an X-Ray laser effect involves nuclear explosions! Price: 16,800 credits, or more.

RKA 3d6, Armor Piercing (+½), Penetrating (+½), Increased Maximum Range (2,250"; +¼) (101 Active Points); OAF (-1), Beam (-¼), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), 10 Charges (-¼). Total cost: 24 points.

BLASTERS

Blasters are energy guns. In science fiction films and stories, they come in a myriad of forms — plasma guns, ion guns, particle guns, electron beams. Film blasters shoot big glowing bolts like tracer bullets and are just called "blasters."

Electron Beams

These are real technology — every television set has an electron beam generator inside it. A powerful beam of electrons traveling along a laser "pilot beam" (to create an ionized pathway for the electrons) would damage the target by heat and electrical effects. Magnetic fields deflect electron beams, and any kind of closed metal protection lets the charge pass around the target without doing any harm. In a vacuum the electrons repel one another, turning the deadly beam into a harmless spray; water also disperses the blast. Electron beams can be fired on both lethal and "stun" settings, with the latter delivering a shock strong enough to knock out opponents without doing permanent damage. All electron blasters have Boostable Charges.

Electron Rifle/Pistol: The first-generation electron weapon, an Electron Rifle is reasonably robust, and can be boosted for extra effect. Its pilot beam acts as a laser sight. Price: 2,400 credits, or more.

The pistol version of the same weapon (16 Boostable Charges, STR Min 10, not a two-handed weapon) costs 2 points less. It's a more refined development of the electron rifle, commonly used as a law-enforcement weapon.

Cost	Electron Rifle
10	*Electron Rifle:* Multipower, 30-point reserve, 20 Boostable Charges (+½) for entire Multipower; all OAF (-1), Does Not Work In Vacuum, In Water, In Magnetic Fields, Or Against Targets Encased In Metal (-¾), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½)
1u	1) *Standard Setting:* EB 6d6; OAF (-1), Beam (-¼), Does Not Work In Vacuum, In Water, In Magnetic Fields, Or Against Targets Encased In Metal (-¾), Real Weapon (-¼), STR Minimum (see above; -1), Two-Handed Weapon (-½)
1u	2) *Stun Setting:* EB 3d6, NND (defense is being in vacuum, water, a magnetic field, or a metal casing, or having an ED Force Field; +1); OAF (-1), Real Weapon (-¼), STR Minimum (see above; -1), Two-Handed Weapon (-½)
2	*Laser Pilot Beam:* +1 OCV; OAF (-1), Real Weapon (-¼)

Total cost: 14 points

Ion Beams

These weapons fire a beam of ionized gas at the target, doing damage by heat, impact, and secondary electrical effects. They are very close to the cinematic blaster weapon in terms of special effects. The ionized beam does glow brightly as it fires, and the bolts, while fast, do not travel at the speed of light. A disadvantage is that ion beams need both a supply of gas (usually argon or neon) to ionize and a power supply; most ion guns use special cartridges which are not compatible with other energy weapons or electrical devices. They cannot be "set to stun" and have no pilot beam as a sighting aid. At the GM's option, characters can substitute the equivalent DC in Killing Damage for the weapons' standard Normal Damage.

Early Ion Gun: This is a heavy, delicate device based on ion-motor technology, suitable as a gadgeteer's prototype or a special weapon to take down the Ion Creature in a "Bug Eyed Monsters" adventure. Price: 1,500 credits, or more.

EB 10d6 (50 Active Points); OAF Bulky Fragile (-1¾), Real Weapon (-¼), STR Minimum (15; STR Minimum Doesn't Add To Damage; -1¼), Two-Handed Weapon (-½), 12 Charges (-¼). Total cost: 10 points.

Ion Rifle: Basically a more durable version of the early ion gun, this weapon boasts improved rate of fire and ammunition capacity. Price: 1,860 credits, or more.

EB 10d6, Autofire (3 shots; +¼) (62 Active Points); OAF (-1), Real Weapon (-¼), STR Minimum (12; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), 15 Charges (-0). Total cost: 16 points.

Ion Pistol: Often just called a "blaster," this is a smaller version of the ion rifle, with slightly less hitting power and greatly reduced range. A very popular sidearm in many SF settings. Price: 1,500 credits, or more.

EB 8d6, Autofire (2 shots; +¼) (50 Active Points); OAF (-1), Limited Range (50"; -¼), Real Weapon (-¼), STR Minimum (9; STR Minimum Doesn't Add To Damage; -1), 12 Charges (-¼). Total cost: 13 points.

Pocket Ion Pistol: A cut-down version of the standard blaster, suitable for concealment on one's person. Price: 1,050 credits, or more.

EB 7d6 (35 Active Points); OAF (-1), Limited Range (30"; -¼), Real Weapon (-¼), STR Minimum (9; STR Minimum Doesn't Add To Damage; -1), 12 Charges (-¼). Total cost: 9 points.

Particle Guns

Particle guns are small hand-held proton accelerators. They function in much the same way electron beams do, but the proton beam has more penetrating power, and cannot be set to stun. Like electron beams, proton beams use a laser pilot beam to create an ionized pathway through the air. In vacuum and water the protons disperse into a harmless stream. The proton rifle and particle blaster depend on as-yet-undiscovered power sources.

Particle guns cause damage through surface blasting and radiation effects. Characters may substitute equivalent DCs in Killing Damage with the GM's permission.

Accelerator Pack: This could be used by near-future ghost-fighters to deal with weird menaces immune to ordinary weapons. The actual accelerator is in a backpack, with only the targeting magnets and pilot beam in the hand unit. Price: 1,980 credits, or more.

EB 7d6, Armor Piercing (+½), 20 Charges (+¼) (61 Active Points); OAF Bulky (-1½), Beam (-¼), Does Not Work In Vacuum Or Water (-½), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½) (total cost: 12 points) ***plus*** *+1 OCV (5 Active Points); OAF (-1), Real Weapon (-¼) (total cost: 2 points). Total cost: 14 points.*

Proton Rifle: This weapon is a fairly standard particle gun, common to many SF settings. Price: 1,980 credits, or more.

EB 7d6, Armor Piercing (+½), 30 Charges (+¼) (61 Active Points); OAF (-1), Beam (-¼), Does Not Work In Vacuum Or Water (-½), Real Weapon (-¼), STR Minimum (12; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½) (total cost: 13 points) ***plus*** *+1 OCV (5 Active Points); OAF (-1), Real Weapon (-¼) (total cost: 2 points). Total cost: 15 points.*

Particle Blaster: A heavy pistol that squeezes a proton accelerator into the smallest possible space, this weapon has limited power but is almost as effective as a proton rifle. Price: 1,350 credits, or more.

EB 6d6, Armor Piercing (+½) (45 Active Points); OAF (-1), Beam (-¼), Does Not Work In Vacuum Or Water (-½), Real Weapon (-¼), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), 10 Charges (-¼) (total cost: 11 points) ***plus*** *+1 OCV (5 Active Points); OAF (-1), Real Weapon (-¼) (total cost: 2 points). Total cost: 13 points.*

Plasma Guns

Plasma weapons are an outgrowth of fusion power technology. They generate a tiny fusion reaction which releases superhot plasma; the gun then directs this plasma at the target via magnetic fields. The plasma spreads quickly over a wide area, which gives it a large area effect but limits the weapon's range. Designers can't scale them down to pistol size easily, but they're quite powerful as battlefield weapons. Plasma guns use deuterium pellets, similar to those used in fusion rockets, as their fuel — in pre-fusion societies the weapons cannot be refueled. Assuming portable fusion generators are possible at all, plasma weapons don't involve any major violations of the laws of physics.

Early Plasma Gun: Even in experimental form, plasma guns are devastatingly effective, making this a good "ultimate weapon" for Cyberpunk-period and "early interstellar exploration" campaigns. Its chief disadvantage is that if it fails, the results are catastrophic for bystanders. Price: 22,500 credits, or more (includes "cutting edge" modifier).

EB 10d6, Explosion (+½) (75 Active Points); OAF Bulky Fragile (-1¾), Activation 15-, Jammed (-¾), Limited Range (30"; -¼), Real Weapon (-¼), Side Effect (5d6 EB Explosion; -½), STR Minimum (15; STR Minimum Doesn't Add To Damage; -1¼), Two-Handed Weapon (-½), 12 Charges (-¼). Total cost: 11 points.

Single-shot Plasma Gun: Filling the same role as a bazooka or antitank rocket, this is a single-shot disposable plasma weapon. It can give Space Marines extra punch against armored foes, or be used to blast holes in fortifications. Price: 3,360 credits, or more.

EB 15d6, Explosion (+½) (112 Active Points); OAF (-1), Limited Range (50"; -¼), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), 1 Charge (-2). Total cost: 19 points.

Plasma Rifle: This is the smallest practical plasma weapon, a large rifle with a barrel big enough to shoot grapefruit. It features improved fail-safe containment, so that misfires no longer blow up the user. Price: 2,610 credits, or more.

EB 10d6, Explosion (+½), 20 Charges (+¼) (87 Active Points); OAF (-1), Limited Range (30"; -¼), Real Weapon (-¼), STR Minimum (12; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½). Total cost: 22 points.

Plasma Battle Rifle: A serious infantry support weapon, the plasma battle rifle uses a large backpack both for fuel storage and extra cooling. The result is a rapid-fire plasma gun which can do massive damage. Price: 4,950 credits, or more.

EB 12d6, Explosion (+½), Autofire (5 shots; +½), 100 Charges (+¾) (165 Active Points); OAF Bulky (-1½), Limited Range (40"; -¼), Real Weapon (-¼), STR Minimum (13; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½). Total cost: 37 points (or 41 points for a non-Bulky version).

Plasma Pistol: For campaigns not worried about realism, scientists can make practical pistol-sized plasma guns. Price: 2,010 credits, or more.

EB 9d6, Explosion (+½) (67 Active Points); OAF (-1), Limited Range (25"; -¼), Real Weapon (-¼), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), 12 Charges (-¼). Total cost: 18 points.

DISINTEGRATORS

Disintegrators are a beloved weapon in science fiction, with almost no basis in reality. Most of them work by somehow suppressing the atomic forces which hold matter together — one hit, and the target flies apart! Other seem to apply energy damage on an atomic level uniformly to a target to thoroughly destroy it. The phasers of the old *Star Trek* series are, in part, a type of disintegrator; so

are the disintegrator "tools" in Niven's *Ringworld.* In a campaign with disintegrators, GMs must consider the problems they create — murderers could literally make their victims disappear!

Disintegrator Pistol: A large pistol with a complicated emitter at the front, the disintegrator pistol is only effective at short range because the beam energy rapidly dissipates. Price: 8,100 credits, or more.

RKA 6d6, NND (defense is ED Force Field; +1), Does BODY (+1) (270 Active Points); OAF (-1), -1 Decreased STUN Multiplier (-¼), Reduced By Range (-¼), Real Weapon (-¼), STR Minimum (10; STR Minimum Doesn't Add To Damage; -1), 8 Boostable Charges (-¼). Total cost: 67 points.

Disintegrator Rifle: A big rifle version of the disintegrator pistol. Price: 8,100 credits, or more.

RKA 6d6, NND (defense is ED Force Field; +1), Does BODY (+1) (270 Active Points); OAF (-1), -1 Decreased STUN Multiplier (-¼), Reduced By Range (-¼), Real Weapon (-¼), STR Minimum (12; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), 12 Boostable Charges (-0). Total cost: 63 points.

MULTI-PURPOSE ENERGY WEAPON

In Space Opera and Pulp SF settings, it's easy to create a weapon that features multiple settings usable for a variety of purposes — disintegration, stunning, blasting, even projecting a low-power burst at a rock or metal wall to provide heat in cold climates. Each of its effects comes with multiple settings, including wide-beam settings; the more powerful the effect, the more energy it uses. Here's an example in *HERO System* terms; it's so high-tech and sophisticated it doesn't qualify as a Real Weapon, or have a STR Minimum — even a small child can pick it up, press the trigger-button, and wreak havoc. Price: 60,810 credits, or more.

Cost	Multi-Purpose Energy Weapon
433	*Multi-Purpose Energy Weapon:* Multipower, 315-point reserve, 1,000 Boostable Charges for entire reserve (+1¾); all OAF (-1)
2u	1) *Light Stun:* EB 4d6, NND (defense is ED Force Field; +1); OAF (-1)
2u	2) *Light Stun, Wide-Beam Setting:* EB 4d6, NND (defense is ED Force Field; +1), Area Of Effect (4" Radius; +1); OAF (-1), Requires 3 Charges Per Use (-½)
2u	3) *Medium Stun:* EB 6d6, NND (defense is ED Force Field; +1); OAF (-1), Requires 3 Charges Per Use (-½)
4u	4) *Medium Stun, Wide-Beam Setting:* EB 6d6, NND (defense is ED Force Field; +1), Area Of Effect (6" Radius; +1); OAF (-1), Requires 6 Charges Per Use (-½)
3u	5) *Heavy Stun:* EB 8d6, NND (defense is ED Force Field; +1); OAF (-1), Requires 6 Charges Per Use (-½)
4u	6) *Heavy Stun, Wide-Beam Setting:* EB 8d6, NND (defense is ED Force Field; +1), Area Of Effect (8" Radius; +1); OAF (-1), Requires 12 Charges Per Use (-¾)
1u	7) *Light Blast:* EB 6d6; OAF (-1), Requires 6 Charges Per Use (-½)
2u	8) *Light Blast, Wide-Beam Setting:* EB 6d6, Area Of Effect (6" Radius; +1¼); OAF (-1), Requires 12 Charges Per Use (-¾)
2u	9) *Medium Blast:* EB 9d6; OAF (-1), Requires 12 Charges Per Use (-¾)
3u	10) *Medium Blast, Wide-Beam Setting:* EB 9d6, Area Of Effect (10" Radius; +1¼); OAF (-1), Requires 24 Charges Per Use (-1¼)
2u	11) *Heavy Blast:* EB 12d6; OAF (-1), Requires 24 Charges Per Use (-1¼)
4u	12) *Heavy Blast, Wide-Beam Setting:* EB 12d6, Area Of Effect (12" Radius; +1¼); OAF (-1), Requires 48 Charges Per Use (-1½)
7u	13) *Disintegrate:* RKA 6d6, NND (defense is ED Force Field; +1), Does BODY (+1); OAF (-1), -1 Decreased STUN Multiplier (-¼), Requires 48 Charges Per Use (-1½)
8u	14) *Disintegrate, Wide-Beam Setting:* RKA 6d6, NND (defense is ED Force Field; +1), Does BODY (+1), Area Of Effect (1 Hex; +½); OAF (-1), -1 Decreased STUN Multiplier (-¼), Requires 96 Charges Per Use (-1¾)
1u	15) *Heat Rocks:* Life Support (Safe Environment: Intense Cold), Area Of Effect (2" Radius; +¾); OAF (-1), Nonpersistent (each Charge's effect lasts for 1 Minute; -¼), Requires Appropriate Substance To Be Heated (-¼).
Total cost: 480 points	

GRENADES AND ROCKETS

Hand grenades are reaching the limit of improvement as of the early twenty-first century — since they must be thrown, they can't be too powerful or they injure the user. Although a few SF settings do feature energy grenades — which through rubber science means emit contained energy fields similar to those created by blasters

— or like weapons, for the most part the emphasis is on nonlethal grenades and rocket grenades. The ultimate development of the rocket-propelled grenade is the Rocket Gun, which appears as a rival to firearms in many SF settings (particularly Low SF, or stories set in the early days of interplanetary exploration). Rocket guns launch tiny solid-fuel missiles with a variety of warheads. Improvements in electronics make them highly accurate, and their larger size makes them far deadlier than bullets (or allows them to carry other, nonlethal, payloads).

Example Grenades And Rocket Guns

Energy Grenades: These thrown weapons create deadly energy fields, causing great destruction but in a more controlled manner than an explosive grenade. Price: 2,700 credits, or more (Standard); 6,750 credits, or more (Disintegrenade).

Standard Energy Grenade: *RKA 2½d6, Area Of Effect (8" Radius; +1¼) (90 Active Points); OAF (-1), Range Based On STR (-¼), 4 Charges (-1). Total cost: 28 points.*

Disintegrenade: *RKA 4d6, NND (defense is ED Force Field; +1), Does BODY (+1), Area Of Effect (2" Radius; +¾) (225 Active Points); OAF (-1), -1 Decreased STUN Multiplier (-¼), Range Based On STR (-¼), 4 Charges (-1). Total cost: 64 points.*

Early Rocket Gun: A descendant of rocket-propelled grenade launchers, this weapon lobs unguided explosive missiles. Price: 1,560 credits, or more.

RKA 2d6, Explosion (-1 DC/2"; +¾) (52 Active Points); OAF (-1), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½), 6 Charges (-¾). Total cost: 11 points.

Military Rocket Pistol: Issued to soldiers on many worlds, this weapon fires homing rockets with explosive warheads. Price: 10,500 credits, or more.

RKA 2½d6, Explosion (-1 DC/2"; +¾) (70 Active Points); OAF (-1), Real Weapon (-¼), STR Minimum (9; STR Minimum Doesn't Add To Damage; -1), 6 Charges (-¾). Total cost: 17 points.

Military Rocket Rifle: A rifle-sized version of the Rocket Pistol, capable of fully automatic fire. Price: 15,000 credits, or more.

RKA 2½d6, Explosion (-1 DC/2"; +¾), Autofire (5 shots; +1½), 30 Charges (+¼) (140 Active Points); OAF (-1), Real Weapon (-¼), STR Minimum (14; STR Minimum Doesn't Add To Damage; -1), Two-Handed Weapon (-½). Total cost: 37 points.

MILITARY TECHNOLOGY

Technology has always had a great effect on the battlefield, and that is likely to continue into the future. There are three areas of particular interest in military tech: heavy weapons, mobility, and information handling.

HEAVY WEAPONS

Most of the weapons described above have their battlefield-scale equivalents. A "quick and dirty" way to make an artillery version of a personal weapon is to add the *MegaScale* Advantage to range (and perhaps the Area Of Effect/Explosion, if applicable), and make it Immobile. Gamemasters willing to do a little more work can make Automaton weapons, such as artillery launchers with built-in AI computers and the ability to drive, fly, or even teleport themselves.

Even in the early twenty-first century, there's already almost no upper limit to the destructive power of battlefield weapons — high explosive shells lead to fuel-air explosive bombs, which can be as powerful as low-end nuclear weapons. In the worlds of science fiction, this trend can easily continue, as basic nukes evolve into smaller and more powerful versions. Other possible weapons of mass destruction include new explosives based on high-tech chemistry, biological and chemical weapons that make today's gases and plagues look mild, FTL kinetic weapons, antimatter bombs, teleporting weapons and weapon launchers, black hole generators, and more. The problem, as on modern Earth, is not how how to destroy something, but how to find it and hit it.

Example Heavy Weapons

Dimensional Missile: This missile is launched through a nearby higher-order dimension, using transdimensional sensors to home in on its target. When it gets close enough, it drops into normal space and attacks from the most advantageous angle. Price: 57,300 credits, or more (includes "military technology" multiplier).

RKA 6d6, Explosion (-1 DC/3"; +1), Indirect (+¾), Invisible Power Effects (Fully Invisible; +1), Increased Maximum Range (42,125", or about 52 miles; +½) (382 Active Points); OAF (-1), 1 Charge which Never Recovers (-4). Total cost: 64 points.

Emplaced Plasma Cannon: This weapon, usually mounted on a moon or satellite and used for planetary defense, projects an enormous burst of plasma. Price: 97,500 credits, or more (includes "military technology" multiplier).

EB 40d6, Explosion (-1 DC/4"; +1¼), Increased Maximum Range (1,406,250", or about 1,748 miles; +1) (650 Active Points); OIF Immobile (-1½), 12 Charges (-¼). Total cost: 236 points.

Self-Propelled Nuclear Bomb: Small enough for an average Human to carry easily in a backpack, this devastating device packs a one megaton

nuclear punch. (This is an extremely simplistic representation of how nuclear weapons work — it doesn't include things like the radiation blast, flash effect, or electromagnetic pulse — but it should suffice for most game purposes.) Price: 101,250 credits, or more (includes "military technology" multiplier).

RKA 20d6, Explosion (+½), MegaRange (1" = 10 km; +½), MegaArea (1" = 1 km; +¼) (675 Active Points); OAF (-1), 1 Charge which Never Recovers (-4). Total cost: 112 points.

MOBILITY

Because of the great power of battlefield weapons, if you stay in one place you're dead. But if you move, you become visible, and then you're dead again. Fighting vehicles have had to get very fast just to survive — an early twenty-first century heavy main battle tank can move across open country almost as swiftly as a car on a highway. In the air, new fighter designs envision planes which can cruise around at supersonic speeds rather than flying that fast just in combat.

In the future, battlefield hovercraft may be able to roar around the battlefield at more than 200 kilometers per hour; a couple of generations later, the difference between a tank and a combat helicopter may disappear. At sea, "supercavitating" submarines will be able to go almost as fast underwater. It's likely that vertical take-off airplanes will make submarine carriers feasible, so the surface will be left to hydrofoils, hovercraft, and the super-fast "Ekranoplans" (a hybrid of airplane and hovercraft developed in Russia). See *Star Hero,* page 205, for more on hovercraft.

What about the poor, bloody infantry amid all this fast and powerful technology? Well, already soldiers ride instead of march, and some of those fast vehicles will be personnel carriers or landing craft. Jetpacks, jump-jets, personal teleporters, and other such movement technology may also exist in an SF setting. The development of compact power systems to drive an armored battlesuit will let the infantry compete once again, as soldiers on foot take over some of a tank's duties.

INFORMATION

The idea that knowledge and information are paramount on the battlefield is not new. What is new is that improved communications and computers are finally making it possible for commanders and troops to know exactly what is happening and where, in real time. Soldiers "paint" a target with lasers and a plane makes the attack, or artillery does the job from kilometers away. Or the information is relayed to a missile platform, which launches a cruise missile from over the horizon. What makes it all work is control of space: spy satellites for reconaissance, GPS satellites to give everyone highly accurate position data, and communications satellites to put everyone in touch. This works very well when one side has air and space command and the other doesn't — a conflict between two modern-day armies might be a lot more confused and bloody. In a science fiction setting, communications and information-gathering become even more advanced, possibly incorporating rubber science explanations that expand battlefield options even further.

The flip side of perfect information is stealth. If you can be seen you can be killed, so everyone spends a lot of time not being seen. Airplanes now

have stealth design and radar-absorbent coating; submarines have silent propellors and sound-baffling hulls. It's likely the next generation of surface ships (if there are any) will be low and stealthy (right now carriers and their escorts rely on electronic jamming and the ability to wipe out all possible threats). Stealthy tanks are also likely. Soldiers wear camouflage, but infrared vision gear is making that almost irrelevant. Future soldiers may wear chameleon camouflage and some form of infrared masking. Finally, countermeasures and jamming to interfere with all that elaborate real-time information streaming would do a lot to even the odds.

Example Military Technology

Military Communicator: Typically worn on the wrist, this device transmits both video and audio, and is hardened to prevent it from being jammed. Price: 2,100 credits, or more (includes "military technology" multiplier).

HRRP (Radio Group), Difficult To Dispel (x8 Active Points; +¾) (21 Active Points); OIF (-½), Affected As Sight And Hearing Group As Well As Radio Group (-½). Total cost: 10 points.

Personal Teleporter: This device (possibly a mesh woven into armor) allows a soldier to teleport himself brief distances on mental command. It typically requires access to positioning and power-generating satellites, so anything that cuts off that access (being deep underground, Darkness to Radio Group) stops it from functioning. Price: 6,200 credits, or more (includes "military technology" multiplier).

Teleportation 20", x8 Noncombat, Reduced Endurance (½ END; +¼) (62 Active Points); OIF (-½), Does Not Work If Cut Off (see text; -¼). Total cost: 35 points.

Stealth Field: This device, incorporated into a soldier's armor or uniform, bends energy waves around him, providing effective invisibility. However, someone standing close enough may notice the "bending" effect (*i.e.,* the Fringe), or see physical traces the soldier leaves behind (footprints, dust). Price: 2,500 credits, or more (includes "military technology" multiplier).

Invisibility to Sight and Radio Groups (25 Active Points); IIF (-¼), 1 Continuing Fuel Charge (fueled by electricity, recharge is easily obtained; 1 Hour; -0). Total cost: 20 points.

SCIENCE FICTION DEFENSES

The race between offense and defense has been going on since the first Stone Age warrior made a shield to block spear thrusts. Since then, personal armor and personal weapons have seesawed back and forth in effectiveness. For a time after the invention of gunpowder it appeared that offense had won the race, but in recent decades super-strong synthetics like Kevlar have restored armor to the battlefield. In the future, the race is likely to continue, and to progress to things like force fields.

Force fields and their ilk are an entirely "rubber science" defense, but one which is quite common, especially in Space Opera and Pulp science fiction. Often the force field can do more than just protect an individual; it may also provide Life Support capabilities or the like. Note that powerful force shields change the face of combat at high tech levels — instead of remaining hidden and launching deadly all-or-nothing attacks from concealment, characters go back to engaging in stand-up slugfests more reminiscent of fistfights or superhero battles than gunfights.

NEAR-FUTURE BODY ARMOR

Early twenty-first century Human policemen and soldiers can rely on the likes of Kevlar, Spectra, and defensive ceramics to protect them from bullets. As technology improves and develops, even stronger materials are likely to become available. Here are a few examples of possible near-future body armors. All provide 12 PD/ED Armor, though it's possible that advanced materials could offer even more protection.

Armored Vest: A standard vest, covering Hit Locations 11-13. Price: 540 credits, or more.

Armor (12 PD/12 ED) (36 Active Points); OIF (-½), Activation Roll 9- (-1½), Mass (half mass; -½), Real Armor (-¼). Total cost: 10 points.

Combat Suit: This is a battlefield outfit of helmet, upper body covering (typically a jacket and/or vest), gauntlets, and high boots, covering Hit Locations 3-14 and 16-18. Price: 540 credits, or more.

Armor (12 PD/12 ED) (36 Active Points); OIF (-½), Activation Roll 15- (-¼), Mass (half mass; -½), Real Armor (-¼). Total cost: 14 points.

Full Body Armor: A full suit of polymer armor with a helmet and gloves, providing total protection. Price: 540 credits, or more.

Armor (12 PD/12 ED) (36 Active Points); OIF (-½), Mass (half mass; -½), Real Armor (-¼). Total cost: 16 points.

ABLATIVE AND REFLECTIVE ARMORS

As energy weapons become more common, synthetic materials like Kevlar get vulnerable. One solution is to cover the armor with a layer of ablative material which absorbs and disperses the energy of a beam weapon attack. The disadvantage to ablative armor is that each shot burns away a little more protection.

Related to ablative armor, but without the drawback of being removed by attacks, are reflective armors. These are ordinary body armors with a layer of thin mirror-finish plastic which reflects much of the energy of laser, ultraviolet laser, and plasma attacks. Unfortunately, wearing a bright shiny suit makes one very visible.

Ablative Vest: A standard vest, covering Hit Locations 11-13. Price: 540 credits, or more.

Armor (6 PD/6 ED) (18 Active Points); OIF (-½), Activation Roll 9- (-1½), Mass (half mass; -½), Real Armor (-¼) (total cost: 5 points) ***plus*** *Armor (+12 ED) (18 Active Points); OIF (-½), Activation Roll 9- (-1½), Ablative (-1), Mass (half mass; -½), Real Armor (-¼) (total cost: 4 points). Total cost: 9 points.*

Ablative Foam: A cheap way to get some anti-laser protection, ablative foam sprays onto a person or vehicle, forming a thick, flexible layer. It is packaged in cans holding enough foam to coat 3 men (or, at the GM's discretion, a single vehicle no larger than an automobile). It is not waterproof. Price: 180 credits, or more.

Armor (+8 ED), 3 Continuing Charges lasting 1 Hour each (removed by water or being shot off; +¼) (15 Active Points); OIF (-½), Ablative (-1). Total cost: 6 points.

Reflective Undervest: This is a small vest covering Hit Locations 12-13 only, worn by dignitaries or secret agents who want a little protection but can't wear combat gear. Price: 270 credits, or more.

Armor (4 PD/4 ED) (12 Active Points); IIF (-¼), Activation Roll 8- (-2), Mass (half mass; -½), Real Armor (-¼) (total cost: 3 points) ***plus*** *Armor (+4 ED) (6 Active Points); IIF (-¼), Activation Roll 8- (-2), Only Protects Against Laser And Plasma Attacks (-½), Mass (half mass; -½), Real Armor (-¼) (total cost: 1 point). Total cost: 4 points.*

Reflective Coverall: This is worn over other armor by combat personnel who have to face laser-armed opponents. It is a light hooded coverall providing only anti-laser protection. Price: 270 credits, or more.

SUPERCONDUCTING SURFACE

A more high-tech way to defeat energy weapons comes from developments in superconductive materials. These are substances which instantly conduct electricity or heat with no resistance. A suit of superconducting armor spreads an attack over the entire surface of the suit, radiating it harmlessly away. Characters can add a superconducting surface to any other armor; it provides Energy Damage Reduction, Resistant, 75% (60 Active Points) (apply the appropriate Limitations for that type of armor to determine the final cost). Price: 900 credits for a full suit.

Armor (+12 ED) (18 Active Points); OIF (-½), Activation Roll 15- (-¼), Only Protects Against Laser Attacks (-1), Real Armor (-¼). Total cost: 6 points.

BATTLE ARMOR

This is a full-body suit of rigid armor, suitable for future infantrymen. Traditionally, good guys use transparent faceplates while bad guys' are opaque. The suit is sealed and has a filter to keep out chemical agents, but is not space-rated. It may be fitted with a superconducting surface, and sometimes with other equipment suitable for a full powered battlesuit. Price: 855 credits, or more.

Cost	Battle Armor
20	*Protective Armor:* Armor (15 PD/15 ED) (45 Active Points); OIF (-½), Mass (half mass; -½), Real Armor (-¼)
8	*Limited Life Support:* Life Support (Self-Contained Breathing; Safe Environment: High Radiation) (12 Active Points); OIF (-½)

Total cost: 28 points

POWERED BATTLESUIT

This is a very powerful and high-tech suit of armor, akin to what's depicted in Robert Heinlein's *Starship Troopers* or the many books influenced by that novel. It makes an average Space Marine into something like a comic-book superhero. The limbs are powered to boost the user's strength, the legs have boost-jets for great leaps, and the suit mounts a built-in arsenal of guns, beams, and missile launchers (the user can also carry weapons in his hands, of course). Naturally, such a supersuit isn't cheap; they are usually reserved for commandos or elite assault troops. Price: 34,650 credits, or more (cost assumes battlesuit has two weapons of 45 Active Points each).

Cost	Powered Battlesuit
34	*Protective Armor:* Armor (20 PD/20 ED) (60 Active Points); OIF (-½), Real Armor (-¼)
13	*Life Support:* Life Support (Self-Contained Breathing; Safe Environments: High Pressure, High Radiation, Intense Cold, Intense Heat, Low Pressure/Vacuum) (19 Active Points); OIF (-½)
7	*Boost-Jets:* Leaping +10" (10 Active Points); OIF (-½)
3	*Visual Sensors:* Infrared Perception (Sight Group) (5 Active Points); OIF (-½)
3	*Visual Sensors:* Ultraviolet Perception (Sight Group) (5 Active Points); OIF (-½)
2	*Auditory Sensors:* Ultrasonic Perception (Hearing Group) (3 Active Points); OIF (-½)
7	*Onboard Radar:* Radar (Radio Group) (15 Active Points); OIF (-½), Affected As Sight Group As Well As Radio Group (-½)
6	*Communicator System:* HRRP (Radio Group) (12 Active Points); OIF (-½), Affected As Sight And Hearing Group As Well As Radio Group (-½)
8	*Onboard Computer:* Absolute Range Sense, Absolute Time Sense, Bump Of Direction, Lightning Calculator; OIF (-½)

Total cost: 83 points

Cost	Powered Battlesuit Options
20	*Laser:* RKA 2d6, Increased Maximum Range (925"; +¼), 32 Charges (+¼) (45 Active Points); OIF (-½), Beam (-¼), Real Weapon (-¼), Blocked By Smoke Or Steam (-¼)
62	*Rocket Gun:* RKA 2½d6, Explosion (-1 DC/2"; +¾), Autofire (5 shots; +1½), 30 Charges (+¼) (140 Active Points); OIF (-½), Real Weapon (-¼), 8 Charges (-½)
48	*Heavy Missile:* RKA 6d6, Explosion (-1 DC/2"; +¾) (157 Active Points); OIF (-½), Real Weapon (-¼), 2 Charges (-1½)
112	*Plasma Cannon:* EB 12d6, Explosion (+½), Autofire (5 shots; +1½), 100 Charges (+¾) (225 Active Points); OIF (-½), Limited Range (40"; -¼), Real Weapon (-¼)

BIOPLASTIC ARMOR

Instead of the rigid armor beloved of 1950s science fiction, this is organic-looking bioplastic, made of materials spawned from the meeting of nanotechnology and genetic engineering. It is a deceptively thin and flexible suit of smart nanofibers which can react instantly to impacts or energy attacks, going rigid or reflective as needed. Elastic fibers and liquid microtubules rapidly disperse the energy of an attack, and semi-autonomous nanomachines can actually "heal" damage to the suit. The suit is fully capable of operating in space or underwater, with an adaptive life-support system. Price: 1,710 credits, or more.

Cost	Bioplastic Armor
34	*Protective Armor:* Armor (20 PD/20 ED) (60 Active Points); OIF (-½), Real Armor (-¼)
23	*Protective Armor:* Physical and Energy Damage Reduction, Normal, 50% (40 Active Points); OIF (-½), Real Armor (-¼)
9	*Limited Life Support:* Life Support (Self-Contained Breathing; Safe Environments: Intense Cold, Low Pressure/Vacuum) (14 Active Points); OIF (-½)

Total cost: 66 points.

FORCE FIELD TECHNOLOGY

In Space Opera SF, and other stories involving extremely advanced technology, force fields usually replace physical defenses such as body armor. Ranging from personal "force screens" to large force shields configurable into a variety of shapes, their generating equipment often weighs little. However, they do require some source of power to keep functioning, and thus are vulnerable to attacks which deplete their energy reserves.

Personal Force Screen: This creates a shield which hugs the user and stops incoming attacks. A variant only blocks high-speed projectiles and energy beams (a -½ Limitation), leaving the wearer free to engage in melee combat. Price: 450 credits, or more.

Force Field (10 PD/10 ED), Protects Carried Items (30 Active Points); OIF (shield belt; -½), 1 Continuing Fuel Charge (fueled by electricity, recharge is easily obtained; 20 Minutes; -¼). Total cost: 17 points.

Advanced Personal Force Screen: This version of the shield belt creates a field strong enough to hold in atmosphere. When combined with a small air purifier and oxygen tank, it works just like a space suit. Price: 660 credits, or more.

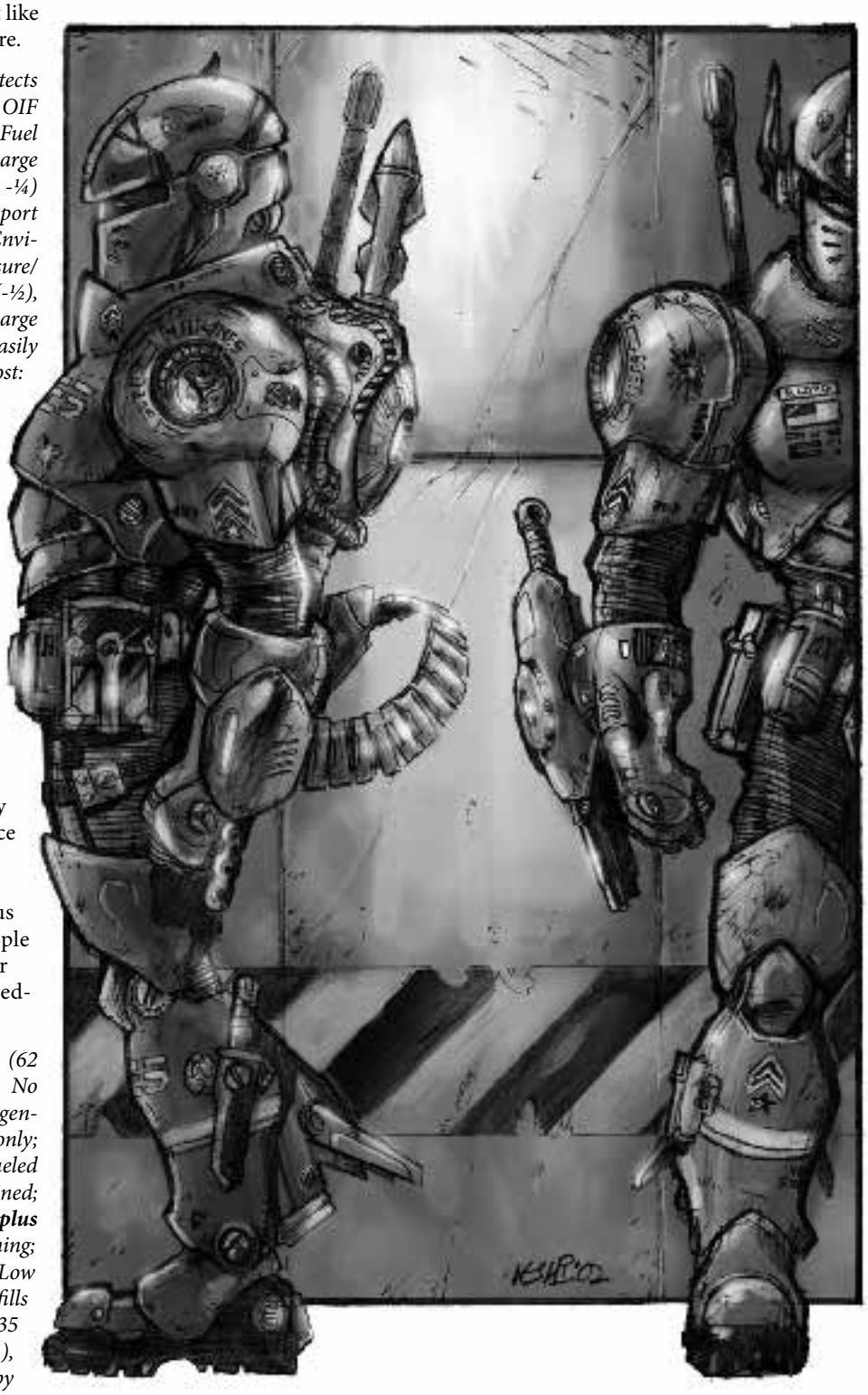
Force Field (10 PD/10 ED), Protects Carried Items (30 Active Points); OIF (shield belt; -½), 1 Continuing Fuel Charge (fueled by electricity, recharge is easily obtained; 20 Minutes; -¼) (total cost: 17 points) ***plus*** *Life Support (Self-Contained Breathing; Safe Environments: Intense Cold, Low Pressure/Vacuum) (14 Active Points); OIF (-½), Linked (-½), 1 Continuing Fuel Charge (fueled by air supply, resupply is easily obtained; 20 Minutes; -¼) (total cost: 6 points). Total cost: 23 points.*

Force Shield Projector: A force shield projector is usually arm-mounted, and creates a force barrier in front of the user. Price: 450 credits, or more.

Force Wall (6 PD/6 ED) (30 Active Points); OIF (shield bracer; -½), Self Only (-½), No Range (-½), 1 Continuing Fuel Charge (fueled by electricity, recharge is easily obtained; 20 Minutes; -¼). Total cost: 11 points.

Force Dome: This portable but bulky device creates an 8-meter radius force dome. The dome is airtight, and the life support unit in the device creates a temporary habitat in hazardous environments (though the more people that are within the dome, the quicker the air gets used up). Price: 1,455 credits, or more.

Force Wall (8 PD/8 ED; 12" long) (62 Active Points); OAF Bulky (-1½), No Range (only works in radius around generator; -½), Restricted Shape (dome only; -¼), 1 Continuing Fuel Charge (fueled by electricity, recharge is easily obtained; 1 Hour; -0) (total cost: 19 points) ***plus*** *Life Support (Self-Contained Breathing; Safe Environments: Intense Cold, Low Pressure/Vacuum), Area Of Effect (fills entire area beneath dome; +1½) (35 Active Points); OIF (-½), Linked (-½), 1 Continuing Fuel Charge (fueled by air supply, resupply is easily obtained; 1 Hour; -0) (total cost: 17 points). Total cost: 36 points.*



OTHER TECHNOLOGY

Now that the business of blowing stuff up is out of the way, what else can technology do? Almost anything, it turns out.

COMPUTERS

The *HERO System* rules for computers (pages 459-61 of the *5th Edition, Revised* rulebook) allow construction of both simple and artificial intelligence devices. In most *Star Hero* games, normal computers are "equipment," bought with money rather than Character Points, while AI computers are typically NPCs. It is possible to purchase an AI (if the local laws allow it), but the machine won't have any particular loyalty to the heroes unless one of them spends Character Points to buy it as a Follower, part of a Base, or the like.

SENSES

Computers cannot, by themselves, "perceive." Unlike Automatons, they don't come with the basic suite of Senses for free. They have to be hooked into sensory systems (like the security cameras at a Base, or the sensors on a starship) to give them the ability to perceive, or the builder has to buy specific senses for the Computer (using the costs from the sidebar on page 161 of the *HERO System 5th Edition, Revised* for normal Senses). If bought with the ability to perceive, a Computer can make PER Rolls based on its INT, and can recall things it has perceived with an INT Roll.

PROGRAMS

The distinction between Skills and computer programs is subtle. Skills allow the use of equipment, Powers, and abilities. Programs tell the computer what to do with those Skills.

Creating proper Programs requires a little bit of planning and forethought. Ideally, you should be able to phrase the Program in one short, simple sentence — one subject, one verb, and one object. If you can't describe the Program in a single simple sentence, you should split it into multiple Programs (or, if appropriate, buy it as a Skill). However, a Program can allow for some simple variables.

For example, "Pilot Ship From Location A To Location B" is a proper Program. It's simply expressed, and uses Navigation (Space) and Transport Familiarity. It allows the user to input two easily-defined variables (Location A and Location B). However, "Pilot Ship From Location A To Location B And Avoid Star Patrol Ships" should be *two* Programs — one to fly the ship (using the Skills mentioned above) and one for avoiding the Star Patrol (using Combat Piloting, Concealment, and/or Stealth). The "and" in the second Program is a clear indicator that two Programs are necessary; the Program attempts to include two commands into one Program, which is improper in most cases.

Some players may want to set up triggering conditions, so that their computers take action or activate programs in the event of certain circumstances. Examples of this would include "If I am knocked out, get us to safety." Again, that's really two Programs — the trigger is one Program, and can activate the other. The computer needs two Programs: "If I Am Knocked Out, Activate Pilot Ship Program"; and Pilot Ship. Since Pilot Ship takes the ship from one specified location to another, the player should decide in advance where the ship heads if he is rendered unconscious (in this case, Location A is "ship's current location").

Of course, the GM may, in his discretion, allow a program to combine two closely-related functions — such as "Monitor Sensors; Report Anomalies Detected." The decision depends on how tightly linked the functions are, how frequently the program is used, and other factors.

Undefined Programs

Obviously, it's difficult for players and GMs to think up all the possible actions and contingencies a computer might need to take into account. If appropriate, the GM can allow characters to create computers with a pool of Character Points set aside for Programs which aren't yet defined. When a situation arises where the computer should be able to act in a certain way, but no specific Program covers that situation, the GM may (if he wishes) let the player assign one of the "unspent" points to a new Program specifically for that contingency.

Hand Computer

Many SF characters carry this device, or something like it. It's a small computer used to store personal data and download information (the "Database" KSs represent whatever music, video material, and reading material the user currently has installed on the device). While this version is a discrete unit (an OAF), it's possible to build one into a bracelet or other piece of jewelry (OIF or IIF), or even to weave the necessary circuitry into clothing (IIF).

CLARKE'S LAW

Famed science fiction author Arthur C. Clarke once made a statement that SF fans have come to call *Clarke's Law.* It states: "Any sufficiently advanced technology is indistinguishable from magic." In other words, when technology becomes high enough, most people — particularly "primitive" people — can't really tell it apart from "magic." Eventually, the two sort of become one.

Beyond the classic impress-the-natives-with-a-cigarette-lighter trick, Clarke's Law has some interesting ramifications *Star Hero* GMs could explore. At what point *does* technology become magic? Could a *Star Hero* campaign really be, or become, a *Fantasy Hero* campaign... or vice-versa? Were the magicians of ancient legend actually time travelers? Could a *Star Hero* setting feature "tech-mages" commanding technology far more advanced than the campaign norm, but cloaked in a veneer of mysticism?

Cost Hand Computer

5 *Communications Function:* HRRP (Radio Group); OAF (-1), Flashed As Sight And Hearing Group As Well As Radio Group (-½)
8 *Computer:* Computer (see below); OAF (-1)

Val	Char	Cost
15	INT	5
10	DEX	0
2	SPD	0

Cost Skills

11 AK: Milky Way Galaxy 20-
2 KS: Archived Recent News 11-
5 KS: Current News 14-
3 KS: Contact Information 12-
11 KS: Known Sentient Species 20-
1 KS: Literature Database 8-
1 KS: Movies Database 8-
1 KS: Music Database 8-
4 PS: Personal Assistant 13-
2 Systems Operation (Communications Systems) 12-

Programs

1 Alert Owner Regarding Scheduled Appointments
1 Prioritize Incoming Calls According To User Preferences
1 Search Reference Material For Information On A Topic
1 Send Communication To Recorded Identicode On Spoken Cue
1 Send Emergency Call To Emergency Authorities If Specified Protocols Are Not Met

Talents

3 *Clock:* Absolute Time Sense
5 *Memory:* Eidetic Memory
3 *Calculator:* Lightning Calculator
3 *Instant-On Feature:* Lightsleep
20 *Translator:* Universal Translator 12-

Total Computer Cost: 85/5 = 17
Total cost: 13 points

COMPUTERS AS CHARACTERS

One familiar trope in science fiction is the perky ship's computer, which is just as much a character as the crew. With the GM's permission, players may run computer characters. Because this may unbalance the campaign, and often makes it difficult to get the computer character involved in scenarios, the GM should consider very carefully before allowing computer PCs into his *Star Hero* campaign.

Computer characters are built on the normal Base Points + Disadvantages for the campaign; they do not get to divide their total cost by 5 to determine the Real Point cost, as with standard computers. They do not receive Senses for free; as noted above, they must buy Senses or be connected to sensory devices. All computer characters are considered AI computers; they have EGO and may have Psychological Limitations.

Characteristics And Skills

Depending on how you define a computer character, it may be able to sell back many of its Primary Characteristics. On the other hand, some (particularly INT) need to be quite high.

Skills for a computer character represent its stored/programmed knowledge and abilities. Computer characters do *not* require Programs; as PCs, they have as much free will and self-control as any other character (but perhaps some important Psychological Limitations also; see below).

Perks And Talents

Computer characters rarely have Perks; it's more likely they'll suffer from restrictions on their status and activities than have special benefits (see *Disadvantages,* below). However, some may be appropriate. A computer with financial skills could amass its own private fortune and have Money. One that can "download" its personality into a robotic body might build that body as a Vehicle.

On the other hand, many Talents are highly appropriate for computer characters. Almost all computer PCs should have Absolute Time Sense, Bump Of Direction, Eidetic Memory, Lightning Calculator, and Speed Reading, which represent various built-in functions common to computers. Universal Translator is also appropriate in Space Opera-style campaigns.

COMPUTERS AND MENTAL POWERS

Mental Powers bought to affect the Machine class of minds can affect both normal and AI computers (see the *HERO System 5th Edition, Revised,* page 117). The GM may, if he chooses, apply some of the rules for robots and Mental Powers (see *Star Hero,* page 165) to computers as well.

THE GALACTIC COMPUTERNET

Many SF settings feature a vast, star-spanning computer and communications network for use by the inhabitants of those settings. Typically any citizen can have at least basic access to the network, though this depends on the society in question — and of course some people (government officials, military officers, and the like) have *much* greater degrees of access. (See *Star Hero,* page 49, for more information on buying this as a Perk.)

The Galactic Computernet provides its users with access to vast reams of information. Think of it as KS: Everything This Society Knows 60- and SS: Every Science This Society Knows 40-. But of course, searching for any particular fact entails massive penalties in such a broad database. On the average, the 'Net can provide an answer to any simple question in just 1-3 Segments; this requires no roll. The more esoteric or complex the query, the longer it takes to find it out, and the harder the Skill Roll. An esoteric/complicated question probably requires around a 15- roll and up to an hour of time; a very esoteric/complicated one a 12- roll and up to a day; and an extremely esoteric/complicated one an 8- and up to a week.

The Computernet also provides users with HRRP with a range sufficient to cover the entire area controlled by the 'Net's creators and overseers. Long distances may entail time-lags, especially if FTL communication doesn't exist.

Powers

A computer character's Powers, if any, depend primarily on his "body" and how the GM wants him to access it. The GM must consider the issue of what the computer controls. If it's wired into every system aboard a starship and can use them as easily as a person uses his body, then he may require the computer character to pay Character Points for those abilities, rather than allowing it to have them for free just because the campaign features a PC-owned starship. Alternately, the GM may require the computer character to buy the Vehicle (or Base) itself, so that (like any character who owns a Vehicle or Base) it pays for the resources it controls.

Similarly, a computer character may have a robotic body it uses. In that case, the character should pay for the body's abilities. In some cases, the "computer" character is really a sentient robot for game purposes, even if it conceives of itself as a computer (see *Star Hero,* page 165).

One power common to most computer characters is the ability to make a "backup" copy of themselves in the event they're destroyed. The easiest way to build this is as Resurrection Healing; the Resurrection can be stopped by any means that destroys or tampers with the backup copy. Alternately, it could be defined as Duplication with appropriate Limitations, including *Cannot Recombine* and *Duplicate Only Becomes Active Upon Original's Death* (-1). In either case, the backup only possesses the character's memories and abilities up to the last time a backup was made; if the character doesn't take the time to update his backups frequently, he may experience significant losses.

Another ability often possessed by computer characters is the power to "download" themselves into "vessels" such as robotic bodies, or even other computers. There are many ways to represent this ability. It might be a form of Duplication, if the character has a brigade of robotic forms it can use. Multiform might be appropriate, if the computer character is ordinarily confined to a "body" (such as a starship). For transferring into and taking over another computer, a Linked combination of Teleportation and Mind Control would do the trick.

Computer characters naturally are skilled at working with other computers. They can access cyberspace, if it exists, effortlessly (Extra-Dimensional Movement), often have powerful programs for "hacking," and perhaps even Mental Powers that affect the Machine class of minds. (See below for more information about cyberspace).

Disadvantages

As powerful as computer characters can be, they also suffer from some significant restrictions.

With the GM's permission, a computer character who's "built in" to a starship or base and cannot leave that facility at all can take a Physical Limitation, *Built-In* (typically this is Frequently, Greatly Impairing; 15 points). However, a computer character with this Disadvantage may cause problems for the campaign; GMs should only allow it after careful consideration.

Another possible Physical Limitation is *Programming* (typically this is Frequently, Greatly Impairing; 15 points). This represents the fact that the computer character is "hard-wired" to do (or not do) certain things, and that even Mind Control can't override these instructions. The GM and player should define, in at least vague terms, what's included in the character's programming, keeping common sense and dramatic sense in mind. Science fiction television shows and movies provide lots of examples:

"I'm sorry, you cannot override the engine's safety restrictions without command authorization."

"I'm afraid I can't let you do that, Dave... it's against regulations."

"My prime programming requires me to steer this vessel to a safe location regardless of your commands, sir."

Computer characters usually have one or more Psychological Limitations. Programming can constitute a Psychological Limitation as well as a Physical one; the difference is that Psychological Limitation programming can be overridden with Mind Control (or, in the GM's judgment, a Computer Programming roll made at the same penalty imposed on the character's EGO Rolls to overcome the Limitation). Typically *Programming* is Common, Strong (and thus worth 15 points).

Many computer characters have the Psychological Limitation *Emotionless* (Common, Total; 20 points). This signifies that they have no emotions, approach all situations from the standpoint of logic and reason, and usually have difficulty understanding decisions other characters make for emotional reasons (often resulting in a -3, or greater, penalty on Interaction Skills). Other Psychological Limitations common to computer characters include:

Considers Self Superior To Organic Beings (Common, Moderate; 10 points)

Must Obey Orders From Crew (Common, Total; 20 points)

Wishes To Experience Emotions (Common, Strong; 15 points)

In many science fiction societies, computers, even sentient ones, aren't considered "citizens" or accorded full civil rights. This constitutes a Social Limitation (typically one that's Very Frequently, Minor; 15 points).

CYBERSPACE

Depictions of "cyberspace" vary tremendously in SF. Some writers base it on modern computer networks, with most information moving via text or graphics, and battles of hackers and security fought through keyboards. That's best modeled as characters pitting their *Computer Programming* Skills against each other.

More exotic visions of cyberspace see it as a "place" in which *avatars* of the characters interact with other people and programs in a kind of metaphorical landscape. Gamemasters can make this a version of Extra-Dimensional Travel (see sidebar). A modem or dataport becomes the portal

to another realm. Combat in cyberspace is mostly a matter of offensive and defensive programs, with various effects (see below). Since most of the "people" one meets in cyberspace are computer systems, programs tend to focus on attacking their abilities. Security programs which can do actual harm to a Human user exist, but they are illegal in many jurisdictions.

While adventuring in cyberspace, characters exist as software avatars, and protect themselves and attack others with software as well. A character's avatar lacks his STR, Skills other than Computer Programming, physical abilities, Mental Powers, and the like, but retains all his other Characteristics (including Figured Characteristics based on his STR). Characters who want STR or higher Characteristics that only work with their avatars, or Skills and abilities for use only in cyberspace, buy them with the Limitations *Only In Cyberspace* (-2) and *OAF* (the disk, computer, cyberdeck, or other system the character stores his cyberspace utilities on; computer and robotic characters don't take this Limitation). Thus, to create a security-penetration utility, a character might go for the stealthy approach (Stealth or Invisibility), the puzzle-solving approach (Lockpicking and Security Systems), or the brute force approach (HKA). His choice depends not only on personal preference, but on how the target system defines its security utilities.

A character can run a number of cyberspace utilities equal to either his or his computer's INT/5, whichever is lower. Computer characters and AIs who buy utilities as innate abilities can run as many as they wish, which is one reason they're so fearsome in cyberspace.

Cyberspace Movement

Characters "move" in cyberspace in two ways. Narratively, characters can move from any location in cyberspace to any other location in one Phase. This assumes no impediments to movement, such as access-blocking security utilities; the GM must judge the effects of those individually. For "combat" purposes, all avatars move at a standard rate of Flight 6" per Phase. The "inches" in this case don't involve literal movement (the character's body remains where it is in the physical world), but rather "virtual movement" through the electronic world (they're defined as Flight so characters can soar up to the top of towers of data and so forth). They represent relative speed between avatars, for the purposes of virtual chases and the like, not an actual restriction on movement. A character visiting the cyberspace home of a bank in New York City can switch to a virtual nightclub in Tokyo in one Phase, as described above... but a more powerful avatar that's bought Flight +3" can "chase" and catch the character (and also do more damage with virtual Move Throughs). The inches of Flight simply reflect relative movement skill and speed within the virtual realm.

Cyberspace Perception And Combat

Avatars have the standard perception abilities of a normal character, though in cyberspace usually only Sight, Hearing, and Touch are of any use. They may buy Enhanced Senses as utilities.

Avatars may use all Standard Combat Maneuvers, and any Optional Combat Maneuvers the GM allows, at STR 0. If they want more STR, Martial Maneuvers, Combat Skill Levels, or attack abilities like a "virtual gun," they must buy them as cyberspace utilities.

Example Cyberspace Utilities

Avatar Defense: This standard defense utility protects an avatar from the effects of deadly security utilities. Price: 400 credits, or more.

+10 ED and Damage Resistance (up to 20 ED) (20 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 5 points.

Connection Jammer: A very frustrating attack, this utility slows down one's opponent's net connection. Price: 900 credits, or more.

Drain SPD 3d6, Reduced Endurance (0 END; +½) (45 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 11 points.

Cyberattack: This is a basic brute-force attack program, allowing an avatar to smash through virtual walls and assault other avatars. Price: 800 credits, or more.

EB 8d6 (40 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 10 points.

Deadly Security: These collection of security utilities actually cause power surges which can injure Humans jacked in to the 'net. The computer the character uses has a surge protector, and so is not affected itself (though rumors exist of security utilities powerful enough to fry shielded systems as well as users).

Light Deadly Security: RKA 2d6, Reduced Endurance (0 END; +½) (45 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2), No Range (-½). Total cost: 10 points. Price: 900 credits.

Heavy Deadly Security: RKA 4d6, Reduced Endurance (0 END; +½) (90 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2), No Range (-½). Total cost: 20 points. Price: 1,800 credits.

Cutting-Edge Deadly Security: RKA 3d6, NND (defense is appropriate defense program, typically defined as Life Support [Immunity]; +1), Does BODY (+1), Reduced Endurance (0 END; +½) (157 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2), No Range (-½). Total cost: 35 points. Price: 31,400 credits, or more (includes "cutting edge" multiplier).

Decompiler: This utility scrambles other cyberspace utilities, shutting them down. Each Decompiler is targeted against a specific other utility. Price: 540 credits, or more.

Dispel [Defined Utility] 6d6, Reduced Endurance (0 END; +½) (27 Active Points); OAF

ACCESSING CYBERSPACE

Modem: "Realistic" forms of SF use a device like a modem, built into a computer, to access cyberspace. The user is limited to what he sees "on the screen"; he doesn't actually "enter" cyberspace, but rather "opens a window" that lets him view and participate in the online world.

Extra-Dimensional Movement (any location in the Cybernet, as defined by the location of the computer containing the modem), Reduced Endurance (0 END; +½) (37 Active Points); OAF (-1). Total cost: 18 points.

Jacking In: More common than an ordinary modem is the ability to "jack in" to cyberspace directly, via a "dataport" implanted in the character's brain. The character's body remains in the "real world," but cannot sense anything there or act, leaving it vulnerable. Moreover, deadly computer security programs can kill the character by killing his cyber-self.

Extra-Dimensional Movement (any location in the Cybernet, as defined by the location of the computer where the character jacks in), Reduced Endurance (0 END; +½) (37 Active Points); OIF (dataport; -½), Meat Body (character's body remains in the real world, but cannot move, perceive, or act, and damage to either the virtual form [in cyberspace] or the real body [in the real world] can hurt or kill the character; -1). Total cost: 15 points.

(cyberdeck; -1), Only in Cyberspace (-2), No Range (-½). Total cost: 6 points.

Decoys: This utility creates fake avatars to confuse opponents and security programs. Price: 440 credits, or more.

Sight Group Images, Increased Size (8" radius; +¾), Reduced Endurance (0 END; +½) (22 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2), Set Effect (up to 6 duplicates of avatar; -1). Total cost: 4 points.

Interface Editor: This utility changes the appearance of a character's immediate surroundings to an interface style of his own choice — so in a cyberspace of glowing lines and abstract shapes, suddenly there is a cartoon landscape. This often confuses opponents. The effects fade in 1d6 Segments unless maintained. The programmer chooses the specific effect in advance. Price: 700 credits, or more.

Change Environment 64" radius, -1 to opposing OCV (35 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2), No Range (-½). Total cost: 8 points.

Kung Fu: This program enhances an avatar's HTH Combat abilities, making it more likely he can defeat other avatars he encounters. Price: 700 credits, or more.

+20 STR and Martial Maneuvers (15 points' worth, defined when program is purchased) (35 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 9 points.

Location Defense: The chief form of defense for virtual locations (like the "vault" where a bank keeps electronic records of deposits, withdrawals, and accounts). It's big enough to block one "door" or other point of access (the "walls" of the location would be defined as part of a virtual Base, with at least as much DEF as this program). Price: 1,500 credits, or more.

Force Wall (10 PD/10 ED), Reduced Endurance (0 END; +½) (75 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2), No Range (-½). Total cost: 17 points.

Masking: This program renders an avatar invisible to most other avatars and cyberspace "sensors." Price: 900 credits, or more.

Invisibility to Sight Group, No Fringe, Reduced Endurance (0 END; +½) (45 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 11 points.

Program Defense: The chief form of defense against Decompiler utilities. Price: 600 credits, or more.

Power Defense (30 points) (30 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 7 points.

Pulse: This emits a blast of virtual light which blinds other avatars in the vicinity. Price: 1,500 credits, or more.

Sight Group Flash 5d6, Explosion (-1 DC/3"; +1), Personal Immunity (+¼), Reduced Endurance (0 END; +½) (69 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2), No Range (-½). Total cost: 15 points.

Relocate: This utility allows an avatar to move much faster in cyberspace. Price: 600 credits, or more.

Flight +10", Reduced Endurance (0 END; +½) (30 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 7 points.

Trace: Feared by all hackers, this lets security software find out where an avatar originates in the real world, which often reveals a hacker's real identity. Price: 160 credits, or more.

Detect Cyberspace Connection Address (INT Roll) (Radio Sense Group), Tracking (8 Active Points); OAF (cyberdeck; -1), Only in Cyberspace (-2). Total cost: 2 points.

ROBOTS

Robots in science fiction go back a long way, possibly to *Frankenstein,* or even to the Golem of Prague. The term comes from the SF play *R.U.R.* by Karl Capek; it's a Czech word meaning "worker."

Generally speaking, robots come in two categories: robots and androids. True *robots* can be just about any type of fully automated machine, ranging from tiny flying spy-bots, to a collection of mechanical arms on a wheeled base, to humanoid servant-robots. The *Star Wars* films provide an excellent example of the possible diversity of robots (or "droids," as they're called). *Androids,* on the other hand, are humanoid-shaped mechanical constructs, sometimes distinguishable from true Humans (or other species) only upon detailed examination. Data, from *Star Trek: The Next Generation,* is an android.

In *HERO System* terms, robots are usually Automatons with normal computer "brains." They don't have EGO or Psychological Limitations. Androids have AI brains, or in the case of the most advanced types, may simply be built as normal characters with appropriate abilities. In that case, STUN represents how easy it is for the character's systems to become temporarily disoriented due to damage or impact, EGO the sophisticated nature of their computer brains, and so forth.

Like other Automatons, robots and androids are recognizably artificial and/or machines. If you want one to pass as Human, he needs certain Skills or Powers (see below). Androids not built as Automatons can pass for flesh-and-blood Humans unless they take a Distinctive Feature indicating otherwise.

THE LAWS OF ROBOTICS

Renowned science fiction author Isaac Asimov devised, with the help of John W. Campbell, three famous Laws of Robotics — standing orders with which the robots in his stories were programmed. They are:

The First Law: A robot may not injure a human being or, through inaction, allow a human being to come to harm.

The Second Law: A robot must obey orders given to it by human beings, except where obeying an order would conflict with the First Law.

The Third Law: A robot must protect its own existence, provided doing so does not conflict with the First and Second Laws.

In various forms, these laws have been incorporated, to one degree or another, into many different settings, and science fiction fans (including *Star Hero* gamers) often know about them. Gamemasters who wish to use them, or allow their use, can simply give robots the Psychological Limitation, *Must Obey Laws Of Robotics* (Very Common, Total; 25 points). (You could also make this a Physical Limitation so it cannot be "overridden.")

Of course, GMs can alter these laws to suit their campaigns, or come up with their own sets of laws that don't resemble these at all. Regardless of what the laws are like in the game, inevitably a scenario or two turns around the issue of whether a robot violated one of them (typically the First Law, in murder mystery stories). The *Doctor Who* episode "The Robots Of Death" provides one good horror-mystery example of such a story, but there are plenty of others out there for GMs to draw inspiration from.

ROBOT CHARACTERS

With the GM's permission, players can play robots or androids as PCs (there's even a suggested Android Package Deal on *Star Hero,* page 23). However, GMs should consider this carefully. Robots and androids often present the same potential for unbalancing the game as computer characters (see above), but to an even greater degree, since they're mobile. They are powerful, tough, smart, and highly capable — so much so, in fact, that players may not be able to build a "realistic" robot or android on the campaign's starting Base Points + Disadvantages. In that case, they should either design a robot or androids with more limited functions (and then gradually expand his abilities), or find some way to explain why he's temporarily "crippled."

Robot and android characters should *not* be built as Automatons; that poses too many game balance problems. They should be sophisticated enough to function like ordinary characters.

Suggestions for powers, abilities, and Disadvantages for computer characters (see above) generally apply to robot and android characters, too.

Characteristics And Skills

Robots and androids usually have high Characteristics across the board. They're not only stronger and tougher than Humans, but smarter, too. However, their EGO, PRE, and COM may all be low; they don't necessarily understand "organics" or relate to them well.

Skills, similarly, should have fairly high rolls. They represent the character's extensive knowledge and programming. Technical Skills (such as Computer Programming and Systems Operation) are the most common, but many others are possible.

Some robots and androids may have high *Disguise* Skills, so they can pass as normal organic beings.

Perks And Talents

Robots and androids approach Perks and Talents the same as computer characters. In almost all cases they should have the Talents listed for computer characters.

Powers

Robots and androids tend to have certain powers — call them "Everyrobot Powers," if you will. These include:

Robot/Android Form: The character's mechanical/artificial form is more resistant to damage than flesh.

Armor (6 PD/6 ED). Total cost: 18 points. (Alternately, Damage Resistance (6 PD/6 ED), total cost: 6 points.)

Robot/Android Form: Robots and androids can survive in situations that kill organic beings.

Life Support: Total. Total cost: 45 points. (Long-lasting robots and androids may also have Longevity.)

Sensors: Most robots and androids have senses organic beings lack. They should have at least 10 points' worth of Enhanced Senses, if not more.

Beyond these abilities, a robot or android could have just about any Power — built-in weapons (Attack Powers), the ability to alter form to resemble an ordinary organic being (Shape Shift), "backup" powers such as those described for computer characters, enhanced movement abilities, you name it. The main limits are what the setting's technology allows, what the GM permits, and what the character can afford.

Disadvantages

Here are a few examples of Disadvantages common to robot and android player characters:

Distinctive Features: Android (Concealable With Effort; Noticed And Recognizable; 10 points)

Physical Limitation: Sophisticated Computer Brain (affected by Mental Powers that work against either the Human or Machine classes of minds) (cost varies depending on the commonality of Mental Powers in the campaign)

Physical or Psychological Limitation: Programming (see *Star Hero,* page 162).

Social Limitation: Android (restricted civil rights, suffers from prejudice) (Very Frequently, Minor; 15 points)

EXAMPLE ROBOTS

The *HERO System Bestiary* has, on pages 207-10, three example robots: a Duplicator Android, a General Purpose Robot, and a Hunter-Seeker Drone. Here are two more examples:

CARGO LOADER/HEAVY LABOR ROBOT

Val	Char	Cost	Roll	Notes
30	STR	20	15-	Lift 1,600 kg; 6d6 [3]
12	DEX	6	11-	OCV: 4/DCV: 4
10	CON	0	11-	
15	BODY	10	12-	
10	INT	0	11-	PER Roll 11-
0	EGO	0	—	ECV: N/A
10	PRE	0	11-	PRE Attack: 2d6
10	COM	0	11-	
4	PD	6		Total: 4 PD (4 rPD)
4	ED	9		Total: 4 ED (4 rED)
2	SPD	0		Phases: 6, 12
8	REC	0		
0	END	-10		
—	STUN	—		**Total Characteristics Cost: 41** (+10 with NCM)

Movement: Running: 6"/12"
Leaping: 6"/12"

Cost	Powers	END
22	*Tractor Beam:* Telekinesis (10 STR), Reduced Endurance (0 END; +½)	0
15	*Android Body:* Does Not Bleed	0
45	*Android Body:* Takes No STUN	0
15	*Tireless:* Reduced Endurance (0 END; +½) on 30 STR	0
6	*Tireless:* Reduced Endurance (0 END; +½) on Running	0
3	*Tireless:* Reduced Endurance (0 END; +½) on Leaping	0
1	*Tireless:* Reduced Endurance (0 END; +½) on Swimming	0
12	*Android Body:* Damage Resistance (4 PD/4 ED)	0
45	*Android Body:* Life Support: Total	0
5	*Visual Sensors:* Infrared Perception (Sight Group)	0
5	*Visual Sensors:* Ultraviolet Perception (Sight Group)	0
10	*Visual Sensors:* x100 Microscopic for Sight Group	0
3	*Auditory Sensors:* Ultrasonic Perception (Hearing Group)	0
12	*Radio Sensors:* HRRP (Radio Group)	0

Talents

32 *Onboard Computer Systems:* Absolute Range Sense, Absolute Time Sense, Bump Of Direction, Lightning Calculator, Universal Translator 11-

Skills

1 Climbing 8-
2 Language (GM's choice)
2 PS: Warehouse Operations 11-

Total Powers & Skills Cost: 236
Total Cost: 277

75+ Disadvantages

0 Dependence: must recharge every 6 Hours or suffer Weakness, and eventually total shutdown (Very Common)
10 Physical Limitation: Affected By Cyberkinesis (has EGO 10 for purposes of cyberkinetic powers, and can be affected by cyberkinesis-based Presence Attacks) (Infrequently, Greatly Impairing)
15 Physical Limitation: Enormous (four times Human mass, and sometimes size) (Frequently, Greatly Impairing)
25 Psychological Limitation: Must Obey Programmer's/Owner's Commands (Very Common, Total)
25 Psychological Limitation: Must Not Cause Or Allow Harm To Humans (Very Common, Total)
127 Experience Points

Total Disadvantage Points: 277

Description: Warehouses, starport cargo bays, and other such businesses need a lot of heavy lifting done. Why should Humans strain their backs and put themselves at risk of injury, when they can get a Cargo Loader robot to do the work for them? Equipped with powerful arms, and even a tractor beam, this robot can perform all sorts of hard labor without the need for a coffee break. Some versions have multiple limbs (Extra Limbs, +5 points) to enhance their carrying capacity.

Price: 55,400 credits.

GUARDIAN ROBOT

Val	Char	Cost	Roll	Notes
20	STR	10	13-	Lift 400 kg; 4d6 [2]
20	DEX	30	13-	OCV: 7/DCV: 7
10	CON	0	11-	
15	BODY	10	12-	
10	INT	0	11-	PER Roll 11-
0	EGO	0	—	ECV: N/A
20	PRE	10	13-	PRE Attack: 4d6
10	COM	0	11-	
6	PD	15		Total: 6 PD (6 rPD)
6	ED	15		Total: 6 ED (6 rED)
3	SPD	0		Phases: 4, 8, 12
6	REC	0		
0	END	-10		
—	STUN	—	**Total Characteristics Cost: 80**	

Movement: Running: 9"/18"
Leaping: 4"/8"

Cost	Powers	END
52	*Hand Blaster:* EB 7d6, Reduced Endurance (0 END; +½)	0
15	*Robot Body:* Does Not Bleed	0
45	*Robot Body:* Takes No STUN	0
10	*Tireless:* Reduced Endurance (0 END; +½) on 20 STR	0
9	*Tireless:* Reduced Endurance (0 END; +½) on Running	0
2	*Tireless:* Reduced Endurance (0 END; +½) on Leaping	0
1	*Tireless:* Reduced Endurance (0 END; +½) on Swimming	0
18	*Robot Body:* Damage Resistance (6 PD/6 ED)	0
45	*Robot Body:* Life Support: Total	0
6	*Robot Legs:* Running +3" (9" total)	0
5	*Visual Sensors:* Infrared Perception (Sight Group)	0
5	*Visual Sensors:* Ultraviolet Perception (Sight Group)	0
15	*Visual Sensors:* x1000 Microscopic for Sight Group	0
9	*Visual Sensors:* +6 versus Range Modifier for Sight Group	0
3	*Auditory Sensors:* Ultrasonic Perception (Hearing Group)	0
15	*Sonar Unit:* Active Sonar (Hearing Group)	0
12	*Radio Sensors:* HRRP (Radio Group)	0
15	*Radar Unit:* Radar (Radio Group)	0
3	*Sensor Enhancements:* +1 PER with all Sense Groups	0

Talents

32 *Onboard Computer Systems:* Absolute Range Sense, Absolute Time Sense, Bump Of Direction, Lightning Calculator, Universal Translator 11-

Skills

6 +3 OCV with Hand Blaster

12 Suite of Skills specifically programmed into robot

1 Climbing 8-

2 Language (GM's choice)

3 Stealth 13-

6 WF: Beam Weapons, Energy Weapons, Small Arms

Total Powers & Skills Cost: 347
Total Cost: 427

75+ Disadvantages

5 Physical Limitation: Affected By Cyberkinesis (has EGO 15 for purposes of cyberkinetic powers, and can be affected by cyberkinesis-based Presence Attacks) (Infrequently, Slightly Impairing)

0 Physical Limitation: Human Size

25 Psychological Limitation: Must Obey Programmer's/Owner's Commands (Very Common, Total)

322 Experience Points

Total Disadvantage Points: 427

Description: Guardian robots are used as soldiers, security personnel, and bodyguards by many companies, people, and governments. This writeup represents a typical guardian robot; many other types are possible.

Since each guardian robot is programmed with a selection of Skills specific to it, this character sheet simply specifies the amount of points allotted for Skills, allowing the GM to assign the appropriate ones. Common guardian robot Skills include Bugging, Combat Driving, Combat Piloting, Combat Skill Levels, Computer Programming, Deduction, Electronics, Mechanics, Navigation, Penalty Skill Levels, Shadowing, Systems Operation, Tactics, Transport Familiarity, and Weapon Familiarity.

Price: 85,400 credits.

BIOTECHNOLOGY

Discoveries in biology in recent years point to amazing possibilities for the future. Humans may be able to transform themselves and other species, for good or ill.

CLONING

A clone is a genetic copy of another individual. That doesn't mean it's an exact duplicate — many features are *not* genetically determined. Fingerprints and retina prints would be different, for instance. And the clone would be younger than the original — cloning an adult would give you a baby who'll look like that adult in a couple of decades. A clone naturally has different memories from the original, which means it's likely to have a different personality. If nothing else, the clone is affected by the experience of growing up as a clone, which the original lacked.

Clones grow up at the same rate as other babies, which means an "invincible clone army" would take some 20 years to raise. It's usually easier to go out and hire people. Moreover, clones still have to be carried to term by host mothers, which means an army of clones would require an army of young women willing to have babies at the same time.

Of course, all of this assumes a relatively "realistic" approach to cloning, which many SF stories and settings don't take. In some *Star Hero* campaigns, rapid-growth and memory-implantation technology may allow for the swift creation of clones who are almost indistinguishable from the original.

In game terms, cloning is usually built as Duplication with a host of Limitations (see *Star Hero,* page 54). However, in some cases the GM may prefer for characters to use Summon, or even to buy clones as Followers.

There are interesting possibilities for adventures involving clones and cloning. Being genetically identical, clones would be ideal candidates for organ transplant for their originals. The clone might know this fate is in store, but accept it as his duty — or he might decide he doesn't want to be a walking organ bank, and flee. If you ignore the idea that fingerprints and retina prints differ in a clone, a clone makes the perfect way to frame someone for murder (or to fake someone's death). In the early years of the technology, clones are certain to face all kinds of public hostility; cloning is one of the more misunderstood forms of biotechnology.

GENETIC ENGINEERING

"Genetic engineering" is a general term for modifying living beings by altering their genes in some way. Genetic modification of species isn't new — look at what people managed to do with horses and dogs by sheer persistence and selective breeding. Genetic modification of sentient species will probably proceed by slow stages rather than massive transformations — get one new system working right before you tinker with the others. Some writers have depicted Human genetic engineering creating entire new species, vastly different from the current models (including Humans specifically adapted for high-gravity worlds, water worlds, and the like). Others suggest a more cautious approach, with modifications limited to curing inherited diseases and modest improvements by borrowing from other mammals.

In *HERO System* terms, low-key genetic engineering simply means no Physical Limitations for characters, and possibly high Characteristics or a few Talents (like Eidetic Memory). More exotic methods bestow Talents and low-level Powers.

In the campaign, genetic engineering has a variety of uses. Entire subraces of Humanity may be created by modification, leading to all sorts of exotic cultures as they strive to be different and prove their superiority. The unmodified majority may view them as monsters, leading to conflict — which side are the heroes on? If tinkering with your kids' genes is no different from paying to get their teeth straightened, the variation among Humans may be tremendous, with no "normals" left.

On the other hand, modification of animals and plants is often routine in SF settings. New variants and subspecies optimized for other worlds help interstellar colonization, for example. On a more sinister note, creatures might be engineered into "living weapons."

Example Genetic Modifications

Cerebral Enhancement: The character's brain processes and remembers information more efficiently.

+3 INT and Eidetic Memory and Lightning Calculator. Total cost: 11 points.

Enhanced Musculature: The character's muscles and skeletal system are enhanced, making him stronger and faster.

+3 STR and Running +2". Total cost: 7 points.

Sensory Enhancements: The character's senses are far more acute than a normal person's.

+2 PER with all Sense Groups. Total cost: 6 points.

Spatial Analysis: The character's mind has the ability to gauge distances and spaces more accurately than normal.

Absolute Range Sense and Detect Size Of Area (INT Roll) (Sight Group). Total cost: 6 points.

NANOTECHNOLOGY

Nanotechnology is a term coined by futurist Eric Drexler to describe a new field of engineering dealing with extremely tiny machines — devices on the same scale as cells or viruses. The advantage to such miniscule machinery is it can work with and manipulate single molecules of material. As it has moved from being just a neat theoretical idea toward practicality, "nanotech" has become synonymous with "magic" in some circles — perhaps because of inflated gee-whiz claims by enthusiasts.

By manipulating matter at the molecular level, nanotechnology allows the use to refine and synthesize extremely pure substances (even the highly complex molecules of drugs or hormones) or exotic crystals. Nanotech devices can operate within living things at the cellular scale, performing surgery on microscopic nerves or blood vessels from the inside, or patrolling the body like robot cops, looking for rogue cells. By putting nanomachines to work making more nanomachines, a small "seed" unit can leverage itself up into a vast swarm of tiny devices, working together en masse. Incorporating nanotech-scale machinery and systems into Human-scale technology allows all sorts of amazing "smart" or "living" materials — structural materials able to adapt to changing conditions, repair damage, or transform on command.

The combination of nanotechnology and advanced biotechnology makes the distinction between living and nonliving completely arbitrary. When tools can heal and animals are designed, what's the difference? This suggests that a lot of things twenty-first century Humans consider "natural" products will be manufactured using nanotechnology — food could come from solar-powered nanofabricators which look nothing like growing plants. By the same token, many "manufactured" items might be grown.

Used in weapons, nanotech combines all the nastier features of biological and chemical weapons with "smart" guidance and insidious armor penetration. The ultimate nanoweapon is the dreaded "grey goo" — an unstoppable mass of tiny machines mindlessly converting all matter they find into more machines just like them.

However, nanotechnology isn't infallible. Since it's fundamentally matter-based, it can't manipulate large amounts of energy. Nanotech requires raw materials — it can't create something out of nothing, although in many cases waste, air, and dirt are all the matter needed.

Making nanotech work at large scales is very tricky — a nanotech skyscraper would have to grow from the ground up, and making the construction microbots follow the building plan would be a matter of pruning and training, like working with plants. Because of the small scale, nanotech is slow. Individual devices move at the speed of cells or ants — minutes per meter. A horde of nanobots building a skyscraper would start out quickly, but soon would be spending days just hauling tiny amounts of material up to the top. Growing objects using nanomachines would proceed like growing living creatures — a time scale of days, at least. No "instant cars," in other words, unless you want to use total rubber science.

Nanotech is also limited by the laws of physics. Nanobots can't stop a bullet in midair any more than a swarm of gnats can (but the nanomachines could repair the bullethole fairly quickly, or stabilize someone who's been shot). Nanotech can't defy gravity (although at small scales, air is thick enough to swim in). And nanotech, like any other technology, needs energy. The amounts are tiny, but just as having a swarm of a million nanobots at work speeds up a job, the energy requirement of a million tiny workers gets large. So does their waste heat and other byproducts — a "nanofactory" the size of a dishwasher would emit heat like a furnace, requiring a steady stream of coolant and raw materials.

NANOTECH IN THE CAMPAIGN

In *Star Hero* campaigns, nanotech can be part of the background or an exciting new technological "MacGuffin" driving the plot of an adventure. Societies with high nanotech tend to also emphasize the biological and information sciences: lots of computer implants, synthetic beings, wonder drugs, and brain hacking. Nanotech devices are mostly self-maintaining and self-repairing, which may eliminate some Limitations ordinarily associated with technology.

One colorful aspect of an advanced nanotech campaign is that just about everything is potentially "alive." Chairs may be able to walk about, clean themselves, and adjust to fit different users. Houses may be living or semi-living systems. Combine this with widespread artificial intelligence (running on extremely compact nanotech computers) and the result is almost like a fantasy setting — Clarke's Law in action.

Another likely result of advanced nanotech is longevity, even immortality. The ability to provide

THE GOO SPECTRUM

Besides the deadly "grey goo" mentioned in the text, scientists have speculated about other nanotech weapons/tools that might become feasible in the future. They include:

Blue Goo: Beneficial/protective nanotechnology designed to counteract grey goo.

Green Goo: Nanotech designed to sterilize Humans through the use of otherwise harmless infections. Could be used by repressive governments engaging in forced population control, eco-terrorists, or the like.

Golden Goo: Designed to filter gold from seawater, golden goo could cause problems (both ecological and economic) if it was not carefully controlled.

Khaki Goo: Another term for grey goo or other military nanotechnology.

LOR Goo: "LOR" stands for "Lake Ocean River"; the term refers to nanotech that would clean pollution, and harvest usable resources, from bodies of water. Poses the same dangers as golden goo.

Red Goo: Various forms of grey goo deliberately created and used as a weapon.

medical treatments at the cellular level means doctors could retard or reverse the causes and results of aging. Even resurrection may be possible, if swarms of nanobots can perform a brain scan and recover the memories and personality of a person before decay sets in. In a nanotech world, death may be no more than an inconvenience.

The economics of a nanotech society are hard to predict. It's easy to get optimistic and envision a day of infinite material abundance for everybody. It is likely that a nanotech society would be wealthier than the present day, just as we are richer than our Victorian forebears. But nanotech can't do everything. Land remains valuable (though specific parcels may change: a toxic landfill might become quite desireable for nanotech mining of heavy metals). Intellectual property won't change unless society wants it to. Energy is still important, though nanotech certainly changes how a society uses and distributes it.

Example Nanotechnology Devices

Disassembler Grenade: The basic nanotech weapon: a canister of voracious nanomachines which reduce everything around them to individual atoms. Fortunately, the machines don't reproduce, so in time the spray stops working. Price: 1,350 credits per grenade, or more

RKA 1d6, Area Of Effect (1 Hex; +½), Continuous (+1), Penetrating (+½) (45 Active Points); OAF (-1), 1 Continuing Charge lasting 1 Turn (neutralized by fire or any other area-affecting damage-causing phenomenon; -1¼), Range Based On STR (-¼). Total cost: 13 points.

Grey Goo Grenade: This horrible nanoweapon, used only as a desperation measure because it remains on the battlefield so long, converts all the matter it encounters into more nanobots. Price: 2,370 credits per grenade, or more.

RKA 1d6, NND (defense is ED Force Field, being surrounded by fire, or having counter-nanobots; +1), Does BODY (+1), Area Of Effect (6" Radius; +1), Continuous (+1), 1 Continuing Charge lasting 1 Day (neutralized by fire or any other area-affecting damage-causing phenomenon; +¼) (79 Active Points); OAF (-1), Range Based On STR (-¼). Total cost: 35 points.

Medical Nanobots: These are microscopic machines which remain dorman in the patient's tissues and bloodstream until the body suffers serious injury, at which point they go to work stabilizing the patient's condition and repairing damage. Price: 400 credits, or more.

Healing 1d6 (Regeneration; 1 BODY per Turn), Reduced Endurance (0 END; +½), Persistent (+½) (20 Active Points); Extra Time (1 Turn; -1¼), Self Only (-½). Total cost: 7 points.

Protective Nanoswarm: A cloud of flea-sized nanobots patrolling the air around the character, checking for enemy nanomachines, germs, and pests. Price: 645 credits, or more.

Force Field (12 PD), Hardened (+¼), Invisible Power Effects (Sight Group; +½), Reduced Endurance (Reduced Endurance (0 END; +½) Uncontrolled (removed by fire, any other area-affecting damage-causing phenomenon, sufficiently strong winds, or the like; +½) (33 Active Points); Only Versus Nanotech Attacks (-1) (total cost: 16 points) ***plus*** *Life Support (Immunity: all terrestrial diseases and biowarfare agents) (10 Active Points); Only Versus Airborne Diseases/Agents (-½), Linked (-½) (total cost: 5 points). Total cost: 21 points.*

POWER AND ENERGY TECHNOLOGY

Science fiction technology is versatile and powerful — when it works. Many gadgets and weapons require a lot of energy from a compact source. In *HERO System* terms there are three primary ways to model power supplies.

Devices which need only small amounts of power and can operate for weeks or months between battery changes are simply bought with the *Reduced Endurance* (0 END) Advantage. Changing batteries and recharging them is just part of the normal maintenance implicit in the *Focus* Limitation. (Alternately, Fuel Charges may be appropriate for these devices.)

Devices with batteries or power cells that do get drained after only a few uses are best designed with the *Charges* Power Modifier. Getting new Charges is a matter of putting in new power cells or plugging the device into a recharger overnight.

Large devices and vehicle or base systems may need a constant power supply. In *HERO System* terms, powerplants and the like are typically the special effects of the *Endurance Reserve* Power, producing END points in the form of electricity. These Endurance Reserves typically have REC equal to their END; this simulates how they work in "real-world" terms, and makes for easier bookkeeping. At the GM's option, since Fuel Charges don't work well with Endurance Reserves, you may apply a *Requires Fuel* Limitation to represent the fact that they need refueling at least once a month or so. This Limitation is worth -0 or -¼ for Very Common or very easily obtained fuels, -½ for Common or easily-obtained fuels, and -1 for Uncommon fuels (or fuels which are difficult and/or extremely expensive to obtain). If the Endurance Reserve doesn't require refuelling on at least a monthly basis, it doesn't qualify for this Limitation.

REAL WORLD POWER SUPPLIES

Some sources of power found in SF stories actually exist in real life, or could plausibly be developed in the future.

Solar Power

Solar power is abundant, especially in space, and requires no fuel, but the solar panels to collect it are often large and bulky — the larger the panels, the more power they can generate. However, the primary difficulty with solar power is not panel size, but the fact that the farther away the panels are from a star, the less power they generate. For example, a solar panel at the orbit of Mars produces only half the power of the same-size panel in Earth's orbit; at Jupiter, the same panel generates 1/25 (one-twenty-fifth) of the energy it generates at Earth.

In game terms, a solar power array is an Endurance Reserve. The Reserve's END and REC depend on its size. Both take a -½ Limitation, *Requires Solar Proximity,* to reflect the fact that the energy output drops as the panels get further away from a star. The listed END and REC for a solar power Reserve indicate its maximum power-generating capacity at a distance of up to 1 AU. For each AU (or fraction thereof) beyond that distance, halve the Reserve's END and REC. (In some respects, this is a form of the *Limited Recovery* Limitation for Endurance Reserves, so those taking Requires Solar Proximity may not also take that Limitation to simulate the need for proximity to a star.)

A one-hex solar power array (2.6 square meters) can generate up to 12 END/12 REC. Add at least one hex to the array for each additional point of END and REC (keep the two equal).

As of the early twenty-first century, each hex of solar cells has a mass of 10 kilograms and costs 1,000 credits. Advanced technology makes cells lighter and cheaper: by the middle twenty-first century, a one-hex panel masses only 5 kilograms and costs 500 credits per hex, and the weight and price in most settings continue to go down from there as the decades progress.

Solar Panel: This is a 25-hex panel generating enough power for a small space station or spaceship. Price: 25,000 credits, or more.

Endurance Reserve (36 END, 36 REC) (40 Active Points); OAF Immobile Fragile (-2¼), Only Powers Electrical Devices (-¼), Requires Solar Proximity (-½). Total cost: 10 points.

Fuel Cells

Fuel cells burn hydrogen and oxygen to produce electricity. Some versions can run on other combinations of reactive gases, but hydrogen-oxygen cells are popular because their waste is fresh water. While fuel cells are compact and powerful, they do require fuel on a monthly basis, making them less useful on long-duration voyages. The Space Shuttle gets its power from fuel cells, since its missions typically last less than two weeks.

A basic fuel cell has a mass of approximately 1 kilogram and costs 25 credits (not counting fuel). It can produce up to 4 END/4 REC, and uses 1 liter of fuel per hour in the process. For up to each +4 END/+4 REC, double the number of cells.

Fuel Cell Generator: This array of fuel cells includes enough fuel for a month's operation, has a total mass of 2,500 kg, and costs 8,000 credits (including fuel, fuel tanks, pumps, and so forth).

Endurance Reserve (20 END/20 REC) (22 Active Points); OAF Immobile (-2), Only Powers Electrical Devices (-¼), Requires Fuel (-¼). Total cost: 6 points.

Radiothermal Generators

For missions to the outer solar system, space probes use compact radiothermal generators which produce electricity from the heat given off as radioactive materials decay. These are extremely reliable and long-lasting, but don't produce a great deal of power and would need radiation shielding on manned spacecraft.

At the earliest stage of this technology, a radiothermal power plant generates 2 END/2 REC of power per kilogram of weight, and costs 400 credits per kilogram. As radiothermal generator technology improves, increase the power output while reducing the weight.

Small Radiothermal Powerplant: This is a small radiothermal generator, such as a space probe might carry. Price: 400 credits, or more.

Endurance Reserve (2 END/2 REC) (3 Active Points); OAF (-1), Only Powers Electrical Devices (-¼). Total cost: 1 point.

Nuclear Fission

This is what most people mean by "nuclear power" — a tested and reliable technology which generates power by splitting atoms. As of the early twenty-first century, nuclear fission supplies a quarter of the United States's electricity and allows France to be an energy exporter without oil. Modern Earth nuclear reactors are large and bulky, useful only when really huge amounts of power are needed. They can run for up to 5 years between refuelling. A reactor masses about 10 metric tons per 20 END/20 REC produced and costs 500,000 credits per metric ton of mass.

BEAMED POWER

Many SF stories, particularly ones written in the early decades of the genre, featured robots, vehicles, and other devices running on *beamed power* rather than batteries or other built-in power sources. Beamed power involves a central power-generating station of massive capacity, which can then "beam" the power out as invisible, intangible waves of energy to any device capable of receiving it.

In game terms, you can simulate beamed power in either of two ways:

1. Buy devices and Vehicles with the Advantage *Reduced Endurance* (0 END), with the beamed power functioning as the special effect of the 0 END cost.

2. Buy the central power station as an *enormous* Endurance Reserve with the *Usable By Others* (a *lot* of others!) and *Ranged* Advantages, and then have devices requiring power draw from the Reserve. The larger the number of devices that draw power from the Reserve, the more END and REC it needs — amounts in the tens of thousands of points' worth are often necessary.

The intriguing thing about beamed power from a storytelling viewpoint is the possibility that the power gets shut off. How does society, deprived of power, react? Could characters responding to an emergency be stranded when their powerless hovercars settle on the ground? Could terrorists hold the power generating facility hostage? A clever GM can come up with lots of similar ideas.

Technology can improve reactors somewhat, reducing the mass of shielding and the cost. Halve the weight, volume, and cost of a fission power plant at near-future (Cyberpunk) technology levels, and again a generation later. After that stage of technological development, fusion powerplants replace fission powerplants.

Nuclear Reactor: A modern reactor (such as a submarine or interplanetary spacecraft might carry) masses about 100 metric tons. Price: 50 million credits, or more.

Endurance Reserve (204 END/204 REC) (225 Active Points); OAF Immobile (-2), Only Powers Electrical Devices (-¼). Total cost: 69 points.

SPECULATIVE AND RUBBER SCIENCE POWER SUPPLIES

Science fiction writers and space scientists have suggested several possibilities for new power sources. Some of them will probably become practical, while others remain in the realm of rubber science. Since all of these are highly speculative, mass and cost are just estimates.

Fusion Power

Nuclear fusion power is the most likely candidate for a new type of power generation, at least in the near future. Current research is creeping towards a fusion reactor which produces more power than it consumes. A fusion powerplant would need only a few kilograms of deuterium or helium-3 to produce large amounts of power for long periods. Just like fission plants, fusion generators require some fairly heavy shielding.

A fusion powerplant when the technology first becomes available in the early-mid twenty-first century has a mass of 500 kilograms per 20 END/20 REC generated (fusion reactors are lighter than fission powerplants, but bulkier). They cost 1,000 credits per kilogram.

Technology rapidly improves fusion powerplants. At late Cyberpunk-era tech the output per kilogram increases, while the cost is halved (500 credits per kilogram). By early starfaring technology the cost is 250 credits per kilogram, and at mature starfaring tech the cost drops to 100 credits per kilogram of power plant.

Example Speculative Power Sources

Early Starship Fusion Plant: This fusion plant is suitable for early interstellar spacecraft. It has a 10-year supply of deuterium fuel and a mass of 4 metric tons. Price: 1 million credits, or more.

Endurance Reserve (156 END/156 REC) (172 Active Points); OAF Immobile (-2), Only Powers Electrical Devices (-¼). Total cost: 53 points.

Personal Fusion Unit: Built with late starfaring-era technology, this is a portable fusion plant weighing 100 kilograms and occupying about as much space as a filing cabinet. It can run for a decade on one supply of fuel. Price: 25,000 credits, or more.

Endurance Reserve (108 END/108 REC) (119 Active Points); OAF Bulky (-1½), Only Powers Electrical Devices (-¼). Total cost: 43 points.

Cold Fusion Generator: This is a second-generation cold fusion device, providing enough power for a household or a personal vehicle. Price: 10,000 credits, or more.

Endurance Reserve (72 END/72 REC) (80 Active Points); OAF Bulky (-1½), Only Powers Electrical Devices (-¼). Total cost: 29 points.

Experimental Antimatter Reactor: This is a first-generation antimatter power plant, too expensive to compete commercially with fusion powerplants, but suitable as the goal of an adventure. It costs 90 million credits (or more), plus another 100,000 credits (or more) for the antimatter fuel.

Endurance Reserve (168 END/168 REC) (185 Active Points); OAF Fragile Immobile (-2¼), Activation Roll 14-, Burnout (-¼), Only Powers Electrical Devices (-¼). Total cost: 49 points.

Starship Antimatter Reactor: This is a large, powerful reactor capable of running a major spacecraft. It weighs six tons, and costs six million credits (or more).

Endurance Reserve (228 END/228 REC) (251 Active Points); OAF Immobile (-2), Only Powers Electrical Devices (-¼). Total cost: 77 points.

Cold Fusion

A variant form of fusion power, "cold fusion" was announced with great fanfare in the late 1980s and then quietly dropped when the researchers discovered flaws in their experiment. Cold fusion uses as-yet-undiscovered chemical or electrochemical means to cause fusion a few atoms at a time. The energy given off is low, but cold fusion generators don't need any shielding and are very compact.

When they first appear, cold fusion cells weigh 1 kilogram per 2 END/2 REC, and 100 credits per kilogram. The heavy water in a cold fusion cell lasts 1 year before replenishing. Technology rapidly improves cold fusion cells, increasing the output more than decreasing the size.

Antimatter Power

Well-known to SF fans from its use on *Star Trek,* antimatter power is the ultimate form of nuclear energy, because it converts all the mass of its fuel into energy. Tiny amounts of matter combined with antimatter would result in immediate annihilation of both in a reaction releasing immense amounts of power. Aside from containing and channelling this immensely powerful reaction, the chief problem is that antimatter doesn't occur naturally. Civilizations can't mine it, they must manufacture it. It may someday be used as a means of storing and transporting energy, with huge solar-powered antimatter factories in remote star systems generating antimatter by the gram for distribution to planets and starbases. Handling antimatter is

extremely tricky — it requires magnetic force-fields and the like — and an accident could wipe out an entire facility, continent, or planet.

Given the rubber science involved, an antimatter reactor usually doesn't need heavy shielding in addition to the special containers for the antimatter. Early antimatter generators weight 1 ton per 20 END/20 REC, and cost 10 million credits (or more) per ton; the antimatter fuel costs 100,000 (or more) credits per gram, with a single gram sufficient to run the plant for a year. Technological advances can improve antimatter power substantially. Divide the cost of the fuel in half for each tech level beyond introduction (or, if the GM prefers, for every decade). The cost of the plant itself reaches 1 million credits per ton, with the plant weighing 1 ton per 40 END/40 REC generated. Power output may increase, and cost decrease, beyond that.

Singularity Power

Singularity power sources make use of tiny black holes, either artificially created in giant particle accelerators or left over from the early days of the universe, contained in special force-fields. Feeding mass into the black hole causes the matter to release almost all its energy. This means a singularity powerplant can use anything for fuel. On the other hand, all the mass remains in the singularity, which makes it gain weight over time (at the rate of 1 kg per year). Singularity power sources don't scale down well — they can provide energy for a large starship or even a whole planet, but not a car or a personal energy weapon.

The singularity inside a power plant is an extremely valuable object — salvagers and pirates may want to recover or steal it, and finding a singularity is an excellent adventure hook. However, it's also extremely dangerous. If the force-fields and other safeguards holding it "inert" are shut off, the black hole "manifests" in real space, destroying objects on an interstellar scale.

At first introduction a singularity plant generates 400 END/400 REC and masses 400 metric tons or more (plus the mass of the singularity, which starts at 1 billion metric tons). As technology progresses, the plant becomes smaller and lighter, and the power output doubles, then triples.

Zero Point Power

Zero Point Energy is a theoretical method of using the energy inherent in space itself. If this could actually be accomplished, it would effectively be perpetual motion — free energy from nothing at all. It could also be a terrifying weapon if the release of energy could be triggered from a distance. This is serious "rubber science" at present, although it has a basis in real physics. Power output, costs, and weights are pure guesswork, but should eventually become better than fusion (though probably not as good as antimatter or singularity power).

TELEPORTATION

The concept of teleportation has been around for a while, but it was *Star Trek* which made "beam me up" part of everyday slang. In science fiction, teleportation devices work in various different ways, and each has its unique side effects.

All teleporters create the problem that everyplace is instantly "next door" to everyplace else, for good or ill. Injured patients arrive directly in a hospital in zero time, soldiers deploy to a war zone (or the enemy leader's command post) in a flash — and places like the Grand Canyon or Florence become overwhelmed with even more tourists than they already have to cope with. Larry Niven suggested teleportation might create "flash crowds" at major events, a prediction supported by the way Internet users crowd popular Web sites at times.

Most forms of technological teleportation also create a host of other problems. Can a character's "teleportation pattern" be stored, thus leading to effective immortality, and possibly instant healing? Can multiple "copies" of a person or object be created, on purpose or by accident? Could teleportation cause physical or brain injuries over repeated use? Could two people be "merged," accidentally or on purpose, via teleportation? Gamemasters should consider these issues carefully before allowing teleportation technology into their *Star Hero* campaigns, or else they may soon find that they've unleashed a force they can't control. Players, unlike TV SF writers, aren't likely to ignore nifty new weapons and tools once they've created them.

MATTER FAXES

The most realistic form of teleportation would be a kind of "fax" system — the device scans the passenger down to the atomic level and then creates a duplicate at the receiving end. Often the scan destroys the original, which means any interruption in the process is fatal. A matter fax has interesting side effects: you can presumably beam the signal to multiple receivers, creating as many duplicates as you wish. You can also store the "blueprint" on disk, making this a convenient method of immortality. Matter faxes are by definition "replicators" capable of manufacturing anything which can fit into the scanning booth, so this kind of teleportation not only creates immortality but infinite wealth as well. Most matter faxes require a transmitter and a receiver, and realistically need insane amounts of power.

Matter Fax Booth: A standard MFB, found on many developed worlds. (Technically speaking, just building this as Teleportation wouldn't allow for the "copying" of people and objects; if necessary, add a Duplication effect.) Price: 1,900 credits per device, or more.

Teleportation 10", x16 Increased Mass (1.6 metric tons), MegaScale (1" = 1,000 km, scalable down to 1" = 1 km; +1¼) (90 Active Points); OIF Immobile (-1½), Can Only Teleport To Fixed Locations (-½), Extra Time (1 Turn, -1¼) (total cost: 21 points) and 1 Floating Fixed Location (any other matter fax booth,

chosen at the time of use) (5 Active Points); OIF Immobile (-1½) (total cost: 2 points). Total cost: 23 points.

QUANTUM DISPLACEMENT

This is slightly more rubbery science than matter faxes. Quantum displacement somehow makes all the particles in the passenger's body "jump" to the destination. It is the closest to classic teleportation, and probably would work best over short distances. It would not need a receiver, and so shouldn't have Fixed Locations. This makes quantum displacement a natural military technology: instead of launching missiles, quantum displace those warheads right into the enemy's bases. Guns might even be replaced with ranged quantum displacement devices to "pop" rounds into protected areas.

As a transport system, quantum displacement would be simplest as an individual device — put on your teleport belt and go hopping about. It would make theft ridiculously easy, and jails impossible to keep people in. The combination of social chaos and military value might keep quantum displacement a Top Secret technology until some form of barrier or countermeasure becomes available.

Quantum Displacement Transporter: A standard teleporation device found on starships, space stations, and developed worlds. It typically consists of a chamber containing one or more "teleportation pads" on which the users stand, while another character operates the controls. It's particularly handy for teleporting personnel and objects to and from a planet's surface without the need to land a starship or use shuttles (if characters want to Teleport over shorter ranges, add two non-MegaScaled slots). It requires similarly MegaScaled sensors to locate the destination (or the objects to be teleported to the device). Price: 14,000 credits, or more.

Cost	Quantum Displacement Transporter
80	*Quantum Displacement Transporter:* Multipower, 240-point reserve, all OIF Immobile (-1½), Extra Time (Full Phase; -½)
4u	1) *Teleporting Away:* Teleportation 10", x8 Increased Mass, Position Shift, MegaScale (1" = 100,000 km, scalable down to 1" = 1 km; +1¾); OIF Immobile (-1½), Extra Time (Full Phase; -½)
8u	2) *Teleporting To:* Teleportation 10", x8 Increased Mass, Position Shift, MegaScale (1" = 100,000 km, can scale down to 1" = 1 km; +1¾), Usable As Attack (+1), Ranged (+½), MegaRange (1" = 100,000 km, can scale down to 1" = 1 km; +1¾); OIF Immobile (-1½), Extra Time (Full Phase; -½)

Total cost: 92 points.

FOLDED SPACE

Using essentially the same rubber science as warp drives (*Star Hero,* page 192), folded space teleporters bend the fabric of the Universe to put your current location next to your target. It needs a transmitter and a receiver, and can cover interstellar distances. If the cost is low enough, houses could have portals built into doorways, so that different rooms might be in different places, or even on different planets (as shown in, for example, Dan Simmons's *Hyperion*). Of course, if the system breaks down while you're in a room on a distant world, it might take months or years for a repairman to arrive by starship.

Teleportal Network: This is a network of standard space-folding device, connecting points on different worlds. Price: 11,000 credits per device, or more.

Teleportation 20", x16 Increased Mass (1.6 metric tons), MegaScale (1" = 1 light-year; +3½) (270 Active Points); OIF Immobile (-1½), Can Only Teleport To Fixed Locations (-½) (total cost: 90 points) and 1 Floating Fixed Location (any other teleportal, chosen at the time of use) (5 Active Points); OIF Immobile (-1½) (total cost: 2 points). Total cost: 92 points.

MISCELLANEOUS EQUIPMENT

Here are a few items characters might find useful that don't fit into any of the categories described above.

Survival Devices

Characters often have to work in some pretty hostile environments. These devices help them survive the rigors of open space or heavy atmospheres.

Spacesuit: Anyone venturing into Trace atmospheres or outer space needs a spacesuit. This version represents early twenty-first century Human models, with a rigid chest section for easy access to controls. It provides pressure and temperature support indefinitely, and oxygen for up to six hours. Price: 300 credits, or more.

Cost	Spacesuit
3	*Environment Protection:* Life Support (Safe Environments: Intense Cold, Low Pressure/Vacuum) (4 Active Points); OIF (-½)
7	*Breathing Gases:* Life Support (Self-Contained Breathing) (10 Active Points); OIF (-½), 1 Continuing Fuel Charge (easily obtained; 6 Hours; -0)
2	*Protection:* Armor (2 PD/2 ED) (6 Active Points); OIF (-½); Activation Roll 11- (-1)

Total cost: 12 points

Advanced Spacesuit: As space travel becomes more common, people want suits which are less bulky and allow more freedom of movement. Skinsuits are the solution — instead of wearing a pressurized balloon, the user wears a suit that hugs the skin, turning his own skin into a "spacesuit." The helmet is a clear bubble, and the backpack can provide oxygen for up to a day. (Use the first two powers for the standard Spacesuit, above, but the Breathing Gases last for 1 Day.) Price: 200 credits, or more.

Armored Spacesuit: For environments like the atmosphere of Jupiter, characters need a space suit that's also designed to keep pressure *out,* and to provide more protection in general. This particular suit resists up to 90 atmospheres of pressure (see *Star Hero,* page 283), enough to allow a character to walk on the surface of Venus. It also works fine as a deep-diving suit in the oceans of Earth or Europa. Price: 1,380 credits, or more.

Cost	Armored Spacesuit
5	*Environment Protection:* Life Support (Safe Environments: High Pressure, Intense Cold, Intense Heat, Low Pressure/Vacuum) (7 Active Points); OIF (-½)
7	*Breathing Gases:* Life Support (Self-Contained Breathing) (10 Active Points); OIF (-½), 1 Continuing Fuel Charge (easily obtained; 6 Hours; -0)
50	*Protection:* Armor (30 PD/20 ED) (75 Active Points); OIF (-½)

Total cost: 62 points

Medical Devices

Characters in SF settings often get hurt, or fall victim to mysterious alien maladies. Here are some of the devices the doctors of the future use to treat their patients.

Autodoctor: A marvel of Space Opera technology, this device is a small chamber on a pedestal. A person seals himself in, and the computers operating the Autodoctor go to work, using its built-in diagnostic systems and medical technology to repair injured bodies, cure illnesses, and otherwise restore the character to good health. This often takes a long time — a minimum of 1 Minute, but usually one hour to one day per BODY lost. Price: 3,200 credits, or more.

Simplified Healing 8d6 (80 Active Points); OAF Immobile (-2), Extra Time (see text; -1½), Requires A Paramedics Roll (-½). Total cost: 16 points.

Medkit: The standard first-aid pack in futuristic settings, a Medkit includes bandages which function like stitches, drugs to stop bleeding and prevent shock, stimulants, and immunoboosters. Price: 400 credits, or more (this price assumes the user has access to a free source of resupply, like a starship's sickbay; if not, he may buy refills for 75 credits apiece).

Simplified Healing 2d6 (20 Active Points); OAF (-1), Extra Time (1 Turn, -1¼), Requires A Paramedics Roll (-½), 6 Charges (-¾). Total cost: 4 points.

Multisyringe: This handheld device contains an extensive supply of different medicines its user can inject into a sick person to cure him. The Activation Roll represents the fact that the multisyringe might not have quite the right medicine for a specific illness (or a specific species); if characters know in advance what illnesses they may encounter, they can load the multisyringe with the appropriate medications and ignore the roll.

Note that the multisyringe does *not* provide any sort of Healing — it simply stops the course of a disease or illness. Characters who have lost BODY, STUN, or other Characteristics to an illness must recover them normally (or with the help of other medical technology). Price: 1,600 credits, or more.

Minor Transform 8d6 (standard effect: 24 BODY) (sick persons into well persons) (80 Active Points); OAF (-1), Activation Roll 11- (-1), No Range (-½), All Or Nothing (-½), Limited Target (sentient beings; -¼). Total cost: 19 points.

Communications And Sensor Devices

Comm Button: The descendant of modern cell phones and portable radios — a tiny unit no bigger than a nickel, with a sensitive microphone and voice-activated controls, capable of automatically linking up to the local wireless network to allow instant communication with anyone else on the planet (or in orbit). They need no maintenance because they're cheap enough to be disposable. Price: 15 credits, or more.

Radio Perception/Transmission (3 Active Points); IAF (-½). Total cost: 2 points.

Electronic Binoculars: Serious vision aids used by soldiers, scientists, and explorers, these devices provide light amplification, thermal sensing, magnification, and real-time image enhancement. Price: 740 credits, or more.

Cost	Electronic Binoculars
2	*Basic Nightsight:* Nightvision (5 Active Points); OAF (-1)
2	*Thermal Sensing:* Infrared Perception (Sight Group) (5 Active Points); OAF (-1)
9	*Magnification:* +12 versus Range for Sight Group (18 Active Points); OAF (-1)
3	*Image Enhancement:* +2 PER with Sight Group (6 Active Points); OAF (-1)
1	*Rangefinder:* Absolute Range Sense (3 Active Points); OAF (-1)

Total cost: 17 points.

Holoprojector: A very common gadget used for entertainment, advertising, "telepresence," and various other purposes ranging from deadly serious to silly. It projects visual images, either real-time feeds from a camera or recorded. Price: 440 credits, or more.

Sight and Hearing Group Images, 1" radius, Reduced Endurance (0 END; +½) (22 Active Points); OAF (-1), Set Effect (recorded or broadcast images only; -½). Total cost: 9 points.

Nightsight Glasses: Next-generation descendants of modern night-vision goggles, these are as light and comfortable as a pair of thick sunglasses and adjust automatically to ambient light, providing both night vision and glare protection. Price: 500 credits, or more.

Cost Nightsight Glasses

2 *Basic Nightsight:* Nightvision (5 Active Points); OAF (-1)
2 *Thermal Sensing:* Infrared Perception (Sight Group) (5 Active Points); OAF (-1)
2 *Ultraviolet Sensing:* Ultraviolet Perception (Sight Group) (5 Active Points); OAF (-1)
5 *Glare Protection:* Sight Group Flash Defense (10 Active Points); OAF (-1)

Total cost: 11 points.

Personal Sensor Unit: Carried by explorers, scientists, detectives, and anyone who needs to gather information from a locale, this handy device includes spectrographic scanners to analyze materials, a battery of electromagnetic radiation detectors, and a powerful built-in analytic computer. Scanning takes some time, but the results can be recorded and studied later. Price: 700 credits, or more.

Detect Electromagnetic Radiation And Physical Objects 14- (Radio Group), Discriminatory, Analyze, Range (35 Active Points); OAF (-1), Requires A Systems Operation Roll (-½), Affected As Sight And Hearing Group As Well As Radio Group (-½) (total cost: 12 points) and Eidetic Memory (5 Active Points); OAF (-1), Requires A Systems Operation Roll (-½), Only To Remember Things Detected (-½) (total cost: 2 points). Total cost: 14 points.

Tools

Characters often have important tasks to perform, and sometimes the right tool is just what they need to get the job done quickly and well.

Forcebeam Tool: An outgrowth of force-field technology, this versatile gadget is a cutter, a short-range forcebeam projector, and an all-purpose tool. Price: 410 credits, or more.

Cost Forcebeam Tool

12 *Forcebeam Tool:* Multipower, 25-point reserve, all OAF (-1), 1 Continuing Fuel Charge (refuels by recharging; 1 Hour; -0)
1u 1) *Cutter:* RKA 1d6; OAF (-1), No Range (-½)
1u 2) *Tractor Beam:* Telekinesis (10 STR), Fine Manipulation; OAF (-1), Reduced By Range (-¼)
1u 3) *Toolbox-In-One:* +3 with Mechanics; OAF (-1)

Total cost: 15 points.

Gravity Lifter: The development of antigravity technology makes moving heavy objects easy. A gravity lifter is simply an antigravity module and a strong clamp. Attach it to a load, switch on the module, and suddenly a child can lift the heaviest cargo. Price: 200 credits, or more.

+20 STR (20 Active Points); OAF (-1), 1 Continuing Fuel Charge (refuels by recharging; 1 Hour; -0), Only for Lifting (-1). Total cost: 7 points.

Multitool: Instead of carrying a whole toolbox, why not use a Multitool? Made of "smart matter" and a mini-computer with a database of hundreds of different configurations, the Multitool can take just about any shape needed. Price: 150 credits, or more.

+3 with all Construction/Mechanical Skills (15 Active Points); OAF (-1). Total cost: 7 points.

Powered Exoskeleton: This bulky and powerful open-frame suit gives the wearer the strength for heavy jobs. Typically used for construction, cargo loading, rescue work, and various rough-and-tumble sports, it also serves as an effective hand-to-hand combat weapon in some instances. Price: 400 credits, or more.

Cost Powered Exoskeleton

13 *Clamps, Grips, And Servos:* +30 STR (30 Active Points); OIF Bulky (-1), Character Cannot Use Own STR (-¼)
5 *Battery:* Endurance Reserve (20 END/8 REC) (10 Active Points); OIF Bulky (-1).

Total cost: 18 points.

Sonic Multitool: This variant on the Multitool uses focused sound waves and other forms of electromagnetic radiation to assist with work on electronic devices.

+3 with all Electronic/High-Tech Skills (15 Active Points); OAF (-1). Total cost: 7 points.

Towel: An essential utility item for space travelers. Price: 10 credits, or more.

Cosmetic Transform 1d6 (wet things to dry things), Reduced Endurance (Reduced Endurance (0 END; +½) (7 Active Points); OAF (-1), No Range (-½). Total cost: 3 points.

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