BB-02

BIG BANG

The Mostly Illustrated RPG Guide to Modern Weapons

Designed for use with all roleplaying game systems.

d20 system™ Fudge SYSTEM ACTION! SYSTEM™

Volume 2

BIG BANG
THE MOSTLY ILLUSTRATED RPG GUIDE TO FIREARMS
VOLUME 2

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WELCOME TO BIG BANG

Well, I see you're back, and I'm glad to see you here again. Welcome to the second volume of Big Bang. I do apologize for being so far behind deadline for this release. Full-time life doesn't always cooperate with part-time research and writing, and this volume represents a huge step forward in my goal of a truly easy-to-use generic RPG gun book.

We continue where the first volume left off, providing plenty of new guns for you to play with. One major change you will notice, however, is the new materials presented under license. The book now presents game statistics for CyberThriller, D20 System, Action! System, and FUDGE. Another important change you'll notice is the heavy revision, reorganization, and expansion of this first section of the book. I felt it was a necessity, since the new rules covering Fudge and Action! Were not organized in the same fashion as previous rules for D20 and CyberThriller. We also needed to fix some layout issues from the first two volumes, primarily the problems with the lack of space for hole punching. The headers and footers caused some problems too, with content overlapping them. I also needed to clean up a lot of references in accordance to some of the licenses.

The addition of FUDGE and Action! System weren't particularly easy, either. The entire subset of FUDGE rules needed to be revised to fully integrate with both FUDGE and the real world data. The tough spot was in calculating FUDGE damage, since the damage had to be squeezed into a rather small scale. Initially, I chose to rely on flesh disruption to calculate FUDGE damage, rather than penetration. Unfortunately, for the scale upon which FUDGE operates, damage would be lopsided with most guns being too weak to seriously threaten a life. So the FUDGE damage is based on penetration, just like D20 and Action!.

Action! was problematic as well, since I couldn't uncover any sort of reasoning behind the decisions for stats in the Action! Core rules. I was stumped for some time until I looked at the other reasoning-free gun book, Guns, Guns, Guns (aka 3G). Lo and behold! Now I know where the Action! Stats came from. I have issues with 3G, since I have noted a vast amount of things done in it that lead to bad data in the end. Now I'm not so surprised that the weapons in Action! really don't synch up well with what their real world counterparts are actually capable of.

Anyway, with the work that went into integrating all these new rules and gun data resulted in the book being a little short on weapons; around 90 guns or so in total. In addition, I got very distracted while working on the guns. I started out wanting to focus on experimental firearms that never made it, but somehow all sorts of concealable disguised weapons and small arms from World War II crept into the book. It was a lot of work, and the work still isn't finished. Now Big Bang Volume One and Special Edition must also be revised to include the new game systems. BB Vol. 1 will simply add the new stats and a few extra pages of appendicized rules, while the special edition is getting new stats, new rules AND new guns. These revisions are going to lead to a price increase, from $5.00 per volume to $7.50 per volume, however, all previous purchases of BB Vol. 1 and BB SE are eligible to obtain the revised editions for free. These revisions should be finished by the end of July, with BB SE being done first.

Now for news on Volume 4. Don't expect to see it until at least September. I have other projects to work on between now and then. Volume 4 will benefit from some more layout revisions that should shave several pages from it, and new guns, of course. I'm also aiming on having a PDF calculator done for Vol. 4 as well, which will let you drop in real world data on any gun you know of, and calculate the ballistic information and damage for it. However, I'm not sure I'll get that done in time, so it may end up in the 2003 annual, instead. One thing that will appear are new damage rules for D20, based on flesh disruption of a cartridge. After all, when a hollowpoint can statistically do more then three times the damage of a full metal jacket round, +1 damage really isn't a proper bonus, in my opinion.

One question that was asked about the first volume was "where are the common guns, like the M-16 or AK-47?" The answer to that is that I like to keep families together. In Volume 1, take a look at the IMI Tavor. Those several pages actually detail three generations of the rifle, as they were developed over a span of 10-12 years. That's easy enough to do with rifles like the Tavor, Tantal, and Steyr, but eventually the families become just too big. The US military alone has or had in inventory over 30 variants of the M-16 since 1958. You can add at least that many more from just the US Civilian arms marketplace as well. Then add in the half dozen variants used by the Israeli Defense Forces, the ten or so variants used by Canadian armed forces, the handful of Chinese clones... Get the picture? At last count, I knew of nearly 100 different variants of the M-16! These common guns with the monster families will eventually have their own volumes dedicated to them, I think. Or they'll be dispersed to heavily populate a few volumes once I've finished all the write ups for them. Once again, you've got the product of a lot of work, dedicated to giving you a decent idea about a weapon, rather than trying to skim over it in a paragraph or two.

USING THE DATA

REAL WORLD DATA

To start off, this book presents any and all real world data that could be collected on the weapon in question. As with all the data and game statistics, we have collected the information into a well organized chart. The chart looks like the following:

Weapon					
Manufacturer			Year		
Nation					
Caliber			Mags		
Accuracy	Group			MOA	
	Kill			Pen.	
Velocity			Energy		
Weight	Empty		ROF	SS	
	Loaded			MB	
Length				Burst	
Range	Effect.			Auto	
	Max.			Cyclic	
Notes					

Weapon - This is the full name or military designation of the weapon.
Manufacturer - The name of the company that developed the weapon. For example, the M-16 is listed as a Colt weapon, even though it is manufactured by at least a dozen different companies worldwide.
Year - This lists the range of years in which the weapon has been in manufacture, service or openly available for government or private purchase on a first-hand basis.
Caliber - The calibers the weapon can fire
Mags - a list of the magazine capacities. A letter is attached to many numbers. C represents a cylinder, like that of a revolver, B represents belted ammunition, like that of a machine gun, and D represents a drum style magazine that holds a significantly greater amount than box magazines. If there is no letter associated with the number, that indicates that the magazine is a typical box-type magazine.
Accuracy - Accuracy is data collected from test firings. This data comes from a number of sources; it is either grouping sizes at various ranges from benchmark shooting, the MOA or Minute of the Angle used for accuracy tests in precision shooting, or the kill or casualty rate attained at certain ranges in military testing (higher rates suggest higher accuracy).
Velocity - The velocity at which a bullet leaves the gun.
Energy - the energy possessed by a bullet when it leave the gun.
Weight - The weight of the gun. This provides both empty weight and the weight of the gun when loaded with a full magazine.
Length - the length of the weapon in millimeters. For weapons with folding or collapsible stocks, a second measurement is provided for the weapon's more compact form.
Range - This provide both effective and maximum range. Effective range it the furthest range at which the shooter can reasonably expect to hit the body. Maximum range is the furthest range the weapon can be fired to and still be expected to at least marginally wound the target. The area between effective and maximum range is essentially a useless area in which to aim at targets unless one is a true master of the weapon, or an experienced shooter familiar with the techniques of zeroing in on a target with multiple shots.

ROF - Rates of Fire. They are fun. You can shoot a gun one bullet fired every pull of the trigger. Or it may have a mechanical limiter that lets it fire a set number of bullets with every pull of the trigger. Or it may be capable of firing for as long as you hold down the trigger (in which case there are many ways you can fire it).

SS indicates the single shot rate of fire, or how fast you can reasonably accurately fire it at a rate of one bullet with each pull of the trigger. For most weapons, this rate is a roughly uniform 40 RPM.

MB indicates Mechanical Burst. The weapon contains a mechanical limiter that lets it fire a set number of rounds with each pull of the trigger. This too has a typical limit, which has given us the rather ubiquitous 3-round burst.

Burst indicates a short burst. The 3-round burst is a matter of military doctrine as well as weapon design philosophy. Troops are trained to conserve ammunition when such can be accomplished, and to that end, they are trained to attempt to perform a 3-round burst on weapons with no burst limiter designed into them. This number is the number of rounds typically fired when a shooter attempts a 3-round burst on full automatic fire.

Auto indicates the rate of fire the gun can manage on its full-auto setting, in which one pull of the trigger will continue firing rounds until the trigger is released. However, for Auto, it is assumed that the shooter is following the weapon's maintenance doctrines while providing sustained firing. Maintenance doctrines call for short periods of inactivity in which the weapon is allowed time to cool somewhat in order to prevent overheating that can lead to a catastrophic weapons failure. These short cooling periods are above and beyond the time it takes to swap magazines and recharge the weapon.

Cyclic indicates the full-auto rate of fire, maintenance doctrines be damned. Give the gun enough ammunition and this is how many rounds it would fire if you held down the trigger for a full 60 seconds.

CYBERTHRILLER DATA

Cyberthriller data is organized into a smal l chart to keep things well organized. Anyway, the chart looks like the following:

Cyberthriller													
Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Special Rules													

Weapon - The name by which the weapon is normally identified. Note that naming for revolvers follows a traditional but ever more archaic format. The ASTRA 357, a revolver manufactured from 1972 to 1980 by that Spanish manufacturer, was available with barrel s 4 inches, 6 inches and 8 1/2 inches long. Traditional naming would list these three pistols separately as the Astra 357/4, Astra 357/6, and Astra 357/8.5.

Type - This specifies the categories of the weapons, broken down in a manner suited to identify w hich skill is suitable for using this weapon.

HND Handguns. This includes Machine pistols, autoloading pistols (also known as semi-automatics), revolvers, and pistol-shaped derringers

SMG Submachineguns. Uzis, Mac-10's, H&K MP5's, and the like. Small, compact weapons capable of burst or full auto fire

AR Assault Rifles. The first, the German MP-44 Sturmgewehr-44, and rapidly followed by the M-16, AK-47, and a number of other rifle sized weapons capable of burst and fully automatic fire.

BR Battle Rifles. These are the bridge between Assault Rifles and old bolt-action military weapons used during the First World War and earlier. These are semiautomatic weapons, with greater ammunition capacity and higher rates of fire than possible by bolt action rifles. The Garand M-1 rifle of WW2 is a prime example of a battle rifle.

ACC Assault Rifle Accessories. During World War II, there were two Assault Weapon Accessories; rifle grenades and bayonets. Since then, convenience and the pursuit of lucrative sales has driven an entire market of new accessories, typically mounted beneath a weapon's barrel. There were laser pointers, flashlights, different fore grips, even grenade launchers and single-shot shotguns. Into the next millenium, this tradition of underbarrel de vices continues

SN Sniper Rifle. This category covers all bolt-action rifles, including hunting rifles, plinking guns, varmint guns, and even older military weapons, some of which date back over more than a century

SHT Big bore barrels that use a single cartridge to propel multiple projectiles toward a target in a random pattern but the same general direction

HVY Everything that doesn't fit into other categories. Machine guns, flame throwers, grenade launchers, even some bulkier non-lethal weapon systems

MIS Missile systems with manportable launch systems. Technically they fall under Heavy Weapons, but the depth of training necessary puts them in a category all their own

GRE Grenades. Hand grenades, launched grenades, rifle grenades, pistol grenades

ART Manportable artillery systems. Mainly mortars. But the associated skill also covers larger artillery pieces, like howitzers

VEH Vehicle mounted weapons, like heavy chainguns, gatlings, box-launched anti-tank missiles, tank guns, etc. Not covered in this book, but likely covered in later ones

MEL Knives, swords, clubs, etc

EX Exotic Weapons. See the concealed weapons section

Weapon Accuracy [ACCY] - A weapon's accuracy is determined by using real world firing data. The data used is the grouping diamet er on a target at combat range. The diameter then determines the accuracy of the weapon. One question that arises is why bonuses are based on a 5cm diameter, while penalties are based on 10 cm diameters. This is because more accurate weapons tend to cause people to aim. And it's easier to hit the body in general than it is to hit a specific part of it intentionally. You can further extend the weapon's range into the penalty category for weapons with grouping diameters more than 100 cm, though I can't imagin e anyone wanting to use a gun that can't keep 5 bullets inside a 1 meter diameter circle.

ACCY	Group (cm)	Kill* (%)
+7	0-4	100
+6	5-9	98
+5	10-14	96
+4	15-19	94
+3	20-24	90
+2	25-29	85
+1	30-34	80
+0	35-44	75
-1	45-54	70
-2	55-64	65
-3	65-74	60
-4	75-84	50
-5	85-94	40
-6	95-104	30

* Kill is based on the casualty or kill rate at 75% of effective range for the weapon's category. For every 25% under that, multiply the rate by 0.8 before consulting the above chart. If the indicated range exceeds 75% of effective, multiply the rate by 1.1 for every 25% above 75% of effective range. Example: The SAR-21 rifle has a casualty rate of 90% at 300 meters, which is a dead on number providing it a +3 ACCY. If it was 90% at 200 meters, that's only 50% of effective range for assault rifles. So it would be 90% * 0.8 or a mere 72%, rounded up to 75% to give the rifle a +0 ACCY. If it were 90% at 100m, this is a mere 25% of effective range for assault rifles, giving the rifle 57.6%, rounding up to 60% for a –3 ACCY.

Additionally, accessories can affect the accuracy of a weapon too, as will improper maintenance. These will be covered in detail in the equipment section and the maintenance section, later in this chapter.

Concealability [Conc] - This is a reference to the weapon's size and your ability to conceal it on your person. If you watched The Jackal, (starring Bruce Willis and Richard Gere), you know that even unconcealable weapons can be hidden, just not on your person.

Pocket (P) - Pocket means pocket. The weapon is small, slim, and not very noticeable when you stick it in a pants

pocket. Such weapons also hide well inside sleeves and pant leg cuffs.

Jacket (J) - You need a jacket or baggy clothing to cover it up. This includes anything big enough to stick in your belt. Most handguns are actually jacket concealable, rather than pocket-concealable.

Trench (T) - These weapons are too long to hide under a regular jacket. Think of the Highlander hiding his katana underneath a trenchcoat. Or in the Terminator, when Reese hid a sawed off shotgun under his.

Nonconcealable (N) - It's just too damned big to hide on your person. If you carry it, people will notice. But by all means, this doesn't mean it can't be hidden. Just remember in The Jackal when Bruce Willis' feature character hid a heavy machinegun inside the aluminum mast of a sailboat.

Availability [Avail] - Classification specifying how easily the weapon will be to obtain. BMM is the Black Market Modifier, a multiplier attached to the basic cost and difficulty of obtaining the weapon through illegal means.

Commercial [C] - sold commercially, and therefore easily available to anyone who wants to buy it. BMM x2

Restricted [R] - sold commercially, but restricted for some reason. BMM x3

Law Enforcement [L] - available for purchase by law enforcement personnel only. BMM x5

Military [M] - available for military procurement. BMM x8

Spyware [S] – designed and issued by an intelligence service. More numerous than experimental weapons, but the production runs normally run only a few thousand, not exactly mass production. BMM x15.

Experimental [E] - only available in very limited numbers (usually under 100 units total) and not up for sale. BMM x40.

OOP [O] - out of production. This category may be combined with others. For instance, the US Air Army Pilot's Pistol was made around 1943, but never entered mass production. It counts as both an experimental weapon (having not been mass produced) and is out of production (having been made so long ago). Makes the weapon difficult to obtain. If the weapon entered mass production, the BMM equals that of the other class plus 25%, rounded up. If it did not, the BMM doubles. Examples: Commercial OOP weapon would be BMM x4, Spyware OOP weapon would be BMM x30 and an experimental OOP weapon would be BMM x80.

Fantasy [F] - these are the best guns that never were, taken from a wide variety of fictional resources.

Caliber [Cal] - The bullet caliber will provide a basic level of damage, affected by the way a weapon's design affects muzzle energy. For larger weapons, which are meant to damage or destroy material more than people, they are applied a variety of damage ratings. Anti-armor weapons have their penetrations listed in millimeters. Anti-aircraft missiles have a percentage rating for their chance to kill an aircraft. Explosive devices will be rated by kill radius.

Damage Modifier [DM] - Damage is based on the muzzle energy of a fired bullet from the weapon. Due to design differences, some weapons fire the same caliber round, but the bullet fired from one can leave the weapon with far more muzzle energy than the same kind of round fired from a different model weapon. This applies as a bonus for the bullet's caliber-based damage. The reason for this: design elements are what allow the bullets to exit with higher or lower muzzle velocity. Many guns possess alteration options that rechamber them for a different caliber, while the design elements remain unchanged.

Capacity [Ammo] - The number of rounds the weapon can hold in its standard magazine, cylinder, etc. Typically, an extra round will be indicated if the gun itself can hold a round, as semi-automatic weapons can. For example, an M1911A1 has a 7 round magazine, plus can be carried with one round chambered, giving it a capacity of 7+1.

Rate of Fire [ROF] - Up to five numbers are possibly given; single-shot [SS], mechanical burst (B# ; example: B3 = 3 round burst, can fire a number of bursts equal to SS rate), automatic burst [AB], automatic [A], and cyclic [C]. Not all weapons will be capable of firing all three ways. The numbers are based on a three second combat turn.

Single shot is the semi-automatic, autoloading mode most weapons possess, in which one pull of the trigger will fire a single round and remove the spent cartridge from the firing process, and position a fresh round for firing.

Mechanical burst is a mechanical limit that allows a single pull of the trigger to fire a specified number of rounds. The most widespread example of a mechanical burst is the 3-round burst mode of many submachineguns and assault rifles.

Automatic burst is the typical gunner's attempt to reproduce the mechanical burst on a weapon with no mechanical burst setting. This is the number of rounds the weapon will fire when the gunner is attempting to fire a burst of three rounds with a short trigger pull.

Automatic fire is the number of rounds the weapon can fire when the gunner is attempting a sustained firing rate while at least loosely adhering to the maintenance doctrines of the weapon in regards to the effects automatic fire have on the weapon (i.e., the gunner remembers to take periodic pauses in firing to allow some cooling of the weapon to occur or follows the doctrines for barrel changes).

Cyclic fire is fully automatic fire while throwing all caution to wind, with no regard for the damage it may do to the weapon. The weapon is fired nonstop until it is out of ammunition, with cooling only occurring when the weapon is being reloaded. The cyclic rate is calculated as a number of rounds the weapon could fire in one minute if the weapon could be supplied sufficient ammunition to not require reloading during that minute of firing.

Reliability [Rel] - The weapons reliability in combat; its ability to resist jamming, either from poor design elements, rough handling, debris entering the mechanics, etc. The ratings are:

VU – Very Unreliable. On a fumble, it malfunctions 9 in 10 times. Every malfunction check adds a cumulative –1 to the die roll until the weapon undergoes maintenance.

UR – Unreliable. On a fumble, it malfunctions 7 in 10 times. Every two malfunction checks add a cumulative –1 to the die roll until it undergoes maintenance.

ST – Standard. On a fumble, malfunctions 5 in 10 times. Every 2 malfunction checks adds a cumulative –1 to the die roll until it undergoes maintenance.

RE – Reliable. On a fumble, malfunctions 3 in 10 times. Every 3 die rolls add a cumulative –1 to the die roll until it undergoes maintenance.

VR – Very Reliable. On a fumble, malfunctions 1 in 10 times. Every 3 die rolls add a cumulative –1 to the die roll until it undergoes maintenance.

Range [Eff.Rng.] - Range now possesses two categories: combat range and effective range. Combat range is a rough determination made by the military as to the range in which combat occurs with that type of weapon. For example, the US Army expects that combat with assault rifles will occur within a range of 400 meters, while pistols, as a holdout weapon, will be used at ranges under 50 meters. However, these guns can fire further than that. For some weapons, their

maximum range won't even meet standards for combat range. For the sake of saving paper, most weapons will only list their maximum range. However, a few weapons are expected to perform quite differently from their counterparts, and those s elect weapons will have their combat range listed as a second number. The general combat ranges are as follows:

HND – 50 m.
SMG – 50 m.
AR – 400 m.
SN – 1000 m.
SHT – 25 m.
HVY – Varies by weapon.
MIS – Varies by weapon.
ART – Varies by weapon.
VEH – 1000 m
MEL – Arm's length
EX – Varies by weapon.

In combat, range breaks down as follows: Point Blank, Short, Medium, Long, Effective, and Extreme. Point blank is anything within 20 feet or 7 meters. Short range extends from there to ¼ of the weapon's Combat r ange. Medium range extends from there to ½ of combat range. Long range is the remainder of combat range. Effective range is any distance listed for the weapon that exceeds combat range for that weapon type. Extreme range is any distance that surpasses the weapon's effective range, out to twice its effective range. So, an assault rifle with an effective range of 700 meters would have its range broken down as follows:

0m-21m	Point Blank Range
21-100m	Short Range
100-200m	Medium Range
200-400m	Long Range
400-700m	Effective Range
700-1400m	Extreme Range

Weight [Wt,Emp] or [Wt,ld.] – The weight, in kilograms, of either an empty weapon or a fully loaded, combat -ready weapon.

Cost [Cost] - Cost of the weapon in US currency. Costs for experimental weapons are b ased upon the projected price once in mass production. Every effort is made to keep prices as accurate as possible, but some may date to the original procurement of the weapon, or early procurement low volume mass production prices. Some weapons, mainly he avy weapons like cannons or missile launchers, include a second price. That second price indicates the cost of extra rounds to fire from the launcher.

D20 SYSTEM DATA

Like everything else, this data is kept well organized by a small chart. That chart is as follows:

D20 System										
Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
Special Rules										

All data presented in those charts later in this book, as well as future and past volumes of the series, are open content under the Open Gaming License. We need to make note that we have deviated from the standards set by the D20 Modern Roleplaying Game, as it seems a few things may have been overlooked in consideration during the writing of those rules. These alterations occur under the Rates of Fire and Magazine data. Additionally, Range Increments listed here will vary from those in the D20 Modern Roleplaying Game for any "duplicate" entries. We are also developing an alternate damage system as well, in an effort to reduce the extreme coarseness of the existing system.

Weapon. The name by which the weapon is normally designated.

Damage. The damage assigned to the weapon's caliber, based on data extrapolated from the D20 Modern Rolep laying Game.

Critical. The threat range for a critical hit. If the threat is confirmed, a weapon deals double damage on a critical hit (roll damage twice, as if you hit the target two times). For more detail, see the consecutive sections of Multiplying Damage and Critical Hits in Chapter 5: Combat of the D20 Modern Roleplaying Game.

Damage Type. Ranged weapon damage is classified according to type: ballistic (all firearms), energy (of a specific type, such as electricity damage for a taser), piercing (some simple ranged weapons, such as a crossbow), or slashing (a whip). Some creatures or characters may be resistant to some forms of damage. For this book, we have also added blunt (shotgun beanbag loads) and entangling (net guns) to account for a number of modern ranged weapon concepts not considered in the D20 Modern Roleplaying Game rules.

Range Increment. Any attack at less than this distance is not penalized for range. However, each full increment causes a -2 penalty to the attack roll. Ranged weapons have a maximum of ten range increments, except for thrown weapons, which have a maximum of five range increments. For this book, the range increments are determined by taking the weapon's effective range, converting to feet, and dividing it by 10. The distances are rounded out to the nearest 5 feet. If you're not using a 5 foot scale, then you can simply add another 5 feet to move to the nearest 10 foot scale measurement. With this product series, the range increments are established under the assumption that the shooter is well versed in the use of the weapon in question. For an shooter unskilled in the use of a particular firearm, multiply these ranges by 0.67 to obtain the D20 Modern Roleplaying Game equivalent.

Rate of Fire. Some ranged weapons have a rate of fire of 1, which simply means they can be employed once per round and then must be reloaded or replaced. Firearms, which operate through many different forms of internal mechanisms, have varying rates of fire. The three possible rates of fire for handguns, long arms and heavy weapons are single shot [SS], semiautomatic [SA], and automatic [A].

Single Shot [SS]: A weapon with a single shot rate of fire requires the user to manually operate the action (the mechanism that feeds and cocks the weapons, as well as ejecting casings of spent rounds) between each shot. Pump shotguns and bolt-action rifles are examples of firearms with single shot rates of fire. A weapon with a single shot rate of fire can fire only one shot per attack, even if the user has a feat or other abilities that normally allow more than one shot per attack.

Semiautomatic [SA]: Most firearms have the semiautomatic rate of fire. These firearms feed and cock themselves with each shot. A semiautomatic weapon fires one shot per attack (effectively acting as a single shot weapon), but some feats allow characters armed with semiautomatic weapons to fire shots in rapid succession, getting more than one shot per attack.

Automatic [A]: Automatic weapons fire a burst or stream of shots with a single squeeze of the trigger. Only weapons with automatic rate of fire can be set on autofire or be used with feats that take advantage of automatic fire.

Burst [B]: Many weapons, particularly assault and battle rifles, are capable of firing under a burst setting. Essentially, this is a step that exists between semiautomatic and automatic fire. The gun is effectively on automatic fire, but a mechanical limiter stops the weapon from firing after a few rounds have been fired. Effectively, the weapon will fire three bullets for each pull of the trigger. Effectively, it can allow a shooter to get in three shots per attack without needing any feats to allow them to do so. Additionally, it can also be used with those feats to further increase the number of shots one can get in per attack.

Mag - Magazine. The weapon's magazine capacity and type are given in this column. The amount of ammunition a weapon carries, and hence how many shots it can fire before needing to be reloaded, is determined by its magazine capacity. How the firearm is reloaded depends upon its magazine type. The number in this entry is the magazine's capacity in shots; the word that follows the number indicates the magazine type: box, cylinder, internal, or belt. Weapons with a dash in this column have no magazines; they are generally thrown weapons or weapons like bows, which are loaded as part of the firing process.

Box: A box magazine is any type of magazine that can be removed and reloaded separately from the weapon. This feature is advantageous because a character can carry extra magazines, already loaded, and simply swap an empty one for one of the full extras. Also, box magazines tend to have relatively large capacities. Box magazines need not be shaped simply like a box. Also in this category are the curved "banana" type box magazines, as well as very high capacity drum type and helical magazines. Always be sure to read weapon descriptions carefully, since there are many types of magazines that have reliability problems due to either complexity of design or materials weaknesses exploited by "overloading". Overloading is a condition when a magazine design is incapable of holding its full capacity, and filling it

completely repeatedly eventually results in some manner of failure internally to the mag azine, which causes it to cease feeding far faster than such failures occur in other magazine designs. Most magazines with this flaw can have the problem avoided by filling it to no more than 2 -5 rounds of full capacity. As for a good example of design complexities that cause problems, there are a number of drum-type box magazines that will either pop apart or begin feeding ammunition when dropped. In either case they spill every bullet they held, forcing the character to collect the loose bullets and refil l the magazine. Some helix magazines have a tendency to pop their springs when mishandled, resulting in a magazine that won't feed bullets until it is manually unloaded, rewound, and reloaded.

Cylinder: A revolver keeps its ammunition in a cylinder, which is usually part of the weapon and serves as the firing chamber for each round as well. Unlike box magazines, cylinders on modern guns can't be removed, and they must be reloaded by hand. However, most of these revolvers can be used with a speedloader (see Under Equipment in the D20 Modern Roleplaying Game) - a small device that holds a full load of ammunition ready to be inserted, all at once, into a cylinder. Using a speed loader is much like inserting a box magazine into a weapon. Without a speed loader, a firearm with a cylinder magazine must be loaded by hand. A number of Nineteenth century revolvers, particularly models associated with America's "Wild West" era, actually had removable cylinders that could be swapped much like a modern box magazine. The most predominant example is the Remington New Model Army Revolver .44 Caliber, as carried by Clint Eastwood in *Pale Rider*.

Internal: Some weapons keep their ammunition in an internal space, which must be loaded by hand. This is the case with most shotguns , as well as many rifles.

Belt: the D20 Modern Roleplaying Game refers to this as Linked. Belted ammunition began as rounds inserted into loops attached to a strip of sturdy fabric, looking all the world like the classic western holster belt with ammunitio n loops, hence the term "belted ammunition". Eventually, technology changed to "disintegrating link" belts, where the bullets are chained together with small metal clips to form the belt. While the ammunition is normally issued in belts that are a multiple of 50 bullets, any number of belts can be clipped together. According to the D20 Modern Roleplaying Game, in military units, as the gunner fires, an assistant clips new ammunition belts together to keep the weapon fed. This is somewhat erroneous, as that only occurs when the machinegun team is engaging in sustained rapid-fire. Otherwise, firing doctrines require the weapon to be reloaded at the end of each belt, as a means to ensure the weapon is given a periodic measure of inactivity in which it can cool off. In our listings, we indicate a number of shots for belted ammunition, whereas the D20 Modern Roleplaying Game does not. This is to indicate the number of bullets contained in a belt as it would normally be issued in the military.

Size - Size categories for weapons and other objects are defined differently from the size categories for creatures (a Medium -size weapon, for example, is not the same size as a Medium -size creature or other object). The relationship between a weapon's size and that of the wielder defines whether it can be used one -handed, if it requires two hands, and if it's a light weapon.

A Medium-size or smaller weapon can be used one - handed or two-handed. A Large weapon requires two hands. A Huge weapon requires two hands and a bipod or other mount.

A Small or smaller weapon is considered a light weapon. It can be used one-handed and, as a light weapon, is easier to use in your off hand (see Table 5 -3, of the D20 Modern Roleplaying Game).

Wt - Weight. This column gives the weapon's wei ght in US pounds when fully loaded.

DC - Purchase DC. This is the purchase DC for a Wealth check to acquire the weapon. This number reflects the base price and doesn't include any modifier for purchasing the weapon on the black market or through other illegal means.

Res - Restriction. The restriction rating for the weapon, if any, and the appropriate black market purchase DC modifier. Remember to apply this modifier to the purchase DC when making a Wealth check to acquire the weapon on the black market.

FUDGE DATA

As with everything else, The Fudge data is kept well organized in a small chart. That chart is as follows:

FUDGE							
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Special Rules							

Converting to FUDGE requires a bit of work o n your part, as everything needs to be fit into that -3 to +3 range. Fortunately, while a bit of work has to go into that, we don't have mach statistical data to produce for FUDGE. All we need to work on is Range, Accuracy, and Damage. Having taken everyth ing into consideration, we're able to reduce all the hard work for you down to consulting a few tables. We're aiming to eventually reduce the work further by doing all the work for you.

For range, we base things on the weapon's effective range. Cross - reference the range on the table below to determine the weapon's range according to FUDGE. Utilizing this range data is simple. Combine it with the accuracy data in order to produce a modifier for attack rolls.

Range				
	Hand-guns & SMGs	Assault & Battle Rifles, MGs	Sniper, Hunting, & Sport Rifles	Shotguns
Terrible (-3)	0-25m	0-100m	0-150m	0-10m
Poor (-2)	26-40m	101-200m	151-300m	11-25m
Mediocre (-1)	41-70m	201-300m	301-500m	26-40m
Fair (0)	71-90m	301-450m	501-750m	41-55m
Good (+1)	91-110m	451-600m	751-1000m	56-70m
Great (+2)	111-140m	601-750m	1001-1400m	71-90m
Superb (+3)	141-170m	751-1000m	1401-2000m	91-110m

Next, for Accuracy, we do something similar to what we did for CyberThriller, but within the FUDGE framework. We take the grouping sizes and calculate a FUDGE value from that. Add the result from the table below to your base roll

Accuracy	
	Grouping Size
Terrible (-3)	91-110+ cm
Poor (-2)	71-90 cm
Mediocre (-1)	56-70 cm
Fair (0)	36-55 cm
Good (+1)	21-35 cm
Great (+2)	11-20 cm
Superb (+3)	0-10 cm

The next step is rate of fire. We will generalize this, rather in the same fashion as the D20 Modern Roleplaying Game. Weapons can fire Single Shot (SS), Semi -Automatic (SA), Burst (B), Automatic (A) or Cyclic (C).

A Single Shot weapon is one that fires one shot and must then be reloaded. These weapons include everything from rocket launchers, to the lever rifles of the Wild West, to the bolt action rifles of both world wars. Tends to be inaccurate unless aimed due to the fact that the weapon must be physically manipulated between shots.

Semi-Automatic weapons are ones that fire one shot, then reload themselves. Periodically, you need to put more ammunition in them. This includes such weapons as pistols, revolvers, and rifles that use magazines.

Burst weapons fire more than one bullet with each pull of the trigger. This assumes the weapon has a mechanical limiter so that it fires three to five bullets for each pull of the trigger. However, weapons capable of fully automatic fire can fire bursts with a short pull of the trigger.

Automatic Weapons fire bullets as long as the trigger is held down. These weapons can fire as Burst, Automatic, or Cyclic. When firing Automatic, it assumes the shooter is following doctrines to prevent damage to the weapo n. That means that the shooter is firing a series of bursts into a very small area, or a single somewhat longer burst, then allowing a second or three for the weapon to cool before firing again. To that end, it is the equivalent of firing three to five bursts at once for the purposes of ammunition consumption.

Cyclic weapons fire as long as the trigger is held down. It is also called Sustained Fire. When firing like this, the shooter sprays the area, continuing to fire as long as the weapon has ammunition. This can cause problems, including overheating that can cause ammunition to explode or overheating that can warp metal components, including ejectors or barrels, rendering the weapon useless. This method is used to spray down an area in order to keep an opponent from returning fire as your own allies move around for a batter shot at the enemy.

Rate of Fire Modifiers	
Rate of Fire	Modifier
Single Shot	-1
Semi-Automatic	0
Burst	+1, +1 damage
Automatic	+2 vs one target, or +2 vs up to three targets within 3 meters of one another. +3 damage.
Cyclic	+3 vs one target, or +1 vs everything inside a 5 meter arc. +5 damage vs 1 target or +3 damage vs multiple targets.

The last step is calculating damage. For this, we utilize the damage rating we calculate from the weapon's muzzle energy. Just reference the caliber from the cartridge chart and divide the listed penetration by 10, rounded up to the next whole number if there is a fraction. Use that for your FUDGE damage.

Now, to resolve the task of taking a sho t at someone. First, shooting someone or something is an unopposed action. Bullets are fired at speeds near or exceeding the speed of sound. So when someone takes a shot at you, you will either be too close to even think about trying to dodge the bullet, o r you will be too far away to even know it is coming to begin with.

Now, the next task is to determine the range to the target, and in effect determine the difficulty of your attack. The range for this purpose is determined from the chart below. The chart has two separate categories; one for short arms and one for long arms.

Range to Target		
	Handguns, SMGs, shotguns	Long Arms
Terrible (-3)	5m	25m
Poor (-2)	10m	50m
Mediocre (-1)	25m	100m
Fair (0)	50m	200m
Good (+1)	75m	400m
Great (+2)	125m	800m
Superb (+3)	200m	1600m

Once that is accomplished, roll your attack. Add the modifiers for the weapon's effective range, its accuracy, rate of fire, and any situational modifiers. Situational modifiers are listed below. If you hit, do damage.

With the situational modifiers, we have also added some weapon modifiers. Some things, like scopes or quality workmanship can improve the accuracy of a weapon, and other things, like the wear and tear of years or even decades of use, slowly destroy the accuracy of it.

Situational Modifiers	
Shooter injured	-1
Shooter fatigued	-1
Shooter breathing hard	-1
Twilight / Lowlight situation	-1
Target in silhouette	+2
Target brightly lit	+1
Target behind partial cover	-1
Target behind full cover	-2
Target using soft cover	-1
Target using hard cover	-2
Firing a 2-hand weapon one-handed or from hip	-1
Shooter braced or using bipod or tripod	+1
Target surprised or unaware	+2
Target moving	-1
Target moving fast	-2
Using telescopic optics	+1
Weapon Modifiers	
Well Crafted	+1
Scoped, Reflex Sights, etc.	+1
20 years old	-1
50 years old	-2
100 years old	-4

ACTION! SYSTEM DATA

As with everything else, the data for this system is contained in a convenient chart:

Action!											
Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
Special Rules:											

All data presented in those charts later in this book, as well as future and past volumes of the series, are open content under the Open Gaming License.

Action! System is a new open source RPG system developed by Gold Rush Games. Like the D20 System, the Action! System has also been released under the Open Gaming License. Overall, the system is quite similar to Interlock, CORPS, and Fuzion, to name just a few. In the core rules, modern weaponry is rated in a system quite similar to CyberThriller or Cyberpunk. You can download a free copy from http://www.action-system.com.

In Action!, the damage is scaled roughly the same as in Cyberpunk 2020. For instance, a 7.62mm bullet does 7D6 damage, rather than 6D6+2, a difference in averages of a mere 1.5 points and a difference in maximums of only 4 points. So we can work within that starting framework to establish damage values for calibers not listed in Action! However, I think we should take a good look at how damage relates to penetration and disruption for the examples provided in the Action! System core rules, so that we aren't relying on references to anything other than this book itself.

.22 LR	2d6	14	0.41
.25 ACP	1d6	12	0.36
.32 ACP	2d6	17	1.02
9mm Short*	2d6+2	23	2.2
.45 ACP	3d6	26	6.7
9mm P	4d6	26	3.9
.357 Magnum	4d6	31	5.75
10mm Auto**	4d6	31	8.3
5.56 NATO	5d6+2	43	5.5
7.62 NATO	7d6	51	19
.50 BMG	9d6	87	260

* Properly known originally as the 9x17mm Browning Short and more recently as the .380 Auto.
** Properly known as the 10mm ACP.

Well, as we can see, there is unfortunately no scientific basis behind the damages listed for each caliber in the Action! System. Let's fix that. First, we see we have a range within which we can work, from 1d6 to 9d6, with +2 representing an additional half die of damage. Let's revisit that last chart, organize it by penetration, and figure out a range of damages.

.25 ACP	1d6	12	0.36
.22 LR	2d6	14	0.41
.32 ACP	2d6	17	1.02
9mm Short*	2d6+2	23	2.2
.45 ACP	3d6	26	6.7
9mm P	4d6	26	3.9
.357 Magnum	4d6	31	5.75
10mm Auto**	4d6	31	8.3
5.56 NATO	5d6+2	43	5.5
7.62 NATO	7d6	51	19
.50 BMG	9d6	87	260

Okay, that should work for starters. Now we build another chart, representing Action! System damage in half die steps, and play with the penetrations that will provide each level of damage.

Damage by Penetration		
1d6	1-12	1-8
1d6+2		9-12
2d6	14-17	13-16
2d6+2	23	16-20
3d6	26	21-24
3d6+2		25-28
4d6	26-31	29-32
4d6+2		33-36
5d6		37-40
5d6+2	43	41-44
6d6		45-48
6d6+2		49-52
7d6	?-51-?	53-58
7d6+2		59-64
8d6		65-74
8d6+2		75-84
9d6	?-87-?	85-94

And there's the chart I came up with. A handful of calibers will change because of this, but it will bring everything in line to the comparative damage they cause in the real world. The damage based on caliber will change thusly:

Revised Firearms Damage Chart		
Caliber	Old Damage	New Damage
.22 LR	2d6	2d6
.25 ACP	1d6	1d6+2
.32 ACP	2d6	2d6+2
9mm Short*	2d6+2	3d6
.45 ACP	3d6	3d6+2
9mm P	4d6	3d6+2
.357 Magnum	4d6	4d6
10mm Auto**	4d6	4d6
5.56 NATO	6d6	5d6+2
7.62 NATO	7d6	6d6+2
.50 BMG	9d6	9d6

A few got stronger, a few got weaker, and quite a few remained the same. This is the chart we will use for this book.

The next thing is Damage Type. Modern weapons are, for the most part, weapons that do penetrating lethal damage, so most will be listed as P/L. A few, like incendiary devices or stun grenades, will be listed as Special damage of either a lethal or nonlethal type.

Next is accuracy. This is represented by both Accuracy (Acc) and Range Modifier (Rmod). The first reflects the overall accuracy of the weapon, the second reflects the weapon's accuracy at a distance. For the first statistic, the range covers -3 to +3 for accuracy. Range modifier goes one step further; -4 to +4. Calculating an Accuracy statistic is easy; FUDGE uses the exact same range of modifiers. So we will transplant a copy of that small table here.

Accuracy	
	Grouping Size
Terrible (-3)	91-110+ cm
Poor (-2)	71-90 cm
Mediocre (-1)	56-70 cm
Fair (0)	36-55 cm
Good (+1)	21-35 cm
Great (+2)	11-20 cm
Superb (+3)	0-10 cm

Next, we have the Range modifier to calculate. For that, we focus on military standards for combat range and the weapon's effective range. If the weapon reaches to combat range, +/ - 10%, then we'll give the weapon a Range Modifier of 0. Beyond that, we'll have to consult the chart below. Again, there are some oddities in the Action! System that need to be corrected, and we'll do our best to give you reasonable corrections. For example, they assign a Rmod of +8 to a 16 inch battleship cannon, and a +4 Rmod to an 81mm mortar. Truth of the matter is that these two weapons are only as accurate as the math and compass reading abilities of the perso n aiming them. If you don't know how to do the math, you'll be lucky to hit what your aiming at sometime this decade.

Range Modifier						
Rmod	Hand-guns	SMGs	Assault Rifles	Sniper Rifles	Shot-guns	Machine Guns
-4	10 m	10 m	50 m	300 m	-	200 m
-3	20 m	20 m	100 m	400 m	10 m	300 m
-2	30 m	30 m	200 m	600 m	15 m	400 m
-1	40 m	40 m	300 m	800 m	20 m	550 m
0	50 m	50 m	400 m	1000 m	25 m	700 m
+1	60 m	60 m	550 m	1200 m	30 m	850 m
+2	75 m	75 m	750 m	1500 m	35 m	1000 m
+3	90 m	90 m	950 m	1800 m	40 m	1200 m
+4	110 m	110 m	1100 m	2100 m	50 m	1400 m

Next is the minimum STR requirement. This is another area in which I couldn't figure out the logic behind the system used. Why does a .50 caliber sniper rifle, designed to be fired from a stable position using the tripod formed between its bipod and its padded grip buttplate require minimum STR of 6? Even if firing such a weapon from a standing position, like one might do with a hunting rifle, those sniper rifles incorporate a huge amount of recoil compensation technology, so much that most only suffer from no more recoil than an M-16. Hell, there is a company that makes a heavily modified variant of the M-16 that has a recoil rating of zero. That means that on full-auto, you can put every single shot out of a 30-round magazine through the same little hole in your paper target! Of course, I could go on to wonder why STR 4 is required to operate an M-2 .50 caliber machine gun, when the weapon uses a mechanized tripod that moves the weapon a half degree in one direction or another with just a tap of the thumb on a lever.

We need to fix this with an organized system. For the first change in minimum STR, apply it only when firing the weapon from a kneeling or standing position. If you are prone, reduce it by half. If you're using bracing like a tripod or bipod, or it is mounted on a structure, minimum STR may not apply. Many tripods and vehicular or structural weapon mounts include additional compensation systems that eliminate the need for the shooter to do anything other than aim. Bipods, on the other hand, require a force against the butt of the weapon to help control recoil. Read the descriptions carefully to determine if recoil is a problem. Of course, this still doesn't compensate for the fact that if you took an M-2 and fired it from a standing position (Min STR 4?!), no matter what your strength, that 84 lb machine gun is going to knock you flat on your ass by the time the second bullet fires.

For now, the only solution is that minimum STR be determined on a case-by-case basis, with a set of generalities to get folks by until their favorite gun gets a proper datasheet published.

Minimum STR	
Weapon Type	STR Min
Derringers, light handguns to .32 ACP	1
handguns, .32 ACP to 10mm or .40	2
handguns, .41 to .457	3
handguns, .50 or greater	4
rifles, up to .22	2
rifles, .223 (5.56mm) to .30	3
rifles, .303 to .400	4
rifles, .400 or greater	5
burst fire of 3 rounds	+1
full auto, short burst	+2
full auto, sustained	+3
Prone	x 0.5
Sitting	-2
Kneeling	-1
Braced, or using a bipod or tripod	-2
Weapon meant to be fired from bipod or tripod, but fired from another position	+3

The next step is maximum range. Well, we've already got that covered. It's listed in the real world data as Effective Range. Just directly use that number, as it is the range in meters.

After that is the Rate of Fire. In Action!, a combat turn takes 3 seconds (popular number, isn't it? Adopted as the length of time for the standard combat time element in at least four game systems; Fuzion, Cyberpunk 2020, CyberThriller, and Action!) Sixty seconds to a minute divided by 3 seconds gives you 20 combat turns per minute. So take the various rates of fire, excluding mechanical burst rates, and divide by 20 to get the RoF. Or easier still, just use the CyberThriller rates of fire, since they are both based on combat time units equal in length.

Amm is short for Ammo, which represents the number of rounds that fit in a magazine. This column just lists the various magazine, cylinder, and/or belt capacities normal for the weapon. The same data is available in the other system stats, as well as the real world data blocks.

Weight comes next. Again, that is simply a direct transfer of real world data. For convenience, always use the loaded weight. After all, when was the last time you carried around an unloaded weapon when you were expecting to use it?

Last is the price. This is curiously lacking in the real world data, isn't it? That's because the real world prices fluctuate greatly, depending upon the gun dealer, the weapon model's popularity and availability, and the individual weapon's wear and tear. While this goes unlisted in the real world data, the CyberThriller data uses either the manufacturer's SRP or an average based on current market prices for an average quality used weapon. But remember, that's just a stable price the weapon is expected to sell at. You can by an AK-47 from KBP for $450, but in the US, you'd have to buy it on the black market for $800 or more, or you can go to the heart of Africa, from Sudan in the north to Mozambique in the south, Atlantic coast to the coast of the Indian Ocean, where AK-47's sell at prices of less than $50 each, or even go to recently invaded Iraq, where we've heard stories of AK-47s selling at the rate of $100 for a case of six!

CARTRIDGE GUIDE

This section is established as what will eventually become a massive guide to cartridges of all types, and the one section of Big Bang that will be updated with virtually every volume. There are literally hundreds of differe nt combinations of calibers, bullet types and weights, powder mixes, etc., all of which can change the performance of ammunition. We aren't going to go overboard with this. At the core, we will provide a list of ammunition statistics for the round's ball a mmunition with bullets of varying weights. This is then combined with a second chart detailing penetration and damage performance differences for different types of bullets.

Cartridge - Name, Designation, and/or Caliber of the shell.
ABBR - Abbreviation used in CyberThriller statistics.
Type - Type of weapon the round is used in.
P - Pistol (and SMG)
R - Rifle
G - Grenade Launcher
Bullet Weight - the weight of the bullet in grams.
Velocity - Muzzle velocity of the round when fired.
Pen - Penetration of th e round. If the number is in italics, it indicates the amount of steel armor the round can penetrate. Otherwise it indicates how much human flesh the round can penetrate. Based on all rounds fired being Full Metal Jacket rounds. Measured in inches
Disrupt - The volume of flesh the round will damage. Based on a Full Metal Jacket. Measured in cubic inches. While some of these values may seem horrendously high, please remember that the average male human torso is a mere 9 inches thick, so even if a .50 BMG hit you, it wouldn't actually disrupt nearly half a million cubic inches of your flesh.
Quantity - You usually don't buy just one bullet. You buy a box or a case, and even for some guns, preloaded disposable magazines. This column details the usually quantiti es in which the rounds of this type are sold.
Weight - The weight in kilograms corresponding to the quantity of round sold in a package.
Cost - The cost of the package of rounds.
Dmg - CyberThriller damage.
Notes - Brief notes about this type of round.

Most listings below based on cartridges mounting full metal jacketed bullets. Appropriate alterations have been made for armor -piercing and other rounds to account for their use of bullets other than FMJ.

Cartridge	ABBR	Typ e	Bullet Wt (gm)	Velocit y (m/s)	Pen	Total Disrupt.	Per Inch Disrupt.	Quantity	Wt (kg)	Cost	Energy (ft-Lbs)	Notes
Generic Full Metal Jacket Cartridges												
.22 Long Rifle (5.7 x 17mmR)	.22 LR	P	2.59	330	14.2	0.41	0.03	5000	25	245	104.1	
.22 Short Magnum	.22 SM	P	2.1	606	26.1	1.11	0.04	50 500		8 75	285	
.25 ACP (6.3x15.5mm)	.25 ACP	P	3.25	246	11.9	0.36	0.03	1000	10	70	73	
.32 ACP (7.62x17mmR)	.32 ACP	P	4.6	274	17	1.02	0.06	2000	20	150	127	
.32 Magnum	.32 Mag	P	5.8	334	21	1.9	0.09				238	
.357 Magnum (9x33mmR)	.357 Mag	P	8.1	439	30.2	5.76	0.19	50	1.1	50	576	
.380 Automatic (9x17mm)	.380 Auto or .380 ACP	P	5.8	303	22.2	2.2	0.1	1500	15	125	196	
.38 Special (9x29mmR)	.38 Spec	P	7.1	286	21	2.42	0.12	1000	15	175	214	
.38 Special Match	.38SpM	P	9.6	210	15.4	1.76	0.11				156	
.40 S&W (10x21mm)	.40 SW	P	8.7	401	31	6.5	0.21	1000	17	225	516	
.41 Action Express (10.42x18mm)	.41 AE	P	11	334	26.4	5.97	0.23	1000	17	225	452	
.45 ACP (11.43x23mm)	.45 ACP	P	13	296	25.7	6.68	0.26	1000	20	63	420	
6.35mm	6.35	P	3.25	240	11.6	0.34	0.03				69	
7.62mm Tokare v	7.62 TT	P	5.5	510	29.5	3.75	0.13				528	
7.65mm	7.65	P	4.6	320	18.6	1.23	0.07				174	
9mm Makarov (9x18mm) 0.35	9mm M	P	6.15	321	22	2.31	0.11	1500	15	200	234	
9mm Parabellum (9x19mm)	9mm P	P	7.5	379	25.9	3.93	0.15				397	
9mm Largo (9x23mm)	9mmL	P	8	361	24.7	3.81	0.15				384	
9mm Short	9 Short	P	6.1	305	20.9	2.07	0.1				209	
10mm Colt (10x25mm)	10mmC	P	11	406	30.8	8.16	0.26	1000	17	225	688	

CALCULATING DATA

The data required for a bullet can all be calculated from three variables; the muzzle velocity, bullet weight, and caliber. This information can get quite complicated, factoring in air drag, the rate of expansion, bullet aerodynamics, and more. However, that is simply too complicated for any game use. You'd end up spending more time on the math than you would preparing or running your game. So we are going to base everything from the point at which the bullet exits the muzzle.

To begin with, we give you the numbers you need. Caliber, muzzle velocity, and bullet weight. You then need to figure out which type of bullet is being used and write down its disruption factor and penetration factor. Disruption Factor is a proprietary number established to account for the average expansion rate of a bullet type, tumbling design, tendency to break apart or fragment, etc. Penetration Factor is a proprietary number established to account for effects of shape and common materials used in the bullet and their effect on penetration of human flesh. That done, we begin with the math. Perform the formulae below, in the order given to derive the Penetration and Disruption values. Feel free to round out the final results of the penetration and disruption formulae.

- Kinetic Energy = Mass * velocity * velocity * 0.5 * .001 (joules) * 0.7376 (ft -lbs)
- Cross Section = pi * r * r (mm sq) * 0.00155 (in. sq.)
- Penetration = Velocity * 3.281 * Diameter / Penetration Factor (17) (inches of penetration of human flesh)
- Per Inch Disruption = Total Disruption / Penetration (cubic inches of flesh disrupted or damaged per inch of pe netration)
- Total Disruption = Kinetic Energy * Cross Section * 0.1 * Disruption Factor (1) (total cubic inches of flesh disrupted or damaged)

These formulae serve two goals. First it allows you to calculate damage for calibers not yet presented in the system. Second, it allows you to account for variances caused by the weapon design. The rate of twist, barrel length, and other factors can prevent a bullet from exiting that model of weapon it their optimum speed and energy, resulting in a bullet doing less damage. Out of the literally thousands of weapon designs in the world, only a mere handful of them are actually ballistically perfect for the ammunition they fire.

In addition to the penetration of flesh, one usually finds a need to know how much armor will be penetrated by a bullet as well. This is easy enough to calculate. Simply take the listed penetration value and multiply it by the value listed below for the material you wish to determine the bullet's penetration of. For your convenience it may help to convert the measurements from inches to millimeters (multiply by 25.4).

Material	Pen. Mult.
Gypsum Drywall	9.338
Plywood	1.867
Oak Planking	1.31
Particle Board	3.334

Material	Pen. Mult.
Steel Armor Plate	0.0035
Steel Sheet Metal	0.006
Hardened or Dura- Aluminum	0.0156
Aluminum	0.0784

Material	Pen. Mult.
Concrete	0.435
Cinder Blocks	0.588
Granite	0.37

APPLYING DATA TO GAMES

All the above data is interesting, but currently doesn't apply to anything in any useful way. So we need to develop rules for converting it into a format useful for our games.

Converting to CyberThriller

CyberThriller is a game still being written. As it stands, we can apply the data for calculating damage only. All guns in CyberThriller do fairly consistent damage from bullet to bullet. Fire ten well-aimed shots into the same target, you can expect that each of the ten shots will do roughly equivalent damage, right? In CyberThriller, all guns do a base of 1D3 damage. After that, take the per inch disruption value of the round and multiply by 50, rounding up, which gives you a final value of 1D3+X for damage. Let's walk through the fabrication of a few bullet damage values.

An M-80 7.62mm NATO standard Ball round disrupts 0.37 inches of flesh per inch of penetration. Multiply by 50 and you get 18.5, rounded up to 19. So an old M-80 round will do 1D3+19 points of damage.

An M855 5.56mm NATO standard Ball round disrupts 0.12 inches. Multiply by 50 and round up to get 6. So an M885 does 1D3+6 points of damage.

Now we'll get interesting with a 9mm Hydrashock round. A 9mm Parabellum ball round disrupts 0.15 inches of flesh. However, a Hydrashock round is more potent, with a bullet factor of 5. So the 0.15 is multiplied by 5 to determine that hydrashock rounds will disrupt 0.75 inches. That result is multiplied by 50 and rounded up, determining the final damage value for a 9mm Parabellum Hydrashock round as a brutal 1D3+38, compared to the 9mm Parabellum Ball round's damage of a mere 1D3+8.

Converting to the D20 Modern Roleplaying Game

For the D20 System and more specifically, the D20 Modern Roleplaying Game, the conversion is a bit more complicated, because at first glance, this sort of data was apparently not factored into the system from the ground up. While different types of bullets have greatly varying effects in the real world, in the D20 Modern Roleplaying Game, those effects are actually quite minimal. So basically, in the D20 Modern Roleplaying Game everything revolves around Ball or Full Metal Jacket ammunition. In order to fit new ammunition into the damage listings for the D20 Modern Roleplaying Game, a bit work in the area of statistical charting is required, since the D20 Modern Roleplaying Game uses a system of damage values are so coarse in their differentiation. After that is done, the modifiers for the bullet type are applied. Unfortunately, by working in this method, as new cartridges are introduced, it may produce variations in the damage values of some calibers and rounds. As is, this conversion effort eventually shows that four different calibers have been provided the wrong damage in one book or another. Anyway, having fumbled around a bit, the short chart I ended up with was this, referencing bullet caliber, the D20 Modern Roleplaying Game damage, penetration, and disruption:

Pistol Calibers				
Cal.	Dmg	Pen	TD*	DPI*
.22 LR	2d4	14	0.41	0.03
.25 ACP	2d4	12	0.36	0.03
.32 ACP	2d4	17	1.02	0.06
.380 Auto	2d4	23	2.2	0.1
9x18 Makarov	2d4	22	2.3	0.1
.38 Special	2d6	21	2.4	0.11
.357 Magnum	2d6	31	5.75	0.19
.40 S&W	2d6	31	6.5	0.21
.45 ACP	2d6	26	6.7	0.26
9mm P	2d6	26	3.9	0.15
10mm Colt	2d6	31	8.3	0.27
.41 Action Express	2d8	27	6	0.22
5.7mm FN	2d8	31	1.5	0.05
5.56 NATO	2d8	40	4.7	0.12
7.62x39 Russian	2d8	43	48.5	1.13
9mm SP-5	2d8-3	20	4.9	0.25
9mm SP-6	2d8-1	29	27	0.93
7.62mm NATO	2d10	51	19	0.37
.50 BMG	2d12	87	260	3

* TD – Total Disruption, DPI – Disruption Per Inch

So what does this mean? It means that damage in the D20 Modern Roleplaying Game is obviously based on penetration. That being the case, it also indicates that there are a few rounds in the D20 Modern Roleplaying Game that have the wrong damage, as well. So here is the current damage conversion chart for the D20 Modern Roleplaying Game:

Penetration	Damage	Penetration	Damage
11-20	2d4	(67)?-87-?	2d12
21-30	2d6		
31-40	2d8		
41-51+?(67)	2d10		
Option: If you have the dice, bullets penetrating only 1 -10 inches can be allowed to do only 2d3 damage.			

Obviously, this will also lead to a few changes, as well, since certain calibers now clearly fall into different damage ranges. Those changes will be detailed on a table later in this section.

A final thing I would like to deal with is cover. D20 Modern plays a bit too fast and loose with firing at targets behind cover. My problem is that I find the D20 Modern Roleplaying Game's rules aren't deficient in this area, but incomplete. This is because some cover is no cover at all. What good is there in hiding behind an interior house wall when someone is emptying an automatic weapon in your general direction? Odds are, every last one of those bullets flying is going to go through both sheets of drywall and whatever insulating material lies between. By the same token, a .22 LR round will, for all intents and purposes, splatter against a cinder block, while a 5.56mm rifle round with almost the identical diameter, will easily blow through several cinder blocks. To that end, I am introducing a system called Blowthrough.

Blowthrough consists of three assigned variables (called Blowthrough Factors, or Bf)which are combined to calculate a value for a d20 check. Roll below that number and the cover is blown through by the bullet, enabling it to strike anyone using the cover.

The first assigned variable is to the bullet itself, based on its caliber and ball ammunition performance. This part is easy. Take the penetration value for a round and divide it by 5, rounding down. This would give a .22LR round a Caliber Blowthrough Factor (Bf) of 3, while a .45 ACP round has a Bf of 6 and a NATO-issued SS109 5.56mm round will have a Bf of 8.

The second assigned variable is based the type of bullet. After all, an armor-piercing bullet does a better job of blowing through things than a lead wadcutter would. The Bullet Bf for each of those is determined under the bullet types in the D20 Special Rules detailed for each bullet type. This Bullet Bf value is added to the Caliber Bf value.

The third assigned variable is based on the material of the cover. some materials are harder than other. As mentioned previously, a .22 LR will usually go through drywall, but won't break a cinder block. This third value is added to the previously combined Bf for caliber and bullet type. This third value is typically a negative value, which reduces the final blowthrough factor score. This number also indicates a set depth of material and applies multiple times as the thickness of cover material requires. For instance, Blowing through 1 sheet of drywall imposes a -1, but blowing through 3 sheets of drywall will impose a -3. In this tier of the Blowthrough factor, the numbers are, shall we say, "graded on a curve". Statistically, steel armor would be roughly along the lines of -200, but we want to fit things into a range that bottoms out at -20 for materials harder than flesh. For materials with a positive value, each additional layer after the first is subtracted from the value, rather than added.

If the final Blowthrough factor is 20 or greater, it will automatically blow through the cover material, meaning it was pretty much pointless to dive behind such a useless source of cover.

Lastly, when firing an automatic weapon at someone behind cover, for every round striking the cover material adds a cumulative +1 to the Bf for each following round that hits. Eventually the cover material, no matter how hard, will slowly deteriorate under fire.

D20 System Revised Damage and Blowthrough

Caliber	Dmg	Bf	DC	Caliber	Dmg	Bf	DC	Caliber	Dmg	Bf	DC
.22 LR	2d4	3	4	5.7mm FN	2d8	7	7	7.62x54mm Russian	2d10		4
.25 ACP	2d4	3	4	7.62x26 Russian	2d6		6	.50 BMG	2d12	18	6
.32 ACP	2d4	4	5	9x18 Makarov	2d6	5	5	12.7x107 Russian	2d12		6
.380 Auto	2d6	5	5	9mm Parabellum	2d6	6	5				
.38 Special	2d6	5	5	10mm	2d8	7	5	9x29mm SP-5	2d6	12*	
.357 Magnum	2d8	7	5					9x29mm SP-6	2d8	15*	
.40 S&W	2d8	7	5	5.45x40 Russian	2d8		5	9mm P. Hydrashock	2d6+1	10*	
.41 Action Express	2d6	6	6	5.56mm NATO	2d8	8	4	M882 9mm Ball	2d6	14*	
.44 Magnum	2d8		5	5.8mm Chinese	2d8		6	M995 5.56 AP	2d8-1	18*	
.45 ACP	2d6	6	5	7.62x39mm Russian	2d10	9	4	M993 7.62 AP	2d10-1	21*	
.50 Action Express	2d8		6	4.7mm HK Caseless	2d8		10				
5.45mm	2d4		5	7.62mm NATO	2d10	11	4				

* Includes modifiers for both caliber Bf and bullet type Bf, as these are specific cartridges available in a specific caliber with a specific type of b ullet. Also includes the final Purchase DC calculated for that round type. All other listings are basic caliber -based Bf which requires the addition of the bullet type Bf. Assuming use of FMJ or Ball ammo, the bullet type Bf would be +8. DC is the base Pur chase DC for the ball type ammunition. When buying something other than Ball/FMJ type ammo, apply the DC modifier listed for that ammunition type.

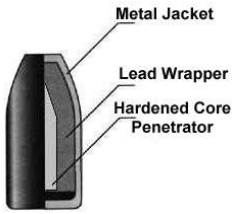
Cover Material Blowthrough Values							
Material	Bf	Material	Bf	Material	Bf	Material	Bf
Human flesh, 9 inches	0	Steel armor, 1mm	-8	Drywood, 5/8 "	+5	Glass, 10mm	0
Bone, 1 inch	-1	Steel, 1mm	-3	Plywood, 1/2"	+2	Automotive Glass	-1
Cinder Block, 1 inch*	-4	Aluminum, 1mm	-2	Oak Planking, 1/2"	+1	Light Plastics (food and small storage containers, act.)	0
Concrete, 1 inch	-5	Hardened Aluminum, 1mm	-3	Particle Board, 1/2"	+3	Medium Plastics (car parts)	-1
Granite	-3	Car Tire	-4	Truck Tire	-6	Heavy Plastics (barrels)	-3
Constructed Examples							
Steel Door (3mm steel x 2)	-18	Mailbox or newspaper box (3mm AluminumX2)	-12	House Interior Wall (drywall x 2)	0	Car Rim (1mm Steel x 12)	-36
Furniture	0	Solid Wood Door (oak plank x 2, plywood x 4)	-4	Shingled Exterior Wall (drywall, plywood, particle board)	0	Car Door (2mm Aluminum, med. Plastics	-5

* a cinder block at the h ollows is 2 inches thick, 8 inches thick at the structural portion, at least according to the one I bought at the local concrete company.

BULLET TYPES

Armor Piercing (AP)

Type	Armor Piercing
Disruption Factor	1
Penetration Factor	10



Armor piercing ammunition consists of a bullet composed around some manner of hardened metal penetrator. The penetrator is typically made of hardened steel, though in the last ten years, many governments have started switching to rounds that use a tungsten penetrator. A handful of governments have even experimented with small arms AP ammunition using penetrators formed from depleted uranium and completely encased in lead. The penetrator is then seated inside a lead body, then usually wrapped in a metal jacket of copper, brass, aluminum, or occasionally, mild steel. The lead wrapper and metal jacket are to prevent barrel wear that would occur if the round were formed entirely of solid steel or tungsten.

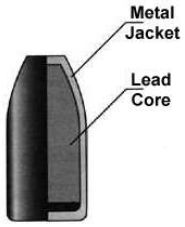
D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you gain a +1 circumstance bonus on attack rolls when using this ammunition type. However, you suffer a -1 penalty on damage rolls (regardless of whether your target is armored or not). Blowthrough factor = 10. Purchase DC Modifier = +1.

Fudge Special Rules: -2 damage. Reduce target's armor by 2 points.

Action! System Rules: reduce armor by half.

Full Metal Jacket (FMJ)

Type	Full Metal Jacket
Disruption Fac tor	1
Penetration Factor	17
Type	FMJ Tumbler
Disruption Factor	4.5
Penetration Factor	19



This is the standard military bullet under the terms of the Geneva Convention. For most nations, this consists of a solid lead core wrapped in a copper, brass or mild steel jacket. These rounds have very little expansion on impact, and occasionally yaw or tumble in flight or after impact. In 1995, the United States acknowledged the way most ammunition poisons the environment with a vast amount of lead and has been developing "green bullets". These FMJ bullets replace the lead core with a core of tungsten-tin alloy or a mixture of tungsten and nylon. test firings of over 5,000 rounds of this green ammunition has demonstrated no deviation in performance from that of older ammunition. Most military ammunition uses FMJ tumblers rather than balanced FMJ bullets.

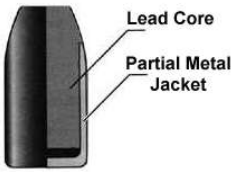
D20 Modern Roleplaying Game Special Rules: This is the standard ball ammunition. The standard damage shown for each weapon in this book reflects ball or FMJ ammunition; no special rules apply. Blowthrough factor = 8. Purchase DC Modifier = +0.

Fudge Special Rules: Standard round.

Action! System Rules: Standard round.

Jacketed Soft Point (JSP)

Type	Light Jacketed Soft Point
Disruption Factor	3
Penetration Factor	119
Type	Hvy Jacketed Soft Point
Disruption Factor	1.5
Penetration Factor	43



Developed in the later 1800's at an Indian Army arsenal at Dum Dum, near Calcutta. This round has a solid lead core wrapped in a copper jacket which leaves the lead at the bullet's nose exposed. By exposing the nose, the bullet's expansion is greatly improved compared to the Full Metal Jacket round, imparting improved stopping power, but also reducing the capacity to penetrate flesh and armor. Light Jacketed Softpoints would weigh under 100 grains or 6.5 grams.

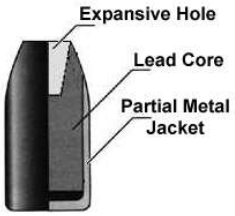
D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you suffer a -1 penalty on attack rolls when using this ammunition type. However, you gain a +1 circumstance bonus on damage. Blowthrough factor = 6. Purchase DC Modifier = -2.

Fudge Special Rules: +1 damage. – 1 modifier to your attack.

Action! System Rules: +1 damage. –5 damage if target is armored.

Jacketed Hollowpoint (JHP)

Type	Lt. Jacketed Hollow Point
Disruption Factor	5
Penetration Factor	59
Type	Hvy JHP
Disruption Factor	3.5
Penetration Factor	56
Type	Copper JHP
Disruption Factor	4.5
Penetration Factor	62



Developed by the Woolwich Arsenal in Great Britain shortly after the development of the JSP round in India. This round is essentially a jacketed soft point round with the nose hollowed out. By doing so, the expansive nature of the round is further enhanced, creating a bullet useless against armor, but capable of causing serious injury to a man while rarely exiting the body. Light hollowpoints would weigh under 100 grains or 6.5 grams. Copper jacketed hollowpoints are jacketed in copper, which is softer than other jacketing materials, resulting in better expansion.

D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you suffer a -1 penalty on attack rolls when using this ammunition type. However, you gain a +1 circumstance bonus on damage. Blowthrough factor = 3. Purchase DC Modifier = +0.

Fudge Special Rules: +2 damage. – 1 modifier to your attack.

Action! System Rules: +2 damage. –5 damage if opponent is armored.

Hydrashock

Type	Hydrashock
Disruption Factor	5
Penetration Factor	44

This is a commercially produced modified Jacketed Hollowpoint Bullet. The round uses a steel core to enhance the expansion of the round on impact. The steel core is anchored into the rear of the lead wrapper, so that as the steel core moves forward, the rear of the wrapper is pulled forward with it, expanding the round further than a normally possible with a JHP round.

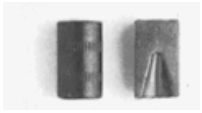
D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you suffer a -1 penalty on attack rolls when using this ammunition type. However, you gain a +1 circumstance bonus on damage. Blowthrough factor = 4. Purchase DC Modifier = +1.

Fudge Special Rules: +2 damage. – 1 modifier to your attack.

Action! System Rules: +3 damage. –5 damage if opponent is armored.

Lead Wadcutter (LWC)

Type	Target Wadcutter
Disruption Factor	1
Penetration Factor	70
Type	Hollow / Reversed Wadcutter
Disruption Factor	2.5
Penetration Factor	51



The profile of this solid lead, lubricated bullet is designed to cut a clean signature through paper targets for precise scoring. Consistent accuracy results from bullet formation by a swagging process, which eliminates the balance-destroying voids found in most cast bullets. Used mainly by competition shooters.

D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you suffer a -3 penalty on attack rolls when using this ammunition type. However, you gain a +1 circumstance bonus on damage. Blowthrough factor = 2. Purchase DC Modifier = -2.

Fudge Special Rules: +1 damage.

Action! System Rules: +1 damage.

Lead Semi-Wadcutter (LSWC)

Type	Lead Semi-Wadcutter
Disruption Factor	2
Penetration Factor	22

This is a solid lead, lubricated bullet with a semi-pointed nose for improved ballistic performance and accuracy. The good ones are formed by a swagging process with a sharp shoulder which allows it to punch a clean hole through paper targets.

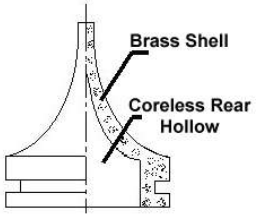
D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you suffer a -2 penalty on attack rolls when using this ammunition type. However, you gain a +1 circumstance bonus on damage. Blowthrough factor = 3. Purchase DC Modifier = -2.

Fudge Special Rules: +1 damage.

Action! System Rules: +1 damage.

Tres Haute Vitesse (THV)

Type	Tres Haute Vitesse
Disruption Factor	1
Penetration Factor	5



Tres Haute Vitesse means "very high speed" in French. These munitions are made of solid brass in a reverse olgive spire configuration, which focuses the energy of the round at a 90 degree angle to the track of the bullet. Available in 9 x 19mm Parabellum, the 45 grain bullet exits the gun at 2600 fps, with enough energy to blast through Level II body armor. Astonishingly, while the round easily penetrates that armor, the bullet penetrates only about one foot into human flesh. Unfortunately, the round tends to be very unreliable in older handguns, jamming up in the feeding mechanism as the rounds strip out of the magazine. To solve this problem, the South Africans developed the MONAD variant. The MONAD is simply a THV round with a plastic nosecap that makes the round feed reliably by giving it the profile of an FMJ round. When fired, the plastic cap disintegrates about a foot outside the barrel, leaving only the THV round in flight. The THV is one of the three dominant forms of Accelerated Energy Transfer (AET) ammunition.

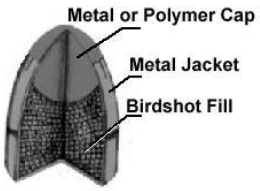
D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you gain +1 circumstance bonus on attack rolls when using this ammunition type. Being a form of AET ammunition, the rounds also grant a +1 equipment bonus to damage. THV rounds make a weapon unreliable, though MONAD rounds do not. Blowthrough factor = 9. Purchase DC Modifier = x3.

Fudge Special Rules: +1 damage.

Action! System Rules: +2 damage.

Glaser Prefragmented Safety Round

Type	Glaser
Disruption Factor	10
Penetration Factor	124



These are either rounds that are hand cut and scored so they will break into fragments on impact, or they are capped hollow jackets filled with fine pellets. These munitions were invented in the 70's by Colonel Jack Cannon and named for his friend, Armin Glaser. Over the years, they have evolved from the crude, handmade examples to mass production. The basic concept has remained the same: copper jackets filled with bird shot and cover by a crimped polymer endcap. Upon impact with flesh, the projectile fragments, with the birdshot spreading like a miniature shotgun pattern.

The standard 'Blue' Glaser uses a rather fine birdshot (#12, 200 pieces in .38 Special round) which only gives 5 to 6" of penetration in flesh. The 'Silver' Glaser adds another 1 to 2" of penetration with the use of slightly larger birdshot (#6, 30 pieces in .38 Special round). Due to the much reduced penetration in flesh, some have theorized that the Glaser would be ideal where over-penetration of a projectile could be hazardous to bystanders. For instance, the Glaser may be stopped by a muscular or upraised arm. However, for the same reasons, the Glaser's terminal performance can vary dramatically, producing impressive successes and equally spectacular failures depending on the angle at which the target is struck.

Glancing hits on hard surfaces will result in fragmentation, reducing the risk of ricochets. However, the Glaser can penetrate barriers such as drywall, plywood, and thin sheet metal if struck directly. The Blue and Silver Glaser handgun loads are worthless against body armor, penetrating only 5 layers of Kevlar.

While Glaser rounds are safe to use in confined environments, they are rapidly becoming illegal to possess. This is due to the fact that they break up so easily, effectively rendering them impossible to match to the weapon that fired them. With these rounds rapidly becoming a murderous criminal's dream, most jurisdictions are moving to either completely outlaw the bullet or convert it to "law enforcement only" sales status.

D20 Modern Roleplaying Game Special Rules: If your target has armor or natural armor, you suffer a -2 penalty on attack rolls when using this ammunition type. However, you gain a +2 circumstance bonus on damage. Blowthrough factor = 1. Purchase DC Modifier = x2.

Fudge Special Rules: +1 damage. – 1 modifier to your attack.

Action! System Rules: +2 damage. –8 damage if target is armored. –10 damage if striking a hard surface.

Semi-Jacketed Exposed Steel Core

Type	Semi-Jacketed Exposed Steel Core
Disruption Factor	1.5
Penetration Factor	12

This is a relatively new Russian round which they like to call "assault rounds". Originally developed for the PBM pistol, the bullet has found its way around to other munitions as well, including the PAB-9 and the SP-6 silent loads. A steel penetrator core is wrapped in a bulb of lead and all but the steel tip is jacketed in aluminum. The rest is a dual purpose round with a penetrator that can pierce a PASGT vest at 30 meters,

and mushrooms as well as the best hollowpoints. The aluminum jacket assists maintaining the bullet's integrity by greatly reducing the fragmentation that can occur when a bullet mushrooms.

D20 Modern Roleplaying Game Special Rules: This round functions as both armor-piercing and hollowpoint. If the target is wearing armor, you gain a +1 circumstance bonus on attack rolls with this ammunition type, and a -1 penalty applied to the damage rolled. If the target is unarmored, then the round provides a +1 circumstance bonus on damage. On Blowthrough, only the steel core pierces, acting as an armor-piercing round only from that point on. Blowthrough factor = 9. Purchase DC Modifier = x3.

Fudge Special Rules: -1 damage if armored, +1 damage if unarmored. Reduce target's armor by 2 points. + 1 modifier to your attack.

Action! System Rules: reduce armor by half. +3 damage if target is unarmored.

Cold Load

Cold-loaded ammunition is loaded with a reduced powder charge with the goal to keep the velocity of the bullet under 300 meters per second. By doing so, this keeps the bullet from exceeding the speed of sound, breaking the sound barrier, and creating a sonic boom. In doing so, the average noise of a firing gun is reduced from about 165 Db down to 130 Db. Doing this greatly reduces the effectiveness of the round, so normally, the bullets used are those types with high armor-piercing performance or low levels of deformation in order to retain some semblance of effectiveness against most targets (don't expect to find cold-loaded hollowpoints unless you DIY). More often, the wise choice is to find silent loads instead, which are purpose designed to be both effective and silent.

CyberThriller Special Rules: Recalculate the bullet's penetration and disruption based on a velocity of 300 m/s. Don't bitch, it doesn't even take two minutes...

D20 Modern Roleplaying Game Special Rules: For firearms that normally deal 2d4 damage, cold-loaded ammunition has no special effect. For firearms that normally deal 2d6 damage, cold-loaded ammunition imposes a -1 penalty on damage. For firearms that normally deal 2d8 or 2d10 damage, cold-loaded ammunition imposes a -2 penalty on damage. Cold-loaded ammunition is not available for weapons that normally deal more than 2d10 damage.

Some silenced weapons do not require cold-loaded ammunition. However, using standard ammunition in these weapons imposes the same penalties on damage as the use of cold-loaded ammunition (because the weapon slows the bullet's speed in the same manner that cold loading does).

Blowthrough factor is determined by taking the Bf of the other bullet type and reducing it by half, rounding down. A cold-loaded full metal jacket round would have a Blowthrough factor of 4 rather than 8. Purchase DC Modifier = +1

Fudge Special Rules: -2 damage. – 1 modifier to your attack.

Action! System Rules: -3 damage. –1 penalty to hit.

Hot Load

Hot-loaded rounds are ones that have been hand-loaded with a more powerful propellant. This results in the usually bullet leaving the gun at a higher muzzle velocity and energy. The improvement averages out to about 30-35% over the normal round. While hot-loading makes the round more powerful, it isn't without problems. For one, it creates levels of pressure that are rarely accounted for by weapon designers. After all, they don't expect you to abuse your weapon like that. These pressures can lead to bursting cartridge casings, weapon overheating that can lead to misfires or cook-offs, barrels WILL become quickly fouled to the point that bullets can jam in the barrel, ejectors can be damaged, the firing chamber can be scored, firing pins and springs can be bent or broken... Get the picture yet?

But in the end, there will always be some fool willing to mistreat his gun for a bit of extra kick. Worse still, there are fools who make a living loading hot loads, which are usually sold identified as wildcats or overchargers. Depending upon the caliber, these rounds will cost anywhere from 50% to 250% of the regular retail price of their normal counterparts. Hot loads are meant to make a bullet hit faster and harder. Cold loads are meant to keep a bullet below the sound barrier, thereby making it more quiet to use. These two concepts are diametrically opposed, and therefore incompatible.

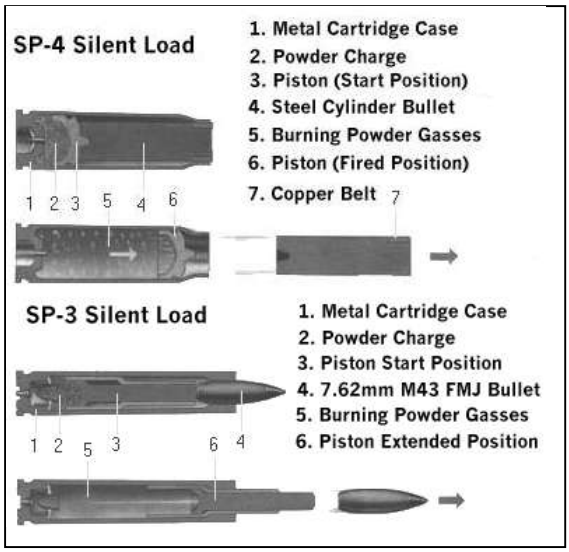
CyberThriller Special Rules: To simulate hot loads, just multiply the disruption of the round by 30% and the penetration by 10%.

D20 Modern Roleplaying Game Special Rules: Hot loads provide a +1 bonus to damage. Any penalty due to the target having armor or natural armor is reduced by 1 point (-1 becomes 0, -2 becomes -1, etc.). They are a source of unreliability. Hot-loaded rounds gain a +2 bonus on their Blowthrough Factor. Purchase DC Modifier = x2.

Fudge Special Rules: +1 damage.

Action! System Rules: +3 damage.

Silent Load



Most silenced weapons are simply made quite a bit more quiet, rather than completely silent. The usual noise of a firearm is in the range of 160 to 165 decibels. Using subsonic ammunition (muzzle velocities of less than 300 m/s) and a silencer reduces this down to around 130 decibels. However, the Soviets wanted completely silent guns; guns that produced a mechanical click of the striker, the clack of the slide, and whatever noise emanated from the target when it. For this, they turned to World War Two and an innovative effort by the OSS to produce a silent pistol. One of the OSS projects was a "lawn dart". This was a sealed tube that fit down the barrel of a .45 ACP caliber pistol with its fins at the barrel muzzle. The tube would have the rear endcap/striker assembly removed, a .380 pistol cartridge loaded, the endcap replaced, and the dart muzzle loaded into the .45 ACP pistol. When fired, the pistol striker would hit the endcap, triggering that striker to fire the cartridge inside the tube. The round inside discharged, struck the opposite end of the sealed tube and launched the dart. In flight, a set of fins slide back to the rear to stabilize flight. The dart could lethally strike targets up to 40 meters away, and was designed to be reusable.

The Soviets took this same concept and applied it as disposable technology. Working with a normal pistol or rifle cartridge, they greatly reduced the powder charge, added a metal plunger or rod, and bottled and crimped the neck of the round to the bullet. When fired, the gasses would expand inside the cartridge, launching the plunger forward, which would in turn strike the bullet and launch that. The bottled neck would trap the plunger, keeping the gasses and noise inside the round. These rounds were completely silent, and could penetrate a steel helmet at 20 meters and kill at up to 100 meters. The rifle round was designated SP-3 and the pistol round was designated SP-4.

These rounds weren't sufficient for military special operations, so new munitions were required. The soviets too a 7.62 x 39mm casing and renecked it to hold a 9mm round. The SP-5 uses an FMJ round with a forward steel core supported rearward by lead, and the armor-piercing SP-6 uses a semi-jacketed exposed steel core round which can penetrate 8mm of armor plate at 100 meters. Both rounds are 9mm, 16 gram bullets at subsonic velocity. Both rounds were developed in the mid 80's. More recently has come the PAB-9, a cheaper version of the SP-6 round that fires a 17.3 gram 9mm bullet.

D20 Modern Roleplaying Game Special Rules: Ho, boy, this is going to be a bit complicated. First, I'd like to point out that another recent gun book gives the option of cold-loading SP-5 and SP-6 ammunition. This just isn't so. These munitions are already subsonic, so you should disregard that information in that other book. Now, to the good stuff…

SP-3: This is a rifle round firing a Full Metal Jacketed round. It will fire normally, though the range increments should be reduced by 50%. These rounds will automatically jam a semi-automatic weapon due to the piston's extension beyond the nose of the spent cartridge casing. The cold-loaded nature of the round imparts a -1 penalty to damage.

SP-4: This is a 9 x 18mm Makarov round (identified as 9 x 18 mm Russian in Ultramodern Firearms). The round it fires is effectively a steel wadcutter. While armor or natural armor imposes no penalties to hit, the round gains a +1 circumstance bonus to damage, but this is negated by the -1 damage imposed by being cold-loaded.

SP-5: This fires a cold-loaded FMJ round.

SP-6, PAB-9: This round fires a semi-jacketed exposed steel core bullet. This bullet functions as an armor-piercing round against armored and unarmored targets and as a hollowpoint bullet against unarmored targets. Apply the appropriate modifiers for those bullet types as appropriate.

Fudge Special Rules: This is complicated too.

SP-3: -2 damage.

SP-4: No modifier.

SP-5: No modifier.

SP-6, PAB-9: -2 damage if armored, no damage modifier if unarmored. Reduce target's armor by 1 point.

Action! System Rules: Four more lines of rules!

SP-3: -3 damage

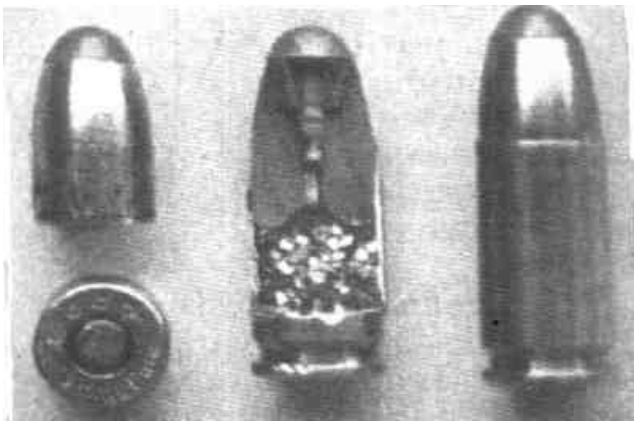
SP-4: -1 damage

SP-5: no modifier

SP-6, PAB-9: +1 damage if unarmored, halves armor.

Geco Blitz Aktion Trauma (BAT)

Type	Blitz Aktion Trauma
Disruption Factor	18
Penetration Factor	4.5
Type	Eliminator
Disruption Factor	25
Penetration Factor	4



The Geco BAT is one of the three dominant forms of Accelerated Energy Transfer (AET) ammunition. The bullet arose from curious circumstances. In Germany, there is a bit of a problem with escaping livestock. German police don't issue shotguns, just 9mm handguns and the occasional 9mm SMG. Thus they had a need for a universal 9mm round they could use for euthanization of anything from a cat mortally injured by a road accident to a bull crippled by a fall into a ravine. Geco, a division of Dynamit Nobel (makers of the OICW airburst munitions) came up with this response, which they now make in .38 and .357 as well as the original 9mm.

The bullet is copper, with a PE plastic nose-cap. This nosecap maintains the profile of a regular FMJ round, and thus feeds well through auto/semi-auto actions. A small hole down the center of the bullet vents gasses upon ignition. The cap blasts off before the bullet leaves the case, and being asymmetrical, spins off and falls to the ground. Well, "falls" is a poor way of putting it, since there are documented cases of the cap "falling" with sufficient speed to pierce thick vinyl and linoleum flooring material. This tends to be a detriment in precision shooting situations like hostage extraction. Without the cap the bullet has an aggressive hollow point and expands reliably. The pure copper BAT bullet weighs 86gr, and goes at 1400 fps from a pistol. It shoots to different points of aim in different pistols, and will shoot to a different point of aim than the regular police duty FMJ load. The MP-5 had to be modified to suit the BAT pressure curve. Despite these drawbacks the BAT had one positive advantage...it worked. Between the bullet's expansion and its tumbling nature, it produced an impressive wound channel, and the humans shot with it were generally incapacitated.

The Germans consider BAT conforms to the Geneva/Hague Conventions. Hollow point ammunition is illegal in Germany, even for the police, but BAT is permitted. Thus it may be a good choice for those who live in places like Canada and New Jersey where hollow points are banned, provided legal loopholes allow such circumvention. In Germany, regular patrol officers issued BAT only for special cases. Their SWAT Teams, known as Spezial Einsatz Kommando (SEK) can use it as their issue load.

The BAT is another bullet that was appropriated and improved by the South Africans. What the South Africans produced was a round known as the "Eliminator". Outwardly, the round looks like a red-tipped , steel or aluminum jacketed FMJ round. In reality, it is the red plastic cap to a nickel-plated copper bullet. If you pry out the red cap, you discover a bullet that resembles a wadcutter, but with a distinct cutting rim, concave dish and a central projecting button. The result is a round that produces shockwave like the THV, but also expands like a hollowpoint. When fired, the 9mm, 78 grain round exits the gun with a muzzle velocity of 1400 fps. Unlike the BAT, the Eliminator's cap instead shreds and disintegrates as the round leaves the barrel, and has completely fallen away by the time the bullet is a foot out of the muzzle. Eliminator is less limited in its capabilities than most exotic rounds, lacking only long-range capability. It penetrates car windshields, sheet steel and other likely barriers.

D20 Modern Roleplaying Game Special Rules: Treat as both a hollowpoint and AET round. This grants a +2 bonus to damage, but a -1 penalty on attack rolls against targets with armor or natural armor. Blowthrough factor = 5. Purchase DC Modifier = x2.

Fudge Special Rules: +2 damage, -1 modifier to attack.

Action! System Rules: +3 damage. –1 to hit.

Equalloy

Type	Equalloy
Disruption Factor	8
Penetration Factor	40

These rounds use a bullet made of aluminum alloy, resulting in a lightweight bullet. This is one of the three dominant forms of Accelerated Energy Transfer (AET) ammunition. Unlike the other forms of AET ammunition, Equalloy doesn't offer any fringe benefits, like the armor-piercing effects of the THV or tumbling nature of the Geco. Due to the light weight to mass ratio provided by these rounds, they tend to have very poor penetration characteristics, instead transferring most of their energy in the first few inches of penetration.

D20 Modern Roleplaying Game Special Rules: These rounds function as FMJ rounds with an AET effect. That being the case, the rounds have a +1 equipment bonus to damage. They will not exit the target's body. Blowthrough factor = 3. Purchase DC Modifier = +2.

Fudge Special Rules: +1 damage.

Action! System Rules: +1 damage.

Incendiary

Incendiary rounds are filled with a flammable composition which will ignite when the round is fired. Most often, this is some manner of substance that will ignite by simply being exposed to air. Often, the bullets are designed to crumple, spilling their flammable contents on impact. Larger rounds often also use a detonator in order to use more potent flammable materials.

CyberThriller Special Rules: Handgun rounds under .380 or 9mm do not carry enough material to be effective, nor do rifle rounds under 6.5mm (.25 caliber). These rounds will do a mere +2 damage the first round, +1 damage the second. Handgun rounds .380/9mm and higher, as well as rifle rounds from .25/6.5mm to .380/9mm do +1D6 damage the round they hit and +2 damage the following round. Rifle rounds above .380/9mm do +1D10 damage the first round and +3 damage the next.

D20 Modern Roleplaying Game Special Rules: Handgun rounds under .380/9mm do +1 damage. Those .380/9mm and above do +2 damage. Rifle rounds under .30/7.62mm do +1d4 damage, while those .30/7.62mm and above do +1d8 damage. Blowthrough factor = 6. Purchase DC Modifier = x3.

Fudge Special Rules: +1 damage for pistol rounds under 9mm or .380 caliber. +2 damage for larger pistol rounds and rifle rounds under 7.62mm or .30 caliber. +3 damage for larger rifle rounds.

Action! System Rules: +2 damage for pistol rounds under 9mm or .380 caliber. +4 damage for larger pistol rounds and rifle rounds under 7.62mm or .30 caliber. +1d6 damage for larger rifle rounds.

Tracer

Type	Tracer
Disruption Factor	1.25
Penetration Factor	25

Tracer ammunition is usually a full metal jacket round that is mostly hollowed out from the rear and packed full of an illuminatory or incendiary material sufficient to burn at least 1 second. Smaller caliber tracer rounds are more often simply coated with the incendiary material that burns in flight. This filler is ignited by the powder discharge when the cartridge is fired. As this filler burns, it illuminates the trail that the bullet followed toward its destination. Tracers are used for aiming automatic small arms fire during nighttime combat operations, where a gunner will simply adjust the gun to get the tracer paths to align on an area where muzzle flashes can be seen. The use of tracers during daylight operations is essentially a waste of this more expensive form of ammunition. Automatic weapons loaded for night operations typically have a tracer as every fifth round in the magazine or belt.

CyberThriller Special Rules: Use of tracers at night give the shooter +1 to hit for every two consecutive rounds of automatic fire at the same target.

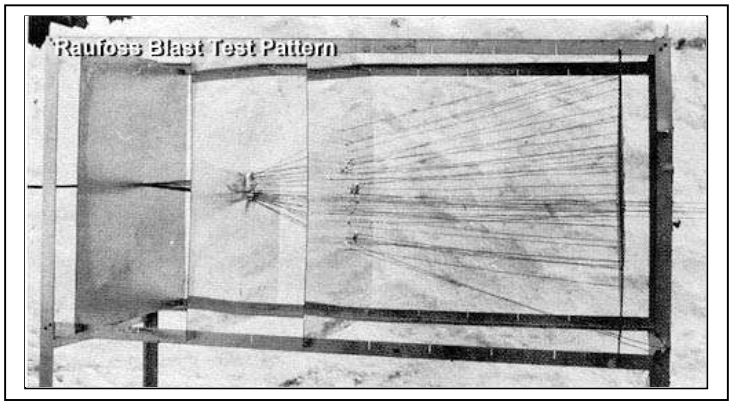
D20 Modern Roleplaying Game Special Rules: This ammunition grants a +1 equipment bonus on attack rolls, but only when the weapon is fired on autofire and 10 bullets are used in the attack. For instance, this bonus applies if you make a standard autofire attack. If you use the Burst Fire feat, you gain the bonus only if you choose to fire 10 bullets instead of the 5 normally required by the Burst Fire feat (firing these additional bullets does not otherwise affect your attack or damage rolls). Blowthrough factor = 6. Purchase DC Modifier = +2.

Fudge Special Rules: +1 bonus to hit in low light conditions.

Action! System Rules: +1 to hit during low light situations.

Explosive

Type	Light Explosive
Disruption Factor	5.5
Penetration Factor	70
Type	Heavy Explosive
Disruption Factor	7
Penetration Factor	70
Type	Raufoss
Disruption Factor	4
Penetration Factor	15



These are hollowpoint bullets that have been filled with an explosive substance, fused with some sort of impact detonation device, and sealed with a cap of wax. Commercially, explosive rounds are made only in calibers greater than .50 or 12.7mm. This is because explosive ammunition is illegal under international law. Any weapons of .50/12.7mm caliber are considered cannons under those same international law. So, if you want your bullets to go boom after they leave the gun, you need to do it yourself. First off, anything under .380 or 9mm diameter isn't likely going to be large enough to hold enough explosive to have anything other than negligible effect. Second, optionally, any bullet of less than 3 grams of mass are not going to be capable of holding enough volume of explosive to have anything other than negligible effect. With this smaller bullets, the explosive

contents would simply enhance the expansion of the bullet. Once you have a bullet of sufficient mass, you need to get to building your explosive bullet. Typically, one uses a steel jacketed round with a mercury fulminate fill. The mercury fulminate detonates on impact without need for a fuse. Unfortunately, it will react and explode in your face if you try filling it inside a bullet with a brass, bronze, aluminum, copper or zinc-plated jacket. Seal it up and you're ready to go with your own explosive bullet. These handmade explosive bullets introduce a dangerous level of unreliability to your weapon. The explosive charge is subject to shock. That means that while it is most likely to explode on impact with something, there is also a possibility that the round will explode in your gun. The chance is small, not even 1 in 100, but when it happens, you can kiss your gun goodbye and forget about using that hand for a few months.

As it is, only the Norweigans manufacture an explosive .50 caliber round, called the Raufoss round. The technical designation for the round is High Explosive Incendiary Armor Piercing (HEIAP). However, that term is too complicated and is usually abridged to "multi-Purpose" (MP). In the United States, the round has only been adopted by the US Navy SEALS (and by default, SOCOM as well) as the Mark 211 MP .50 caliber round. However, this round, as well as the somewhat less capable FN Herstal variant, are issued by some at least six other nations.

CyberThriller Special Rules: Handgun bullets under 9mm/.380 caliber gain +2D3 damage. Those over that limit gain +2D8 damage. Rifle rounds above .30 caliber or 7.62mm will do +2D10 damage. On a misfire, roll 1d100. On a result of 01, the round explodes in the weapon, destroying it.

D20 Modern Roleplaying Game Special Rules: Handgun bullets under 9mm or .380 will do +1 damage. Handgun bullets above that do +2 damage. Rifle bullets under .30 or 7.62mm will do +3 damage. Those above that will do +1d6 damage. Blowthrough factor = 5. Purchase DC Modifier = x3. The Raufoss round, gains explosive, incendiary and armor-piercing effects. In all, it will gain +2d6-1 damage, with a +1 bonus on attack rolls against targets with armor or natural armor. Raufoss round Blowthrough factor = 15. Raufoss Round Purchase DC = 5 PER ROUND.

Fudge Special Rules: +1dF damage.

Action! System Rules: Raufoss round: +2d6 damage, halves armor. Otherwise, pistol rounds under 9mm or .380 caliber do +2 damage, larger pistol rounds and rifle rounds under 7.62mm or .30 caliber do +1d6 damage, larger rifle rounds do + 1d6+2 damage.

Duplex Sabot Munitions

Type	.357-.50 Duplex Sabot
Disruption Factor	2.5
Penetration Factor	15

Still primarily handloaded, the idea developed out of a desire to fire accurate slugs from shotguns. To many, the shotgun is just short of the ultimate hunting weapons; load it with birdshot for small game, buckshot for large game, and inaccurate slugs for bigger game. Unfortunately, there is no great range to shotgun hunting; it all occurs under 50 meters. This was solved by the development of a saboted .50 caliber bullet that can be fired from a 12 gauge shotgun. However, the sabot stayed with the bullet out to 50 meters and lead to a very inaccurate round. This was solved by putting a .45 round in a .45 to .50 MMP sabot, which then went into the .50 to 12ga sabot, leading to a shotgun that could keep a group under 4 cm at 100 yards. This stayed a handload due to the laborious milling work that needs to be done on the inner sabot.

Currently, there is only one duplex sabot round available on the market are for hunting rifles, a .357 dead center bullet inside a 3.57 to .45 MMP sabot, inside a .451 to .50 MMP sabot. This creates a powerful round that can maintain groupings of under 8 cm at 400 meters, and under 16 cm at 1000 meters. The bullet weight is either 175 or 195 grains, powered by 120 grains of Pyrodex RS.

CyberThriller Special Rules: Duplex Sabot munitions are both more powerful and more accurate, giving the benefits of a small caliber gun's accuracy with the benefits of a large caliber gun's punch. Along with the need to calculate the damage for the bullet, the round should be considered as granting a +2 to the weapon's accuracy.

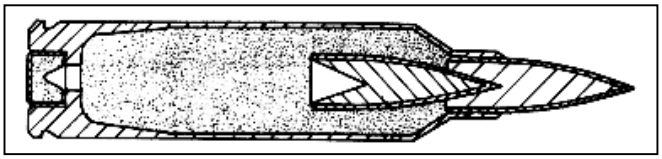
D20 Modern Roleplaying Game Special Rules: This round should be considered as a double hot load without the problems of unreliability. Additionally, the bullets should be considered as Match Grade, granting a bonus of +1 to hit. Purchase DC Modifier = +3.

Fudge Special Rules: +1 bonus to hit in low light conditions.

Action! System Rules: +1 to hit during low light situations.

Multiball

Type	Duplex Multiball
Disruption Factor	1
Penetration Factor	10
Type	Triplex Multiball
Disruption Factor	1
Penetration Factor	10



This form of ammunition is traditionally best known as the M-198 5.56mm Duplex round created by Olin and Colt for Colt's entry into the Advance Combat Rifle program on the back end of the 1980's. The goal of the ACR program was to produce a rifle capable of doubling to casualty rates of the M-16A2. Colt's solution was to produce an improved M-16, but rely on firing twice as many bullets without increasing the rate of fire. The resulting M-198 round consists of two lightweight bullets weighing under 2.5 grams, each steel cored with a gliding metal jacket, fitted in the same 5.56 x 45mm brass case as

the M885 round. The round has reduced accuracy to 325 meters. While the theory was that the round would improve accuracy due to the lead bullet going to the aim point while a slight random dispersion of the rear bullet would compensate for human error. In reality, the second round consistently strikes slightly above and to the right of the first round, failing to compensate sufficiently for human error, the very same effect that occurs when firing a three round burst or firing in full automatic. The benefit is that the M198 is completely interchangeable with other NATO standardized 5.56mm munitions.

The M198 round is not the only multiball round to be made. The .30-06 cartridge has been experimented with repeatedly in regards to multiball munitions. The first time was the Greener experiments by the British, which predated WWI. These munitions were made in duplex and triples configurations, identifiable by the three flutes from the shoulder. They are now quite rare, as the second bullet had a steel jacket that corrodes, expanding the bullet and splitting the cartridge. Later was Project Salvo by Olin, which also produced a variety of duplex and triplex rounds in .30-06. Duplex rounds are also common in Russian 12.7mm helicopter mounted machineguns. These Russian rounds are perplexing, to say the least, since the first bullet exits the gun at 735 m/s, while the second exits at 680 m/s. Given the rate of fire, the first bullet of the next round should be smashing into the back of the second bullet of the last round just a few meters after leaving the gun's muzzle.

CyberThriller Special Rules: If the to-hit roll succeeds by 3, the second round also hits. If the multiball round is a triplex cartridges (fires three bullets), the third round will strike if the to-hit roll succeeds by 5.

D20 Modern Roleplaying Game Special Rules: Multiball rounds provide an additional +1 to hit for each extra bullet the cartridge fires. So a duplex round is +1 to hit and a triplex round is +2 to hit. Purchase DC Modifier = +2.

Fudge Special Rules: +1 bonus to hit in low light conditions.

Action! System Rules: +1 to hit during low light situations.

Caseless Ammunition

Caseless ammunition is a holy grail of firearms technology. Caseless ammunition provides numerous benefits. First off, it reduces the weight of ammunition. A man who carried 1000 rounds of cased ammunition might be able to carry as much as 2500 rounds of caseless ammunition of the same caliber. Caseless ammunition also eliminates the need for ejection systems, leading to a weapon that is both less complex and has fewer vulnerabilities to debris. It also almost completely eliminates the issue of jamming.

Though there are currently five weapons in existence that rely on caseless ammunition (H&K G-11, H&K ACR, H&K LMG-11, H&K PDW prototypes, and the Praetoria), caseless technology is still a holy grail we are only halfway to reaching. The current technologies involved with caseless ammunition still have some limits. H&K initially went with the square propellant charge under the guise of wasting less space in the magazine, even though this is a pointless argument, as the number of rounds in the magazine didn't change. The real problem was that they could not mold a stable cylindrical charge. Another problem is the durability of the propellant charge. Without a casing to protect it, the rounds are susceptible to environmental conditions that can lead them to quickly break down and crumble. A variety of coating, shellacs and the like were tried as means of protecting the round, but left so much debris in the weapon that some would have required an ejection port in order to dispose of it. So currently, caseless technology remains the domain of experimental H&K firearms or a home defense weapon like the Praetoria, where the munitions will be too expensive for casual target practice.

The road to caseless ammunition was a long and difficult one, requiring some 20 years before it culminated in the DM11 round for the G-11. Dynamit Nobel's early prototypes were nothing more than blocks of ball or pellet type gunpowder compressed until the adhered together, than had a primer and bullet glued to them. It worked, and the weapon could fire them, but these rounds weren't stable. With gunpowder that was simply compressed into a block, the rounds would just crumble, leaving a trail of flammable debris from the magazine to the firing chamber. Coating the rounds with a flammable lacquer helped with this problem – slightly. Next came a change of propellant to something that wouldn't disintegrate so easily. Didn't help much, because the ammunition still had to be supplied in 50-round, factory-loaded, airtight-sealed magazines that had to be emptied within a specific timeframe before the ammunition became inert. The followed this with the HITP round, which half fixed the problem. The rounds had an exposed shelf life of at least months, they didn't disintegrate, and they were far less susceptible to cookoff. However, it was still a bullet and primer glued to a block of propellant, and those two parts were still prone to detaching. The final form for the HK weapons was the DM11, which embeds the bullet in the block of RDX-derivative propellant, much like the flechette ammunition developed by AAI and Steyr. This conquers most of the problems of caseless ammunition, creating a stable round that can be dropped from an airplane without a parachute and had a shelf life of years without requiring airtight containers.

However, there is still a flaw. The G-11 HK uses a spinning firing chamber inside a sealed environment, making a gun where heat has nowhere to go. Sustained fire will eventually heat the chamber to the point that a new round will ignite as it is loading, and the hot gasses vent into the magazine triggering a magazine cookoff that destroys the weapon and likely the user. The LMG-11 solved this problem by using a cylinder with three firing chambers, which disperses enough heat to allow the weapon to fire 300 rounds without a risk of cookoff.

There is another form of caseless ammunition currently under development, but that will be detailed separately.

CyberThriller Special Rules: In the Now timeframe, caseless ammunition is a rare and expensive product, slow, difficult, and expensive to manufacture. While a character will have to spend three times as much on caseless ammunition as compared to conventional ammunition, on the bright side, the same character will easily be able to carry twice as much ammunition. It confers no additional benefit at this point.

By 2020, caseless ammunition will not only be more common, but it will begin making inroads as a munition for weapons firing cased ammunition as well. By 2020, caseless ammunition in weapons designed for it will cost the same as comparable cased ammunition of the same caliber. The new aftermarket caseless ammo for older firearms will be slightly more expensive. By its nature, this aftermarket caseles ammo will emply a wide range of tenchologies in order to meet the form factor requirements of old brass cartridges. The predominant technologies for this will likely be the use of a grooved boattail type bullet that the propellant can adhere to, or the use of grooved sabots and subcaliber bullets, meaning the gun actually fires a smaller bullet than its caliber suggests. This ammunition will cost 50% more than the traditional cased ammunition, and will raise the weapon reliability of older guns by one level. A character will be able to carry twice as much ammunition. These aftermarket caseless munitions do –1 damage per 10 points of damage they cause. In the previously mentioned example of a 9mm hydroshock bullet, it would do 38-4+1D3 damage, or 34+1D3 damage. They will also suffer a variety of ballistics problems, resulting in a –4 penalty applied to the weapons accuracy.

By 2050, caseless ammunition technology will not likely closely resemble its predecessors. One single caseless technology will replace all the divergent and compensatory technologies of the previous 50 years. The caseless ammunition of 2050 will by a cylinder of propellant that encases a spirally grooved bullet, available with a right-hand or left-hand twist. These spiral grooves run the entire length of the round, at the very front providing attachment for a nylon nosecone and the remainder of the groove providing attachment of the propellant. The nylon nose serves to assist the loading mechanism, particularly in older firearms, and is self discarding once the bullet leaves the muzzle. The groove, bought to match the twist of a barrel's rifle, will be left bare after the round leaves the barrel, helping to provide an inflight spin on the bullet, allowing new firearms to be crafted with smoothbore barrels. By utilizing bullets with the same twist as the weapon's barrel, the barrel rifling will not have a serious negative effect of the bullets aerodynamics, which would otherwise happen if the bullet had an opposite twist. So, in the 2050 era, all firearms will benefit from the fact that ammunition costs the same regardless whether it is cased or caseless, and caseless ammunition weighs one third as much as cased ammunition. With the 2050 era weapons using smoothbore barrel technologies, they will all do +1D10 damage, rather than +1D3. (The Hydrashock would do 38+1D10, rather than 38+1D3). They will also gain +1 ACC. All older guns, be they from the Now era or the 2020 era, will gain +2 damage if the bullets are the same twist as the barrel, or normal damage with a –3 ACC penalty if the bullets are the opposite twist. And the G-11 will still require specially manufactured square ammunition.

D20 Modern Roleplaying Game Special Rules: D20 Modern covers what is effectively the Now era of the CyberThriller timeline. Under D20 Modern, caseless ammunition is manufactured specifically for the weapons that use this ammunition and no other. Thus, the ammunition gains no real benefit other than weighing half as much as equivalent cased ammunition and the weapon is considered one step higher for reliability. There is no Purchase DC modifier, as the Purchase DC for caseless ammunition must be determined for each gun that uses this technology.

Fudge Special Rules: +1 bonus to hit in low light conditions.

Action! System Rules: +1 to hit during low light situations.

Corrosive Ammunition

Contrary to what you're thinking, these are not bullets that make their targets rust, corrode, or suffer acid burns. What it represents is a period from the 1890's to the 1930's in which ammunition propellant was not simply gunpowder, but had a number of additives and preservatives added to them. The result was ammunition with an indefinite shelf life. It isn't uncommon that a hundred year old box of ammunition be discovered, every last round of which will fire successfully from a gun. Doesn't matter if it's damp, wet, moldy, covered in cobwebs, corroded, etc.

But there are two problems. First, this ammunition doesn't burn clean. It will leave debris in your gun barrel and foul up the weapon quite quickly. Second, the debris is corrosive. Fire 10 rounds of this stuff through your gun and don't clean it, in less than a week, you'll be shopping for a new barrel. This stuff will even destroy a chrome barrel lining, surprising since chrome plating was first done to compensate for the damage this ammunition can do to your gun. Additionally, a sloppy manufacturer might do things like insert steel jacketed bullets into the round (i.e. the Greener Experiments described in the section on Multiball ammunition), which would also be attacked by the corrosive nature of the propellant, resulting in ammunition that can rupture over time as the bullet expands when it rusts.

Because of this, there are very few manufacturers of this type of ammunition any longer. Most of this ammunition will be in the form of old military surplus. Current supply expenditure programs for most large scale munitions purchasers don't warrant the need for ammunition that has a shelf life longer than five or ten years, and current ammunition propellant technologies provide shelf lives of more than sufficient duration.

This form of ammunition is detailed for those playing within the era in which this type of ammunition was manufactured; for instance, WWI, the US Marines' Banana Wars in central America during the 1920's, Prohibition and the gangster era, or even the early years of WW2.

Cyberthriller Rules: This type of ammunition reduces a weapon's reliability by 2, and costs half the price of newly manufactured ammunition.

D20 Modern Roleplaying Game Special Rules: This type of ammunition reduced reliability by 2 for critical failure checks. Purchase DC Modifier = -1.

Fudge Special Rules: +1 bonus to hit in low light conditions.

Action! System Rules: +1 to hit during low light situations.

COMPLETE CARTRIDGE GUIDE CHART

Cartridge	ABBR	Type	Bullet Wt (gm)	Vel. (m/s)	Pen	Total Disrupt.	Per Inch Disrupt.	Qty.	Wt (kg)	Cost	Energy (ft-Lbs)	Notes
Generic Cartridges												
.22 Long Rifle (5.7 x 17mmR)	.22 LR	P	2.59	330	14.2	0.41	0.03	5000	25	245	104.1	
.22 Short Magnum	.22 SM	P	2.1	606	26.1	1.11	0.04	50 500		8 75	285	
.25 ACP (6.3x15.5mm)	.25 ACP	P	3.25	246	11.9	0.36	0.03	1000	10	70	73	
.32 ACP (7.62x17mmR)	.32 ACP	P	4.6	274	17	1.02	0.06	2000	20	150	127	
.32 Magnum	.32 Mag	P	5.8	334	21	1.9	0.09				238	
.357 Magnum (9x33mmR)	.357 Mag	P	8.1	439	30.2	5.76	0.19	50	1.1	50	576	
.380 Automatic (9x17mm)	.380 Auto or .380 ACP	P	5.8	303	22.2	2.2	0.1	1500	15	125	196	
.38 Special (9x29mmR)	.38 Spec	P	7.1	286	21	2.42	0.12	1000	15	175	214	
.38 Special Match	.38SpM	P	9.6	210	15.4	1.76	0.11				156	
.40 S&W (10x21mm)	.40 SW	P	8.7	401	31	6.5	0.21	1000	17	225	516	
.41 Action Express (10.42x18mm)	.41 AE	P	11	334	26.4	5.97	0.23	1000	17	225	452	
.45 ACP (11.43x23mm)	.45 ACP	P	13	296	25.7	6.68	0.26	1000	20	63	420	
6.35mm	6.35	P	3.25	240	11.6	0.34	0.03				69	
7.62mm Tokarev	7.62 TT	P	5.5	510	29.5	3.75	0.13				528	
7.65mm	7.65	P	4.6	320	18.6	1.23	0.07				174	
9mm Makarov (9x18mm) 0.35	9mm M	P	6.15	321	22	2.31	0.11	1500	15	200	234	
9mm Parabellum (9x19mm)	9mm P	P	7.5	379	25.9	3.93	0.15				397	
9mm Largo (9x23mm)	9mmL	P	8	361	24.7	3.81	0.15				384	
9mm Short	9 Short	P	6.1	305	20.9	2.07	0.1				209	
10mm Colt (10x25mm)	10mmC	P	11	406	30.8	8.16	0.26	1000	17	225	688	

Cartridge	ABBR	Type	Bullet Wt (gm)	Vel. (m/s)	Pen	Total Disrupt.	Per Inch Disrupt.	Qty.	Wt (kg)	Cost	Energy (ft-Lbs)	Notes
Specific Cartridges												
* Indicates a military issue round and data is calculated according to the use of an FMJ tumbler, rather than a commercial/civilian use FMJ bullet.												
3x12mm Kolibri	3x12	P	0.35	125	3	0.002	0.00067	1	.02	75	2.2	Miniature Pistol round, produced 2 ft-lbs of energy.
5x54mm AIWS*	AIWS	R	6.5	945	32.1	28.9	0.9				2140.8	Composite cartridge round for AIWS
7N6 5.45 x 39mm Ball*	7N6	R	3.43	880	36.4	3.53	0.1				979.6	Russian 5.45mm Ball. 7.5cm group
7T3 5.45mm Tracer	7T3	R	3.23	883	24.9	4.2	0.17				928.7	Russian tracer, 14cm group
DM-11 4.7 x 33mm*	DM11	R	3.2	930	29.7	12.4	0.42				1021	Final form for the caseless ammo for G-11.
L191 5.7x28mm Tracer	L191	P	2	715	31	1.51	0.05	1000	6	710	377	Tracer version of the SS-190
M/12 6.5x55mm Mauser	M/12	R	6	510	25.2	2.94	0.12	.051			575	M/94 Practice/gallery round.
M/94 6.5x55mm Mauser M/94	M/94-94	R	10.1	742	36.6	10.5	0.29	10 600 1400	0.25 15 35	2 63 147	2050	M/94 roundnose
M/94 6.5x55mm Mauser M/41	M/94-41	R	9	790	39	10.6	0.27				2071	M/94 boattail
M1906 .30-06 (7.62 x 63mm)	M1906	R	9.72	707	40.9	12.72	0.31				1792	Original .30-06 US military cartridge.
M1 .30-06 (7.62 x 63mm)	M1	R	11.28	693	40.1	14.18	0.35				1998	WW2 US round
M1 .30 Carbine (7.62 x 33mm)	M1 Car	R	7.1	570	33	6.04	0.18				851	WW2 US Carbine round.
M2 .30-06 Ball (7.62 x 63mm)	M2 .30	R	9.85	734	42.5	13.9	0.33				1957	WW2 US round
M2 .30-06 AP (7.62 x 63mm)	M2 .30 AP	R	10.89	726	71.5	15	0.21				2117	WW2 US round
M2 .50 BMG Ball	M2 .50	R	50	924	89.2	308.58	3.46				15,744	
M2 7.62mm NATO AP	M2	R	10.8	868	85.4	21.3	0.25				3001	Older US AP round
M17 .50 BMG Tracer	M17	R	40.2	884	58	283.8	4.89				11,586	
M20 .50 BMG Tracer	M20	R	39.5	896	58.8	286.5	4.87				11,695	
M33 .50 BMG Ball*	M33	R	44.6	897	77.4	1167.3	15.07				13,235	
M61 7.62mm AP	M61	R	9.8	868	85.4	19.3	0.23				2723.1	Older US AP round
M62 7.62mm Tracer	M62	R	8.5	825	32.5	18.9	0.58				2133.6	
M67 7.62mm Bloc Ball*	M67R	R	8	740	38.3	51.6	1.35				1615.6	Soviet 7.62x39mm Ball ammo.
M78 7.62mm Bloc Silencer*	M78R-S	R	11.8	290	15	11.7	0.78				366	Soviet 7.62x39mm cold-loaded ammo.
M78 7.62mm Bloc Tracer	M78R-T	R	7.7	715	28.2	12.9	0.46				1451.8	

Cartridge	ABBR	Type	Bullet Wt (gm)	Vel. (m/s)	Pen	Total Disrupt.	Per Inch Disrupt.	Qty.	Wt (kg)	Cost	Energy (ft-Lbs)	Notes
Specific Cartridges												
* Indicates a military issue round and data is calculated according to the use of an FMJ tumbler, rather than a commercial/civilian use FMJ bullet.												
M80 7.62mm NATO Ball*	M80	R	9.65	868	45	85.7	1.91				2681.4	standard NATO 7.62mm round, US designation.
M118 5.56mm Long Range	M118	R	11.4	786	45.5	18.44	0.41				2597	Long range NATO standard round, +1 to hit.
M193 5.56mm NATO Ball*	M193	R	3.95	1005	38	25.2	0.66				1471.4	Used in older NATO standard firearms with a 1-in-12 barrel twist. Copper jacket.
M196 5.56mm NATO Tracer	M196	R	4.13	962	27.6	6.7	0.24				1410	
M200 5.56mm NATO Practice	M200	R	0	0								Full charge blank version NATO standard round for training purposes with MILES.
M882 9mm NATO Ball*	M882	P	7.45	377	23.1	17.4	0.75				389	Standard NATO 9x19mm Parabellum NATO ammo.
M885 5.56mm NATO Ball*	M885	R	4	1005	38	25.5	0.67				1490	For NATO weapons with a 1-in-7 twist. Green tip.
M856 5.56mm NATO Tracer	M856	R	4.15	875	25.1	5.6	0.22				1149	Tracer version of M885. Orange tip.
M993 7.62mm NATO AP	M993	R	8.4	950	93.5 *20mm*	19.9	0.21				2796	Latest US armor - piercing round.
M995 5.56mm NATO AP	M995	R	3.37	1013	72.8 *12mm*	4.8	0.07				1275	Latest US armor - piercing round. Black tip.
M1018 20mm HEAB	M1018	G	160					50	4.54	800		Airbursting grenade round for the M-29 SABR.
PAB-9 9 x 39mm*	PAB-9	R	17.3	290	28.1	8	0.28				536.6	Russian subsonic armor piercing round. SJESC.
Pretoria 9mm	Pret 9	P	6.5	400	7.9	18.9	2.4				382.4	Used in the Pretoria IFA. Hollowpoint.
Sb193 5.7x28mm Subsonic*	Sb193	P	3.6	300	11.6	2.2	0.19	1000	7.6	450	119.5	Subsonic version of SS-190, range of 50 meters.

Cartridge	ABBR	Type	Bullet Wt (gm)	Vel. (m/s)	Pen	Total Disrupt.	Per Inch Disrupt.	Qty.	Wt (kg)	Cost	Energy (ft-Lbs)	Notes
Specific Cartridges * Indicates a military issue round and data is calculated according to the use of an FMJ tumbler, rather than a commercial/civilian use FMJ bullet.												
SP-5 9 x 39mm*	SP-5	R	16	290	17.7	22.1	1.25				496.3	Soviet Subsonic sniper round
SP-6 9 x 39mm*	SP-6	R	16	290	28.1	7.4	0.26				496.3	Soviet Subsonic armor piercing round. SJESC
SS109 5.56mm NATO Ball*	SS109	R	4	930	35.2	21.8	0.62				1276	NATO European equivalent of the M885 round.
SS190 5.7 x 28mm Ball*	SS190	P	2	715	27.7	6.8	0.24	1000	6	410	377	
T194 5.7x28mm Practice	T194	P	1.75	705	30.5	1.28	0.04	1000	5.75	290	321	Practice version of SS190

Damage by Cartridge

Caliber	Abbr.	Cyberthriller	D20	FUDGE	Action!	Game 5	Game 6
Generic Cartridges							
.22 Long Rifle (5.7 x 17mmR)	.22 LR	2+1D3	2d4	2	2d6		
.22 Short Magnum	.22 SM	3+1D3	2d6	3	3d6+2		
.25 ACP (6.3x15.5mm)	.25 ACP	2+1D3	2d4	2	1d6+2		
.32 ACP (7.62x17mmR)	.32 ACP	4+1D3	2d4	2	2d6+2		
.32 Magnum	.32 Mag	5+1D3	2d4	3	2d6+2		
.357 Magnum (9x33mmR)	.357 Mag	10+1D3	2d6	4	4d6		
.380 Auto matic (9x17mm)	.380 Auto or .380 ACP	5+1D3	2d6	3	3d6		
.38 Special (9x29mmR)	.38 Spec	6+1D3	2d4	3	2d6+2		
.38 Special Match	.38SpM	6+1D3	2d4	2	2d6		
.40 S&W (10x21mm)	.40 SW	11+1D3	2d6	4	4d6		
.41 Action Express (10.42x18mm)	.41 AE	12+1D3	2d6	3	3d6+2		
.45 ACP (11.43x23mm)	.45 ACP	13+1D3	2d6	3	3d6+2		
6.35mm	6.35	2+1D3	2d4	2	1d6+2		
7.62mm Tokarev	7.62 TT	7+1D3	2d6	3	4d6		
7.65mm	7.65	4+1D3	2d4	2	2d6+2		
9mm Makarov (9x18mm)	9mm M	6+1D3	2d6	3	3d6		
9mm Parabellum (9x19mm)	9mm P	8+1D3	2d6	3	3d6+2		
9mm Largo (9x23mm)	9mmL	8+1D3	2d6	3	3d6		
9mm Short	9 Short	5+1D3	2d4	3	2d6+2		
10mm Colt (10x25mm)	10mmC	14+1D3	2d6	4	4d6		
Specific Cartridges * Indicates a military issue round and damage is calculated according to the use of an FMJ tumbler, rather than a commercial/civilian use FMJ bullet.							
3x12mm Kolibri	3x12	1D3	2d3	1	1d6		
%x54mm AIWS*	AIWS	45+1D3	2d8	4	4d6+2		
7N6 5.45 x 39mm Ball*	7N6	25+1D3	2d8	4	4d6+2		
7T3 5.45mm Tracer	7T3	23+1D3	2d8	3	4d6+2		
DM-11 4.7 x 33mm*	DM11	21+1D3	2d8	3	4d6+2		
L191 5.7x28mm Tracer	L191	3+1D3	2d6	4	4d6		
M/12 6.5x55mm Mauser	M/12	6+1D3	2d6	3	3d6+2		
M/94 6.5x55mm Mauser M/94	M/94-94	15+1D3	2d8	4	4d6+2		
M/94 6.5x55mm Mauser M/41	M/94-41	14+1D3	2d8	4	5d6		
M1906 .30 -06 (7.62 x 63mm)	M1906	16+1D3	2d8	5	5d6		
M1 .30-06 (7.62 x 63mm)	M1	18+1D3	2d8	5	5d6		
M1 .30 Carbine (7.62 x 33mm)	M1 Car	10+1D3	2d8	4	4d6+2		
M2 .30-06 Ball (7.62 x 63mm)	M2 .30	17+1D3	2d10	5	5d6+2		
M2 .30-06 AP (7.62 x 63mm)	M2 .30 AP	11+1D3	2d10-1	8	5d6+2		
M2 .50 BMG Ball	M2 .50	174+1D3	2d12	9	9d6		
M2 7.62mm NATO AP	M2	13+1D3	2d10-1	9	6d6+2		
M17 .50 BMG Tracer	M17	245+1D3	2d12	6	9d6		
M20 .50 BMG Tracer	M20	244+1D3	2d12	6	9d6		
M33 .50 BMG Ball*	M33	754+1D3	2d12	8	9d6		
M61 7.62mm AP	M61	12+1D3	2d10-1	9	6d6+2		
M62 7.62mm Trace r	M62	30+1D3	2d10	4	6d6		
M67 7.62mm Bloc Ball*	M67R	68+1D3	2d10	4	5d6+2		
M78 7.62mm Bloc Silencer*	M78R-S	39+1D3	2d4	2	2d6+2		
M78 7.62mm Bloc Tracer	M78R-T	23+1D3	2d10	3	5d6+2		
M80 7.62mm NATO Ball*	M80	96+1D3	2d10	5	6d6+2		
M118 5.56mm Long Range	M118	21+1D3	2d10	5	6d6		
M193 5.56mm NATO Ball*	M193	34+1D3	2d10	4	5d6+2		
M196 5.56mm NATO Tracer	M196	13+1D3	2d8	3	5d6		
M200 5.56mm NATO Practice	M200	0	0	0	0		
M882 9mm NATO Ball*	M882	38+1D3	2d6	3	3d6+2		
M885 5.56mm NATO Ball*	M885	34+1D3	2d10	4	5d6+2		
M856 5.56mm NATO Tracer	M856	12+1D3	2d8	3	4d6+2		
M993 7.62mm NATO AP	M993	11+1D3	2d10-1	10	7d6		
M995 5.56mm NATO AP	M995	4+1D3	2d10-1	8	5d6+2		
M1018 20mm HEAB	M1018	5D6s	5d6, 5'r.	5, 5'r	5d6		
PAB-9 9 x 39mm*	PAB-9	15+1D3	2d4+/-1	3+/-2	2d6+5		
Pretoria 9mm	Pret 9	121+1D3	2d6	3	3d6+4		

Cartridge Guide Chart

Sb193 5.7x28mm Subsonic*	Sb193	10+1D3	2d4	2	1d6+2		
SP-5 9 x 39mm*	SP-5	63+1D3	2d4	2	2d6+2		
SP-6 9 x 39mm*	SP-6	14+1D3	2d4 +/-1	3 +/-2	2d6+5		
SS109 5.56mm NATO Ball*	SS109	32+1D3	2d8	4	5d6		
SS190 5.7 x 28mm Ball*	SS190	13+1D3	2d6	3	4d6		
T194 5.7x28mm Practice	T194	3+1D3	2d6	3	4d6		

WEAPON MISFIRES

What's a little weapon unreliability with the fun effects that unreliability can cause?

Misfire Table		
Ammo Misfire	Weapon Misfire	Effect
01-30	01-05	Misfire. The round is a dud in the chamber and must be cleared manually.
31-40	06-10	Hangfire. The round is a dud in the chamber, but will discharge at random sometime in the next two minutes (1D100 seconds)
40-55	11-46	Stovepipe. The round fires, but the casing jams in the ejection port. Or the weapon will jam up in some other fashion, such as a bulged casing. Make a reflex or dexterity check to clear the round manually. If the check fails, the gun must be broken down and reassembled to clear the jam.
56-60	47-50	Cook-off. The round detonates in the chamber as it is loading for one reason or another. This destroys the weapon. Roll 1D10. On a roll of 1-3, the detonation in the chamber vents sufficient gas into the magazine to cause the remaining rounds in the magazine to discharge as well. Go see what you can do about buying yourself a new hand.
61-00	51-60	Backblast. The powder doesn't burn properly and vents an abnormal amount of particulate matter back at the shooter. Take one point of damage from excess powder burns and your vision is obscured for 1D6 minutes.
	61-65	Firing Pin Breaks. The gun is useless until you replace the firing pin. Maybe the gun will do some damage if you throw it at someone. Alternately, some other piece, like a recoil spring, trigger linkage, magazine catch, etc. will break.
	66-80	Ouch. Drop the weapon. Waste an action the next turn to pick it up. Just be glad it didn't discharge.
	81-90	Big Ouch. You dropped your gun and it discharges. Roll 1d100. 1-20: Bullet strikes you. 21-25: Bullet strikes an ally. 26-30: Strikes an enemy. 31-35: Strikes an innocent bystander. 36-100: ricochets a few times and scares the hell out of everyone.
	91-94	Don't Go Dancing. Lose your balance and stumble. Dexterity or reflex check to remain standing. If you fall down, you can either waste an action next round to stand or fire from a sitting or prone position.
	95-96	Oops. Shoot a friend.
	97	Big Oops. Shoot a friend for an automatic critical hit.
	98-99	That Was Dumb. You manage to shoot yourself.
	00	And This Is Dumber. Shoot yourself for an automatic critical hit.

AIWS

Weapon	Advanced Individual Weapon System				
Manufacturer	Unknown		Year	1988-1992	
Nation	United States				
Caliber	5.56 x 45mm NATO		Mags	60	
Accuracy	Group	28 cm @ 400 m		MOA	
	Kill				
Velocity	945 m/s		Energy	2902.3 J	
Weight	Empty	3.39 kg	ROF	SS	40
	Loaded	3.99 kg		MB	-
Length	778 mm			Burst	
Range	Effect.	400m		Auto	180
	Max.			Cyclic	550
Notes					

The U.S. Army's Advanced Combat Rifle Program had a wide range of participants. The AIWS, or Advanced Individual Weapon System, was one of those participating weapon systems, and one of the least known. It was also the start of the abbreviated guns, leading to such names as the OICS, OCSW, AICW, etc.

As mentioned before, the goal of the ACR program was to see if a longarm could be found that provided a 100% increase over the casualty and kill rates of the M16A2. The AIWS, like many of the competing rifles, attempted to do this through the use of a non-standard munition. With the AIWS, they chose to use a 5 x 54mm cartridge firing a 2.9 gram bullet with the same terminal effects as the Army's M885 round. This 5mm round utilized a composite cartridge casing, with a metallic base embedded with a primer and mated to a telescopingplastic sleeve with the bullet fully seated inside the sleeve, resulting in a completely smooth cartridge with was then fitted with a plastic link. The plastic sleeve is only intended to maintain cartridge integrity while the round is being handled.

The rifle itself was a bullpup design using a unique action. As the action cycles, a round is pulled from the magazine and stripped forward, the spent plastic link ejecting to the right. The cartridge is driven forward into a portion of the multi-part chamber, where the round will remain for the rest of the firing process. This chamber segment then cams upward, in line with the barrel, where the firing pin strikes and fires the round. The chamber segment then cams downward, where a fresh round is driven into the chamber segment forcing the fired round to be ejected forward and out of the weapon.

This design is required to compensate for the mostly plastic composite cartridge. With brass, steel, or other metal cartridge casings, the casing itself functions as a heat sink that removes a great deal of heat with it as it is ejected from the weapon. With plastic cartridge casings, if the casing retains the heat, it will simply melt and glue the gun together. This rifle design attempts to divert the excess heat into the hefty receiver, main chamber segment, and barrel of the rifle, thereby preventing the casing meltdown. The rifle also utilizes a slow cyclic rate of fire to this end as well. The design was relatively successful in its efforts to control heat in the ejected casings.

The rifle is fitted with a ventilated plastic housing, feeds by belt from a 60-round magazine, and is fitted with a 4x optical day sight with fully adjustable aperature-based back-up iron sights.

AIWS

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
AICW	RIF	+2	T	M, E	AICW	0	60	2 [SS] 9 [A], 27 [C]	RE	400	3.4	4	$1,000
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
AICW	2d8	20	ballistic	135	SA,A	60	Med	9	18	Mil (+3)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
AICW	60	SA, A, C	Fair	Good	4	$1,000	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
AICW	4d6+2	P/L	+1	0	3	400	2/27	60	4	$1000	
Special Rules:											

BROWNING BAR

The Browning Automatic Rifle is one of the legendary weapons of World War II, one of a handful of guns that was always picked up by someone in the squad when its handler went down. While a legend of World War II, this weapon actually has its roots in World War I.

When the United States entered the First World War, the military recognized that the existing U.S. arsenals were insufficient to fight any war. At that point in time, the United States possessed 1100 heavy machine guns and less than 100 light automatic weapons. U.S. troops who were already serving in Europe were also sending back very bad reports about the French Chauchat machine gun. The United States needed to develop new automatic weapons of its own. Enter into the picture John Moses Browning, the man many consider to be the greatest genius of the art of weapon design. He provided the military with two designs; the M1917 heavy machine gun and the BAR. A year and a half later, in September 1918, the BAR drew its first blood when it entered battle against German troops for the very first time, proving itself to be a resounding success that would fight in America's wars for another 40 years.

The original BAR, the Browning Automatic Rifle, Caliber .30-06, Model 1918, was a hefty weapon firing the 7.62 x 63mm .30-06 round. It was a rifle capable of semi-automatic and fully automatic fire at a rate of 550 rounds per minute, feeding from a 20 round magazine. Though it was meant to be fired from the shoulder, the rifle was simply to heavy to be held in that position very long and too light to maintain control of when firing in full auto. It was fitted with a leaf and blade sighting system and lacked the shoulder support plate and bipod characteristic of later versions of the rifle. From the beginning, the BAR placed the return spring around the gas piston, which exposed it to excess heat that eroded the spring until the gun finally jammed. Even though the rifle was designed to only fire from the open bolt to avoid cookoffs, this did not reduce the thermal strain on the spring by much. As World War I reached its conclusion, the concensus was that the 20-round magazine was the rifle's greatest weakness. Despite this, repeated efforts to outfit the rifle with a 40-round magazine were defeated since it was decided that the magazine would make the rifle too heavy and uncontrollable. Nearly 102,000 BAR M1918 rifles were manufactured by the end of 1918.

The next variant of the BAR was designated as the M1922 Light Machine Gun. Developed for the U.S. Cavalry, the weapon moved quite a bit closer to its final form. This version featured a partially ribbed barrel, a folding bipod, a removable monopod attached to the butt (forming the third leg of a tripod) and the sights from an M1917 machine gun. A mere 500 M1922 LMGs were manufactured.

At this same time, Colt, the manufacturer of the M1922 LMG, developed a lightened, semi-automatic version of the BAR, designated as the Colt Model 75 "Monitor" Rifle. While this powerful rifle was intended for law enforcement sales, it became a popular weapon amongst the bank robbers of the depression. The Monitor was introduced in 1931, a direct response to police reports that their .45 Thompson SMGs were incapable of stopping large beer trucks from running their prohibition road blocks. The rifle had an ultrashort 18 inch barrel and a Cutts compensator. It was selected as the first official fighting rifle of the Federal Bureau of Investigation. Nearly 6,000 of these rifles were made, of which 5,000 were sold abroad.

The 1930's saw two more BARs introduced. In the early years of the decade, the M1918A1 BAR was manufactured briefly. This rifle featured a skid-footed bipod attached to its gas block and introduced a hinged

Weapon	BAR, Cal. .30-06, M1918				
Manufacturer	Colt		Year	1917-1922	
Nation	United States				
Caliber	.30-06		Mags	20	
Accuracy	Group			MOA	
	Kill				
Velocity	808 m/s		Energy		
Weight	Empty	7.28 kg	ROF	SS	40
	Loaded	7.98 kg		MB	-
Length	1214 mm			Burst	3
Range	Effect.	600 m		Auto	60
	Max.			Cyclic	550
Notes					

Weapon	M1922 Light Machine Gun				
Manufacturer	Colt		Year	1922-1937	
Nation	United States				
Caliber	.30-06		Mags	20	
Accuracy	Group			MOA	
	Kill				
Velocity	808 m/s		Energy		
Weight	Empty	9.1 kg	ROF	SS	40
	Loaded	9.8 kg		MB	-
Length	1214 mm			Burst	3
Range	Effect.	600 m		Auto	60
	Max.			Cyclic	550
Notes					

Weapon	BAR, Cal. .30-06, M1918A1				
Manufacturer	Colt		Year	1937-1939	
Nation	United States				
Caliber	.30-06		Mags	20	
Accuracy	Group			MOA	
	Kill				
Velocity	855 m/s		Energy		
Weight	Empty	8.8 kg	ROF	SS	40
	Loaded	9.5 kg		MB	-
Length	1214 mm			Burst	3
Range	Effect.	800 m		Auto	80
	Max.			Cyclic	550
Notes					

Weapon	BAR, Cal. .30-06, M1918A2				
Manufacturer	Colt		Year	1939-1945	
Nation	United States				
Caliber	.30-06		Mags	20	
Accuracy	Group			MOA	
	Kill				
Velocity	855 m/s		Energy	3,500 J	
Weight	Empty	8.8 kg	ROF	SS	40
	Loaded	9.5 kg		MB	-
Length	1214 mm			Burst	3
Range	Effect.	800 m		Auto	80
	Max.			Cyclic	450/650
Notes					

Weapon	Colt Model 75 Monitor				
Manufacturer	Colt		Year	1918-1922	
Nation	United States				
Caliber	.30-06		Mags	20	
Accuracy	Group			MOA	
	Kill				
Velocity	808 m/s		Energy		
Weight	Empty	8.0 kg	ROF	SS	40
	Loaded	8.7 kg		MB	-
Length	1061 mm			Burst	-
Range	Effect.	450 m		Auto	-
	Max.			Cyclic	-
Notes					

BROWNING BAR

steel buttplate to the rifle design. The end of the decade saw the introduction of the final BAR in 1939, the M1918A2. This version, manufactured by Colt, Martin-Rockwell and Winchester, would end up serving as the Squad Automatic Weapon for the U.S. military well beyond the years of World War II, serving right up until the early years of the Vietnam War. This final version, the M1918A2, featured a barrel-mounted, skid-footed, adjustable bipod mounted behind the flash suppressor, M1917 sights, a smaller fore end, a heat shield to protect the return spring, and the safe/semi/full auto selector group was replaced by a safe/slow auto/fast auto group that allowed the rifle to fire at a rate of either 450 or 650 rounds per minute. The M1918A2 also was originally issued with a spike-styled removable stock rest that fit into a slot in the buttstock. This rest was fitted with a shorter hinged shoulder support plate. As the war progressed, a carry handle was added to the design. Most M1918A1 BARs were converted to the M1918A2 configuration. Over the course of World War II, many BARs had their cumbersome bipods stripped and discarded in the battlefields of Europe and the Pacific. Along with the rifle came a great accessory for the BAR gunner. It was a cup that attached to the belt. The buttstock could then be fit into this leather cup, allowing the gunner to far more easily control the rifle while firing from the hip on the move. This rifle was so effective, that by the end of World War II, the weapon was being issued two per squad, rather than the one per squad rate from the early days of the war. Some 189,000 M1918A1 and M1918A2 BARs were manufactured during the years of World War II, with an additional 61,000 produced during the Korean War.

A final version of the BAR appeared after World War II, produced by Fabrique Nationale after they bought the design from Browning. This variant, the BAR Type D Light Machine Gun, found its way into the arsenals of a wide number of European nations. The design introduced a quick change barrel system for the rifle, as well as moving the vulnerable return spring away

BROWNING BAR

from the heat of exhaust gases by placing it in the rifle butt. The buttstock folds down on a hinge during field stripping, rather than being removed, as it is with earlier BARs. This variant did not see much service, as it was only officially adopted by the Belgian Army prior to the NATO adoption of the smaller 7.62 x 51mm cartridge. This new cartridge was the downfall of the BAR, as the rifle's design proved to be difficult to convert to the new cartridge and was not suited for for the changes in modern manufacturing methods. The new NATO cartridge left the US military without a SAW from the official decommission of the BAR in 1957 until the introduction of the M249 SAW in 1982.

While the NATO 7.62 x 51 mm cartridge was the death knell of the BAR for first world nations, the gun remains in service to this day among a number of countries, especially in South America, where it remains in use in Chile, Costa Rica, and Uruguay. Overall, 350,000 BARs were manufactured for military use. The Browning division of FN Herstal still continues producing the BAR to this day, though the weapon is a BAR in name only. It is a semi-automatic hunting rifle available in at least a dozen calibers.

On a technical basis, the BAR was a failure. It was too heavy to be a rifle and too light to be a machine gun. Its magazines carried too little ammunition. The cartridge was too powerful for a light automatic weapon. The vulnerable return spring made it prone to jamming. It could never win any shoot-offs, torture tests or the like. However, any man who had a BAR in his squad will swear by the rifle. It was the beast that every U.S. soldier wanted watching his back.

For reference, it has been difficult nailing down a WW2 era price for the BAR. References provide a wide array of prices, ranging from an absurdly low $200 per unit, to a high of $1400 per unit. However, the bulk of the prices are in the range no higher than $450, indicating that the higher prices are likely representative of production in the 50's or sales on the collector's market. of $450 to $700, more towards the high end of that.

During World War II, the Browning Automatic Rifle was issued with a sling, cleaning kit, M1937 ammunition belt, and 12 20-round magazines for the rifle, plus one magazine to load immediately. The BAR-armed soldier had 13 magazines for a total of 260 rounds of ammunition to fire. Add in a pair of Mk 2 fragmentation grenades and an M3 trench knife, and the BAR gunner's weapon kit is complete, totaling a whopping 20.77 kg. The BAR gunner's common gear and clothing brought the entire kit load to 44.86 kg, or just shy of 100 lbs!

Weapon	BAR Type D Light Machine Gun				
Manufacturer	Fabrique Nationale		Year	1923-1939	
Nation	Belgium				
Caliber	.30-06		Mags	20	
Accuracy	Group			MOA	
	Kill				
Velocity	808 m/s		Energy		
Weight	Empty	9.2 kg	ROF	SS	40
	Loaded	9.9 kg		MB	-
Length	1145 mm			Burst	3
Range	Effect.	600 m		Auto	60
	Max.			Cyclic	650
Notes					

BROWNING BAR

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
BAR M1918	HVY	0	N	O	M2 .30	0	20	2 [SS], 3 [AB], 3 [A], 27 [C]	ST	600	7.3	8.0	$200
M1922 LMG	HVY	0	N	O	M2 .30	0	20		ST	600	9.1	9.8	$200
Colt R75 Monitor	HVY	0	N	O	M2 .30	0	20	2 [SS]	ST	450	8.0	8.7	$90
BAR M1918A1	HVY	0	N	O	M2 .30	0	20	2 [SS], 3 [AB], 4 [A], 27 [C]	ST	800	8.8	9.5	$350
BAR M1918A2	HVY	0	N	O	M2 .30	0	20	2 [SS], 3 [AB], 4 [A], 23/33 [C]	ST	800	8.8	9.5	$300
BAR Type D LMG	HVY	0	N	O	M2 .30	0	20	2 [SS], 3 [AB], 4 [A], 33 [C]	RE	800	9.2	9.9	$275
Special Rules	Prices circa 1935. If playing in the era of the Korean War (the last known production run of BARs), triple the price.												

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight [lb]	Purchase DC	Restriction
BAR M1918	2d10	20	Ballistic	200	SA, A	20	Lrg	18	15/12	Mil (+3)
M1922 LMG	2d10	20	Ballistic	200	SA, A	20	Lrg	21.5	15/12	Mil (+3)
Colt R75 Monitor	2d10	20	Ballistic	150	SA	20	Lrg	19	12/9	Mil (+3)
BAR M1918A1	2d10	20	Ballistic	265	SA, A	20	Lrg	21	16/14	Mil (+3)
BAR M1918A2	2d10	20	Ballistic	265	SA, A	20	Lrg	21	16/14	Mil (+3)
BAR Type D LMG	2d10	20	Ballistic	265	SA, A	20	Lrg	22	18/13	Mil (+3)
Special Rules	Prices represent @1935 / @1953. Don't you just love inflation?									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
BAR M1918	20	SA, A, C	Good	Fair	8	$200	1950's price: $450
M1922 LMG	20	SA, A, C	Good	Fair	8	$200	1950's price: $450
Colt R75 Monitor	20	SA, A, C	Good	Fair	8	$90	1950's price: $200
BAR M1918A1	20	SA, A, C	Superb	Fair	8	$350	1950's price: $650
BAR M1918A2	20	SA, A, C	Superb	Fair	8	$300	1950's price: $650
BAR Type D LMG	20	SA, A, C	Superb	Fair	8	$275	1950's price: $750
Special Rules	BARs were normally supposed to be supplied with armor piercing ammunition, and early in the war, they were. Later in the war, AP ammo became scarce. Dmg reflect AP ammo. Ball ammo would give damage of 5.						

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
BAR M1918	5d6+2	P/L	0	-1	4	600	2/27	20	8.0	$200	1950's price: $450
M1922 LMG	5d6+2	P/L	0	-1	4	600	2/27	20	9.8	$200	1950's price: $450
Colt R75 Monitor	5d6+2	P/L	0	0	4	450	2	20	8.7	$90	1950's price: $200
BAR M1918A1	5d6+2	P/L	0	+1	4	800	2/27	20	9.5	$350	1950's price: $650
BAR M1918A2	5d6+2	P/L	0	+1	4	800	2/27 or 2/37	20	9.5	$300	1950's price: $650
BAR Type D LMG	5d6+2	P/L	0	+1	4	800	2/37	20	9.9	$275	1950's price: $750
Special Rules:											

CELLULAR GUN

Weapon	Cellular Gun				
Manufacturer	Unknown		Year	2000-	
Nation	Balkan states area				
Caliber	.22 LR, .380, 9mm P		Mags	4	
Accuracy	Group			MOA	
	Kill				
Velocity	880 m/s		Energy		
Weight	Empty	0.1 kg	ROF	SS	1
	Loaded	0.12 kg		MB	-
Length	76 mm			Burst	-
Range	Effect.	20 m		Auto	-
	Max.			Cyclic	-
Notes	.22 version introduced 2000, .380 version introduced 2001, .380 version with electronics introduced 2002, 9mm Parabellum with electronics introduced 2002.				

In 2000, a new concealed gun began appearing in the airports of the world, causing quite a bit of panic. It was a 4-shot .22 caliber derringer disguised as a nonfunctioning cellular phone. The buttons press, and the screen appears to have text on it to make it appear to be on and functioning. The weapon is loaded by unlatching the two halves and rotating them as shown in the picture. In the earliest basic version, the upper half of the phone holds the four rounds and the lower half contains the firing mechanism, which is linked to the keypad. A cocking lever extended from the bottom of the phone, a not quite so obvious giveaway that the phone wasn't a phone. This was later replaced with a new cocking mechanism in which the antenna functions to cock the firing pins by twisting it, and the weapon is then fired by pressing the buttons 5, 6, 7, and 8 in sequence. These early versions used an acordian-style derringer mechanism with four barrels lined up in a row and firing through ports in the top of the phone (another dead giveaway that the phone isn't a phone). This mechanism adds greatly to the weight of the phone, thanks to all the extra barrels mounted in it.

By 2002, this gave way to a much more advanced version of the phone gun, which was designed more as a phone shell around a semi-auto pistol. This version mounts the barrel within the thick antenna, allowing it to look more like a worn out antenna tip rather than a barrel muzzle. Pushing the antenna/barrel into the phone cocks the weapon, and the firing mechanism relies on the pressing of a single button to fire the gun in succession, rather than four. Using a small removable magazine inside the phone shell, the gun fires, ejects the spent casing into an empty area at the "bottom" of the phone shell, then strips a fresh round off the clip and is ready to fire again. To remove the spent casings, the magazine is simply removed for reloading and the phone shell shaken to empty out the spent casings from their compartment directly behind the magazine. With three barrels eliminated, the upper portion of the phone shell is then fitted with a working screen, some electronics, a power switch, speaker, and battery, and the keypad is fitted with a touchfilm layer, creating what looks to be a cell phone that can do everything except make or take a call. The gun's safety is cleverly disguised as a battery cover lock; it simply slides a thick strip of metal between the firing pin and cartridge.

These weapons first appeared in October 2000 in a drug raid in Amsterdam. This was shortly followed by the seizure of them in arms shipments confiscated in Switzerland and Croatia. Within two months, they had been discovered all over Europe, and seemed to have been manufactured somewhere in the Balkans, where local gangsters created the initial high demand for the concealed weapon. Germany contributed greatly to the problem, where the cell phone guns became so popular that nightclub owners began forcing customers to leave their phones with the coat check at the door. Since their initial appearance, even deadlier .380 and 9mm versions have appeared on the Spanish penninsula. These newer ones also light up and beep, forcing the power-on check to the extent of making a telephone call with a phone to determine it is real.

CELLULAR GUN

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Cellular Gun .22	EX	-6	P	O	.22 LR	-1	4	SS	UR	20	0.5	0.65	$200
Cellular Gun .380	EX	-6	P	O	.380	-1	4	SS	UR	20	0.7	0.85	$600
Cellular Gun Parabellum	EX	-6	P	O	9mm P	-1	4	SS	UR	20	0.7	0.85	$600
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
Cellular Gun .22	2d4	20	ballistic	10	SS	4	Sm	1	12	BM (+4)
Cellular Gun .380	2d6	20	ballistic	10	SS	4	Sm	1.5	16	BM (+4)
Cellular Gun Parabellum	2d6	20	ballistic	10	SS	4	Sm	1.5	16	BM (+4)
Special Rules	Restriction Category: BM. This indicates a weapon that is effectively illegal worldwide, and must be obtained exclusively through a black marketer, shady gun dealer, or other illicit criminal resource.									

FUDGE

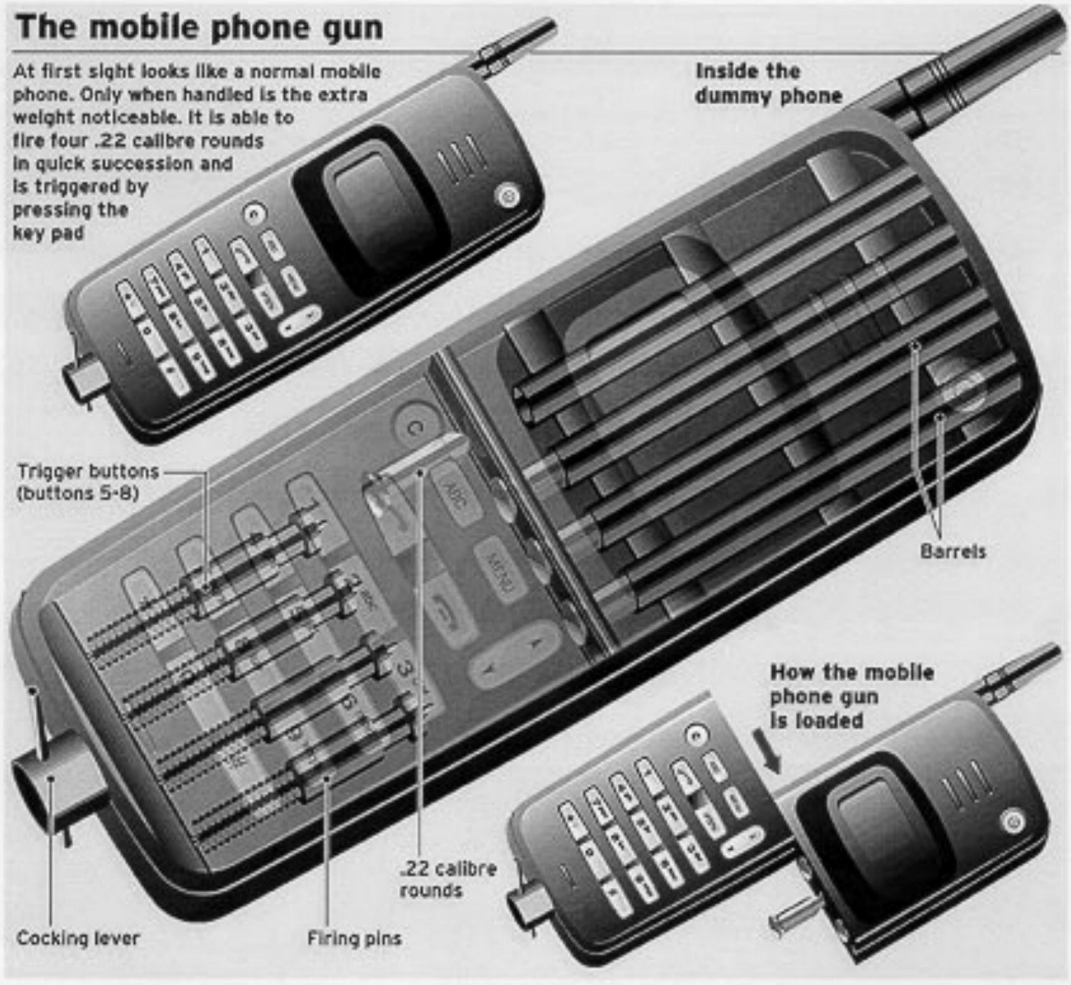
Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Cellular Gun .22	4	SS	Terrible	Terrible	2	$200	
Cellular Gun .380	4	SS	Terrible	Terrible	3	$600	
Cellular Gun Parabellum	4	SS	Terrible	Terrible	3	$600	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
Cellular Gun .22	2d6	P/L	-3	-3	1	20	1	4	0.65	$200	
Cellular Gun .380	3d6	P/L	-3	-3	1	20	1	4	0.85	$600	
Cellular Gun Parabellum	3d6+2	P/L	-3	-3	1	20	1	4	0.85	$600	
Special Rules:											

CELLULAR GUN

Mobile Phone Gun
Firearm being seized in Europe



Deadly Decoys

Cell Phone Guns Discovered

Hitting the 5, 6, 7 and 8 buttons on the phone gun fires four .22- caliber rounds in quick succession. (U.S. Customs Service)

Actual U.S. Customs Service Security Alert sheet on this weapon

CIA CIGARETTE GUN

Weapon	Cigarette Gun				
Manufacturer	CIA		Year	1955-1975	
Nation	United States				
Caliber	.22 Long Rifle		Mags	1	
Accuracy	Group	60cm @10 m		MOA	
	Kill				
Velocity	231 m/s		Energy	51 ft lbs	
Weight	Empty	-	ROF	SS	1
	Loaded	0.02 kg		MB	-
Length	70 mm			Burst	-
Range	Effect.	10 m		Auto	-
	Max.			Cyclic	-
Notes					

The CIA has long been a heavy user of concealable weapons. This particular weapon is a disposable single-shot weapon which is disguised as any one of a number of popular brands of cigarettes (and not necessarily U.S. brands, either).

The weapon is fired by holding the cigarette firmly, then pulling off the filter segment with the fingers or teeth. This in turn breaks a string inside the weapon, releasing the pre-tensioned firing pin, firing the bullet. The bullet blows out the tobacco plug at the barrel muzzle and hopefully will strike the target. Once fired, the weapon cannot be reloaded and is therefore completely disposable.

This weapon is not particularly accurate or powerful, but has proven useful as a close-in assassination weapon or as an easily smuggled holdout weapon. The Cigarette Gun can be compared to the NKVD Cigarette Case Gun, which was manufactured in the same era of the Cold War. The NKVD weapon was by far more accurate, but limited to a mere four shots. On the flip side, the CIA weapon offered more capacity, being able to replace cigarettes in a pack bought in a store on a weapon for cigarette basis, so a CIA agent could conceivably carry a full pack of 20 cigarette guns.

No illustration or photograph is available for this weapon.

CIA CIGARETTE GUN

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
CIA Cigarette Gun	EX	-12	P	S,O	.22LR	-2	1	SS	RE	10	-	0.02	$10
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
CIA Cigarette Gun	2d3	20	ballistic	5	SS	1	Sm	0.1	3	BM (+4)
Special Rules	Restriction Category: BM. This indicates a weapon that is effectively illegal worldwide, and must be obtained exclusively through a black marketer, shady gun dealer, or other illicit criminal resource.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
CIA Cigarette Gun	60	SS	Terrible	Terrible	2	$10	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
CIA Cigarette Gun	1d6	P/L	-3	-4	1	10	1	1	0.02	$10	
Special Rules:											

CIA DEER GUN

Weapon		Cigarette Gun			
Manufacturer	CIA		Year	1962-1975	
Nation	United States				
Caliber	9mm Parabellum		Mags	1	
Accuracy	Group			MOA	
	Kill				
Velocity			Energy		
Weight	Empty	-	ROF	SS	1
	Loaded	0.4 kg		MB	-
Length				Burst	-
Range	Effect.	25 m		Auto	-
	Max.			Cyclic	-
Notes					

In the early 60's, the Central Intelligence Agency, very active in southeast asia, was looking for a weapon they could supply to agents and insurgents. The gun needed to be cheap and sufficient to kill at a couple dozen meters. The CIA then set its sights on the most inexpensive gun of World War II, the FP-45 Liberator. Made of a minimal number of parts, the guns were so simple that 1,000,000 were produced in a mere 11 weeks by a staff of 300. The design was updated for the 1960's, switching to a far more ubiquitous caliber, 9mm parabellum, and streamlining the weapon for a "James Bond" styling, resulting in a firearm that looks very much like the device doctors use to check a patient's ears. Had a sizable number of these weapons been produced, they would have cost a total of $3.95 each to manufacture, but since only 1,000 were ever produced, the CIA shelled out a whopping $300 each for them, the most expensive zip guns to date.. The CIA officially listed them in its catalog as "Pistol, 9 millimeter, [FSN] 1395-H00-9108, Parabellum, single shot, 2.0 in. barrel, reloadable, c/w 3 cartridges in grip, packed for air drop." They were packed in a polystyrene box with 3 rounds of ammunition and instruction sheet. They could indeed be dropped from the air and the package would float if it landed in water.

Like many concealable spy agency weapons, this gun was pretty worthless in a fight. It can only be used accurately within a few meters distance, it is slow and clumsy to reload, and it was not disguised as a common everyday mechanism.

CIA DEER GUN

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
CIA Deer Gun	HND	-7	P	S,O	9mmP	-4	4	SS	UR	25	-	0.4	$300
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
CIA Deer Gun	2d6	20	ballistic	10	SS	3	Sm	1	13	BM (+4)
Special Rules	Restriction Category: BM. This indicates a weapon that is effectively illegal worldwide, and must be obtained exclusively through a black marketer, shady gun dealer, or other illicit criminal resource.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
CIA Deer Gun	4	SS	Terrible	Terrible	2	$300	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
CIA Deer Gun	2d6	P/L	-3	-3	1	25	1	4	0.4	$300	
Special Rules:											

CLUB SHOTGUN

While one normally assumes that concealed firearms disguised to appear as other innocuous objects are the products of intelligence agencies around the world, the truth is that since the end of the cold war, these concealed firearms have been the products of criminal organizations looking for an upper hand against the law enforcement agencies hunting them. This particular one has been found by police in southern California and Texas as early as 1997.

This weapon is created by modifying "The Club", the rather ubiquitous steering wheel locking device we've all seen television commercials for. The handle is hollowed out and modified so that it can hold a single shotgun shell. It is fired by pulling out the modified locking arm and slamming it back in, acting as a firing pin.

Weapon		Club Shotgun			
Manufacturer	Unknown		Year	1997-	
Nation	United States				
Caliber	20 ga., 28 ga., .410		Mags	1	
Accuracy	Group			MOA	
	Kill				
Velocity			Energy		
Weight	Empty	2.5 kg	ROF	SS	1
	Loaded	2.57 kg		MB	-
Length				Burst	-
Range	Effect.	20 m		Auto	-
	Max.			Cyclic	-
Notes					

Now the police alert sheet I have seen for this particular weapon indicates that it fires a 20 gauge shell, however, after dragging my own Club out of the car and doing some measurements with some calipers, I discovered that making it a 20 ga. Shotgun is a very risky proposition. Unless you find a crooked gunsmith or machinist to do the work for you, 99 times out of 100 you'd end up just destroying your Club. Even if it is successfully milled from the stock, the chamber walls are also dangerously thin as well. Admittedly, the fact that it is manually actuated allows most of the backblast force to escape as the Club separates in your hand, slamming one against a brick wall one-handed in order to fire it would very possibly result in the Club exploding when the cartridge detonates. Making it in 28 gauge or .410 would be a more reasonable choice for someone doing the work on their own. Also, .410 would be good for firing .41 pistol cartridges as well.

CLUB SHOTGUN

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Club Shotgun 20 ga.	EX	-3	J	O	20 ga.	-1	1	SS	UR	20	2.5	2.7	$50
Club Shotgun 28 ga.	EX	-3	J	O	28 ga.	-1	1	SS	UR	20	2.5	2.7	$50
Club Shotgun .410	EX	-3	J	O	.410	-1	1	SS	UR	20	2.5	2.7	$50
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
Club Shotgun	2d6	20	ballistic	10	SS	1	Sm	4	7	BM (+4)
Club Shotgun 28 ga.	2d6	20	ballistic	10	SS	1	Sm	4	7	BM (+4)
Club Shotgun .410	2d4	20	ballistic	10	SS	1	Sm	4	7	BM (+4)
Special Rules	Restriction Category: BM. This indicates a weapon that is effectively illegal worldwide, and must be obtained exclusively through a black marketer, shady gun dealer, or other illicit criminal resource.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Club Shotgun	1	SS	Terrible	Terrible	6	$50	
Club Shotgun 28 ga.	1	SS	Terrible	Terrible	5	$50	
Club Shotgun .410	1	SS	Terrible	Terrible	4	$50	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
Club Shotgun	5d6	P/L	-3	-3	1	20	1	1	1.5	$50	
Club Shotgun 28 ga.	4d6	P/L	-3	-3	1	20	1	1	1.5	$50	
Club Shotgun .410	3d6	P/L	-3	-3	1	20	1	1	1.5	$50	
Special Rules:											

ENARM MSM

The MSM (Mini Sub Metralhadora – Mini Submachinegun) was developed by LAPA and HAGA in the mid-80's after a request from the Brazilian government for a concealable automatic weapon. By 1985, this joint venture had produced a compact SMG that could also be targeted for use by both law enforcement and military organizations worldwide. The company ENARM was then formed to manufacture and market the weapon. The weapon is a conventional blowback design, using a telescoping stock for stability when firing at long ranges. It is reminiscent in appearance of he Ruger MP-9 in the double-grip form and the Ingram M-10 and M-11 without the double grip, and is in fact only a little larger than the Ingram. As compact as the weapon is, it does have the fatal Uzi flaw of the magazine projecting well past the bottom of the magazine grip, making the weapon difficult to use around loose fabric, paper, cloth, etc. that the magazine may snag on. Like any weapon of its type, recoil can be a problem, though the low rate of fire and high weight helps this.

Weapon	Mini Sub Metralhadora			
Manufacturer	ENARM		Year	1985-
Nation	Brazil			
Caliber	9mm		Mags	32
Accuracy	Group		MOA	
	Kill			
Velocity			Energy	
Weight	Empty	2.2 kg	ROF	SS 2
	Loaded	2.7 kg		MB
Length	310mm, 500mm extended			Burst 3
Range	Effect.	170 m		Auto 200
	Max.			Cyclic 600
Notes				

ENARM MSM

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
ENARM MSM	SMG	-3	J	L	9mm P	0	32	2 [SS], 3 [AB], 5 [A], 30 [C]	ST	170	2.2	2.7	$395
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
ENARM MSM	2d6	20	ballistic	50	SA, A	32	Sm	5	14	Res (+2)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
ENARM MSM	32	SA, A, C	Superb	Fair	3	$395	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
ENARM MSM	3d6+2	P/L	0	+4	2	170	2/30	32	2.7	$395	
Special Rules:											

FABRICACIONES MILITARES FMK-3

Weapon	FMK-3				
Manufacturer			Year	1974-	
Nation	Argentina				
Caliber	9mm Parabellum		Mags	25, 32, 40	
Accuracy	Group	12.5 cm @ 50yds		MOA	
	Kill				
Velocity	315 m/s		Energy		
Weight	Empty	3.4 kg	ROF	SS	2
	Loaded	3.8 kg		MB	
Length	693mm, 523mm folded			Burst	3
Range	Effect.	100 m		Auto	150
	Max.	250 m		Cyclic	650
Notes					

This is the standard Argentine submachinegun, frankensteined from parts of other SMGs, but mainly built on the Uzi pattern. It is an improved version of the PA3-DM, the former Argentine standard submachinegun. The sliding steel wire buttstock is the same as used on the US M-3A1 "Grease Gun." A double stack magazine is inserted into the pistol grip, like the Uzi. The receiver and pistol grip is made from steel stampings, like the MAC-10. The FMK-3 is a blowback-operated, selective fire submachine gun. It uses telescoped bolt which sleeves around the rear part of the barrel when closed. The safety/fire selector switch is located at the left side of the weapon above the pistol grip. There also is an automated grip safety at the rear of the pistol grip. The sights are of flip-up type with "L"-shaped rear sight blade, marked for range of 50 and 100 meters.

It is said that FMK-3 is quite comfortable to use and accurate in full-auto, putting all hits into 125 mm (5 inches) groups when firing offhand at 50 meters (short bursts, obviously). The most interesting feature of the FMK-3 is the fact that it is designed to fire NATO standardized rifle grenades, though this feature makes the weapon quite heavy. Magazines for the SMG are available in 25, 32 and 40 round capacities.

The weapon was developed circa 1974 by Fabricaciones Militares company of Argentina and remains in production to this day with the Small Arms Factory of Domingo Matheu. It is used by both the military and the police in Argentina, and a semi-automatic version is marketed for civilian sale as the FMK-5.

FABRICACIONES MILITARES FMK-3

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
FMK-3	SMG	+2	T	L	9mm P	0	25, 32, 40	2 [SS], 3 [AB], 7 [A], 32 [C]	ST	100	3.4	3.8	$250
FMK-5	SMG	+2	T	L	9mm P	0	25, 32, 40	2 [SS]	ST	100	3.4	3.8	$250
Special Rules													

FM

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
FMK-3	2d6	20	ballistic	35	SA, A	25, 32,40	Sm	8	13	Res (+2)
FMK-5	2d6	20	ballistic	35	SA	25, 32,40	Sm	8	13	Res (+2)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
FMK-3	25,32,40	SA, A, C	Good	Great	3	$250	
FMK-5	25,32,40	SA	Good	Great	3	$250	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
FMK-3	3d6+2	P/L	+2	+3	2	100	2/32	25, 32,40	3.8	$250	
FMK-5	3d6+2	P/L	+2	+3	2	100	2	25, 32,40	3.8	$250	
Special Rules:											

FOLDING REVOLVERS

These weapons are miniscule revolvers manufactured by any of a number of shady, fly-by-night gun makers. They are small revolvers, usually having no more than 5 chambers, and the gun frame can fold over into a slotted notch in the handle grip. The result is a firearm that can be hidden all too easily; in a pocket, an eyeglass case, an empty pack of cigarettes, etc.

The most recent innovation has been to take the .22 caliber version of this weapon and combine it with a functional, rebuilt beeper, resulting in a folding revolver that is completely disguised as a beeper, right down to functionality.

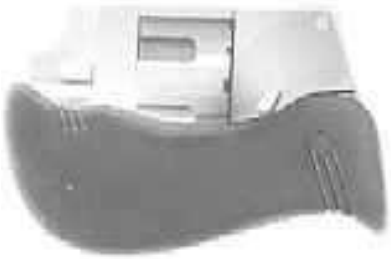
Larger calibers, say .32 or .380, use a revolver design that aligns the barrel with the bottom round of the cylinder in order to reduce the muzzle climb which the gun will generate when fired, as the hinge between grip and body wouldn't handle the stress otherwise.

Weapon		Folding Revolver			
Manufacturer	CIA		Year	1962-1975	
Nation	United States				
Caliber	9mm Parabellum		Mags	1	
Accuracy	Group			MOA	
	Kill				
Velocity			Energy		
Weight	Empty	-	ROF	SS	1
	Loaded	0.4 kg		MB	-
Length				Burst	-
Range	Effect.	25 m		Auto	-
	Max.			Cyclic	-
Notes					

Universally, these revolvers are cheap to buy, cheaply made, underpowered, and inaccurate, but when you're in the middle of your life and intent to take every bastard you can with you, pulling this last little bit of firepower out and using it can make those last moments worth living. These revolvers made their first appearance on the streets of the United States during the 1970's, in the hands of mostly inner city gang members in the eastern half of the country. They quickly vanished as part of the Saturday Night Special crackdown on fly-by-night manufacturers in the early 1980's, and reappeared at the end of that decade in newer, slightly better forms.

.22 Caliber Folding Revolver

.380 Caliber Folding Revolver



FOLDING REVOLVERS

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Folding Revolver, .22 Cal.	HND	-5	P	C,O	.22LR	-2	5	2	UR	20	-	0.25	$100
Folding Revolver, .38 Cal.	HND	-5	P	C,O	.380 ACP	-2	5	2	UR	20	-	0.35	$100
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
Folding Revolver, .22 Cal.	2d4	20	ballistic	5	SA	5	Sm	1	10	BM (+4)
Folding Revolver, .38 Cal.	2d6	20	ballistic	5	SA	5	Sm	1	10	BM (+4)
Special Rules	Restriction Category: BM. This indicates a weapon that is effectively illegal worldwide, and must be obtained exclusively through a black marketer, shady gun dealer, or other illicit criminal resource.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Folding Revolver, .22 Cal.	5	SA	Terrible	Terrible	2	$100	
Folding Revolver, .38 Cal.	5	SA	Terrible	Terrible	3	$100	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
Folding Revolver, .22 Cal.	2d6	P/L	-3	-3	1	20	2	5	0.25	$100	
Folding Revolver, .38 Cal.	3d6	P/L	-3	-3	1	20	2	5	0.35	$100	
Special Rules:											

FP-45 LIBERATOR

Early in the Second World War, the US Army recognized the need for effective but inexpensive equipment to outfit men filling certain mission profiles. When a man is sent out on a mission he is not expected to return from, you don't want to provide him with the best, most expensive equipment possible. Not only that, but his chances for survival can be boosted by providing him equipment that cannot be traced back to any specific government.

When it came to hold-out weapons, the Liberator Pistol, also known as the FP-45 "Flare Projector" Pistol, was one of the solutions. The Liberator was a .45 caliber, smoothbore, single-shot pistol, manufactured cheaply, easily and quickly. Assembled from a total of 23 parts, over an 11 week period of 1942, 300 workers manufactured over 1,000,000 units, or the equivalent of 1 Liberator every 6.6 seconds. The gun could be assembled quite literally faster than a man can reload it. A well-versed user required a full 10 seconds to reload the single-shot pistol. The completed pistols shipped individually packaged in a small case that included an ejector rod and 10 .45 ACP cartridges. The weapon was designated as a flare projector in a dubious attempt to conceal its true nature. A handful of these weapons ended up in the hands of OSS agents in Europe, while the bulk ended up in the hands of Allied agents and indigenous insurrectionists in Japanese-occupied Chine and the Philippines.

An improved, two-shot version of the Liberator was also developed by John Browning. The weapon utilized a horizontal side-sliding breech mechanism. The weapon was otherwise virtually identical to the first Liberator. The weapon never entered mass production, and therefore was never adopted by the military and never received any official designation. With no actual name, I am giving the second gun a completely unofficial and provisional designation of FP-45 Liberator Mk 2.

Weapon	FP-45 Liberator			
Manufacturer	U.S. Army, OSS		Year	1942
Nation	United States			
Caliber	.45 ACP		Mags	9 + 1
Accuracy	Group		MOA	
	Kill			
Velocity			Energy	
Weight	Empty	-	ROF	SS 6
	Loaded	0.6 kg		MB -
Length				Burst -
Range	Effect.	40 m		Auto -
	Max.			Cyclic -
Notes	Single shot weapon, held one round in the chamber and nine in a compartment in the grip. Each round must be manually loaded into the chamber, requiring 10 to 20 seconds, depending on the shooter's familiarity with the reloading process.			

Weapon	FP-45 Liberator Mk. 2			
Manufacturer	U.S. Army, OSS		Year	1942
Nation	United States			
Caliber	.45 ACP		Mags	9 + 2
Accuracy	Group		MOA	
	Kill			
Velocity			Energy	
Weight	Empty	-	ROF	SS 12
	Loaded	0.8 kg		MB -
Length				Burst -
Range	Effect.	40 m		Auto -
	Max.			Cyclic -
Notes	Single shot weapon, held on round in each chamber and nine in a compartment in the grip. Each round must be manually loaded into the chamber, requiring 15 to 20 seconds, depending on the shooter's familiarity with the reloading process.			

FP-45 LIBERATOR

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
FP-45 Liberator	HND	-7	P	M,O	.45ACP	-4	10	SS (1/3r)	UR	40	-	0.6	$18
FP-45 Liberator Mk 2	HND	-7	P	M,O	.45ACP	-4	10	SS (2/3r)	UR	40	-	0.8	$25
Special Rules	Requires 1d3+2 combat rounds to reload. Mk 2 can fire 2 shots before requiring reloading.												

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
FP-45 Liberator	2d6	20	ballistic	15	SS	9+1	Sm	1	4	BM (+4)
FP-45 Liberator Mk 2	2d6	20	ballistic	15	SS	9+2	Sm	1	5	BM (+4)
Special Rules	Restriction Category: BM. This indicates a weapon that is effectively illegal worldwide, and must be obtained exclusively through a black marketer, shady gun dealer, or other illicit criminal resource. The Liberator can be fired and reloaded as a single coordinated action with enough practice (firing several hundred rounds in the course of training)									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
FP-45 Liberator	9+1	SS	Mediocre	Terrible	3	$18	Fire & reload take 15 seconds
FP-45 Liberator Mk 2	10+2	SS	Mediocre	Terrible	3	$25	Fire & reload takes 30 seconds
Special Rules	Remember to apply the –1 modifier for being a single-shot weapon.						

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
FP-45 Liberator	2d6+2	P/L	-3	-1	1	40	1	9+1	0.6	$18	
FP-45 Liberator Mk 2	2d6+2	P/L	-3	-1	1	40	1	9+2	0.8	$25	
Special Rules:	Requires 1d3+2 combat rounds to reload. Mk 2 can fire 2 shots before requiring reloading.										

GIAT FA MAS

The GIAT FA MAS (Fusil Automatique, Manufacture d'Armes de St. Etienne) is well known to French soldiers as "le Clarion", or the Bugle. It is also known worldwide as one of the ugliest assault rifles ever produced. Fortunately, looks are meaningless when it comes to efficient killing. It is the current assault rifle of the French military.

The first prototype was built in 1971 and introduced to the French military in 1973 as a potential candidate for the French next generation firearm, which was to replace the aging stockpiles of MAS Mle. 49/56 semi-automatic rifles, MAT-49 SMGs and MAC Mle. 1929 LMGs. The rifle spent six more years in refinement, in which time the French adopted the SIG SG-540 rifle as an interim replacement. The French military finally adopted the rifle in 1978 and full production began in 1979 for the FA MAS F1 rifle. Along with being one of the early bullpup designs, it also more importantly marks the end of France's status as NATO's rebellious child. After decades of using munitions of their own design and choosing, such as the 7.5mm rifle round and the 7.65mm Long pistol round, France finally adopted a weapon using ammunition of a caliber selected for NATO's standard.

Originally, the FA MAS F1 rifle was issued with a barrel twist of 1-in-12, optimized for the old M193 ammunition, but has since been upgraded to a 1-in-9 twist barrel, which is a compromise between the 1-in-12 optimal for the M193 round and the 1-in-7 optimal for the SS-109 round. Though a bullpup, the rifle is a heavy one, weighing a whopping 3.63 kg empty and with the standard issue bipod removed, quite heavy by today's standards. The F1 also utilized proprietary 25-round magazines, the last vestige of French resistance against NATO standardization. In all, 400,000 FA MAS F1 rifles were produced. It is still in use with the French army, as well as exported to Senegal and the UAE. The F1 was a well-built rifle. While relying heavily on polymer and fiberglass construction, its metal components are anodized or phosphate finished, with an non-removable black plastic lower hand guard that extends back to the magazine well. Its ergonomic pistol grip contains a storage compartment that holds a bottle of lubricant. The trigger guard can be pulled out and rotated in a novel method of accommodating heavy gloves for artic conditions.

Weapon	FA MAS F1				
Manufacturer	GIAT		Year	1979-1990	
Nation	France				
Caliber	5.56 x 45mm NATO		Mags	25	
Accuracy	Group			MOA	
	Kill				
Velocity	960 m/s		Energy		
Weight	Empty	3.61 kg	ROF	SS	40
	Loaded	4.44 kg		MB	3
Length	757 mm			Burst	-
Range	Effect.	300 m		Auto	200
	Max.			Cyclic	1000
Notes					

Weapon	FA MAS G2				
Manufacturer	GIAT		Year	1994-	
Nation	France				
Caliber	5.56 x 45mm NATO		Mags	30	
Accuracy	Group			MOA	
	Kill				
Velocity	925 m/s		Energy		
Weight	Empty	3.61 kg	ROF	SS	40
	Loaded	4.44 kg		MB	3
Length	757 mm			Burst	-
Range	Effect.	450 m		Auto	200
	Max.			Cyclic	1000
Notes					

Weapon	FA MAS FELIN				
Manufacturer	GIAT		Year	2000-	
Nation	France				
Caliber	5.56 x 45mm NATO		Mags	25	
Accuracy	Group			MOA	
	Kill	90%@300m			
Velocity	925 m/s		Energy		
Weight	Empty	4.3 kg	ROF	SS	40
	Loaded	5.23 kg		MB	3
Length	757 mm			Burst	-
Range	Effect.	600 m		Auto	200
	Max.			Cyclic	1100
Notes					

These early rifles had a spongy trigger, but were otherwise reliable rifles. Additionally, the weapon utilizes two fire selectors. The main one, located just ahead of the trigger, allows for safety, single shot, and full automatic fire. The second, only effective when the main selector is set to full auto, allows full auto or three round burst mode to be enabled. The second selector is located behind the magazine. The weapon's delayed blowback recoil system, while often though to be inspired by similar systems developed by Heckler & Koch, is actually from the earlier French AAT-52 machine gun. Like the AK-47, the rifle needs to be recharged each time a new magazine is inserted. The recharging handle is located on top of the rifle, allowing for easier ambidexterous manipulation.

The F1 model also included an integrated sight for targeting at ranges of 300 to 500 meters, some provision to attach NATO standard optics, attachment of a proprietary bipod, and the ability to mount a grenade launcher. The ejector can be reversed to accommodate left-handed shooters. The weapon is reliable in adverse environments, capable of firing 300 rounds in under two minutes without overheating to cook-off temperatures. The F1 was also designed to fire a line of 500 gram rifle grenades for either anti-tank or anti-personnel use. Firing these grenades requires the use of a special adaptor magazine that holds two blanks, which launch the grenades at direct and indirect targets up to 360 meters away. The rifle can also be fitted with a 40mm grenade launcher, like the M-203.

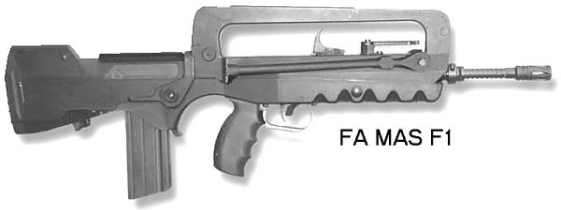
The G1 was improved with the FA MAS G1, an intermediary design that featured an improved foregrip and an enlarged trigger guard encompassing the entire hand, eliminating the inventive rotating trigger guard of the F1. The G1 was then quickly replaced with the FA MAS G2, which was introduced in 1994, first adopted by the French Navy in 1995, then the Army. The G2 is modified to accept only M16 style STANAG compliant NATO magazines, rather than the impressively sturdy proprietary 25-round magazines made for the previous versions of the rifle. The G2 fires faster and further, but weighs even more than the original rifle.

The G2 is available in a wide range of variants at this point, including the carbine-styled FA MAS G2 Commando, the FA MAS G2 Picatinny with an optics-mounting Picatinny rail replacing the old carry handle, the long heavy-barreled FA MAS G2 Sniper, and the short-barreled FA MAS SMG.

As of 2000, GIAT began downplaying the FA MAS as one of its products. At the time, the goal was to replace it with the PAPOP assault rifle, which was to be France's equivalent of the US OICW program. However, the PAPOP program has faded to relative obscurity as focus turned to a rifle more along the lines of the Israeli OICW program (see the Tavor Assault Rifle in Volume 1) rather then the U.S. OICW program. The French military has once again reconsidered the program and revised it yet again into a two phase program. Phase I calls for an interim information-oriented rifle for the FELIN program, to later be replaced by an integrated multiple weapon system in Phase II. The Phase I weapon will serve as the primary infantry weapon from 2006 to 2010, when it will be phased out for the Phase II weapon. It currently seems that both weapons will be produced by GIAT, with the Phase I weapon being the GIAT FA MAS FELIN and the Phase II weapon being the GIAT PAPOP.

GIAT FA MAS

FELIN-armed soldier or Star Wars LARPer?



FA MAS F1

FA MAS G2

GIAT, in turn, now heavily promotes the FA MAS FELIN. This model is a heavily modified G2 with fully integrated sights allowing for reflexive and offset sighting in day or night conditions, plus rangefinding (though the rifle cannot mount any underbarrel weapon attachments), a combat identification device meant to reduce fratricide casualties, and a control unit for radio, data, and image transmission systems the soldier might carry. On a plus side, the weapon is the first FA MAS capable of using the 25 round proprietary magazines originally made for the rifle, as well as the 30 round STANAG magazines used by the M16 and FA MAS G2. The Most impressive thing about the FA MAS FELIN is that it weighs only 0.7 kg more than the original FA MAS F1 rifle, while integrating all the new electronics into the rifle. Unfortunately, the rest of the FELIN system, including batteries, computers and radios needed for the system to work, weighs in at another 25kg in its lightest configuration. And amusingly, troops using the FELIN system are frequently referred to as “Endor Forces” due to their resemblance to rebel soldiers on Endor in “Star Wars Episode Six: Return of the Jedi”.

FA MAS FELIN

FA MAS G2 Commando

FA MAS G2 SMG

FA MAS G2
Picatinny

FA MAS G2 + M203

FA MAS G2 Sniper

GIAT FA MAS

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
FA MAS F1	AR	-1	T	M	5.56N	0	25	2 [SS], 3 [B], 10 [A], 50 [C]	VR	300	3.61	4.44	$870
FA MAS G1	AR	0	T	M	5.56N	0	25		VR	400	3.6	4.45	$950
FA MAS G2	AR	0	T	M	5.56N	0	30		VR	450	3.6	4.1	$1000
FA MAS G2 Commando	AR	-1	T	M	5.56N	0	30		VR	400	3.3	3.8	$1100
FA MAS G2 SMG	AR	-2	T	M	5.56N	0	30		VR	300	3.0	3.5	$1100
FA MAS G2 Sniper	AR	+3	T	M	5.56N	0	30		VR	800	4.8	5.3	$1400
FA MAS FELIN	AR	+2	T	M	5.56N	0	25	2 [SS], 3 [B], 10 [A], 55 [C]	VR	600	4.3	5.23	$2400
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
FA MAS F1	2d8	20	ballistic	100	SA, B, A	25	Med	10	17	Mil (+3)
FA MAS G1	2d8	20	ballistic	135	SA, B, A	25	Med	10	17	Mil (+3)
FA MAS G2	2d8	20	ballistic	150	SA, B, A	30	Med	9	17	Mil (+3)
FA MAS G2 Commando	2d8	20	ballistic	135	SA, B, A	30	Med	8.5	18	Mil (+3)
FA MAS G2 SMG	2d8	20	ballistic	100	SA, B, A	30	Med	8	18	Mil (+3)
FA MAS G2 Sniper	2d8	20	ballistic	265	SA, B, A	30	Med	12	19	Mil (+3)
FA MAS FELIN	2d8	20	ballistic	200	SA, B, A	25	Med	11.5	21	Mil (+3)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
FA MAS F1	25	SA, B, A, C	Mediocre	Fair	4	$870	
FA MAS G1	25	SA, B, A, C	Fair	Fair	4	$950	
FA MAS G2	30	SA, B, A, C	Fair	Fair	4	$1000	
FA MAS G2 Commando	30	SA, B, A, C	Fair	Fair	4	$1100	
FA MAS G2 SMG	30	SA, B, A, C	Superb	Fair	4	$1100	
FA MAS G2 Sniper	30	SA, B, A, C	Good	Fair	4	$1400	Scoped
FA MAS FELIN	25	SA, B, A, C	Good	Good	4	$2400	Scoped, Well Crafted
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
FA MAS F1	5d6+2	P/L	0	-1	3	300	4/3/50	25	4.44	$870	
FA MAS G1	5d6+2	P/L	0	0	3	400	4/3/50	25	4.45	$950	
FA MAS G2	5d6+2	P/L	0	0	3	450	4/3/50	30	4.1	$1000	
FA MAS G2 Commando	5d6+2	P/L	0	0	3	400	4/3/50	30	3.8	$1100	
FA MAS G2 SMG	5d6+2	P/L	0	+4	3	300	4/3/50	30	3.5	$1100	
FA MAS G2 Sniper	5d6+2	P/L	0	-1	1	800	4/3/50	30	5.3	$1400	
FA MAS FELIN	5d6+2	P/L	+1	+1	3	600	4/3/50	25	5.23	$2400	
Special Rules:											

GRAD CO GUN KNIVES

Weapon	Gun Knife			
Manufacturer	G.R.A.D. Co.	Year	1998	
Nation	United States			
Caliber	.22 Long Rifle	Mags	5	
Accuracy	Group		MOA	
	Kill			
Velocity		Energy		
Weight	Empty	-	ROF	SS 5
	Loaded	0.4 kg		MB -
Length				Burst -
Range	Effect.	25 m		Auto -
	Max.			Cyclic -
Notes	The various versions of the GRAD Co Gun Knife function identically, essentially varying only in the type of blade mounted on the weapon.			

These weapons are an evolution of an inventive idea that came out of China's national weapons company, Norinco. In 1986, Norinco produce the Type 86 Knife Gun, a rather unique weapon combining a knife with a mechanism inside the grip that amounts to a four-barrel derringer. The idea was so well received amongst communist nations that the soviet special forces adopted the knife.

In the west, the idea wasn't so popular, with the closest thing to the Type 86 being a variety of spring-loaded knives that could launch their blased a distance of 5 meters or so. It wasn't until 1998 that the idea finally took hold with one U.S. manufacturer, more than 10 years after the Chinese first started issuing their knife guns.

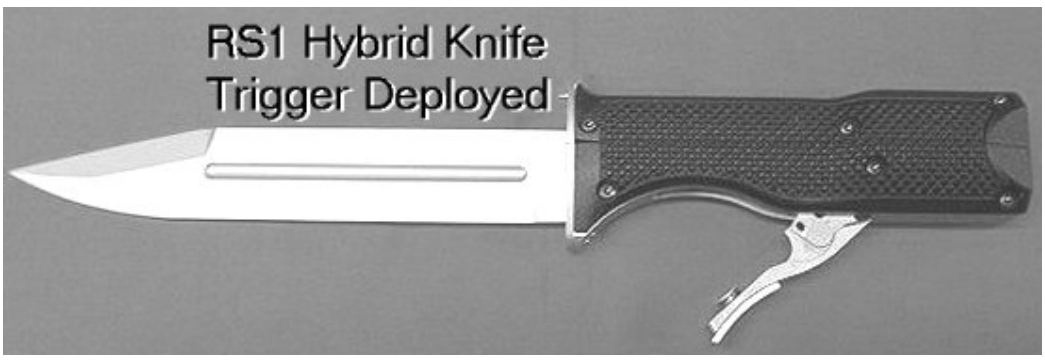
A little company called G.R.A.D. Co. took the original idea and vastly improved it, creating an easier-to-use and more accurate weapon in the process. They eventually produced an entire range of these knives. The knife guns all share a number of similar characteristics. First is a split shell handle grip that contains all the gun mechanisms. A 5-shot .22LR caliber revolver cylinder is mounted at the rear of the handle, allowing space for a 4 inch barrel to be added in front of it and the firing mechanism right behind it. The other half of the split shell handle houses the trigger mechanisms, which mechanically link to the firing mechanism when the grip is properly closed. The grip is only opened in order to reload the cylinder. By using the revolver arrangement, the gun can be fired as fast as the trigger can be squeezed, the bullets fired over the top of the barrel, along its length.

As mentioned, GRAD Co makes a variety of these knives. First is the RS1 Hybrid knife gun, which combines the revolver with a simple high grade stainless steel knife blade. The company claims that the RS1 was developed for elite russian troops, though this is rather doubtful. This weapon comes with the GRAD Co Tactical Sheath. This one is also available as the RS1T Tactical Hybrid Knife, essentially identical to the RS1, but with a matte black finish on the blade.

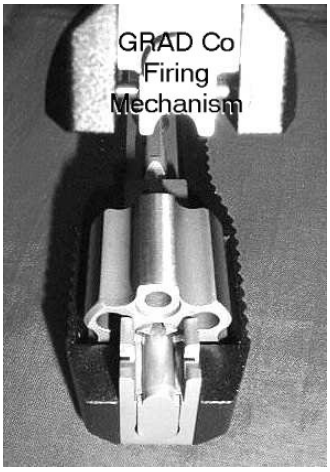
Next is the MB16F/M9 Fighting Knife, which mates the revolver with a blade manufactured to the milspecs for the M9 multi-tool blade, right down to the wire cutter and saw back blade features. This was immediately followed by the MB16F M9 Bayonet, which simply adds the appropriate hardware to mount the knife on the bayonet lugs of an M16 or other compatible rifle. Both these knives come with the milspec USGI scabbard needed for the wire cutting feature, as well as a nylon belt attachment.

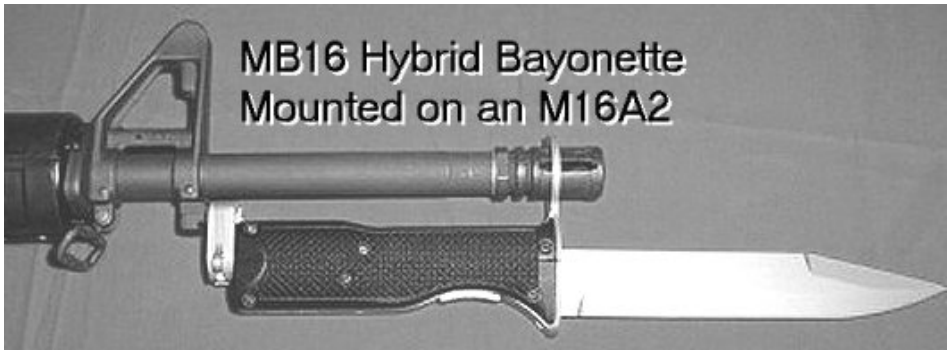
The fourth weapon is the MB16 Hybrid Bayonet. This is the RS1 fitted with the necessary hardware for mounting it to an M16 or compatible rifle. It is shipped with a Tactical Sheath as well. The final weapon is the ST1F Tactical Fighting Knife Gun. This knife sports a wider, more stout blade that stands up well to the rigors of hand-to-hand combat, as well as regular use of the gun. Being a "tactical" weapon, the knife is available only with a matte finish handle, with a plain or matte-finished steel blade. This one also ships with the tactical sheath.

GRAD Co's tactical sheath is a rather interesting item included with many of their knife guns. It is manufactured from ballistic nylon, providing loops for both belt attachment and to hold 12 rounds of .22 Long Rifle ammunition. It even has a flap that folds over the handle for added protection of your funky weapon. The only thing missing from the sheath is a pouch or two to store speedloaders for the knife gun.



GRAD CO GUN KNIVES





GRAD CO GUN KNIVES

GRAD CO GUN KNIVES

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
RS1 Hybrid Knife Gun	EX	-5	J	C	.22LR	0	5	2 [SS]	ST	25	0.3	0.4	$895
RS1T Hybrid Knife Gun	EX	-5	J	C	.22LR	0	5	2 [SS]	ST	25	0.3	0.4	$995
MB16 Hybrid Bayonet Gun	EX	-5	J	C	.22LR	0	5	2 [SS]	ST	25	0.3	0.4	$995
MB16F Utility Knife Gun	EX	-5	J	C	.22LR	0	5	2 [SS]	ST	25	0.3	0.4	$1095
MB16F Utility Bayonet Gun	EX	-5	J	C	.22LR	0	5	2 [SS]	ST	25	0.3	0.4	$1195
ST1F Tactical Knife Gun	EX	-5	J	C	.22LR	0	5	2 [SS]	ST	25	0.3	0.4	$995
Used As Knife	MEL	-	-	-	1d6	-	-	-	-	-	-	-	-
As Fixed Bayonet	MEL	-	-	-	2d6	-	-	-	-	-	-	-	-
Special Rules	All are roughly 6 inches of handle and 6 inches of blade, the equivalent of a combat knife or dagger as a melee weapon.												

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
RS1 Hybrid Knife Gun	2d4	20	Ballistic	10	SA	5	Sm	1	17	AOW
RS1T Hybrid Knife Gun	2d4	20	Ballistic	10	SA	5	Sm	1	17	AOW
MB16 Hybrid Bayonet Gun	2d4	20	Ballistic	10	SA	5	Sm	1	17	AOW
MB16F Utility Knife Gun	2d4	20	Ballistic	10	SA	5	Sm	1	18	AOW
MB16F Utility Bayonet Gun	2d4	20	Ballistic	10	SA	5	Sm	1	18	AOW
ST1F Tactical Knife Gun	2d4	20	Ballistic	10	SA	5	Sm	1	17	AOW
Used As Knife	1d4	19-20	Piercing	10	-	-	Tiny	-	-	-
As Fixed Bayonet	1d4/1d6	20	Piercing	-	-	-	Lrg	-	-	-
Special Rules	These are classified as AOW by the ATF ("All Other Weapons"). A license is not needed to obtain them. You simply pay a $5.00 federal tax to cover the transfer of ownership. While this seems insignificant, this tax was established years before World War II when $5.00 was actually a significant amount of money. There are special rules in the D20 Modern Roleplaying Game regarding Bayonets. Please see the Melee Weapons section in Chapter Three: Equipment.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
RS1 Hybrid Knife Gun	5	SA	Poor	Poor	2	$895	
RS1T Hybrid Knife Gun	5	SA	Poor	Poor	2	$995	Stealthy
MB16 Hybrid Bayonet Gun	5	SA	Poor	Poor	2	$995	
MB16F Utility Knife Gun	5	SA	Poor	Poor	2	$1095	
MB16F Utility Bayonet Gun	5	SA	Poor	Poor	2	$1195	
ST1F Tactical Knife Gun	5	SA	Poor	Poor	2	$995	Stealthy
Used As Knife	-	-	-	-	2	-	
As Fixed Bayonet	-	-	-	-	4	-	
Special Rules	Stealthy: When the user is sneaking around with the weapon drawn, it will not apply a penalty to any attempts to be sneaky.						

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
RS1 Hybrid Knife Gun	2d6	P/L	-2	-3	1	25	2	5	0.4	$895	
RS1T Hybrid Knife Gun	2d6	P/L	-2	-3	1	25	2	5	0.4	$995	Stealthy
MB16 Hybrid Bayonet Gun	2d6	P/L	-2	-3	1	25	2	5	0.4	$995	
MB16F Utility Knife Gun	2d6	P/L	-2	-3	1	25	2	5	0.4	$1095	
MB16F Utility Bayonet Gun	2d6	P/L	-2	-3	1	25	2	5	0.4	$1195	
ST1F Tactical Knife Gun	2d6	P/L	-2	-3	1	25	2	5	0.4	$995	Stealthy
Special Rules:	Stealthy: When the user is sneaking around with the weapon drawn, it will not apply a penalty to any attempts to be sneaky.										

HECKLER & KOCH GEWEHR G-11

In the late 1960's, after less than ten years in service, the West German government recognized the need to replace the venerable G3 assault rifle with a lighter and more accurate weapon. By this point it time, it had become evident that the combat superiority of the G3 automatic rifle had been reduced to a marginality that no longer outweighed the benefits of using lighter weapons and ammunition. In this timeframe, it still looked like the US military was going to continue pursuing the ultralight flechette technologies that had begun developing over the years for the SPIW program, which in turn lead the Germans to pursue an attempt at lightweight caseless ammunition with a traditional bullet. Other studies indicated that the weapon should also have high capacity magazines and a mechanical burst mode to ensure the stopping and killing power of a smaller round. After deciding on a weapon firing caseless ammunition, Heckler & Koch teamed up with munitions manufacturer Dynamit Nobel in order to develop the gun. By 1970, the list of design criteria was completed by the West German Ministry of Defense and work began on the new rifle.

While the rifle's design was astoundingly quick to develop, with the first working prototypes developed as early as 1974, the rifle was a long time coming. As the end of the 1980's arrived, the two companies had finally produced a relatively reliable prototype weapon system for testing, designated the Heckler & Koch Gewehr G11. The rifle was quite revolutionary. The magazine fit in a groove above the barrel and slid into the front of the receiver, bullets pointing down. The rounds would then drop into a firing chamber that would then spin into alignment with the barrel and fire. This system was capable of firing so fast, that the third bullet in a burst would be exiting the muzzle before the weapon's recoil affected the shooter's aim, roughly the equivalent of being able to fire 2,000 rounds per minute in cyclic fire. Additionally, by using the spinning chamber, any defective rounds that fail to fire are ejected downward and out of the gun as a new round enters the chamber and pushes it out. The reason the weapon can fire at a rate so rapid is because the weapon utilizes floating mechanics; the magazine, barrel, chamber, and all interconnecting mechanisms move with the weapon's recoil, leaving all components aligned properly to allow the rapid 60 millisecond feed of the ammunition.

The rifle was not without problems, however, or perhaps we should really say it is the ammunition that wasn't problem free. As late as 1988, when the rifle entered trials with the German army, the ammunition was still troublesome, sorely affected by the environment. The early prototypes were just blocks of ball or pellet gunpowder compressed in a mold into the , then laquered to maintain integrity before a bullet and primer were glued to them. These munitions were prone to disintegration, which at full auto in early prototypes generated overheating that ignited a trail of debris back to the magazine, resulting in cookoff. This problem was compensated in two ways. First, the rate of fire was mechanically inhibited to 600 rounds per minute for fully automatic fire, and second, the propellant was changed in 1981 with the HITP Patrone round (High Ignition Temperature Propellant). However, the ammunition still used a laquered block of compressed propellant with a primer and bullet glued to it, which left the problem of ammunition deterioration that cause the bullet to frequently separate from the propellant. A third prototype helped further with this problem by using a grooved bullet to which the bullet was molded. This solved the problem, but made the production costs prohibitively expensive. The final version of the ammunition, the DM11 4.73 x 33mm caseless munition, uses a telescopic cartridge design, in which the bullet is fully embedded in a block of modified RDX propellant. The DM11 is sufficiently durable that a box of round was dropped from a cargo plane flying at 30,000 feet and every last round fired properly when tested. Additionally, the DM11 round weighs a mere 5.2 grams, a full 7 grams less than the SS-109 5.56 x 45mm round that is standard for NATO's lighter small arms. It needs to be mentioned that the propellant is still block shaped, so the holy grail of a cylindrical caseless ammunition design (which could be compatible with older cased weapons) has yet to be reached. As of 1990, the DM11 round had been fired through the G11K2 60,000 times, producing a final statistic of 1 misfire every 485 rounds and cookoff occurring through the overheating produced by firing 150 round at the fully automatic rate of 600 rounds per minute.

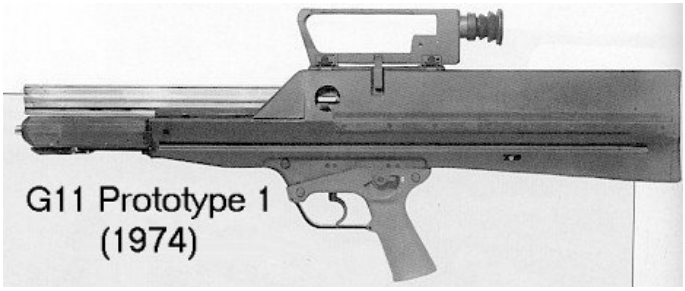
Weapon	Gewehr G-11				
Manufacturer	Heckler & Koch		Year	1988	
Nation	Germany				
Caliber	4.73 x 33mm Caseless		Mags	43, 45, 50, 60	
Accuracy	Group	5.5		MOA	
	Kill				
Velocity	930 m/s		Energy		
Weight	Empty	3.6 kg	ROF	SS	-
	Loaded	4.3 kg		MB	3
Length	750mm			Burst	-
Range	Effect.	300 m		Auto	2000
	Max.			Cyclic	600
Notes					

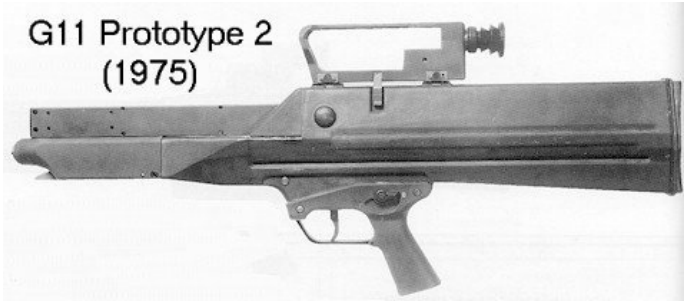
Weapon	Gewehr G-11 K2				
Manufacturer	Heckler & Koch		Year	1989-1990	
Nation	Germany				
Caliber	4.73 x 33mm Caseless		Mags	45	
Accuracy	Group	4.8		MOA	
	Kill				
Velocity	930 m/s		Energy		
Weight	Empty	3.6 kg	ROF	SS	-
	Loaded	4.3 kg		MB	3
Length	750mm			Burst	-
Range	Effect.	400 m		Auto	2000
	Max.			Cyclic	600
Notes					

Weapon	HK Advanced Combat Rifle (HK ACR)				
Manufacturer	Heckler & Koch		Year	1988-1990	
Nation	Germany				
Caliber	4.73 x 33mm Caseless		Mags	45	
Accuracy	Group	4.6		MOA	
	Kill				
Velocity	930 m/s		Energy		
Weight	Empty	3.6 kg	ROF	SS	-
	Loaded	4.3 kg		MB	3
Length	750mm			Burst	-
Range	Effect.	600 m		Auto	2000
	Max.			Cyclic	600
Notes					

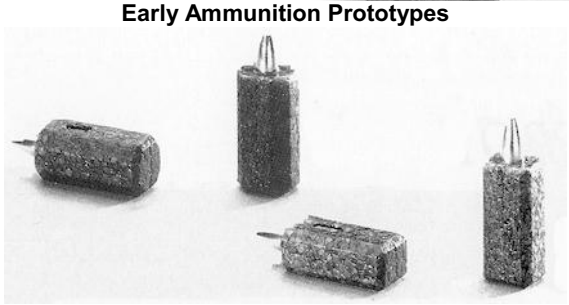
Weapon	HK LSW (Light Support Weapon)				
Manufacturer	Heckler & Koch		Year	1988-1990	
Nation	Germany				
Caliber	4.73 x 33mm Caseless		Mags	100, 300	
Accuracy	Group	22		MOA	
	Kill				
Velocity	930 m/s		Energy		
Weight	Empty	3.6 kg	ROF	SS	-
	Loaded	4.7 kg		MB	3
Length	750mm			Burst	-
Range	Effect.	800 m		Auto	2000
	Max.			Cyclic	600
Notes					

HECKLER & KOCH GEWEHR G-11





Early Ammunition Prototypes



During the rifle's development, it went through at least 20 prototypes before the first fifteen G11 rifles were delivered to the German military in 1988 for troop testing and ordinance studies. This original rifle was a bullpup configuration, with the top mounted magazine and an integrated carrying handle with 1x optic and simple ring aiming sight. Even then, these weapons were still nothing more and field laboratories for further improvements. During the two years of trials, magazines for the weapon were tested in 43, 45, 50, and 60 round configurations, with the 45 round magazines proving the most reliable. And through the firing of 40,000 rounds, the weapons underwent a wide array of ergonomic and technical improvements as well. These alterations were considered sufficient to warrant the redesignation the weapon.

Late 1989 saw the introduction of the Gewehr G-11 Configuration 2, or the G11 K2. With this model, the rifle was refitted with a new hand guard wrapping the barrel and representing the biggest change made to the weapon. This new guard accommodated not only the feeding magazine centrally located over the gun barrel, but the sides were notched to accommodate two spare magazines to the sides of the central one. With this new configuration, a soldier had a rifle and 135 rounds of ammunition at the ready for a weight of 4.3 kilograms, or less than 9 ½ pounds. Additionally, the rifle had the carry handle modified to a removable type, with then enabled the rifle to be fitted with a far wider variety of scopes, sights, and vision enhancement components. The third major change was also incorporated into the new barrel shrouding hand guard. It was a universal mounting point that could handle mounting a bayonet, a laser aiming device, or a bipod. For the technical changes, full auto fire was further inhibited, reducing the rate to 460 rounds per minute. Field tests of the G11 K2 showed that the weapon had a casualty rate 50% greater than the G3. Additionally, the weapon was far easier for new troops to learn and maintain, though the weapon looks far more complicated than most rifles. The rifle also proved accurate to past 300 meters, as required of the 1970 specifications.

The German military found the rifle quite satisfactory and approved it for acquisition as the replacement for the G3, but with the collapse of communism and the reunification of Germany, the funds for the rearming process never materialized. The German Army accepted delivery on only 1,000 G11 K2 assault rifles. After the German military accepted the G11 K2, H&K launched an advertising campaign in an effort to sell the rifle worldwide. The ad compared the G11, M16 and G3 rifles. 7.35 kg (16.2 lbs) would allow a soldier to carry a loaded G3 rifle and 4 spare magazines, for a total of 100 rounds of ammunition. Or he could carry a loaded M16 with 7 spare magazines, for a total of 240 rounds. Or he could carry the partially loaded G11 (only two magazines) plus 28 loaded stripper clips for a total of 510 rounds. While this tried to sell the rifle on the ground of sheer firepower, the advertising program helped illustrate one often overlooked flaw of the rifle; its magazines. The damned things are nearly a half meter long! If they're sturdy enough, you could use a loaded one to brain someone pretty good! So now you know why the rifle itself stores spare magazines. Can you imagine trying to pull one of those things out of a pouch? But in and of itself, the magazines aren't as much a problem as I've indicated. The real problem lies in the way H&K wanted to sell potential buyers on stripper clips rather than magazines. The great flaw was that once the rifle's three magazines were emptied, a soldier would have to stop what he was doing and reload his magazines before he could continue firing! Additionally, according to the ad, these stripper clips held 16 rounds of

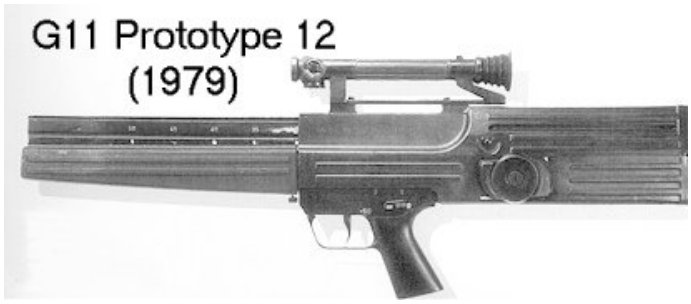
HITP Patrone

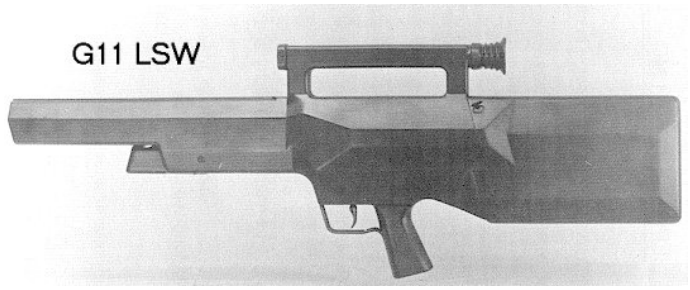
HECKLER & KOCH GEWEHR G-11

ammunition, so three clips in would leave three rounds excess. Obviously, there is quite a bit of room for further improvement in the rifle's magazines.

In 1990, Heckler & Koch modified the G11 further, creating the HK ACR as a late entry into the US military's Advanced Combat Rifle trials. This was essentially a G11 K2 with a revised integrated sighting device that provided a series of target exposures for ranges from 25 meters to 600 meters. While the exact results of the ACR program were never made available to the public, it is known that the HK ACR provided some improvement over the M-16, but it was far from the best performer of the competition. Many expect it presented about a 40% improvement over the casualty and kill rates of the M16A2. Anecdotally, the soldier who did test fire the HK ACR praise it highly as an accurate, long ranged rifle that was easy to maintain, highly reliable, low on recoil, and accurate out to over 600 meters. The ACR program ended with the US military choosing to continue improving the M16. The program's goal was to find a rifle that presented a 100% increase over the kill and casualty rates of the M16A2, and the best competitor, the Steyr-Mannelicher ACR, managed only an 80% improvement. The G11 managed a 50% increase in hit probability, but reports indicate that the ammunition did not produce lethal effects equivalent to that of the SS-109 round. The Advanced Combat Rifle conclusion reports can be questioned by G11 supporters, as the rifle was classified as a flechette launcher, indicating either incompetent confusion of the G11 with the Steyr and AAI ACRs or a political undermining of the G11 for the benefit of Colt and its licensees.

At this point, Heckler & Koch were not finished with the G11. The also produced a fourth weapon, identified most commonly as either the G11 LSW (G11 Light Support Weapon) or the LMG11 (Light Machine Gun 11). This was by far the most ambitious and creative weapon produced of the series. Externally, it bore a strong resemblance to the G11, but internally, there were few similarities. The G11 LSW is a more traditional layout, feeding from a large magazine in the buttstock. Interestingly, these magazines had no moving internal parts or springs nor were the rounds belted or otherwise linked. Essentially, they were bricks of ammunition with a disposable shell. The rounds were aligned perpendicular to the barrel, and fed upward, rearmost row first, with the top row feeding forward into the weapon. Once stripped from the magazine, a round would be rotated into a three chambered cylinder which would then rotate the round into firing position. By using this chamber cylinder, H&K produced a light machine gun capable of firing 300 rounds of ammunition in sustained fire without any overheating problems. Additionally, the final prototype weighed under 7 kg loaded (less than an empty M249 SAW) , held magazines of either 100 or 300 rounds, fired 600 rounds per minute, and was accurate out to at least 400 meters. As with the HK ACR, though incredibly promising, never went past the prototype phase of development.





For over 10 years, the G11 weapons development program has been dead in the water. The program is so dead that Heckler & Koch has moved on, developing the new G36 assault rifle, as well as developing the firearms components for the XM-29 SABR. However, the technology behind the G11 has not yet been allowed to fade into obscurity. The FN Herstal P90 Personal Defense Weapon utilizes a feed mechanism similar to that of the G11, including a magazine mounted over the barrel and dropping its magazines down into the gun. Caseless ammunition has continued development as well, with the Praetoria home defense pistol (detailed in Big Bang V. 1) utilizing chemically fingerprinted caseless munitions and the 25mm Bushmaster chaingun being subjected to caseless munition experiments that could lead to caseless ammunition backwards compatible with cased ammo-firing weapons.

If the G11 had reached market successfully, the G11 K2 would have cost an estimated $800 to $1100 per unit, and the G11 LSW would have cost $1400 to $1800. As collectors' items, the G11 K2 rifles in German military inventory will easily fetch over $20,000 each once they are decommissioned.

HECKLER & KOCH GEWEHR G-11

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
HK G11	AR	+6	T	E,O	DM-11	0	45,50	2 [SS], 3 [MB], 20 [C]	VR	300	3.6	4.3	$900
HK G11 K2	AR	+6	T	M,O	DM-11	0	45,50		VR	400	3.6	4.3	$900
HK ACR	AR	+6	T	E,O	DM-11	0	45,50		VR	600	3.6	4.3	$900
HK G11 LSW	AR	+3	T	E,O	DM-11	0	100, 300	20 [C]	RE	800	5	7	$1500
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
HK G11	2d8	20	Ballistic	100	S,B,A	45,50	Lrg	9 lb	30	Mil (+2)
HK G11 K2	2d8	20	Ballistic	130	S,B,A	45,50	Lrg	10 lb	24	Mil (+2)
HK ACR	2d8	20	Ballistic	200	S,B,A	45,50	Lrg	10 lb	30	Mil (+2)
HK G11 LSW	2d8	20	Ballistic	265	A	100,300	Lrg	15 lb	30	Mil (+2)
Special Rules	These weapons were among the first to make extensive use of CAM techniques. As such, the are considered mastercraft weapons, granting a +1 to hit. Additionally, the weapon fires a three round burst with such great speed that firing it should be treated like a single shot has been fired. No need for the Burst Fire feat to get the extra +2 dice of damage. Remember, there are only about 150 G11's, 1250 G11 K2's, 20 G11 ACR's and 5 G11 LSW's in existence. This rarity should offset the rules disbalance this rifle's astounding performance represents.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
HK G11	45, 50	SA, B, A	Mediocre	Superb	3	$900	Scoped, Well Crafted
HK G11 K2	45, 50	SA, B, A	Fair	Superb	3	$900	Scoped, Well Crafted
HK ACR	45, 50	SA, B, A	Good	Superb	3	$900	Scoped, Well Crafted
HK G11 LSW	100, 300	A	Superb	Good	3	$1500	Scoped, Well Crafted
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
HK G11	4d6+2	P/L	+3	-1	3	300	4/2/20	45	4.3	$800	
HK G11 K2	4d6+2	P/L	+3	0	3	400	4/2/20	45	4.3	$800	
HK ACR	4d6+2	P/L	+3	+1	3	600	4/2/20	45	4.3	$800	
HK G11 LSW	4d6+2	P/L	+1	+1	3	800	20	45	4.3	$800	
Special Rules:	For the Rate of Fire, it specifies 4/2/20. This means 4 single shots, 2 three-round bursts, or 20 rounds at full auto. Typically, a weapon would fire one burst, but the G11 series fires so fast that each burst sounds like a single shot, and the gun essentially acts like one shot was fired.										

HECKLER & KOCH GEWEHR G-36

After the failure of both the G11 and G41 programs in the early 1990's, the Bundeswehr (German Army) was again stuck hanging onto the outdated and sorely worn arsenal of G3 rifles they had been using for over 30 years. Wanting a German-manufactured firearm to replace the G3's, Heckler & Koch was once again challenged to come up with another modern rifle as a replacement. The need was even more urgent as Germany was the last NATO member without a NATO-compatible primary weapon for its infantry. The requirements set forth for the new rifle focused on affordability, reliability, flexibility, and the use of modern materials.

The resulting rifle, first designated the G50, then later changed to the G36, has proven remarkably successful for H&K. During the timeframe in which the rifle was developed, H&K suffered through bankruptcy and multiple owners before this rifle dug it out of the basement. In 1995, the G36 was adopted by the Bundeswehr and in 1999, a modified version, the G36E, was adopted by Spain. Additionally, the rifle has seen extensive export and use by law enforcement, including departments of the British and U.S. police. The G36 also provides the foundation for the XM-8 Lightweight Assault Rifle currently being tested by the U.S. Army as the kinetic energy component of the XM-29 SABR.

The G36 is available in a variety of configurations. There is the standard G36, issued to the German Army, the G36E issued to the Spanish Army, the G36K carbine version, the G36C Commando submachinegun rifle, and the MG36 squad support weapon.

For over thirty years, starting with the G3, Heckler & Koch used the same basic mechanism for its automatic weapons, rifles and submachineguns alike. Only with the development of the G11 did they begin turning away from their roller-delayed recoil system. For the G36, the developers at H&K built an entirely new system based on tried and true components elsewhere; the short gas piston prominent in Russian AK series and Belgian FAL series weapons, the rotating bolt of the M16, the bolt carrier of the AR18, the folding stock of the FAL, and the use of polymers now common in new rifles. While many deride the G36 as the "cheap euro trash" of the international arms market, there is no denying the weapon successfully meets its design goals. The rifle is cheap, with the base version costing roughly $650 for major government buyers and $950 on the open market. The rifle is flexible, with versions ranging from PDW-size rifles up to squad automatics, all with mostly polymer construction and crosspin fasteners, enabling the rifle to be disassembled without tools and rather thoroughly cleaned with nothing more than a sponge and water. And the rifle is reliable, capable of firing over 25,000 rounds of ammunition between cleanings.

The G36 is not without innovation, however. The big innovation is in the form of the trigger assembly. This assembly is fully integrated with the pistol grip and trigger guard and is completely removable from the rifle with ease. A shooter can then modify the fire selector by simply swapping trigger assemblies. By default, the G36 offers a selector with safe, semiautomatic, two round burst and full automatic, but makes available trigger assemblies that provide any combination of the default selections and/or three round burst. Obviously, safe will always be one of the selections.

Weapon	Gewehr G-36, G-36E, SL-8			
Manufacturer	Heckler & Koch	Year	1995	
Nation	Germany			
Caliber	4.73 x 33mm Caseless	Mags	30, 100	
Accuracy	Group	28 cm	MOA	
	Kill			
Velocity	800 m/s	Energy		
Weight	Empty	3.3 kg	ROF	SS 2
	Loaded	3.8 kg		MB 2
Length	998 mm			Burst -
Range	Effect.	300 m		Auto 150
	Max.			Cyclic 750
Notes				

Weapon	Gewehr G-36K, G-36KE			
Manufacturer	Heckler & Koch	Year	1995	
Nation	Germany			
Caliber	4.73 x 33mm Caseless	Mags	30, 100	
Accuracy	Group	33 cm	MOA	
	Kill			
Velocity	800 m/s	Energy		
Weight	Empty	3.0 kg	ROF	SS 2
	Loaded	3.5 kg		MB 2
Length	850 mm			Burst -
Range	Effect.	300 m		Auto 150
	Max.			Cyclic 750
Notes				

Weapon	Gewehr G-36C			
Manufacturer	Heckler & Koch	Year	1995	
Nation	Germany			
Caliber	4.73 x 33mm Caseless	Mags	30, 100	
Accuracy	Group	39 cm	MOA	
	Kill			
Velocity	800 m/s	Energy		
Weight	Empty	2.8 kg	ROF	SS 2
	Loaded	3.3 kg		MB 2
Length	720 mm			Burst -
Range	Effect.	300 m		Auto 150
	Max.			Cyclic 750
Notes				

Weapon	Gewehr MG-36			
Manufacturer	Heckler & Koch	Year	1995	
Nation	Germany			
Caliber	4.73 x 33mm Caseless	Mags	30, 100	
Accuracy	Group	34 cm	MOA	
	Kill			
Velocity	800 m/s	Energy		
Weight	Empty	3.6 kg	ROF	SS 2
	Loaded	4.1 kg		MB 2
Length	998 mm			Burst -
Range	Effect.	300 m		Auto 150
	Max.			Cyclic 750
Notes				

The G36 also comes with one of two sighting options. One is a 1.5x power reticle. The other is a dual sighting system consisting of a 3.5x optical sight toped by a battery-powered electronic red dot sight. Additionally, the carry handle is positioned to allow the use of night vision equipment with the optics mounted on the rifle without the need to rezero the sights. The carry handle also has backup pistol sights molded into it. While the sights are generally considered adequate, there have been a growing number of complaints about the sights losing their zero with the G36E and G36KE variants. The stock G36 is normally outfitted with the dual sighting system. The sighting systems include range marks for 200 to 800 meters and are sized to provide a lead for targets moving at speeds of up to 15 kph. A special night vision accessory is available from Hensoldt. This third generation scope can be mounted on the carry handle without a need to rezero it or the other sights on the rifle. It will only set you back a mere $7,000. The dual sight system is available as a separate component at a cost of $400.

The G-36 also uses a proprietary 30-round box magazine made of a smoke colored translucent plastic. Along with offering the capability to judge the remaining ammunition in the magazines, they are fitted with special studs that allow two or three magazines to be clipped together side by side to allow faster reloading of the rifle. While the default magazine for the rifle is proprietary, the rifle can use other

HECKLER & KOCH GEWEHR G-36

5.56mm filled magazines from other rifles. The magazine housing is made of separate components, so the rifle can be adjusted for a wide variety of magazine interfaces. This is what allows the second common magazine for the rifle to operate. The rifles are also commonly issued with 100-round Beta-C dual drum magazines. However, how long the Beta-C magazines will continue to be issued by the Bundeswehr is in question. The magazines are proving very unreliable and the U.S. Army has recently withdrawn all Beta-C magazines from service in all combat assignments.

The G36 rifles can also be fitted with the AG36 40mm underbarrel grenade launcher. It is also designed to mount a bayonet, specifically the bayonet manufactured for the AK-74, putting to use a significant stock of these blades left over from the East German Army's integration with the West German Army.

The G36E is the export variant of the rifle, originally developed for sale to Spain, is by default fitted with the 1.5x power reticle sight reducing the weapon's weight by 0.3 kg. This 1.5x sight is known within H&K as the export sight.

The G36K is a carbine version of the rifle, with the barrel shortened by more than six inches. This is the stock carbine for the Bundeswehr, fitted with the dual sight system.

The G36KE is an export variant, sold primarily to law enforcement. As such, it is normally sold fitted with the 1.5x sight and a trigger group with a selector that only offers safe and semiautomatic settings. This variant weighs 0.3 kg less than the G36K. The G36KE is the source of most of the quality issue complaints for the rifle's sights.

The G36C is a compact version of the rifle developed for special forces. Many prefer to consider it a submachinegun or personal defense weapon due to its small size.

The MG-36 is the Light Support Weapon (LSW) variant of the G36 rifle. It is essentially identical to the G36, but mounted with a heavier barrel. The rifle is not fitted with a quick change system, so it is by no means considered a light machinegun or a squad automatic weapon. While normally issued with Beta-C magazines, the MG-36 can also use the 30-round box magazines made for the rifle. The MG-36 variant was a closely guarded secret for a number of years, with technical information beginning to trickle out around 1998.

The final variant of the rifle is the SL-8 MG-36, sold commercially on the civilian market as a hunting rifle. This rifle is a fine-tuned G36, fitted with a trigger assembly offering safe and semiautomatic settings. Rather than mounting a carry handle, the rifle instead mounts a modified, extended picatinny rail that supports the available G36 sights as well as mounting additional optical equipment. The magazine housing is configured to support STANAG magazines, and Heckler & Koch sells the rifle with either 10, 20 or 30 round M16 magazines.

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Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
HK G36	AR	+2	T	M	5.56N	0	30,100	2 [SS], 2 [B], 8 [A], 37 [C]	VR	300	3.3	3.8	$1050
HK G36E	AR	+2	T	M	5.56N	0	30,100		VR	300	3.3	3.8	$650
HK G36K	AR	+1	T	M	5.56N	0	30,100		VR	300	3.0	3.5	$1000
HK G36KE	AR	+1	T	M	5.56N	0	30,100	2 [SS]	VR	300	3.0	3.5	$600
HK G36C	AR	0	T	M	5.56N	-1	30,100	2 [SS], 2 [B], 8 [A], 37 [C]	VR	300	2.8	3.3	$1000
HK MG36	AR	+1	T	M	5.56N	0	100,30		VR	300	3.6	5.8	$1200
HK SL-8 G36	SN	+2	T	C	5.56N	0	30,100	2 [SS]	VR	300	3.3	3.8	$1050
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
HK G36	2d10	20	Ballistic	100	SA, B, A	30	Lrg	8.5	17	Mil (+3)
HK G36E	2d10	20	Ballistic	100	SA, B, A	30	Lrg	8.5	16	Mil (+3)
HK G36K	2d10	20	Ballistic	100	SA, B, A	30	Lrg	8	17	Mil (+3)
HK G36KE	2d10	20	Ballistic	100	SA, B, A	30	Lrg	8	16	Mil (+3)
HK G36C	2d10	20	Ballistic	100	SA, B, A	30	Lrg	7.25	17	Mil (+3)
HK MG36	2d10	20	Ballistic	100	SA, B, A	100	Lrg	13	17	Mil (+3)
HK SL-8 G36	2d10	20	Ballistic	100	SA, B, A	30	Lrg	8.5	17	Lic (+1)
Special Rules	The SL-8 G36 hunting rifle should be considered a mastercraft weapon, granting an equipment bonus of +1 to hit.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
HK G36	30	SA, B, A, C	Mediocre	Good	4	$1050	
HK G36E	30	SA, B, A, C	Mediocre	Good	4	$650	
HK G36K	30	SA, B, A, C	Mediocre	Good	4	$1000	
HK G36KE	30	SA	Mediocre	Good	4	$600	
HK G36C	30	SA, B, A, C	Mediocre	Fair	4	$1000	
HK MG36	30	SA, B, A, C	Mediocre	Good	4	$1200	
HK SL-8 G36	30	SA	Poor	Good	4	$1050	Well Crafted
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
HK G36	5d6+2	P/L	+1	-1	3	300	4/2/35	30, 100	3.8	$1050	
HK G36E	5d6+2	P/L	+1	-1	3	300	4/2/35	30, 100	3.8	$650	
HK G36K	5d6+2	P/L	+1	-1	3	300	4/2/35	30, 100	3.5	$1000	
HK G36KE	5d6+2	P/L	+1	-1	3	300	4/2/35	30, 100	3.5	$600	
HK G36C	5d6+2	P/L	0	-1	3	300	4/2/35	30, 100	3.3	$1000	
HK MG36	5d6+2	P/L	+1	-3	4	300	4/2/35	30, 100	5.8	$1200	
HK SL-8 G36	5d6+2	P/L	+1	-4	3	300	4/2/35	30, 100	3.8	$1050	
Special Rules:											

HECKLER & KOCH GEWEHR G-41

When the Bundeswehr commissioned the development program for the rifle that would eventually become the G11, they also recognized a need for additional firearms. The G11 was slated for the front line troops, which would leave support units to rely on the aging and heavy G3 rifles already in inventory. The Bundeswehr required a lighter rifle in a smaller caliber for these troops who were not expected to always fight.

Heckler & Koch eventually produced the G41 rifle, considered by many to be one of the finest assault rifles ever built. Designed as a companion to the G11, the G41 completed its development cycle in the 1980s and was offered for sale worldwide until the rifle was cancelled along with the G11 in the early 1990's.

The rifle was designed to meet NATO standards by taking the best features of many of NATO's standardized rifles, incorporating it all into the rifle. These features include a hammer-forged polygonal bored barrel optimized for the SS109 round, a silent bolt closure/forward assist device, deep-drawn sheet steel receiver, rotary-aperture rear sight with four adjustments from 200 to 500 meters, a folding carry handle, integrated ejection port dust cover, a bolt that locks open when the last round fires, and full compatibility with M16 magazines and NATO standard scope mounting systems, all combined with the tried and true H&K trademark feature of their delayed roller locking recoil design.

The rifle was fitted with a three round burst trigger group (safe, semi-auto, 3 round burst, full auto). The trigger group was fully integrated with the pistol grip (a feature which would allow for the G36 trigger group swapping feature), and a mechanical burst rate counter that reset to zero with each release of the trigger. Previous burst mechanisms did not reset to zero until three rounds were fired, meaning a burst could fire two round, which would force the next burst to fire one round. With this new mechanism, the G41 could fire two rounds in a burst, and with the counter reset automatically, the next burst would fire three rounds.

The rifle was designed to win over users of the M16. It is capable of everything the M16 can do, but in a somewhat heavier and more robust package. What killed the G41 was the price. It sold to U.S. law enforcement at a cost of $1700 per unit. Even though the G41 was of such high quality as to be worth every single penny spent on it, government buyers want quantity for their dollar, not quality. The same wad of cash could instead buy three new M16A2s or buy a dozen surplus M16s from the US military. The G41 line has long since been cancelled by Heckler & Koch, replaced by the G36.

The G41 was produced in a number of variants. First was the G41. This was the standard rifle with a full length barrel optimized for the SS109. It was available with a fixed stock. The G41A1 was identical, but with a barrel optimized for the M193.

The G41A2 was a design revision of the rifle, modifying it with a collapsible stock, rounded forearm hand guard and fitting the rifle with Heckler & Koch's own proprietary scope mounting system. The rifle was fitted with a barrel optimized for the SS109. The G41A3 was identical to the G41A2, but fitted with a barrel optimized to the M193 round.

The second variant was the G41K, a short-barreled carbine format, also available with a fixed or collapsing stock. The rifle also had A1, A2, and A3 variants, all fitted with the same modifications as the full sized G41 rifles of the same variation.

The third variant was the G41TGS (Tactical Group Support), which was a G41 with an altered forearm that allowed the mounting of an HK79 underbarrel 40mm grenade launcher. And of the eight existing variants of the rifle could be fitted with the HK79 and given the additional designation of "TGS", so a

Weapon	Gewehr G-41			
Manufacturer	Heckler & Koch	Year	1983-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	16.5 cm	MOA	
	Kill			
Velocity	960 m/s	Energy		
Weight	Empty	4.1 kg	ROF	SS 2
	Loaded	4.7 kg		MB 3
Length	997 mm		Burst	-
Range	Effect.	600 m	Auto	150
	Max.		Cyclic	850
Notes				

Weapon	Gewehr G-41A1			
Manufacturer	Heckler & Koch	Year	1983-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	19.8 cm	MOA	
	Kill			
Velocity	800 m/s	Energy		
Weight	Empty	4.1 kg	ROF	SS 2
	Loaded	4.7 kg		MB 3
Length	997 mm		Burst	-
Range	Effect.	600 m	Auto	150
	Max.		Cyclic	850
Notes				

Weapon	Gewehr G-41A2			
Manufacturer	Heckler & Koch	Year	1984-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	16.5 cm	MOA	
	Kill			
Velocity	960 m/s	Energy		
Weight	Empty	4.4 kg	ROF	SS 2
	Loaded	5 kg		MB 3
Length	996mm open, 806mm collapsed		Burst	-
Range	Effect.	600 m	Auto	150
	Max.		Cyclic	850
Notes				

Weapon	Gewehr G-41A3			
Manufacturer	Heckler & Koch	Year	1984-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	19.8 cm	MOA	
	Kill			
Velocity	800 m/s	Energy		
Weight	Empty	4.4 kg	ROF	SS 2
	Loaded	5 kg		MB 3
Length	996mm open, 806mm collapsed		Burst	-
Range	Effect.	600 m	Auto	150
	Max.		Cyclic	850
Notes				

Weapon	Gewehr G-41A2 TGS (Example Config.)			
Manufacturer	Heckler & Koch	Year	1984-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	24 cm	MOA	
	Kill			
Velocity	800 m/s	Energy		
Weight	Empty	6.07 kg	ROF	SS 2
	Loaded	6.92 kg		MB 3
Length	996mm open, 806mm collapsed		Burst	-
Range	Effect.	600 m	Auto	150
	Max.		Cyclic	900
Notes	The HK79 adds 1.67 kg to the stock rifle's weight.			

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G41KA3 with an HK79 was a G41KA3 TGS. The HK79 is an older design by Heckler & Koch, made to fit the G3 originally, and the HK33 and G41 rifles made to fit the HK79. The launcher fires any NATO standard 40 x 46mm low impulse/velocity grenades. Unlike the M203's slide-forward barrel breech system, the HK79 barrel tilts downward, allowing it to accommodate longer cartridges than the M203. No tools are required to mount an HK79 on a compatible rifle. The HK79 sells at a whopping $1400 each.

In addition to these standard features, Heckler & Koch also produced an optional bipod for the rifle, which weighed 0.22 kilograms. The high quality H&K bipod wasn't a necessity to buy, however, as the rifle was designed to accept any bipod manufactured for the M16 as well. Another optional component was a 4x24 telescopic sight, weighing a light 0.65 kg. Again, it wasn't a necessity to purchase as long as you weren't buying an A2 or A3 model with the proprietary scope mounts. The earlier models of the rifle were fitted to easily mount optical equipment manufactured to NATO mounting standards.

While extremely rare in military or law enforcement arsenals, the G41 did see some small scale adoption. One of the most notable is the use of scoped, bipod-fitted G41s as light weight, short range sniper rifles by the British SAS. It is also in inventory with a wide array of other special forces and counter-terrorism units, ranging from the U.S. Special Operations Command (SOCOM) to the Italian Navy's COM.SUB.IN.

Weapon	Gewehr G-41K			
Manufacturer	Heckler & Koch	Year	1983-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	22 cm	MOA	
	Kill			
Velocity	915 m/s	Energy		
Weight	Empty	3.0 kg	ROF	SS 2
	Loaded	3.5 kg		MB 3
Length	930 mm		Burst	-
Range	Effect.	400 m		Auto 150
	Max.			Cyclic 900
Notes				

Weapon	Gewehr G-41KA1			
Manufacturer	Heckler & Koch	Year	1984-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	28 cm	MOA	
	Kill			
Velocity	760 m/s	Energy		
Weight	Empty	3.0 kg	ROF	SS 2
	Loaded	3.5 kg		MB 3
Length	930 mm		Burst	-
Range	Effect.	400 m		Auto 150
	Max.			Cyclic 900
Notes				

Weapon	Gewehr G-41KA2			
Manufacturer	Heckler & Koch	Year	1984-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	26 cm	MOA	
	Kill			
Velocity	915 m/s	Energy		
Weight	Empty	3.3 kg	ROF	SS 2
	Loaded	3.8 kg		MB 3
Length	929mm open, 740mm collapsed		Burst	-
Range	Effect.	400 m		Auto 150
	Max.			Cyclic 900
Notes				

Weapon	Gewehr G-41KA3			
Manufacturer	Heckler & Koch	Year	1984-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	28 cm	MOA	
	Kill			
Velocity	760 m/s	Energy		
Weight	Empty	3.3 kg	ROF	SS 2
	Loaded	3.8 kg		MB 3
Length	929mm open, 740mm collapsed		Burst	-
Range	Effect.	400 m		Auto 150
	Max.			Cyclic 900
Notes				

Weapon	Gewehr G-41K (SAS Sniper Config.)			
Manufacturer	Heckler & Koch	Year	1983-1993	
Nation	Germany			
Caliber	5.56mm NATO	Mags	20, 30, 40	
Accuracy	Group	12 cm	MOA	
	Kill			
Velocity	915 m/s	Energy		
Weight	Empty	4.97 kg	ROF	SS 2
	Loaded	5.57 kg		MB 3
Length	930 mm fixed, 929/740mm folding		Burst	-
Range	Effect.	800 m		Auto 150
	Max.			Cyclic 900
Notes	Fitted w/ scope & bipod. No gunsmithing applied.			

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Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
G41	AR	+4	N	M,O	5.56 N	0	30	2 [SS], 3 [B], 7 [A], 45 [C]	VR	600	4.1	4.7	$1700
G41A1	AR	+3	N	M,O	5.56 N	0	30		VR	600	4.1	4.7	$1700
G41A2	AR	+4	T	M,O	5.56 N	0	30		VR	600	4.4	5.0	$1700
G41A3	AR	+3	T	M,O	5.56 N	0	30		VR	600	4.4	5.0	$1700
G41K	AR	+3	N	M,O	5.56 N	0	30		VR	400	3.0	3.5	$1700
G41KA1	AR	+2	N	M,O	5.56 N	0	30		VR	400	3.0	3.5	$1700
G41KA2	AR	+2	T	M,O	5.56 N	0	30		VR	400	3.3	3.8	$1700
G41KA3	AR	+2	T	M,O	5.56 N	0	30		VR	400	3.3	3.8	$1700
G41A3 TGS – G41A3 Rifle	AR	+3	N	M,O	5.56 N	0	30		VR	600	6.07	6.92	$3100
G41A3 TGS – HK79 GL	ACC	0	N	M	40mm G	0	1	1	VR	350			
SAS G41 Sniper Rifle	SN	+5	N	M,O	5.56 N	0	30	2 [SS], 3 [B], 7 [A], 45 [C]	VR	800	4.97	5.57	$2200
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
G41	2d10	20	ballistic	135	SA,B,A	30	Lrg	10.5	19	Mil (+3)
G41A1	2d10	20	ballistic	135	SA,B,A	30	Lrg	10.5	19	Mil (+3)
G41A2	2d10	20	ballistic	135	SA,B,A	30	Lrg	11	19	Mil (+3)
G41A3	2d10	20	ballistic	135	SA,B,A	30	Lrg	11	19	Mil (+3)
G41K	2d10	20	ballistic	100	SA,B,A	30	Lrg	8	19	Mil (+3)
G41KA1	2d10	20	ballistic	100	SA,B,A	30	Lrg	8	19	Mil (+3)
G41KA2	2d10	20	ballistic	100	SA,B,A	30	Lrg	8.5	19	Mil (+3)
G41KA3	2d10	20	ballistic	100	SA,B,A	30	Lrg	8.5	19	Mil (+3)
G41A3 TGS – G41A3 Rifle	2d10	20	ballistic	135	SA,B,A	30	Lrg	15.5	22	Mil (+3)
G41A3 TGS – HK79 GL	6d6 5' r.	-	slashing	115	SS	1	Lrg	-	-	-
SAS G41 Sniper Rifle	2d10	20	ballistic	265	SA,B,A	30	Lrg	12.5	20	Mil (+3)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
G41	30	SA, B, A, C	Good	Great	4	$1700	Well Crafted
G41A1	30	SA, B, A, C	Good	Great	4	$1700	Well Crafted
G41A2	30	SA, B, A, C	Good	Great	4	$1700	Well Crafted
G41A3	30	SA, B, A, C	Good	Great	4	$1700	Well Crafted
G41K	30	SA, B, A, C	Fair	Good	4	$1700	Well Crafted
G41KA1	30	SA, B, A, C	Fair	Good	4	$1700	Well Crafted
G41KA2	30	SA, B, A, C	Fair	Good	4	$1700	Well Crafted
G41KA3	30	SA, B, A, C	Fair	Good	4	$1700	Well Crafted
G41A3 TGS – G41A3 Rifle	30	SA, B, A, C	Good	Good	4	$3100	Well Crafted
G41A3 TGS – HK79 GL	1	SS	Fair	Fair	4	($1400)	
SAS G41 Sniper Rifle	30	SA, B, A, C	Good	Great	4	$2200	Well Crafted
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
G41	5d6+2	P/L	+2	0	3	600	2/3/45	30	4.7	$1700	
G41A1	5d6+2	P/L	+2	0	3	600	2/3/45	30	4.7	$1700	
G41A2	5d6+2	P/L	+2	0	3	600	2/3/45	30	5.0	$1700	
G41A3	5d6+2	P/L	+2	0	3	600	2/3/45	30	5.0	$1700	
G41K	5d6+2	P/L	+1	-1	3	400	2/3/45	30	3.5	$1700	
G41KA1	5d6+2	P/L	+1	-1	3	400	2/3/45	30	3.5	$1700	
G41KA2	5d6+2	P/L	+1	-1	3	400	2/3/45	30	3.8	$1700	
G41KA3	5d6+2	P/L	+1	-1	3	400	2/3/45	30	3.8	$1700	
G41A3 TGS – G41A3 Rifle	5d6+2	P/L	+2	0	3	600	2/3/45	30	6.92	$3100	
G41A3 TGS – HK79 GL	6d6	P/L	0	0	3	350	1	1			
SAS G41 Sniper Rifle	5d6+2	P/L	+2	-1	3	800	2/3/45	30	5.57	$2200	
Special Rules:											

KEYCHAIN GUN

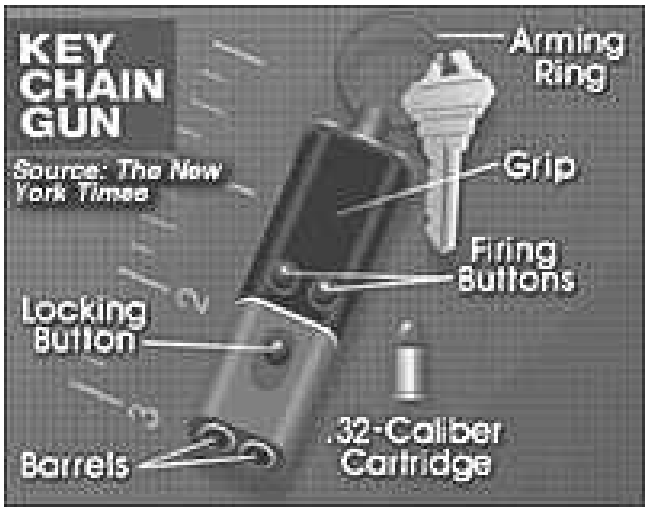
Weapon		Keychain Gun			
Manufacturer	Unknown		Year	1997-1998	
Nation	Bulgaria				
Caliber	.32 ACP		Mags	2	
Accuracy	Group			MOA	
	Kill				
Velocity	880 m/s		Energy		
Weight	Empty	0.1 kg	ROF	SS	1
	Loaded	0.12 kg		MB	-
Length	76 mm			Burst	-
Range	Effect.	20 m		Auto	-
	Max.			Cyclic	-
Notes					

About five years ago, there was a big fuss about a tiny little new gun that terrorists could use. It looks as harmless as any keychain and couldn't be identified by x-rays at that time. X-rays detect the item, but the small size made it very difficult to properly identify. Metal detectors also did not pick up the weapon unless the sensitivity was set to high.

These Bulgarian-made weapons were apparently based on an old World War II developed for the OSA, as an instruction booklet confiscated with one of these guns in Australia labeled it as an "OSA double-loader gas-signaling device for self-defense". The actual original, if such existed, was likely a larger device that probably fired 19mm signal flares.

However, these small devices, measuring a mere 76 mm x 25 mm x 14 mm, make efficient two shot .32 caliber derringers. The body breaks apart to allow bullets to be seated in the front half and then secured with a sturdy locking mechanism. The key ring functions as the cocking lever by pulling it back until it locks. Each barrel has a separate push button trigger, and can be fired in any order. Once one barrel is fired, the cocking lever needs to be pulled back again in order to fire the second barrel. The gun is lethal to a range of 20 meters.

At a cost of $20 to $25, these guns became widely available throughout southern Europe, as well as England and Australia.



KEYCHAIN GUN

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Keychain Gun	EX	-6	P	O	.32 ACP	-2	2	SS	UR	20	0.1	0.12	$25
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
Keychain Gun	2d4	20	ballistic	10	SS	2	Sm	1	3	BM (+4)
Special Rules	Restriction Category: BM. This indicates a weapon that is effectively illegal worldwide, and must be obtained exclusively through a black marketer, shady gun dealer, or other illicit criminal resource.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Keychain Gun	9	SS	Terrible	Terrible	2	$25	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
Keychain Gun	2d6+2	P/L	-3	-3	1	20	1	2	0.12	$25	
Special Rules:											

PM-63

Weapon	9mm PM wz. 63				
Manufacturer			Year	1963-1983	
Nation	Poland				
Caliber	9mm Makarov, 9mm Parabellum		Mags	15, 25	
Accuracy	Group			MOA	
	Kill				
Velocity	315 m/s		Energy		
Weight	Empty	1.9 kg	ROF	SS	2
	Loaded	2.3 kg		MB	-
Length	333mm, 583mm unfolded			Burst	3
Range	Effect.	75 m		Auto	150
	Max.	180m		Cyclic	650
Notes					

Designed for Polish Special Forces, this weapon was one of the lightest SMGs in the world when it was introduced in 1963. A year later, it went into service as the 9mm pm wz. 1963 (9mm SMG model 1963). The weapon was used by special forces, police, and as a PDW for vehicle crews. While special forces have moved to more modern weapons, the PM-63 is still common as a police weapon or military PDW and many have found their way into the hands of terrorists, having been the terrorist weapon of choice in the seige of the Iranian embassy in London in 1981.

The weapon is blowback operated, made entirely of high quality steel, with a stamped retracting sheet metal stock and a folding plastic foregrip. It is capable of selective or full auto fire, determined by the depth of the trigger pull (like many Steyr weapons) rather than using a selector switch. The manual safety is on the left, above the pistol grip. The elongated nose of the slide acts as a muzzle flip compensator and can be used to cock the weapon one handed by pressing the gun against a stationary hard surface. The sights are relatively useless, being mounted atop the slide. A 9mm Parabellum version of the weapon was manufactured in very limited quantities in 1971.

The weapon shipped from the factory with a carrying harness, canvas holster, magazine pouch, cleaning kit and four magazines (1 15-round, 3 25-round).

PM-63

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
PM63 9mm Makarov	SMG	-1	J	L,O	9mm M	0	15,30	2 [SS], 3 [AB], 7 [A], 32 [C]	ST	75	2.9	2.3	$525
PM63 9mm Parabellum	SMG	-1	J	L,O	9mm P	0	15,30		ST	75	2.9	2.3	$730
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
PM63 9mm Makarov	2d6	20	ballistic	25	SA, A	15,30	Sm	5	15	Res (+2)
PM63 9mm Parabellum	2d6	20	ballistic	25	SA, A	15,30	Sm	5	16	Res (+2)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
PM63 9mm Makarov	15, 30	SA, A, C	Fair	Fair	3	$525	
PM63 9mm Parabellum	15, 30	SA, A, C	Fair	Fair	3	$730	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
PM63 9mm Makarov	3d6	P/L	0	+2	2	75	2/32	15,30	2.3	$525	
PM63 9mm Parabellum	3d6+2	P/L	0	+2	2	75	2/32	15,30	2.3	$730	
Special Rules:											

SINGAPORE TECHNOLOGIES KINETICS SAR-21

As a small island nation state surrounded by a number of nations that could potentially prove hostile in coming decades, particularly Indonesia with its growing internal Islamic influences, Singapore has a very strong need to maintain a well equipped military in the hopes that military quality can offset military quantity possessed by surrounding nations, as seems to be the case whenever the United States is involved in armed conflict.

With that in mind, the Singaporean military began rearming in 1999, adopting the SAR-21 as the standard assault rifle, gradually replacing its stocks of SAR-80, SR-88, and aging M16S1 (Singaporean-manufactured M16A1) assault rifles. The SAR-21 is also offered for export and law enforcement sales.

The SAR-21 is a 5.56mm assault rifle designed to suit the smaller build of the soldiers of the Singapore military. The SAR-21 is a bullpup rifle designed similar to the Steyr AUG family of assault rifles. The rifle is still very much untested by the world's government, but the few existing reviews seem favorable, indicating the weapon is comfortable to carry and fire, low on recoil, and accurate. They also tend to cite the same two flaws. The first flaw is the lack of provision for left-side ejection, a feature that exists and very nearly all other bullpup configured rifles. This is amusing, considering the rifle's various controls are ambidextrous. The second flaw is the magazine. While the transparent magazines are favorable for the ability to see how many rounds remain at a glance, they are proprietary, rather than being STANAG or NATO standard-compliant. This very fact dooms almost all international sales of the weapon, especially considering the huge international military market there would be for lighter, transparent STANAG 5.56mm magazines. Additionally, many users complain that the magazines cannot be ejected by the right hand, greatly slowing reloading. Since then, it seems that the rifle has had some modification, with models available capable of accepting M16 magazines. It isn't surprising that the Singapore military would demand this modification, considering the rifle is expected to replace their M16S1 rifles.

Otherwise, the rifle represents a good example of the mainstream of turn-of-the century firearms technology. It is a bullpup rifle fed from a detachable box magazine, using one of the most common and conventional gas-operated, rotating bolt locked actions available, using concepts modified from the systems for the M16 and the AK-47. The weapon uses a poorly placed cross-bolt push-button type safety that allows selection of semi-auto and full auto fire. The weapon itself is assembled using push pins, so that it can be stripped without the need for any special tools. The weapon does include a few minor innovation, like a non-reciprocating, fold-away recharging handle and a Kevlar laminate plate reinforced upper receiver safety system designed to protect the user's face and head in the event of a case rupture, explosion or premature cookoff detonation inside the gun. The rifle also has less recoil than an M-16A2 rifle.

Additionally, the manufacturing process is almost entirely computer controlled, both enhancing quality as well as parts exchangeability. A lot of components are formed of vibration-welded polymer components with appropriate composite or steel reinforcement at stress points, resulting in a rifle that can be beaten to hell without losing its zero on the sights or laser aiming module. Off the assembly line, the rifle needs no fine tuning, either. A writer for Jane's Information Group, untrained with the weapon, was handed a rifle straight off the factory line, along with several magazines of ammunition, and managed a 90% casualty rate on rapid fire target acquisition at 300 meters and under. Another writer, this time one employed by the Singaporean military, took his daughter to a demonstration of the rifle. The 9 year old girl, who had never fired a rifle before, hit 14 of 14 targets at 100 meters with a SAR-21.

Weapon	SAR-21			
Manufacturer	Singapore Technologies Kinetics	Year	1999-	
Nation	Singapore			
Caliber	5.56 x 45mm NATO	Mags	30	
Accuracy	Group		MOA	
	Kill	90%@300m		
Velocity	710 m/s	Energy		
Weight	Empty	3.98 kg	ROF	SS 40
	Loaded	4.44 kg		MB -
Length	805mm			Burst 5
Range	Effect.	460 m		Auto 200
	Max.			Cyclic 650
Notes				

Weapon	SAR-21 P or SAR-21 P-RAIL			
Manufacturer	Singapore Technologies Kinetics	Year	1999-	
Nation	Singapore			
Caliber	5.56 x 45mm NATO	Mags	30	
Accuracy	Group		MOA	
	Kill			
Velocity	710 m/s	Energy		
Weight	Empty	3.77 kg	ROF	SS 40
	Loaded	4.23 kg		MB -
Length	805mm			Burst 5
Range	Effect.	460 m		Auto 200
	Max.			Cyclic 650
Notes	Loaded weight does not include a scope			

Weapon	SAR-21 MMS or SAR-21 RIS			
Manufacturer	Singapore Technologies Kinetics	Year	1999-	
Nation	Singapore			
Caliber	5.56 x 45mm NATO	Mags	30	
Accuracy	Group		MOA	
	Kill			
Velocity	710 m/s	Energy		
Weight	Empty	3.6 kg	ROF	SS 40
	Loaded	4.06 kg		MB -
Length	805mm			Burst 5
Range	Effect.	460 m		Auto 200
	Max.			Cyclic 650
Notes				

Weapon	SAR-21 GL			
Manufacturer	Singapore Technologies Kinetics	Year	1999-	
Nation	Singapore			
Caliber	5.56 x 45mm NATO	Mags	30	
Accuracy	Group		MOA	
	Kill			
Velocity	710 m/s	Energy		
Weight	Empty	5.32 kg	ROF	SS 40
	Loaded	6.0 kg		MB -
Length	805mm			Burst 5
Range	Effect.	460 m		Auto 200
	Max.			Cyclic 650
Notes	Comes fitted with either an M203 or CIS 40GL.			

The rifle is available in several models. The first is the standard SAR-21, which includes an integrated carry handle with a built in 1.5X telescopic sight that also includes molded emergency sights. It also integrates a 'AA' battery powered laser aiming module with the foregrip, complete with a push switch. The LAM can emit IR or visible target points. The rifle ships with a cleaning kit, sling, and one magazine. It is available with a barrel appropriate for old Vietnam-era M193 ammunition or for the newer SS109 ammunition, as are the other variants of the rifle.

SINGAPORE TECHNOLOGIES KINETICS SAR-21

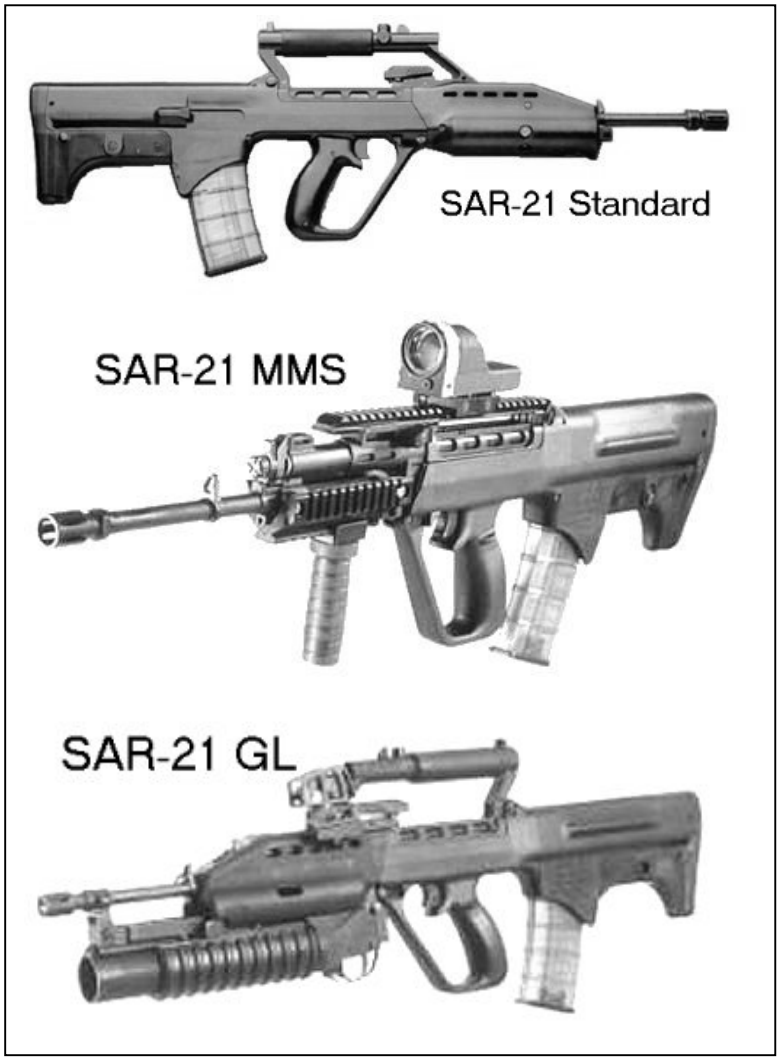
The second is the SAR-21 P or SAR-21 P-RAIL, which replaces the integrated carry handle with a Picatinny rail for mounting a wide variety of optics. In order to fit the rail, the rifle was modified so that the recharging handle extends to the left side of the weapon rather than up from the top of the weapon.

The third is the special forces version, the SAR-21 MMS (Modular Mounting System), which replaces the integrated carry handle and the entire foregrip with a number of picatinny rails for mounting tactical equipment, similar to the MWS for the M16 and M4. Like the SAR-21 P, this model also has the recharging handle to the left. This model was also identified as the SAR-21 RIS (Rail Interface System). The rifle only comes with one attachment for its rails, a vertical foregrip.

The standard SAR-21 was supposed to be capable of being fitted with a 40mm grenade launcher, either the US-made M203 or the Singapore-made CIS 40GL. Unfortunately, it required modification, leading to the SAR-21 GL, with a new foregrip allowing the mounting of a 40mm underbarrel launcher. The rifle is also fitted with a quadrant sight. It is sold as a weapon with the grenade launcher permanently affixed.

There are also two additional variants of unknown availability, since neither is currently listed on the latest edition of STK's literature, though I have heard a number of Singaporean troops mention them. So, I have no accurate statistics for them at this time. One is the SAR-21 LMG. This is essentially a SAR-21 with a heavy barrel and bipod, plus modification to fire from an open bolt. The last is the SAR-21 SS (Sharp Shooter), designed for the squad's designated marksman. This is a SAR-21 which replaces the integrated carry handle/1.5x sight with an integrated handle with a 3x sight.

In all, the various models of the SAR-21 all share at least a 70% commonality of parts. This has lead to speculation that STK may eventually offer the ability to purchase one kit, capable of being reconfigured as any one of the above rifles. The SAR-21, while a model of mainstream firearms technology, is also an example of how something average can be made into something impressive through attention to detail during the manufacturing process.



SINGAPORE TECHNOLOGIES KINETICS SAR-21

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
SAR-21	AR	+2	T	M	5.56 N	0	30	2 [SS], 5 [AB], 10 [A], 32 [C]	ST	300	3.82	4.44	$950
SAR-21 P	AR	+1	T	M	5.56 N	0	30		ST	300	3.82	4.44	$1020
SAR-21 MMS / RIS	AR	0	T	M	5.56 N	0	30		ST	300	3.82	4.44	$1100
SAR-21 GL Rifle	AR	+2	T	M	5.56 N	0	30		ST	300	5.32	6	$1300
SAR-21 GL Launcher	AR	0	T	M	40mm	0	1		ST	400			
SAR-21 LMG*	AR	+1	T	M	5.56 N	0	30		ST	400	4.8	6	$1800
SAR-21 SS*	AR	+3	T	M	5.56 N	0	30		ST	600	4.8	5.4	$1800
Special Rules	* This two weapons are extrapolated from data based on similar LMG and Designated Marksman Weapon Systems (Sharp Shooter or SS version of the SAR-21). They are by no means official or final.												

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
SAR-21	2d8	20	ballistic	35	SA, A	30	Md	10 lb	17	Mil (+3)
SAR-21 P	2d8	20	ballistic	35	SA, A	30	Md	10 lb	18	Mil (+3)
SAR-21 MMS / RIS	2d8	20	ballistic	35	SA, A	30	Md	10 lb	18	Mil (+3)
SAR-21 GL Rifle	2d8	20	ballistic	35	SA, A	30	Md	13 lb	18	Mil (+3)
SAR-21 GL Launcher	6d6,15'	-	Slashing	130	SS	1	-	-		
SAR-21 LMG*	2d8	20	ballistic	35	SA, A	30	Md	13 lb	20	Mil (+3)
SAR-21 SS*	2d8	20	ballistic	35	SA, A	30	Md	12 lb	20	Mil (+3)
Special Rules	The SAR-21 rifles are computer manufactured to exacting specifications, making them mastercraft weapons. These rifles are considered to be of unusually high quality straight off the assembly line, so give all SAR-21 a base equipment bonus of +2 to hit. The damage for the grenade launcher is based on use of a 40mm HEDP grenade, which many militaries are standardizing to. The SAR-21 GL Rifle and SAR-21 GL Launcher are both parts of the same weapon system. Due to a lack of data available on these weapons from currently available resources, the statistics for the LMG and Sharp Shooter (SS) variants are extrapolated from comparisons to similar modifications applied to the M16, Steyr AUG, Galil, and other assault rifles. At this time, do not consider them official or final.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
SAR-21	30	SA, A	Mediocre	Good	4	$950	Well Crafted
SAR-21 P	30	SA, A	Mediocre	Good	4	$1020	Well Crafted
SAR-21 MMS / RIS	30	SA, A	Mediocre	Good	4	$1100	Well Crafted
SAR-21 GL Rifle	30	SA, A	Mediocre	Good	4	$1300	Well Crafted
SAR-21 GL Launcher	1	SS	Fair	Good	12, 15'r.		
SAR-21 LMG*	30	SA, A	Fair	Good	4	$1800	Well Crafted
SAR-21 SS*	30	SA, A	Fair	Good	4	$1800	Well Crafted
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
SAR-21	5d6+2	P/L	+1	-1	3	300	2/10	30	4.44	$950	
SAR-21 P	5d6+2	P/L	+1	-1	3	300	2/10	30	4.44	$1020	
SAR-21 MMS / RIS	5d6+2	P/L	+1	-1	3	300	2/10	30	4.44	$1100	
SAR-21 GL Rifle	5d6+2	P/L	+1	-1	3	300	2/10	30	6	$1300	
SAR-21 GL Launcher	6d6		-1	0	3	400	1	1			
SAR-21 LMG*	5d6+2	P/L	+1	+1	3	400	2/10	30	6	$1800	
SAR-21 SS*	5d6+2	P/L	+1	+1	3	600	2/10	30	5.4	$1800	
Special Rules:											

SPRINGFIELD M-1 GARAND

Weapon	US Rifle, Caliber .30, M1 "Garand"				
Manufacturer	Springfield Armory		Year	1936-1957	
Nation	United States				
Caliber	.30-06		Mags	8 (stripper clip)	
Accuracy	Group			MOA	
	Kill				
Velocity	853 m/s		Energy	2141 J	
Weight	Empty	4.73 kg	ROF	SS	40
	Loaded	5.11 kg		MB	-
Length	1103 mm			Burst	-
Range	Effect.	440 m		Auto	-
	Max.	3200 m		Cyclic	-
Notes					

Weapon	US Rifle, Caliber .30, M1C, M1D				
Manufacturer	Springfield Armory		Year	1942-1945	
Nation	United States				
Caliber	.30-06		Mags	8 (stripper clip)	
Accuracy	Group	12.7 cm w/ M2 Ball		MOA	
	Kill				
Velocity	853 m/s		Energy	2141 J	
Weight	Empty	5.45 kg	ROF	SS	40
	Loaded	5.83 kg		MB	-
Length	1103 mm			Burst	-
Range	Effect.	600 m		Auto	-
	Max.	3200 m		Cyclic	-
Notes					

Weapon	US Rifle, Caliber .30, T20				
Manufacturer	Remington		Year	1944-1945	
Nation	United States				
Caliber	.30-06		Mags	20	
Accuracy	Group			MOA	
	Kill				
Velocity	853 m/s		Energy	2141 J	
Weight	Empty	5.7 kg	ROF	SS	40
	Loaded	6.08 kg		MB	-
Length	963 mm			Burst	-
Range	Effect.	300 m		Auto	100
	Max.	2500 m		Cyclic	700
Notes					

Weapon	US Rifle, Caliber .30, T26				
Manufacturer	Springfield Armory		Year	1945	
Nation	United States				
Caliber	.30-06		Mags	8 (stripper clip)	
Accuracy	Group	12.7 cm w/ M2 Ball		MOA	
	Kill				
Velocity	853 m/s		Energy	2141 J	
Weight	Empty	4.23 kg	ROF	SS	40
	Loaded	4.61 kg		MB	-
Length	963 mm			Burst	-
Range	Effect.	300 m		Auto	-
	Max.	2500 m		Cyclic	-
Notes					

Once the United States started fighting in World War I, the deficiencies of the Springfield Model 1903 rifle became woefully apparent. This lead to an immediate struggle to convert the bolt action M1903 into a semiautomatic rifle. Of the numerous attempts, only the Pederson Device was considered appropriate for a battlefield rifle. Had the First World War lasted another year, the Pederson Device probably would have been a common piece of equipment for the doughboys.

However, the war ended when it did and the United States instead sought out a new rifle. Over a decade would pass before a new rifle was selected. During this timeframe, most of the rifles designed to replace the M1903 used a semiautomatic system driven by the cartridge primer, until the military redesigned the M1906 cartridge to the M1 cartridge specification. Right around this same time, weapons designer John Pederson developed an entirely new cartridge in .276 caliber. John Garand, working at the Springfield Armory at this time, was ordered to redesign one of his rifles for this new caliber. Between 1927 and 1931, the Garand and Pederson .276 caliber rifles were competitively tested to determine which design was better. Finally, in 1932, Chief of Staff General Douglass MacArthur selected Garand's rifle as the official replacement for the M1903, with the stipulation that the rifle be converted to handle the new M1 .30-06 cartridge.

Astonishingly, Garand was already working on this very change, and in 1933, presented the Army with the Semi-Automatic Rifle, .30 Caliber, T1E2. The rifle would see four more years of development and testing. By 1934, it was decided to develop the rifle to use a gas operated semi-automatic mechanism called a gas trap. After four years of development and testing, this rifle was adopted by the U.S. Army as the Semi-Automatic Rifle, .30 Caliber, M-1. And with that adoption, the United States became the first nation in history to adopt a semi-automatic rifle as its standard military rifle. The rifle entered service with its deceptively simple gas trap system and was manufactured thusly between 1936 and 1940. It wasn't until 1941 that the gas trap was replaced and the first four years of rifle production were rebuilt. These gas trap Garands are extremely rare and prized by post-war collectors.

These early Garands provided their users with erratic operation, mediocre to poor accuracy, and quite lousy scored in military shooting competitions. The press had a field day, labeling the rifle a flop, a boondoggle, and thanks to a price tag of $102 per rifle, three times the price of the M1903 and M1903A1 rifles already in service, a waste of taxpayer money and a political scandal. No one would expect that in a few short years, these rifles would eventually be hailed as one of the finest military weapons the world has ever produced, one of the great leaps forward in military technology. The M1 was issued with one clip to immediately load, a cleaning kit stored in the butt, a sling, an M1 bayonet, two bandoliers each capable of holding six clips for the rifle, an M1923 ammunition belt with pockets for 10 clips, and 23 clips loaded with a total of 184 rounds of ammunition.

Over the course of World War II, roughly 3.8 million M-1 rifles were produced. Those produced by the Springfield Armory were steadily improved as the armory drove down the procurement cost to a mere $90 per rifle. Those produced by Winchester, the other major manufacturer of the rifle during World War II remained primitive in comparison, based on the 1941 design. Winchester's decision to not integrate any of the Springfield Armory improvements into their production line may have been financially motivated, since Winchester was the primary manufacturer of the M-1 Carbine, which was designed to replace or supplement the M1911 pistol. During this time, the rifle also spawned the M1C and M1D variants, well known U.S. sniper rifles of World War II. Production of the M-1 Garand ceased in August, 1945, though the M-1D sniper rifle was standardized about a month later, in September, 1945. From then on, the Springfield Armory was the only manufacturer that continued working with the weapon, refurbishing weapons returning from the battlefield and preparing them for long term storage. The primary problem that needed to be fixed was the operating rod; when it separated inside the weapon, the catastrophic weapons failure that followed tended to kill the man firing the rifle.

Throughout the war, the Springfield Armory made a wide array of changes. Heavily milled parts were replaced by stamped parts of spring steel. The receiver was made heftier. Base metal components were replaced with tool steel. The original flush-nut rear site, prone to loosening and requiring tools to repair, was replaced in 1942. A fiberglass interface between metal and wood components was developed to

SPRINGFIELD M-1 GARAND

allow the rifle to shoot straighter and cool faster. And most important to all future semiautomatic and automatic firearms, new lubricants consisting of heavy greases containing lithium and graphite were developed.

The outbreak of the Korean War caught the government-owned sector of the arms industry completely offguard. The Springfield Armory had long ceased manufacturing the rifle and had to not only be retooled, but had to rehire and train a sufficient workforce to manufacture the rifle again, taking six long months to accomplish before the first new Garand was manufactured. The U.S. government also contracted with Harrington & Richardson Co. and International Harvester Co. to supplement the Springfield Armory output. The three facilities produced over 168,000 new M-1 rifles, enough to outfit every U.N. soldier with a brand new rifle. Only the Springfield Armory continued manufacturing the rifle after that, continuing until 1956. In addition, between 1953 and 1963, the armory also produced some 45,000 M1 National Match rifles, built for use in competitive shooting. The M-1 Garand saw its final days after 17 May, 1957, the day on which the United States Rifle, Caliber 7.62mm, M14 was adopted as the replacement for the M1 Garand. The M14 was in short supply and high demand through the early years of the Vietnam War, prompting the U.S. Navy to commission a special chamber insert to allow the firing of the NATO standard M80 7.62mm cartridge. This was the final version of the rifle, designated first as the M1E14, then later as the Rifle, 7.62mm, Mk 2 Mod 0.22. The Springfield Armory itself was closed in a round of cost-cutting base closures in 1968. The final M1 rifles to leave service were in the hands of Army Reservists and National Guardsmen as late as 1975, when those units finally upgraded their firearms, skipping the M14 and going straight to the M16. While 1963 saw the last American military M1 rifles manufactured, the rifle did not vanish from the production lines of the world. The Illinois Springfield Armory eventually manufactured civilian versions of the M1. The Italian gun maker Beretta manufactured the rifle until the 1970's. The rifle was also manufactured in Indonesia as well.

Early on, the M1 rifle was a poor weapon, thought by many to be yet another politically driven waste of money that would likely kill American troops. But Garand's drive to improve his rifle lead to a constantly evolving weapon that became accurate, rugged, and reliable enough for every soldier to swear by it. The only problems never resolved in the rifle were the "M1 Thumb" and the "Twang". The M1 Thumb was caused by the rifle's top-loading internal unremovable magazine. If the soldier's hand was not positioned properly when reloading the rifle, the bolt could spring shut with several hundred pounds of pressure, leaving the soldier with a seriously bruised or even broken thumb. The Twang resulted from the clip itself. Along with the fact that it could not be topped off inside the rifle and the fact that it only held eight rounds, it was self-unloading. When the eighth round was fired, it would spring out of the top of the gun with a very distinctive ping or twang, alerting enemies to the soldiers position in close combat and sniper situations. By the end of the war, the twang could be used against the enemy, with a soldier firing a couple rounds and throwing an empty clip against the ground to fool enemy troops into thinking he was reloading. He could then shoot any enemy soldiers who tried to rush him.

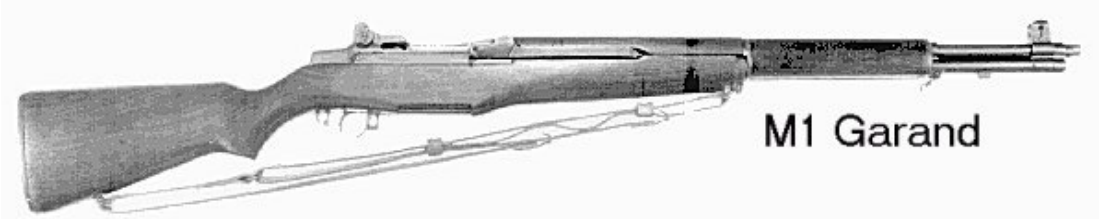
Along with the base M1 rifle, a wide array of variants appeared over the years. The M1C was the army sniper rifle during World War II, available through much of the war, but not standardized until June, 1944. It was an M1 rifle fitted with an M82 2.5x telescopic sight, an M2 flash hider, and T4 leather cheek pad. To allow the rifle to be loaded, the scope had to be offset to the left, leaving clear the port for the top-loading of the stripper clips. The rifle was preferably used with the M72 Match Grade Cartridge, the round wasn't widely available, so more often the sniper rifle was used with the M2 Armor Piercing cartridge. Between this and the substandard quality of the scope, the rifle was only good for sniping out to a range of no more than 600 meters, though the National Match quality M1s were easily capable of accurate fire out to 1,000 meters. The M1C's accuracy varied widely depending upon the ammunition used. The M2 Ball produced groups of 7.5 inches at 600 yards, The M2 AP round produced 10 inch groups, and the M72 Match produced 3.5 inch groups. The M1 tracer produced 15 inch groups.

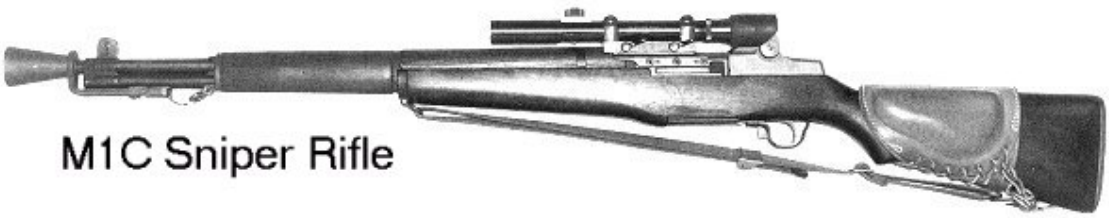
The most notable variant was produced by the Japanese during World War II. Having captured examples of both the gas trap and gas port versions of the rifle, they began developing their own copies of the rifle. These rifles used a box magazine that loaded into the bottom of the rifle, rather than a top-loading spring clip. This one single change eliminated all three of the problems that plagued the US version of the M1 through its entire service.

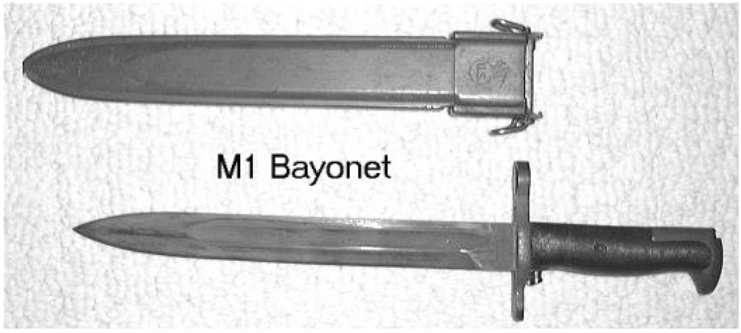
As the Second World War was approaching its end, Remington produced the T20 variant for use by US Airborne troops. The rifle was a shortened M1 capable of selective fire (Safe/Semi-/Full-Auto) and utilizing the larger BAR 20-round magazine system, of which 1,000 units were produced. While the war continued against Japan, an order was placed for 100,000 of the rifles, but that was quickly rescinded once the war ended. Even with the input of Garand that lead to the T20E2 variant, the T20 proved to be unsuitable for service due to rapid overheating, poor accuracy and excessive muzzle climb, flash and report due to the short barrel. The rifle also weighed too much once accessories were added. Every last T20 unit was converted to a service standard M1 rifle at the Aberdeen Proving Ground. The T20E2, however, had only 19 units manufactured, all of which stayed on the grounds of the Springfield Armory. Most are still in the possession of the Springfield Armory Museum. In the fall of 1944, the T20 was resurrected, with 150 of the rifle crudely manufactured in Australia and the Phillipines, with the Springfield Armory responsible for fabricating a more refined version of the rifle, designated the T26. Unlike the original Remington T20 rifles, this second series of rifles were semi-automatic rather than selective fire. The armory manufactured a single refined T26 rifle and reached the same conclusion as with the Remingtons; the barrel was too short to make the rifle competent in combat. The T26 died once again, with a sole copy of the rifle still existing in the Springfield Armory Museum. The T26 has become known as the "Tanker Garand", though the rifle had nothing to do with tanks or their crews. It resulted in a misidentification of the "T" in the designation, which actually stood for "Trial". This misidentification actually occurred during the 1950's when a Garand reseller, Robert Penny, Jr. decided the variant would suit a tank turret quite nicely. Eventually, the problems with the T20 and T26 experimental rifles were pinned on the attempts to continue using the powerful .30-06 cartridge, and development began anew using a newer, shorter .308 cartridge for a new rifle. The T20 and T26 would lead to the T44 variant, which eventually became the M14 service rifle and the shortened .30-06 cartridge would become the NATO standard 7.62 x 51mm round.

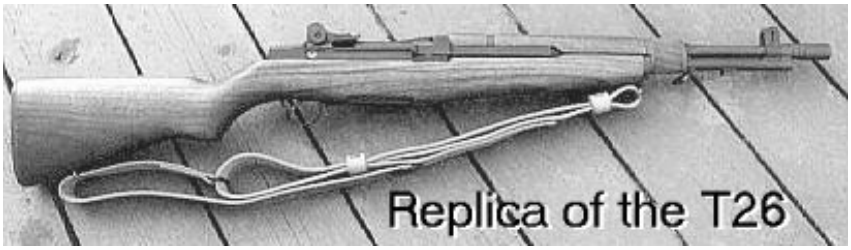
While the M1 Garand began with a sticker price of $102, the price eventually dropped to as little as $90 and the match quality rifles cost as much as $1100. With 6.3 million rifles manufactured, the U.S. government had no clue what to do with such a vast surplus, especially after the M14 and M16 rifles entered service. The rifles were loaned out to foreign governments, most notably Denmark. Then came the surplus sales program in which the government made the rifle available for civilian purchase at reasonable cost. When the program began, the rifles could be purchased for as little as $240. Even today, this surplus sales program still exists, with the rifles priced at $450 to $1200, depending upon the quality and collectability of the rifle. For the most part, only the Springfield Armory and some Winchester-manufactured versions of the rifle can be obtained through this program.

SPRINGFIELD M-1 GARAND









SPRINGFIELD M-1 GARAND

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M1 Rifle	BR	+2	N	O	M2 .30	0	8	2 [SS]	RE	440	4.73	5.11	$90
M1 Sniper Rifle	SN	+2	N	O	M2 .30	0	8	2 [SS]	RE	600	5.45	5.83	$150
T20 Experimental Rifle	BR	-3	N	O	M2 .30	0	20	2 [SS],	ST	300	5.7	6.08	-
T26 Experimental Rifle	BR	-3	N	O	M2 .30	0	8	2 [SS]	ST	300	4.23	4.61	$100
Special Rules	Used surplus Garands can still be purchased through the US government's Civilian Marksmanship Program. M1s can be purchased for $450 to $1200. M1C, M1D, and T26 replicas are made by civilian manufacturers according to military specifications for those rifles. These replicas cost anywhere from $1200 for a T26 to $3500 for an M1C or M1D replica. The T20 can be estimated to have cost roughly $170 had it entered mass production.												

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight [lb]	Purchase DC	Restriction
M1 Rifle	2d10	20	Ballistic	145	SA	8	Lrg	11	9/15	
M1 Sniper Rifle	2d10	20	Ballistic	200	SA	8	Lrg	12	11/22	
T20 Experimental Rifle	2d10	20	Ballistic	100	SA, A	20	Med	14	11	
T26 Experimental Rifle	2d10	20	Ballistic	100	SA	8	Med	9	9/18	
Special Rules	Prices represent circa 1943 and circa 2001. The T20 price is estimated based on other rifles of the time, as I have uncovered no information regarding the cost of these weapons. Restrictions based upon U.S. legal status in 2003. Being more than 50 years old, all of these rifles, excluding about 160,000 M1s, are considered curios and collectibles, and a one-time class 03 license need be bought from the government in order to buy as many of these weapons as you'd like. The 160,000 Garands outside this category would be Licensed (+1) and if your game were set far enough back in time, to a point when the rifles were in active service, they would have been Military (+3).									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M1 Rifle	8	SA	Fair	Great	5	$90	
M1 Sniper Rifle	8	SA	Fair	Great	5	$150	Scoped
T20 Experimental Rifle	20	SA, A	Mediocre	Mediocre	5	-	
T26 Experimental Rifle	8	SA	Mediocre	Mediocre	5	$100	
Special Rules	Prices circa WW2						

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M1 Rifle	5d6+2	P/L	+2	0	4	440	3	8	5.11	$90	
M1 Sniper Rifle	5d6+2	P/L	+2	-2	4	600	3	8	5.83	$150	
T20 Experimental Rifle	5d6+2	P/L	0	-1	4	300	2/35	20	6.08	-	
T26 Experimental Rifle	5d6+2	P/L	0	-1	4	300	2	8	4.61	$100	
Special Rules:											

STEYR AUG

This weapon system was originally designed to simply function as a technology demonstrator. Instead, the Steyr AUG (Armee Universal Gewehr or Army Universal Rifle) became a wild success, expanding from a single rifle into an entire family of weapons, including submachineguns and civilian hunting rifles. Development of the rifle began in the 1960's when the Austrian government began seeking a replacement for the military's Stg. 58 FN FALs. The Steyr-Daimler-Puch Co., working closely with the Austrian Army, took a wide array of design ideas, some dating back as far as the 1920's, and slowly meshed them into a single weapon as they developed new manufacturing processes. The bullpup design was lifted from the Enfield EM-2 and Koborov TKB-408, which had in turn lifted the concept from a number of SMGs designed in the 1910's and 20's. The concept of a plastic housing came from the Koborov TKB-022 from 1962. The idea of a telescopic standard sight came from the Enfield EM-2 of the late 1940's and the Canadian FAL prototypes of the 50's. And the modular design concept of many types of weapons built around the same receiver and action first saw light of day in the 1920's on weapons designed by France's Rossignol and the Soviet's Fedorov. The quick change system for the barrel is drawn from dozens of such adaptations designed for all types of machine guns in service around the world through the 1950's and 60's. They Steyr AUG, in spite of the critical claim it garnered with its "innovative design" and "forward thinking", was simply a successful packaging of a number of old but good ideas. The only real innovation is the highly intelligent use of steel reinforcing inserts in support of the aluminum receiver. These inserts are positioned to relieve the vast majority of firing stress the receiver would otherwise bear, greatly enhancing the rifle's lifespan, while reducing the rifle's overall weight when compared to rifles manufactured with stamped or milled steel receivers. The rifle does have a number of other things going to its advantage, including very good ergonomics, decent accuracy, and fair reliability, giving it a further reputation as an excellent rifle.

The rifle is gas-operated, utilizing a short stroke gas piston. This gas system features a regulator with three settings; two open settings for firing a clean or fouled rifle, and a closed setting, which allows it to launch rifle grenades. The most interesting feature of the rifle is the fire mode selection. Rather than a selector switch, selector mechanism is integrated with the trigger instead. A half pull on the trigger will fire a single round, while a full pull engages automatic fire. This gives the benefit of eliminating the amount of hardware required to support ambidextrous use, but adds to the fog of war due to the likelihood that soldiers in combat will usually make the wrong pull on the trigger for the mode of fire they are after. The safety mechanism is a cross-bolt push-pin accessible from either side of the gun.

The standard sight for the AUG is a 1.5x telescopic sight built into the carry handle. The inner circle on the scope is fitted to capture the full height of a 6 foot tall man at a range of 300 meters. With the A1 variant, the carry handle also had backup iron sights molded into the plastic. The A2 made the carry handle easily removable in order to mount a picatinny rail for mounting other optics on the rifle. Earlier AUG variants required a slow process of disassembly and reassembly to swap the old carry handle scopes out for optics mounts. All rifles fit a cleaning kit into the pistol grip. The rifles sold to the Irish Army include an 'automatic lockout', which prevent the rifle from allowing a full trigger pull, thereby locking out the ability to fire in full automatic. This effectively installs a selector switch on the rifle.

The original Steyr AUG was adopted by the Austrian army as the Stg. 77 (Sturmgevehr 77 or Assault

Weapon	Steyr AUG				
Manufacturer	Steyr		Year	1978-1997	
Nation	Austria				
Caliber	5.56mm M198		Mags	30	
Accuracy	Group	47 cm @ 400m		MOA	
	Kill				
Velocity	921 m/s		Energy	1679 J	
Weight	Empty	3.8 kg	ROF	SS	2
	Loaded	4.3 kg		MB	
Length	805 mm			Burst	3
Range	Effect.	450 m		Auto	120
	Max.			Cyclic	650
Notes					

Weapon	Steyr AUG A1				
Manufacturer	Steyr		Year	1984-1997	
Nation	Austria				
Caliber	5.56mm M198		Mags	30	
Accuracy	Group	47 cm @ 400m		MOA	
	Kill				
Velocity	931 m/s		Energy		
Weight	Empty	3.8 kg	ROF	SS	2
	Loaded	4.3 kg		MB	
Length	805 mm			Burst	3
Range	Effect.	450 m		Auto	150
	Max.			Cyclic	650
Notes					

Weapon	Steyr AUG A2				
Manufacturer	Steyr		Year	1997-	
Nation	Austria				
Caliber	5.56mm M198		Mags	30	
Accuracy	Group	47 cm @ 400m		MOA	
	Kill				
Velocity	931 m/s		Energy		
Weight	Empty	3.8 kg	ROF	SS	2
	Loaded	4.3 kg		MB	
Length	805 mm			Burst	3
Range	Effect.	450 m		Auto	150
	Max.			Cyclic	650
Notes					

Weapon	Steyr AUG-P Carbine				
Manufacturer	Steyr		Year	1982-	
Nation	Austria				
Caliber	5.56mm SS109		Mags	30	
Accuracy	Group	58cm @ 400m		MOA	
	Kill				
Velocity	894 m/s		Energy	1580 J	
Weight	Empty	3.6 kg	ROF	SS	2
	Loaded	4.1 kg		MB	
Length	690 mm			Burst	3
Range	Effect.	400 m		Auto	150
	Max.			Cyclic	650
Notes					

Weapon	Steyr AUG SMG				
Manufacturer	Steyr		Year	1982-	
Nation	Austria				
Caliber	5.56mm SS109		Mags	30	
Accuracy	Group	12.5 cm @ 50yds		MOA	
	Kill				
Velocity	882 m/s		Energy	1536 J	
Weight	Empty	3.55 kg	ROF	SS	2
	Loaded	4.05 kg		MB	
Length	630 mm			Burst	3
Range	Effect.	350 m		Auto	150
	Max.			Cyclic	650
Notes					

STEYR AUG

Weapon	Steyr AUG HBAR				
Manufacturer	Steyr		Year	1984-	
Nation	Austria				
Caliber	5.56mm SS109		Mags	30, 42	
Accuracy	Group	58cm @ 400m		MOA	
	Kill				
Velocity	958 m/s		Energy	1814 J	
Weight	Empty	4.85 kg	ROF	SS	2
	Loaded	5.55 kg		MB	
Length	900 mm			Burst	3
Range	Effect.	500 m		Auto	150
	Max.			Cyclic	650
Notes					

Weapon	Steyr AUG HBAR-T				
Manufacturer	Steyr		Year	1984-	
Nation	Austria				
Caliber	5.56mm SS109		Mags	30, 42	
Accuracy	Group	12cm @ 400m		MOA	
	Kill				
Velocity	958 m/s		Energy	1814 J	
Weight	Empty	5.4 kg	ROF	SS	2
	Loaded	6.12 kg		MB	
Length	900 mm			Burst	3
Range	Effect.	600 m		Auto	150
	Max.			Cyclic	650
Notes					

Weapon	Steyr AUG 9mm SMG				
Manufacturer	Steyr		Year	1982-	
Nation	Austria				
Caliber	5.56mm SS109		Mags	30	
Accuracy	Group	5.3cm @ 50m		MOA	
	Kill				
Velocity	400 m/s		Energy	445 J	
Weight	Empty	3.3 kg	ROF	SS	2
	Loaded	3.92 kg		MB	
Length	690 mm			Burst	3
Range	Effect.	200 m		Auto	150
	Max.			Cyclic	650
Notes					

Weapon	Steyr USR				
Manufacturer	Steyr		Year	1997	
Nation	Austria				
Caliber	5.56mm M198		Mags	30	
Accuracy	Group	47 cm @ 400m		MOA	
	Kill				
Velocity	931 m/s		Energy		
Weight	Empty	3.6 kg	ROF	SS	2
	Loaded	4.1 kg		MB	
Length	805 mm			Burst	-
Range	Effect.	450 m		Auto	-
	Max.			Cyclic	-
Notes					

Rifle model of 1977) and entered service in 1978. The rifle was essentially as it is today, sporting a 20 inch long, 1-in14 twist barrel and Steyr's proprietary 30 round magazines and lacking the bayonet lug that became common once the rifle began selling to the militaries of Australia, New Zealand, Ireland, Oman, Malaysia, and Saudi Arabia. Australia and Malaysia both now produce the AUG under license. By the early 1980's, the rifle was forced to update to the new NATO standard 5.56mm ammunition, the SS109. This change brought about the bayonet lug as a standard and replaced the old barrel with a new 20 inch 1-in-9 twist barrel. Interestingly enough, this barrel twist is not considered optimal for the SS109 anywhere but at Steyr. The 1-in-9 twist is considered the best tradeoff between the 1-in12 twist needed by the M198 cartridge and the 1-in-7 twist needed for the SS109. This new Steyr was designated as the AUG A1. The Steyr A2 is the latest version of the basic rifle, released in 1997. It addresses NATO standardization more fully by altering the rifle with the quick change carry handle for a wider range of optics choices and by altering the rifle to accept STANAG compliant M16 style magazines as well as the AUG's own proprietary plastic magazines. The shape of the rifle is also slightly altered to improve ergonomics.

Along with these three core rifles, Steyr made good use of the modularity of the rifle. Steyr then introduced a 16 inch barrel for the AUG, creating the AUG-P carbine. An even shorter barrel of 14 inches length resulted in the AUG SMG.Finally, they introduced a 24 inch, cold-hammer-forged heavy barrel complete with a light tripod, creating the AUG H-BAR, a Light Support Weapon variant of the rifle. With the H-Bar, the company also began producing new magazines with a capacity of 42 rounds. New copies of these weapons are built on a base of the current version of the base AUG. This means that from 1982 to 1984, these rifles were built from the AUG, 1984 to 1996 they were built from the AUG A1, and from 1997 on, they were built from the AUG A2.

From these secondary variants, Steyr continued evolving the rifle. The Steyr AUG HBAR-T takes the Light Support Weapon variant of the rifle and adds the Kahles ZF69 6x telescopic sight (commonly used on the Steyr SSG rifle), producing the first sniper variant of the rifle. The next tertiary variant was a visit upon the SMG format rifle, providing a conversion kit to make the rifle an actual 9mm SMG. Steyr also sells the rifle prebuilt in this format, since there are not many who have a need to regularly convert the rifle back and forth between 9mm and 5.56mm formats.

There is one last version of the Steyr AUG to detail, and that is the Steyr USR (Universal Sporting Rifle). The USR is essentially an AUG that has been modified extensively in order to allow the rifle to be sold inside the United States after the federal ban and assault weapons. The AUG was banned in the United States in 1989, along with some 40 other weapons identified on a list of weapon with "military features" or a "criminal Background", like the Street Sweeper and MAC-10. Thus, the AUG was banned for import into the U.S. even though it had been associated with one crime within the United States since the rifle's inception in 1978. Nearly ten years after this ban, Steyr modified the rifle to fit the definition of a sporting rifle and managed to get 3,000 copies of the rifle into the United States before Clinton expanded the Assault Weapon Ban's banned weapon list in 1997.

STEYR AUG

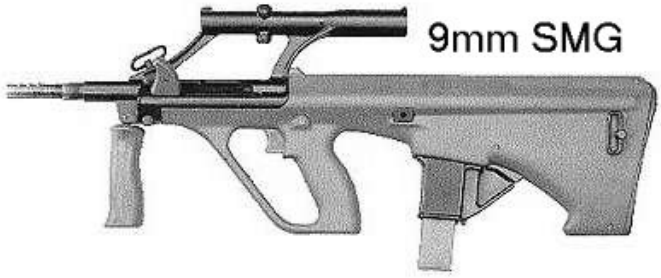
AUG

AUG-A1

AUG-P

AUG-HBAR

AUG HBAR-T



9mm SMG

STEYR AUG

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Steyr AUG	AR	-1	T	L	5.56 N	0	30	2 [SS], 3 [AB], 10 [A], 32 [C]	VR	450	3.8	4.3	$670
Steyr AUG A1	AR	-1	T	L	SS109	0	30		VR	450	3.8	4.3	$735
Steyr AUG A2	AR	-1	T	L	SS109	0	30		VR	450	3.8	4.3	$735
Steyr AUG-P Carbine	AR	-2	T	L	SS109	0	30		VR	400	3.6	4.1	$694
Steyr AUG HBAR	AR	+5	N	M	SS109	0	42		VR	500	4.85	5.55	$781
Steyr AUG HBAR-T	SN	-2	N	M	SS109	0	42		VR	600	5.4	6.12	$1200
Steyr AUG 5.56mm SMG	SMG	+5	T	L	SS109	0	30		VR	350	3.55	4.05	$650
Steyr AUG 9mm SMG	SMG	+6	T	L	9mm P	0	30		VR	200	3.3	3.92	$650
Steyr USR	BR	-1	T	C	SS109	0	30	2 [SS]	VR	450	3.8	4.3	$700
Special Rules	9mm SMG conversion kit can be bought separately for $250												

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
Steyr AUG	2d10	20	Ballistic	150	SA, A	30,42	Med	9.5	16	Res (+2)
Steyr AUG A1	2d8	20	Ballistic	150	SA, A	30,42	Med	9.5	16	Res (+2)
Steyr AUG A2	2d8	20	Ballistic	150	SA, A	30,42	Med	9.5	16	Res (+2)
Steyr AUG-P Carbine	2d8	20	Ballistic	130	SA, A	30,42	Med	9	16	Res (+2)
Steyr AUG HBAR	2d8	20	Ballistic	165	SA, A	30,42	Med	12.5	17	Res (+2)
Steyr AUG HBAR-T	2d8	20	Ballistic	200	SA, A	30,42	Med	13.5	18	Mil (+3)
Steyr AUG 5.56mm SMG	2d8	20	Ballistic	115	SA, A	30,42	Med	9	16	Mil (+3)
Steyr AUG 9mm SMG	2d6	20	Ballistic	65	SA, A	30,42	Med	9	16	Res (+2)
Steyr USR	2d8	20	Ballistic	150	SA	30,42	Med	9.5	16	Lic (+1)
Special Rules	9mm SMG conversion kit can be bought separately for Purchase DC of 13.									

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Steyr AUG	30, 42	SA, A, C	Fair	Fair	4	$670	
Steyr AUG A1	30, 42	SA, A, C	Fair	Fair	4	$735	
Steyr AUG A2	30, 42	SA, A, C	Fair	Fair	4	$735	
Steyr AUG-P Carbine	30, 42	SA, A, C	Fair	Mediocre	4	$694	
Steyr AUG HBAR	30, 42	SA, A, C	Good	Mediocre	4	$781	
Steyr AUG HBAR-T	30, 42	SA, A, C	Fair	Great	4	$1200	Scoped
Steyr AUG 5.56mm SMG	30, 42	SA, A, C	Superb	Great	4	$650	
Steyr AUG 9mm SMG	25, 32	SA, A, C	Superb	Superb	3	$650	
Steyr USR	30, 42	SA	Fair	Fair	4	$700	
Special Rules	9mm SMG conversion kit can be bought separately for $250						

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
Steyr AUG	5d6+2	P/L	0	0	3	450	2/32	30, 42	4.3	$670	
Steyr AUG A1	5d6	P/L	0	0	3	450	2/32	30, 42	4.3	$735	
Steyr AUG A2	5d6	P/L	0	0	3	450	2/32	30, 42	4.3	$735	
Steyr AUG-P Carbine	5d6	P/L	-1	0	3	400	2/32	30, 42	4.1	$694	
Steyr AUG HBAR	5d6	P/L	-1	-1	3	500	2/32	30, 42	5.55	$781	
Steyr AUG HBAR-T	5d6	P/L	+2	-2	3	600	2/32	30, 42	6.12	$1200	
Steyr AUG 5.56mm SMG	5d6	P/L	+2	+4	3	350	2/32	30, 42	4.05	$650	
Steyr AUG 9mm SMG	3d6+2	P/L	+3	+4	2	200	2/32	25, 32	3.92	$650	
Steyr USR	5d6	P/L	0	0	3	450	2	30, 42	4.3	$700	
Special Rules:	9mm SMG conversion kit can be bought separately for $250										

WINCHESTER M-1 CARBINE

After the M-1 rifle had begun manufacturing and started entering service, AUSA (Army of the United States) set forth requirements for a lightweight and compact shoulder arm to replace the M1911 as the standard firearm of second-line troops. Issued in 1938, the goal of the requirements was to find a carbine style weapon that fired a ammunition of moderate power, with an effective range and simpler use than the standard issue pistols and revolvers currently provided to those troops. And yes, you guessed it. 1938 was the year in which the militaries of the world began to recognize the need for a weapon that would lead to the Personal Defense Weapon concept of the 1990's. However, the request was shelved until 1940 as the country began to recognize the possibility of entering into the Second World War.

Once the request was reissued, the decision quickly came to use the M1 cartridge developed by Winchester. The M1 cartridge was essentially a cut down .30-06 round using a 110 grain roundnose bullet. Amusingly, when the Army adopted this new cartridge, the M1 Garand was still initially showing itself as a very poor rifle, leading to speculation that the new M1 cartridge was selected for the M1 Garand since the rifle wasn't capable of handling the far more powerful .30-06 M2 cartridges. The M1 cartridge would provide the M1 carbine with an effective range of 200 meters, well beyond that of any service sidearm.

A wide range of rifles were submitted in competition for the Army's selection, but in the end, the designer of the munition was produced the winning rifle design. The rifle was designed by David Williams, who did much of the work prior to the competition while serving prison time for moonshining. The rifle was quickly rushed into production with Winchester delivering the first carbines in July, 1942. Over the next three years, roughly six million M1 carbines were produced for the US military, manufactured by up to nine companies simultaneously, at a cost of roughly $100 per unit. After the war ended, only Winchester continued producing the rifle, as well as developing variants that would see service in Korea and Vietnam. In post-war Europe, both West Germany and France used the M1 carbine in their armies until the M1s were replaced by their own rifles, including the G3 and the MAS Mle. 49. A vast number of surplus rifles were also sold on the civilian market during the post-war years as well, for as little as $20 per unit. These same surplus rifles, having been on the civilian market for as much as 55 years, now sell at roughly $350 to $600 each, depending upon the quality and model.

During World War II, the M1 proved to be an invaluable asset for jungle warfare in the Pacific theater, even if it did not possess the selective fire function that had originally been slated for it. It was a relatively reliable rifle, compact, lightweight and handy compared to other rifles available at the time, and the 15-round detachable magazines offered almost twice the capacity of the M1 Garand rifles. Along with the M1, the M1A1 was also available for airborne troops, which was fitted with a pistol grip and a folding metal buttstock.

Weapon	US Carbine, Caliber .30, M1			
Manufacturer	Winchester		Year	1942-1957
Nation	United States			
Caliber	7.62x33mm M1		Mags	15 (or 30)
Accuracy	Group	93 cm @400 m	MOA	
	Kill			
Velocity	606 m/s		Energy	967 ft-lbs
Weight	Empty	2.48 kg	ROF	SS 40
	Loaded	2.95 kg		MB -
Length	905 mm			Burst -
Range	Effect.	200 m		Auto -
	Max.			Cyclic -
Notes				

Weapon	US Carbine, Caliber .30, M1A1			
Manufacturer	Winchester		Year	1942-1957
Nation	United States			
Caliber	7.62x33mm M1		Mags	15 (or 30)
Accuracy	Group	93 cm @400 m	MOA	
	Kill			
Velocity	606 m/s		Energy	967 ft-lbs
Weight	Empty	2.48 kg	ROF	SS 40
	Loaded	2.95 kg		MB -
Length	905 mm			-
Range	Effect.	200 m		Auto -
	Max.			Cyclic -
Notes				

Weapon	US Carbine, Caliber .30, M2			
Manufacturer	Winchester		Year	1950-1957
Nation	United States			
Caliber	7.62x33mm M1		Mags	15 or 30
Accuracy	Group	78 cm @400 m	MOA	
	Kill			
Velocity	606 m/s		Energy	967 ft-lbs
Weight	Empty	2.48 kg	ROF	SS 40
	Loaded	2.95 kg		MB -
Length	963 mm			Burst -
Range	Effect.	300 m		Auto 100
	Max.			Cyclic 700
Notes				

Weapon	US Carbine, Caliber .30, M3			
Manufacturer	Winchester		Year	1952-1957
Nation	United States			
Caliber	7.62x33mm M1		Mags	15 or 30
Accuracy	Group	36cm @400m	MOA	
	Kill			
Velocity	606 m/s		Energy	967 ft-lbs
Weight	Empty	2.48 kg	ROF	SS 40
	Loaded	2.95 kg		MB -
Length	963 mm			Burst -
Range	Effect.	300 m		Auto 100
	Max.			Cyclic 700
Notes				

As the Korean War progressed, the M2 carbine was introduced, providing the selective fire feature that had been omitted in the rush to get the M1 carbine into service during WW2. The M2 could fire up to 700 rounds per minute and utilized a larger 30-round magazine that was interchangeable with the 15-round magazine from the M1 carbine. The final version of the carbine was the M3, which also appeared during the Korean War. The M3 was a modified M2 fitted with special mounts that enabled it to accept infrared night vision sighting equipment, making it one of the earliest night fighting sniper rifles, even if the range was lousy. The M2 was issued to NCOs and officers in combat units, leaving the average grunts to use M1 Garand rifles, M1 carbines, and for the lucky few to carry the SAW, the Browning Automatic Rifle.

Over the course of WW2, the M1 carbine series shocked US troops with its reliability and capability in the hot jungles of the south Pacific. And during the Korean War, the carbine shocked US troops again, this time with its unreliability. The extreme winter conditions on the Korean Peninsula seemed to weaken the smaller components of the M1 carbine and other light weapons, resulting in seizures, breakages, and other failures of the weapons. One cure for the problem came in the form of lubricating the rifles with alcohol-based hair tonics. The second failure of the carbine during the Korean winters was the performance of the underpowered 7.62x33mm cartridge, which often failed to penetrate the thick, heavy winter uniforms worn by both North Korean and Chinese troops involved in the conflict.

However, the M1 carbines were not always so underpowered. For a brief period, they were manufactured to fire the 5.7mm Johnson cartridge. This was a necked-down .30 case that fired a lightweight .22 bullet at a muzzle velocity in excess of 2,000 fps (610+ m/s), producing

WINCHESTER M-1 CARBINE

a round that would have been roughly equivalent in punch to the “new” 5.7mm HV rounds produced by FN Herstal for their Five-seveN pistol and P90 PDW, but with an extended range. The .30 carbine cartridge also turns quite brutally effective when firing an expanding type bullet, like a hollowpoint.

Like the M1 Garand rifle, the M1 carbine had a number of problems that required resolutions over the weapon’s production lifespan. The first of these problems was relatively major and quite dangerous to the troops. On all M1 carbines and variants, the safety is located on the front part of the trigger guard. On the first production run, the safety was a cross-bolt push button that could easily be confused in the heat of battle with the magazine release button that was located right next to it. Soldiers died trying to unjam carbines that were simply safetied. The problem was quickly resolved by switching to a lever style safety switch. The sights on the rifle were also problematic. Until 1948, a leaf type sight was used that offered two settings at 150m and 300m and no ability to adjust for windage. In late 1948, the rear sight was replaced with a ramp type sight that was completely adjustable for elevation and windage.

As things currently stand, the M1 carbine was almost the first assault rifle. It utilized high capacity detachable magazines in order to support a high volume of fire, and had a few months initially been spent to add selective fire capacity in 1942, the M1 carbine may very well have stolen the spotlight from the German SturmGevehr-44 as the first assault rifle. Unfortunately, the selective fire feature wasn’t added until well after the end of World War II and the pitiful performance in range and penetration of the 7.62 x 33mm M1 cartridge even kept the M2 carbine from being considered the first assault rifle in service to the United States, a weapon US troops would have to wait almost two decades for. However, with the recent wave of short range assault rifles developed over the last 15 years, the M1 carbine very well could soon usurp the title of “The World’s First Assault Rifle” away from the StG-44, thanks to those shorter ranges and the advent of smaller caliber rifle ammunitions. Like the M1C and M1D rifles, the M3 carbines managed to serve as sniper weapons until the early years of the Vietnam War. The M1 and M2 carbines also served well into the 1960’s as the primary weapon of many second-line troops, right up until the M16 was adopted to directly replace it.

After the end of its military service, the M1 carbines continued to be manufactured by the gun manufacturer Iver Johnson. These last M1 carbines, manufactured for civilian sales, were chambered to 9mm Luger/Parabellum, which when fired down a 16 inch barrel, is only slightly less effective than the 7.62x33mm M1 cartridge.

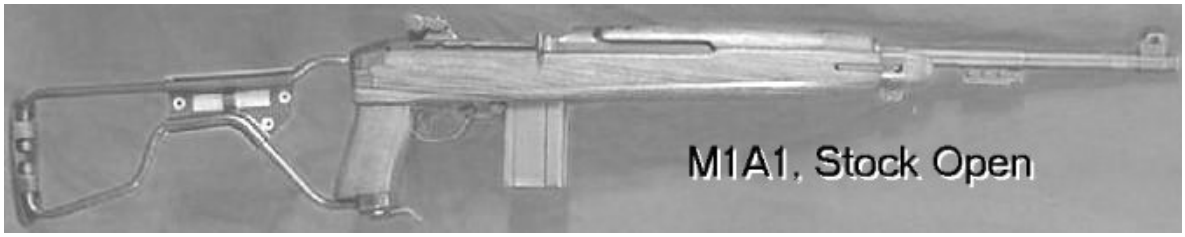
Overall, US manufacturers produced 5,510,000 M1 carbines, 150,000 M1A1 carbines, 570,000 M2 carbines, and 2,100 M3 carbines. When issued to US troops, the carbine often came with an M4 sawblade bayonet, a sling & oiler, a canvas rifle bag, a magazine pouch bandolier that held 12 15-round magazines, and a pouch that strapped to the buttstock to hold an additional 2 15-round magazines on the rifle itself. During the Korean war, those with M2s were outfitted the same, but with 30-round magazines. So the grunt carried 15 magazines for a total of 225 rounds of ammunition, while the NCOs and officers carried 450 rounds. Metal magazine cinch clips were also available, allowing a pair of magazines to be strapped together side-by-side. Currently, after-market manufacturers produce magazines for the M1 carbines of 5, 10, 20, 30 and 40 round capacities.


M1 Carbine, Left Side


M1 Carbine, Right Side


M1 w/ Mag Pouch

WINCHESTER M-1 CARBINE



WINCHESTER M-1 CARBINE

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
M1 Carbine	BR	-4	T	O	M1 .30	0	15	2 [SS]	ST	200	2.48	2.95	$100
M1A1 Carbine	BR	-4	T	O	M1 .30	0	15	2 [SS]	ST	200	2.48	2.95	$100
M2 Carbine	BR	-5	T	O	M1 .30	0	15, 30	2 [SS], 5	ST	300	2.48	2.95	$140
M3 Carbine	SN	0	T	O	M1 .30	0	15, 30	[AB], 35 [C]	ST	300	2.48	2.95	$160
Special Rules	M1 and M1A1 @WW2, M2 & M3 prices @Korean War.												

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight [lb]	Purchase DC	Restriction
M1 Carbine	2d8	20	Ballistic	65	SA	15	Med	6.5	10	Lic (+1)
M1A1 Carbine	2d8	20	Ballistic	65	SA	15	Med	6.5	10	Lic (+1)
M2 Carbine	2d8	20	Ballistic	100	SA, A	15,30	Med	6.5	11	Lic (+1)
M3 Carbine	2d8	20	Ballistic	100	SA, A	15,30	Med	6.5	11	Lic (+1)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
M1 Carbine	15	SA, A, C	Poor	Terrible	4	$100	
M1A1 Carbine	15	SA, A, C	Poor	Terrible	4	$100	
M2 Carbine	30	SA, A, C	Mediocre	Poor	4	$140	
M3 Carbine	30	SA, A, C	Poor	Fair	4	$160	Scoped
Special Rules	Prices circa WW2						

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
M1 Carbine	4d6+2	P/L	-3	-2	3	200	3	15	2.95	$100	
M1A1 Carbine	4d6+2	P/L	-3	-2	3	200	3	15	2.95	$100	
M2 Carbine	4d6+2	P/L	-2	-1	3	300	2/35	15, 30	2.95	$140	
M3 Carbine	4d6+2	P/L	0	-4	3	300	2/35	15, 30	2.95	$160	
Special Rules:											

XM8 LIGHTWEIGHT ASSAULT RIFLE

Weapon	XM-8 Light Assault Rifle				
Manufacturer	Heckler & Koch		Year	1994-	
Nation	United States				
Caliber	5.56 x 45mm NATO		Mags	30	
Accuracy	Group			MOA	
	Kill				
Velocity	991 m/s w M193, 948 m/s w SS109.		Energy		
Weight	Empty	2.7 kg	ROF	SS	40
	Loaded	3.1 kg		MB	-
Length				Burst	-
Range	Effect.	600m		Auto	300
	Max.			Cyclic	850
Notes					

In 2002, as development of the XM-29 SABR continued, the US Army decided to explore the possibilities of developing the kinetic energy weapon portion of the XM29 as a stand-alone weapon. The resulting modified weapon shows a great deal of promise as a replacement for the aging stockpiles of M16A2 rifles and M4A1 carbines currently in service.

At the current schedule (and for once, it seems the Army has found a weapon that is developing on time, rather than years behind schedule), the rifle should be ready to enter production by no later than 2005, and once adopted as the M8, should become a standard next generation assault rifle for the US Army.

The rifle will be fully compliant with all NATO standard and US standard 5.56 x 45mm ammunition, as well as firing a new ammunition being developed specifically for the rifle. This new ammunition is designed to further lighten a soldier's load, using new propellants, and a composite cartridge case manufactured from a brass base plate and polymer walls. This ammunition will probably also use the new nylon-cored green bullets the US Army has been developing. This, along with the 20% reduction in rifle weight in comparison to the M4A1, should be greatly favored by US troops who have been weighed down over recent years with protective gear, communications equipment, and other battlefield supplies.

The XM8 is a derivative of the KE component of the XM29, which is in turn a derivative of the H&K G36 assault rifle. The XM29 KE component differs from the G36 mainly in its different housing style and the compatibility with M16 magazines. The XM8 differs from this with the inclusion of a telescoping plastic buttstock, four picatinny rails on the forearm, and a carry handle, which seems to hold both a short picatinny rail at the front and from the photos, the rear of the carry handle mounts either a basic optical scope or a mounting block for the OICW FCS. And yes, those forearm rails mean you'll eventually see XM8s mounting M203Pis rather than being slung beneath the XM29. The XM-8 also varies from the XM29 KE component in its lack of a burst limiter.

Currently, there are not a lot of details available about the XM8, just the vague details provided in this article and a single press op photo. The many of the details provided are extrapolated from the G36 assault rifle, upon which the XM8 is ultimately based upon.

XM8 LIGHTWEIGHT ASSAULT RIFLE

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
HK XM-8 Lightweight Assault Rifle	RIF	+2	J	M, E	M995	0	30	2 [SS] 15 [A], 42 [C]	VR	600m	2.7	3.1	$1,000
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
HK XM-8 Lightweight Assault Rifle	2d8	20	ballistic	200	SA,A	30	Md	6 lb	18	Mil (+3)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
HK XM-8 Lightweight Assault Rifle	30	SA, A, C	Good	Good	5	$1,000	Well-made
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
HK XM-8 Lightweight Assault Rifle	5d6+2	P/L	+1	+1	3	600	2/42	30	3.1	$1000	
Special Rules:											

Z.M. LUCZNIK WZ. 88 - WZ. 91, WZ. 96

As with most Warsaw Pact nations, Poland eventually found it very undesirable to rely on the Russian-manufactured weapons supplied for its military by the USSR. I suppose this fact could be seen as an early indicator to the fall of communism; after all, a nation only wishes to manufacture the weapons for its own military for one of two reasons. Either they expect to save money by making the weapons inside their own borders, or they expect to one day enter into armed conflict with the nation that provides their current generation of military hardware.

Anyway, this desire to have their own weapons lead the Polish military to a weapon project known as Tantal in order to produce their own "M-16 generation" of small-caliber long arms. The development of the Tantal began in the 1970's when the Polish military issued requirements for a 5.45mm gas operated assault rifle capable of firing 3-round bursts as well as the capacity to fire rifle grenades. Designers started with an AK-74 and then reworked the entire weapon with their own original solutions, resulting in the wz. 88 Tantal, which underwent two years of filed trials before being adopted by the Polish Army in 1990. Simultaneously, the Polish Army also adopted the shorter carbine version, the wz. 89 Onyks.

Externally, the rifle resembles the AK-74 that the designers started with. The AK-74's large safety/selector lever is merely a safety on the wz.88, while a separate three position selector switch is added to the left side of the receiver. The mainspring rod is modified to prevent the rod cover from falling off when firing rifle grenades. The muzzle brake has been modified as well to facilitate the use of rifle grenades. The adjustable sights can be set for ranges from 10 to 1000 meters, and are tritium complimented. A number of the weapons also include a side mounting plate for optics. The rifle is capable of mounting a wz. 1974 pallad 40mm grenade launcher. A literal handful of a few parts, namely the bolt, bolt carrier and magazines, are even interchangeable with the AK-74.

Designed as a compact rifle better suited for close quarters combat, the wz.89 externally resembles the AK-74U and AKR. Like the wz. 88, the weapon is made of a stamped sheet metal receiver and has a new trigger mechanism with separated switched for the safety and fire selector. The muzzle brake is adapted to allow the firing of rifle grenades, the prototype versions are in circulation that have a muzzle device identical to that of the AK-74U. A further differentiation between prototypes and production models is the repositioning of the rear sight from the receiver cover (as it is with the AK-74U) to the rear of a mounting rail on the wz. 89. This change in the rear sight occurred in mid-production to implement design features that were being integrated with the developing wz. 96 Beryl.

Unfortunately, with the fall of communism occurring on a massive scale in this timeframe, these two rifles were doomed to very short lives. Poland quickly became a NATO member, leading to a need for a weapon compliant with at least NATO's range of small arms munitions, if not STANAG compliant for accessories and components as well. This lead to the stopgap measure of simply redesigning the rifles to use NATO's 5.56mm ammunition, resulting in the wz.90 Tantal and wz.91 Onyks rifles. And as a stopgap measure, the wz.90 and wz.91 were rejected by the Polish military, viewed as stopgap measures that were not sufficient for Poland's long-term needs.

Weapon	wz.88 Tantal			
Manufacturer	Z.M. Lucznik	Year	1990-1997	
Nation	Poland			
Caliber	5.45x39mm Bloc	Mags	30	
Accuracy	Group		MOA	
	Kill			
Velocity	880 m/s	Energy		
Weight	Empty	3.4 kg	ROF	SS 40
	Loaded	3.9 kg		MB 3
Length	943 mm, 742mm folded			Burst -
Range	Effect.	600 m		Auto 200
	Max.			Cyclic 700
Notes				

Weapon	wz. 89 Onyks			
Manufacturer	Z.M. Lucznik	Year	1990-1997	
Nation	Poland			
Caliber	5.45 x 39mm Bloc	Mags	30	
Accuracy	Group		MOA	
	Kill			
Velocity	700 m/s	Energy		
Weight	Empty	2.9 kg	ROF	SS 40
	Loaded	3.4 kg		MB 3
Length	720 mm, 519mm folded			Burst -
Range	Effect.	470 m		Auto 200
	Max.			Cyclic 700
Notes				

Weapon	wz. 90 Tantal			
Manufacturer	Z.M. Lucznik	Year	1993-1995	
Nation	Poland			
Caliber	5.56 x 45mm SS-109	Mags	30	
Accuracy	Group		MOA	
	Kill			
Velocity	900 m/s	Energy		
Weight	Empty	3.4 kg	ROF	SS 40
	Loaded	3.9 kg		MB 3
Length	943 mm, 742mm folded			Burst -
Range	Effect.	650 m		Auto 200
	Max.			Cyclic 700
Notes				

Weapon	wz. 91 Onyks			
Manufacturer	Z.M. Lucznik	Year	1993-1995	
Nation	Poland			
Caliber	5.56 x 45mm SS-109	Mags	30	
Accuracy	Group		MOA	
	Kill			
Velocity	710 m/s	Energy		
Weight	Empty	2.9 kg	ROF	SS 40
	Loaded	3.4 kg		MB 3
Length	720 mm, 519mm folded			Burst -
Range	Effect.	470 m		Auto 200
	Max.			Cyclic 700
Notes				

The wz.96 Beryl was the weapon that resulted from the military's call for a weapon with even more compatibility with NATO standards. The weapons adopted by the Polish military in 1996 were the kbs wz. 96 Beryl rifle and the kbk wz. 96 Mini-Beryl carbine. The biggest change has been the removable optics rail atop the receiver and a new, stronger folding stock. They also include new muzzle brakes designed for use with both older rifle grenades as well as the new ones designed to be fired with standard ball ammo (you don't always have a blank in your pocket for the old ones). The rifle also has a new gray plastic foregrip with integrated mount for the wz. 74 grenade launcher. Protective goggles are required when firing rifle grenades with the carbine, due to the dangerous amount of unburned gasses leaving the short barrel. The signature underbarrel cleaning rod of the AK family of weapons is missing as well. These weapons are entering service with the Polish military and will eventually replace all AK/AKM, Tantal and Onyks weapons. The latest improvements slated for the wz.96 rifles revolve around greater NATO compliance, such as STANAG magazine compatibility and mounting rails for NATO optical equipment.

The rifles ships with 4 30-round magazines of either steel or plastic construction, a bayonet identical to that of the AKM, a sling, a blank-firing adapter for rifle grenades, canvas magazine pouch, magazine loader, 4 loaded 15-round loading strips and cleaning gear. The wz.

Z.M. LUCZNIK WZ. 88 - WZ. 91, WZ. 96

Weapon		kbs wz.96 Beryl			
Manufacturer	Z.M. Lucznik		Year	1997-	
Nation	Poland				
Caliber	5.56 x 45mm SS-109		Mags	20, 30	
Accuracy	Group			MOA	
	Kill				
Velocity	920 m/s		Energy		
Weight	Empty	3.4 kg	ROF	SS	40
	Loaded	3.9 kg		MB	3
Length	943 mm, 742mm folded			Burst	-
Range	Effect.	650 m		Auto	200
	Max.			Cyclic	700
Notes					

Weapon		kbk wz.96 Mini-Beryl			
Manufacturer	Z.M. Lucznik		Year	1997-	
Nation	Poland				
Caliber	5.56 x 45mm SS-109		Mags	20, 30	
Accuracy	Group			MOA	
	Kill				
Velocity	770 m/s		Energy		
Weight	Empty	3.05 kg	ROF	SS	40
	Loaded	3.55 kg		MB	3
Length	730 mm, 525mm folded			Burst	-
Range	Effect.	470 m		Auto	200
	Max.			Cyclic	700
Notes					

88 is still in service with the Polish army, but is in the process of being replaced with the wz. 96 Beryl. 5.45mm ammunition is no longer manufactured in Poland, so remaining 5.45mm weapons are being cycled into use as training weapons until the existing 5.45mm ammunition stockpiles are exhausted.

The last prototype of this weapon family is a light machinegun similar to the Russian RPKS-74. However, this LMG never made it to field trials, let alone production and only a handful of retired prototypes exist.

Z.M. LUCZNIK WZ. 88 - WZ. 91, WZ. 96

Cyberthriller

Weapon	Type	ACC	Con	Av	Caliber	DM	Ammo	Rate of Fire	Rel	Effect. Range (meters)	Weight Empty (kg)	Weight Loaded (kg)	Cost
Wz. 88 Tantal	AR	-2	T	M,O	5.45 B	0	30	2 [SS], 3 [MB], 35 [A]	ST	600	3.4	3.9	$550
Wz. 90 Tantal	AR	-2	T	M,O	5.56 N	0	30		ST	600	3.4	3.9	$600
Wz. 89 Onyks	AR	-3	T	M,O	5.45 B	0	30		ST	600	2.9	3.4	$520
Wz. 91 Onyks	AR	-3	T	M,O	5.56 N	0	30		ST	600	2.9	3.4	$550
Kbs wz. 96 Beryl	AR	0	T	M,O	5.56 N	0	30		ST	600	3.4	3.9	$720
Kbk wz. 96 Beryl	AR	-2	T	M,O	5.56 N	0	30		ST	600	3.05	3.55	$670
Special Rules													

D20 System

Weapon	Damage	Critical	Damage Type	Range Increment	Rate of Fire	Mag	Size	Weight	Purchase DC	Restriction
Wz. 88 Tantal	2d8	20	ballistic	200	SA, A	30	Lrg	9 lb	16	Mil (+2)
Wz. 90 Tantal	2d10	20	ballistic	200	SA, A	30	Lrg	9 lb	16	Mil (+2)
Wz. 89 Onyks	2d8	20	ballistic	200	SA, A	30	Med	8 lb	15	Mil (+2)
Wz. 91 Onyks	2d10	20	ballistic	200	SA, A	30	Med	8 lb	15	Mil (+2)
Kbs wz. 96 Beryl	2d10	20	ballistic	200	SA, A	30	Lrg	9 lb	16	Mil (+2)
Kbk wz. 96 Beryl	2d10	20	ballistic	200	SA, A	30	Med	8 lb	16	Mil (+2)
Special Rules										

FUDGE

Weapon	Shots	Rate of Fire	Range	Accy	Dmg	Cost	Notes
Wz. 88 Tantal	30	SA, B, A	Good	Fair	4	$550	
Wz. 90 Tantal	30	SA, B, A	Good	Fair	4	$600	
Wz. 89 Onyks	30	SA, B, A	Good	Mediocre	4	$520	
Wz. 91 Onyks	30	SA, B, A	Good	Mediocre	4	$550	
Kbs wz. 96 Beryl	20,30	SA, B, A	Good	Fair	4	$720	
Kbk wz. 96 Beryl	20,30	SA, B, A	Good	Mediocre	4	$670	
Special Rules							

Action!

Weapon	Dmg	Type	Acc	Rmod	STR Min	Max Rng	RoF	Amm	Wt	Cost	Notes
Wz. 88 Tantal	4d6+2	P/L	+1	+1	3	600	4/3/35	30	3.9	$550	
Wz. 90 Tantal	5d6+2	P/L	+1	+1	3	600	4/3/35	30	3.9	$600	
Wz. 89 Onyks	4d6+2	P/L	+1	0	3	600	4/3/35	30	3.4	$520	
Wz. 91 Onyks	5d6+2	P/L	+1	0	3	600	4/3/35	30	3.4	$550	
Kbs wz. 96 Beryl	5d6+2	P/L	+1	+1	3	600	4/3/35	30	3.9	$720	
Kbk wz. 96 Beryl	5d6+2	P/L	+1	0	3	600	4/3/35	30	3.55	$670	
Special Rules:											

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The D20 Open Content consists of :
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"Applying Data to Games, Converting to the D20 Modern Roleplaying Game ", pages 16-18.
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ALTERNATE REALITIES PUBLICATIONS CATALOG

Big Bang: The Mostly Illustrated RPG Guide to Modern Weapons

Big Bang is the ultimate RPG guide to firearms. Providing factual data on the weapons presented, Big Bang provides statistics for a number of royalty-free, licensed game systems. Free conversion rules are available for other game systems. Big Bang is published in a datasheet format for the ultimate organizational convenience. Available as a semi-regular PDF publication online (available now) or as an annual CD-ROM product in stores (newest annual edition available each October).

CyberThriller

Welcome to the new mecca of Cyberpunk. CyberThriller is an excellent new game presenting three timelines; the modern era of Now, then steps into the future of 2025, and makes its third stop in 2050. Come visit this forboding world filled with corporate scandal, intrigue, terrorism, revolution, and more. Available Summer 2003.

Modern Supernatural

For thousands of years, they have walked amongst us. They are a step ahead of us, people with unique talents and gifts that make the devoted quake in their boots. For centuries, those gifted people have been hunted by the devout, labeled as witches. In this modern era, the hunters have become a truly organized force to contend with, feared by the witches and the law alike. Are you one of the hunters or the hunted? Available Winter 2004.

Neo-City Sourcebook

Originally designed as a fan-contributed online sourcebook for the now-dead Cyberpunk 2020 game system, this entire book has been refashioned to fit into Cyberthriller as it's premiere site for cyberpunk subterfuge. Includes an appendix providing Cyberpunk 2020 data for use with that game system. Available Summer 2003.

Neo-City Adventures

What good is a city without some adventure to make it interesting? This portfolio of adventures all take place in Neo-City. Includes bonus material expanding the Neo-City Sourcebook. Available Winter 2004.

Brush Wars

Welcome to the military. The age of epic warfare and grand battles has come to an end. These days all conflicts seem to be "low intensity", a struggle between small opposing forces on a scale that was once considered a mere ambush or skirmish. These days five or ten men can handle the job done 30 years ago by an entire platoon or 60 years ago by an entire company of troops. Release date TBA.

Black Book of Terrorism

We now live in a world where acts of terrorism happen daily, on scales both large and small. This book provides both historical and technical reference, as well as thoughts and theories on both terror and countering it. Available Fall 2003.

MAD Grafitti

Welcome to the world of special operations police units. Originally, there was SWAT, the original police special ops unit formed back in the 1960's, trained in the tactics of storming a building and dealing with heavily armed criminals. With the new millenium came ESWAT, a new police special ops unit designed to face new threats and cross-trained with the military to handle terrorism and weapons of mass destruction, as well as the usual SWAT duties. Now comes the latest evolution in police special ops, MAD, the Miscreant Apprehension Division, the cops trained to deal with the worst threat of all, rogue cyborgs and robots. Release date TBA.

Edge Road

Edge Road is the Guide to the Cutting Edge. An irregularly published series for Modern, Technothriller and Cyberpunk genre games, this book follows technological trends, scientific discovery, and gadgets & gimmicks, presenting them in a manner that makes them useful to the game. As with Big Bang, Edge Road will be a multi-system guide to all things technological. Available Fall 2003.

Boomtown

Welcome to the land of concrete canyons and gang warfare. Take a trip to a cyberpunk Los Angeles and see what the city may look like after the Big One. Release date TBA.

PCM - The Philadelphia-Camden Metroplex

Welcome to my hometown area. Nothing beats the feel of a book written by the locals. Come take a look at the city that has quietly become the center of the biochemistry industry and working hard to become a core for internet technology industries. Release date TBA.

Rabid Helix

What happens when genetic engineering goes astray? The residents of Neo-City will find out and no one, be they residents of the corporate tower fortresses above or the slums of the Free Zone below, is safe. Available Fall 2003.

A Year of Living Dangerously

The challenge is a tough one. Your task is to protect the life of a top rated SimWire star during the filming of his next film. Unfortunately, the star also like activism and seeks to expose conspiratorial problems in the world with more tenacity than an investigative reporter. His next flick revolves around fending off attempts to assassinate him and exposing which one of his too numerous enemies is behind the plot. Can you survive a year of guarding this twit in order to get the big payoff at the end? Release date TBA.

SubOrbita

We live in an ever-expanding world that is rapidly approaching a point where it will grow well beyond the borders imposed by its own gravity. Take a look into human exploration of space, as it is now, and as it hopefully will be in a future where space travel is almost as easy as getting into the family car. Release date TBA.

SubAqua

Even as we expand into the airless vacuum of space, so shall we expand into the airless environments of the ocean depths that can kill us as easily as space. Explore the technologies of life beneath the ocean waves. Release date TBA.

A.A. 100

Welcome to the year 100 A.A. That's 100 After Armageddon. The world as we knew it vanished in the hazy clouds of various weapons of mass destruction. However, the world struggles on and the human species survives, one way or another… Take a journey into the fourth timeline developed for CyberThriller

BIG BANG 2

The Mostly Illustrated RPG Guide to Modern Weapons

Big Bang is an open-ended series of reference books designed for avid players of roleplaying games, especially in the modern and near future genres. Each volume presents factual data and information on a number of weapons, including details of the weapon's history, along with statistics allowing immediate use in a number game systems. The factual, real world data can be used to easily adapt the presented weapons to a wide range of game systems.

This series is not designed as a stand-alone game. It requires the use of core rules from another game system.

Requires the use of the Action! System ™ Core Rules, published by Gold Rush Games™
Requires the use of the d20 Modern ™ Roleplaying Game, published by Wizards of the Coast, Inc.