BATTLE RIFLES

FM Rosario FAL (FSL Series)

Notes: The Argentines make several models of the FAL under a license from Belgium's FN to the Argentine company of FMAP in Rosario; they are collectively known as the FSL series (*Fusil Semiautomatico Livano*), though several of them are in fact automatic weapons. Argentine versions tend to have slightly different parts measurements than Belgian-made FALs due to local manufacturing methods; therefore, most parts of the FSL series are not interchangeable with more standard FALs.

The *Fusil Automatico Liviano Modelo IV* (FALM IV) is an Argentine-made copy of the Belgian FAL Model 50-00. It is virtually identical to the FAL, but is heavier and has a more substantial muzzle brake. The *Fusil Automatico Liviano Modelo Para III* (FALMP III) is virtually identical to the FAL 50-64, but again is longer and heavier, with a longer muzzle brake. The FALMP III has also been modified into further versions, one firing 5.56mm NATO ammunition (a weapon that saw only limited production), and a training rifle chambered for .22 Long Rifle ammunition. The *Fusil Automatico Pesado Modelo II* (FAPM II) is a heavy barreled rifle with a bipod, similar to the FAL 50-41. The *Fusil Semiautomatico Liviano* (FSL) is a semiautomatic-only FALM IV for police and security use; a 5.56mm NATO version also exists of the police version of the FSL. The FSP (I can't find out what the "P" stands for in this case) is a sniper version of the FSL; it has a longer, heavier barrel, a mount for optical sights or night vision equipment, and a stock with an adjustable length and cheekpiece. The cost of the FSP includes a scope. The FAL Command is a FALMP III with a cut-down barrel, shorter handguards, and a total length 210mm shorter. It is designed as a heavy close-quarters battle weapon.

Another version of the FALM IV was also built. Confusingly, it was also designated the FSL, but is also known as the FALM IV 5.56mm and FSL 5.56mm. (I have called it by the two versions of the rifle below). This version of the FALM IV was built because while the Argentine Army hoped to quickly replace most of the FSL series with the new 5.56mm NATO-firing FARA-83, but budgetary reasons have delayed the progress of manufacture and issue of the FARA-83 considerably. As a stopgap, FMAP rechambered the FALM IV for 5.56mm. The barrel, bolt, sights, and feed system were modified, and the magazines used are those designed for the FARA-83. Two versions are made, the standard Infantry (*Infanteria)* version and the Paratroop (*Paracudista)* versions; both use solid plastic folding stocks, but otherwise look almost identical to a standard FALM IV. The barrel of the Infantry model is 21 inches and is tipped with a FARA-83-type flash suppressor; the barrel of the Paratrooper model is 18.05 inches long and is tipped with a muzzle brake.

Twilight 2000 Notes: At the time of the Twilight War, the FAL series was still the primary rifle of the Argentine military. Of these, the FAML IV was the most common, with the folding-stock FALMP III being second. The training versions of the FALMP III and the FSL (in .22 Long Rifle) were often handed out to civilian militia units hunters hired by the government to kill pests or hunt small game.

Merc 2000 Notes: Due to budgetary problems, the FARA-83 that was intended to replace the FSL series in Argentine service was never acquired by the Argentine military in great numbers. Thus, the FSL series soldiered on.

Weapon	Ammunition	Weight	Magazines	Price
FALM IV/FSL (Police)	7.62mm NATO	4.6 kg	20	$1084
FALMP III	7.62mm NATO	4.25 kg	20	$1104
FALMP III	5.56mm NATO	3.81 kg	20	$680
FALMP III	.22 Long Rifle	3.28 kg	20	$340
FAPM II	7.62mm NATO	6.45 kg	20	$1596
FSL (Police)	5.56mm NATO	3.99 kg	20	$660
FSL	.22 Long Rifle	3.45 kg	20	$320
FSL Infanteria	5.56mm NATO	4.35 kg	30	$634
FSL Paracudista	5.56mm NATO	4.2 kg	30	$648
FSP	7.62mm NATO	6.65 kg	20	$1803
FAL Command	7.62mm NAYO	3.93 kg	20	$1041

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
FALM IV	5	4	2-3-Nil	7	3	7	67
FALMP III (7.62mm)	5	4	2-3-Nil	5/7	3	8	67
FALMP III (5.56mm)	5	3	1-Nil	5/7	2	5	60
FALMP III (.22)	5	-1	Nil	5/7	1	1	43
FAPM II	5	4	2-3-Nil	7	3	7	69
(With Bipod)	5	4	2-3-Nil	7	1	3	90
FSL (Police, 7.62mm)	SA	4	2-3-Nil	7	3	Nil	67
FSL (Police, 5.56mm)	SA	3	1-Nil	7	2	Nil	60
FSL (.22)	SA	-1	Nil	7	1	Nil	43
FSL Infanteria	5	3	1-Nil	5/7	2	5	59
FSL Paracudista	5	3	1-Nil	5/6	2	4	48
FSP	SA	4	2-3-Nil	7	3	Nil	70
(With Bipod)	SA	4	2-3-Nil	7	1	Nil	91
FAL Command	5	4	2-3-Nil	4/5	3	8	39

FMA Modele 1891

Notes: The FMA Modele 1891 (*Fusil Mauser Argentino)* Is basically a Turkish Mauser M-1890 modified for use by Argentine forces. Virtually all of these rifles were not actually built or modified for Argentine use in Argentina; instead, they were made and the modifications done by Loewe of Germany (and to a limited extent, DWM), and then passed on to Argentina.

The changes made include a rotating lock-bolt to better retain the internal magazine, guide ribs added to the bolt-sleeve, and handguard extended forward to the barrel band (in other words, the problems the Turkish troops were complaining about in their rifles were fixed). The rear sight also has a small leaf sight in addition to a large one, for short-range and long-range shooting. The FMA Modele 1891 rifles were also modified to fire pointed "spitzer" type bullets instead of the Turkish round-tipped bullets (along with an alteration in the sights to accommodate the greater effective range with the spitzer bullets). The barrel is 29.15 inches, and under the barrel is a lug for the Modele 1891 sword-type bayonet.

The CMA Modele 1891 (*Carabina Mauser Argentina)* was introduced in 1893 for use by the cavalry and artillery. It is shorter, with a stock that extends all the way to the muzzle (a so-called "Mannlicher-type" stock). The bolt handle is turned down against the stock to prevent snagging, when used by cavalry. While FMA Mo. 1891s did not have provisions for a sling, CMA Mo. 1891s did. Sights were adjusted to the shorter effective range produced by the shorter 17.65-inch barrel. Though Argentina ordered some 30,000 CMA Mo. 1891s from Loewe, it apparently took many years before deliveries of this cavalry version even began, as the rifle version was given a far greater priority. Originally, the CMA Mo. 1891 had no provision for a bayonet, but this capability was added to most of them in the mid-1920s.

Weapon	Ammunition	Weight	Magazines	Price
FMA Mo. 1891	7.65mm Mauser	3.99 kg	5 Internal	$1573
CMA Mo. 1891	7.65mm Mauser	3.29 kg	5 Internal	$1456

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
FMA Mo. 1891	BA	4	2-3-Nil	8	4	Nil	114
CMA Mo. 1891	BA	4	2-3-Nil	6	5	Nil	57

FMA Modele 1909

Notes: The FMA Modele 1909 was basically a German 1898-type Mauser built to Argentine specifications. Differences were minor; the FMA Mo. 1909 used a tangent-leaf sight and a hinged-floor magazine, and the caliber was the standard (for Argentina at the time) 7.65mm Mauser. Barrel length was 29 inches. First deliveries of the FMA Mo. 1909 were accompanied by German-style epee-type bayonets, but these proved to be too fragile, and most of these rifles were fitted with adapters for the Model 1891 sword-type bayonet. The first batch of these rifles were built by Mauser in Germany, but the majority were license-produced in Argentina.

Three further versions were built: the CMA Mo. 1909, a cavalry carbine along the same vein as the CMA Mo. 1891 and using a 21.5-inch barrel; the CMAM Mo. 1909 Mountain Carbine, used by mountain troops and engineers, with a 21.25-inch barrel and continuing in production until 1959; and the SMA Mo. 1909 sniper rifle, which is basically an FMA Mo. 1909 built to more exacting standards and equipped with a 4x telescopic sight and a down-turned bolt handle; most of the telescopic sights for the SMA Mo. 1909 were actually made in Germany.

About 85,000 of all these rifles were built in Argentina alone, plus an unknown number in Germany; they can therefore still be found in Argentina in fair numbers.

Weapon	Ammunition	Weight	Magazines	Price
FMA Mo. 1909	7.65mm Mauser	4.07 kg	5 Clip	$1573
CMA Mo. 1909	7.65mm Mauser	3.86 kg	5 Clip	$1496
CMAM Mo. 1909	7.65mm Mauser	3.8 kg	5 Clip	$1484
SMA Mo. 1909	7.65mm Mauser	4.17 kg	5 Clip	$1780

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
FMA Mo. 1909	BA	4	2-3-Nil	8	4	Nil	114
CMA Mo. 1909	BA	4	2-3-Nil	7	4	Nil	77
CMAM Mo. 1909	BA	4	2-3-Nil	7	4	Nil	71
SMA Mo. 1909	BA	4	2-3-Nil	8	4	Nil	117

Lithgow L-1A1

Notes: From 1959 until the early 1990s, the Australians used the British L-1A1 (licensed to the Australian company of the Lithgow Small Arms Factory) as their standard personal weapon, when it was replaced by the F-88 (the Australian designation for the Steyr AUG). The first Australian L-1A1s were virtually identical to British-built L-1A1s, with the exception of the markings, the use of native woods for the furniture, and anti-fouling grooves cut into the sides of the bolt carrier (increasing the reliability of Australian L-1A1s). The carrying handles were also generally made of plastic instead of wood, and had shallow finger grooves. Barrels are, as with most FAL-derivatives, 20 inches long. Lithgow L-1A1's were sold far and wide as well as being used by Australia; though they are held in reserve in Australia, they are still in use by several former British Commonwealth countries in the Caribbean as well as Fiji and Malaysia, and are held in reserve stocks in Malaysia and Singapore.

Many troops had difficulty with the large size of the L-1A1 (nearly 4 feet), especially smaller soldiers, parachutists, and those operating in heavy bush. The Australians thus modified the standard L-1A1; they shortened the barrel to 18.2 inches (tipping it with a flash suppressor that is shorter though more effective), and redesigned and also shortened the butt a little, The resulting weapon is 70mm shorter and over half a kilogram lighter, and much more manageable.

A heavy-barreled variant of the Lithgow L-1A1 was also produced in the 1970s, primarily meant for use as a light support weapon. Designated the L-2A1, it proved inadequate in that role, and was quickly replaced by the L-4 version of the Bren machinegun, it did see some use as a designated marksman's weapon with the addition of a low-power scope. Most, however, were placed in reserve stocks, or issued to Reserves and other second-line units. The L-2A1 uses a heavy 20.95-inch barrel, modified tangent-bar sights, an attached folding bipod, and a slightly-modified flash suppressor which prevented the use of rifle grenades or a bayonet.

Twilight 2000 Notes: The infamous "Brisbane Black Widow" a civilian female sniper that proved to be extremely deadly to invading Indonesian Forces, used a scoped version of this weapon. Large numbers of L-1A1-F1s (and standard L-1A1s as well as L-2A1s) were quickly handed out to Australian civilians shortly before the Indonesian invasion.

Merc 2000 Notes: Most Australians L-1A1s were resold to other countries or civilians; the L-1A1-F1 was likewise sold, but more were retained for Australian military use than the standard L-1A1.

Weapon	Ammunition	Weight	Magazines	Price
Lithgow L-1A1	7.62mm NATO	5.45 kg	20	$1025
Lithgow L-1A1-F1	7.62mm NATO	4.91 kg	20	$1001
Lithgow L-2A1	7.62mm NATO	6.9 kg	20, 30	$1545

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
L-1A1	SA	4	2-3-Nil	7	3	Nil	62
L-1A1-F1	SA	4	2-3-Nil	7	3	Nil	54
L-2A1	5	4	2-3-Nil	8	3	7	69
(With Bipod)	5	4	2-3-Nil	8	1	4	90

Lithgow No. 1 Mk 3 Rifles

Notes: The rights to produce Lee-Enfield No. 1 Mk 3-series rifles was licensed to the Royal Australian Small Arms Factory in Lithgow (also known as simply Lithgow Small Arms, or just Lithgow) in 1912 (prior to that, they bought the same rifles directly from Lee-Enfield). While Lithgow did make a considerable number of those rifles, they also produced a few interesting variants of the No. 1 Mk 3.

The No. 1 Mk 3 Short-Pattern rifle was designed in 1944; it was an attempt to make, as the name would suggest, a carbine variant of the No. 1 Mk 3. This version was meant for jungle and urban fighting, where a full-sized No. 1 Mk 3 might be a bit unwieldy. Prototypes had both 18 and 20-inch barrels, but eventually a 20.2-inch barrel was settled upon. However, at the same time, the

No.6 Mk 3 (see below in this entry) was also being experimented with, and a few months later development of the No. 1 Mk 3 version was abandoned. The Short-Pattern essentially had the same mechanism as a standard No. 1 Mk 3 rifle, but with a shorter barrel and a different bayonet. The bayonet was the only part of the program which survived the development process; it was the standard bayonet for the Owen submachinegun. Only 3 of the 20-inch-barrel prototypes were produced, along with 2 more 18-inch-barrel versions; after that, 100 more were made with the 20.2-inch barrels for field trials and combat trials.

Feedback from the troops indicated that they preferred a shorter barrel, but that they thought an 18-inch barrel would be too short for the .303 British cartridge. In early 1945, the No. 6 Mk 1 rifle was fielded, with a 19-inch barrel. The barrel was tipped with a conical flash suppressor, and the fore-end was cut back to half its normal length, with grooves added to provide a better grip. Half of the No.6 Mk 1s produced had brass buttplates and tangent-leaf rear sights (designated No. 6 Mk 1), and half had pivoting aperture sights and hard rubber buttplates (designated No. 6 Mk 1/1). Unfortunately, in the wake of the final surrender of Japan in September of 1945, production of the No. 6 Mk 1 stopped, after only 200 had been built. In 1954, some 50 were re-chambered for the Royal Australian Air Force for 7.62mm NATO and altered to accept 20-round magazines, but the chambers were never meant for a high chamber pressure round like the 7.62mm NATO cartridge, and they were removed from service within a few months due to their being considered unsafe to fire.

Weapon	Ammunition	Weight	Magazines	Price
No. 1 Mk 3 (18" Barrel)	.303 British	3.51 kg	10	$1529
No. 1 Mk 3 (20" Barrel)	.303 British	3.54 kg	10	$1549
No. 1 Mk 3 (20.2" Barrel)	.303 British	3.54 kg	10	$1551
No. 6 Mk 1	.303 British	3.4 kg	10	$1552
No. 6 Mk 1	7.62mm NATO	3.28 kg	20	$1406

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
No. 1 Mk 3 (18")	BA	4	2-3-Nil	7	4	Nil	58
No. 1 Mk 3 (20")	BA	4	2-3-Nil	7	4	Nil	68
No. 1 Mk 3 (20.2")	BA	4	2-3-Nil	7	4	Nil	69
No. 6 Mk 1 (.303)	BA	4	2-3-Nil	7	4	Nil	62
No. 6 Mk 1 (7.62mm)	BA	4	2-3-Nil	7	4	Nil	63

Mannlicher 1895/24 Short Rifle

Notes: This is an 1895-pattern Mannlicher Turnbolt modified by Steyr shortly after World War 1. The rifle was modified to fire 8mm Mauser ammunition, and the barrels were shortened to make the weapon into more handy. The magazines were modified both to take the new cartridge and to be able to use the standard German ammunition clips. The ejection port had a hinged cover to help keep dirt out of the mechanism; this actuated as the bolt was cycled. This rifle can actually still be found on the civilian War Surplus market to this day.

The M-1930 Short Rifle is a further-modified M-1895/24 Short Rifle. They were difficult to distinguish at first glance from the earlier weapon, but has further-shortened barrels and fired a new 8mm cartridge that was developed in collaboration with Hungary. The sights were also modified to accommodate the new barrel length and cartridge.

Weapon	Ammunition	Weight	Magazines	Price
1895/24 Short Rifle	8mm Mauser	3.49 kg	5 Clip	$1712
M-1930 Short Rifle	8mm Austrian/Hungarian Mannlicher	3.12 kg	5 Clip	$1703

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
1895/24 Short Rifle	BA	4	2-3-Nil	8	5	Nil	88
M-1930 Short Rifle	BA	4	2-3-Nil	7	5	Nil	67

Mannlicher-Schoenauer Greek M-1903

Notes: This is a combination of the Mannlicher turnbolt with a new rotary spool magazine that is still in common use in bolt-action rifles to this day. The Greek M-1903 was the only military service rifle to use this magazine, however, until the SSG-69 sniper rifle came into service in 1969. Another unusual feature was the Mauser cocking system; the rifle could be cocked by simply raising and lowering the bolt handle, as on the Gew 98. Deliveries of this rifle to the Greeks stopped when Greece declared itself to be on the side of the Allies in World War 1, and did not resume until new copies could be obtained from Breda in Italy in 1927. They were finally phased out of service in 1930.

Weapon	Ammunition	Weight	Magazines	Price
Greek M-1903	6.5mm Greek Service	3.77 kg	5 Internal	$1212

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Greek M-1903	BA	4	2-3-Nil	8	4	Nil	97

Mannlicher Straight-Pull 1895 Rifle

Notes: This was the official Austro-Hungarian service rifle at the time. It is a slight improvement upon the Turnbolt 1895 rifle; the bolt-action mechanism is different; the rifle can be reloaded without the clip, and there are two safety mechanisms instead of the one found on the Turnbolt. It is also a somewhat shorter, lighter, and handier weapon.

Weapon	Ammunition	Weight	Magazines	Price
Straight-Pull 1895	8mm Austrian Service	3.78 kg	5 Clip	$1608

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Straight-Pull 1895	BA	5	2-3-Nil	8	5	Nil	115

Mannlicher 1895 Rifle

Notes: The Model 1895 and its variants were some of the most popular infantry rifles until just after World War 1; many were even used in to equip home defense-type units and were used by partisans during World War 2. These rifles were even equipping guerillas in Africa as late as the 1970s!

Mannlicher 1895-pattern rifles can be put into two broad mechanism types: turnbolt and straight-pull. Turnbolt rifles are basically the types of bolt-action rifles we are familiar with – one has to pull the bolt handle upwards, bull the bolt back to chamber a round, push the bolt forward again, then lock the mechanism again by pulling the bolt handle down. A straight-pull design requires only a slight unlocking turn by the shooter to unlock the bolt, and either a slight movement or none at all to push the bolt forward and lock it in one action.

Before you say, “A straight-pull system sounds much better!” – well, it is – but only for the shooter, and only in an ergonomic sense. A straight-pull mechanism is actually more complicated than a turnbolt system. The lack of positive locking makes the mechanism far more difficult to seal, can lead to unreliability to in firing, case ruptures, feeding, and extraction failures, and a straight-pull mechanism ends up more complicated to ensure these sorts of problems do not happen.

This rifle was not used by Austria, but was used by the Dutch and by Romania. The turnbolt was one of the popular bolt-action systems of the time, but Mannlicher was the first to use a clip loading system, allowing the magazine to be completely reloaded with one stroke. The weakness in Mannlicher’s clip loading system was that the clip was an essential part of the Magazine system; without the clip, the Turnbolt 1895 is a single-shot weapon, since the magazine cannot be reloaded without the clip. In

most of these rifles, the expended clip falls out through a hole in the bottom of the magazine, but in some, the clip is ejected up and out after the last round is fired (similar to the later M-1 Garand). The Dutch and Romanian ammunition for this weapon differs only in that Dutch ammunition is rimmed; however, they are not interchangeable.

Weapon	Ammunition	Weight	Magazines	Price
Turnbolt 1895 (Dutch)	6.5mm Dutch Mannlicher	4.3 kg	5 Clip	$1240
Turnbolt 1895 (Romanian)	6.5mm Romanian Mannlicher	4.3 kg	5 Clip	$1240

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Turnbolt 1895	BA	4	2-3-Nil	8	4	Nil	107

FN FAL

Notes: The FAL (Fusil Automatique Leger) was the most successful weapon Fabrique Nationale (FN) ever produced, and one of the most successful small arms ever made. It has been adopted by over 70 countries in its long history. The military versions have been license-produced in at least 10 countries, and civilian versions have been made by about twice that many countries.

The FAL was originally a product-improved Model 49, with lighter construction and a larger magazine capacity. (The original designation for the FAL was the Model 50.) It was designed with automatic fire in mind, but like many such weapons firing the 7.62mm NATO cartridge, the FAL is far too light for accurate automatic fire. However, it may come as a surprise to some that the FAL was not originally designed for use with the 7.62mm NATO cartridge; like most NATO rifles of the period, the 7.62mm NATO cartridge was forced upon the Belgians under political pressure by the US. The first prototype of the FAL was demonstrated in 1948, chambered for the 8mm Kurz cartridge, and those few prototypes were experimented with until 1950. At that point FN, partly because they were a little unsatisfied with the 8mm Kurz round and partly to support the British, rechambered the FAL for the .280 British round. The FAL was not chambered in 7.62mm NATO until 1952 when the US pretty much had managed to stamp out all rivals to its .30 T65 round, which became the 7.62mm NATO. After rechambering, the FAL was for a short time in competition to become the new US service rifle, but in truth, it never really had a chance politically against American designs.

The FAL is gas-operated with a short-stroke system and the piston located above the barrel. The gas system has a regulator to allow for the environment, fouling, or rifle grenade launching. The bolt is a tipping-type design. Most metalwork is steel; until 1973, the receivers were built of forgings, but after that time, they were made from investment-cast stamped steel to lower production costs. (Many countries with manufacturing licenses still make them with forged receivers.) Furniture has run the gamut of materials through the years – wood, plastic, and polymer stocks; folding steel stocks of various designs, sometimes coated with plastic or rubber and having a variety of buttplates; plastic or wood pistol grips; and plastic, wood, or metal handguards. (Most military FALs produced since 1963 have synthetic/plastic furniture.) Virtually all heavy-barrel versions have a folding bipod attached, and some countries also use them with standard FALs. Most FALs have a folding carrying handle above the point of balance at the front of the receiver. The first production FALs had no flash suppressor, but used a bayonet which slipped over the muzzle and acted as a rifle grenade launcher/flash suppressor when necessary. This was quickly replaced with a normal bayonet lug and a long slotted flash suppressor. The standard barrel is 21 inches long.

The variants of the FAL are legion; they vary not only in FN production, but by materials and manufacturer. Some of the FN-built variants include the basic FAL (the Model 50-00), with small-scale production beginning in 1953 and adoption by the Belgian and Venezuelan armies in 1956, after which orders flooded in. The early versions had wood furniture, but in 1963 this was replaced with plastic handguards and pistol grips and a plastic-shelled stock filled with a nylon/fiberglass composite. The FAL 50-64 Para is essentially the same, but uses a folding tubular steel stock (sometimes coated with plastic or rubber) and (usually) a rubber-coated buttplate. The charging handle folds against the rifle, and the breechblock return spring was also relocated. The FAL 50-63 Para is similar to the 50-64, but the barrel is abbreviated to 17.15 inches, the carrying handle is omitted, and there is no bolt hold-open feature after a magazine is emptied. The sights are also modified to match the shorter effective range. The FAL 50-41 (also known as the FAL HB or FALO) is a heavy-barreled version designed as a light support weapon, with a folding bipod. The FALO is perhaps the least popular of the FAL series; in sustained automatic fire, it overheats rapidly, and the barrel is fixed. In addition, the 50-41 suffers from a strange problem which was never solved (by FN, anyway) – a problem called “bang-bang-jam” by the troops, where the 50-41 would every so often jam on the third shot of automatic fire. Many countries never bought the 50-41; some essentially built their own versions, and some locked their 50-41s on semiautomatic and used them as designated marksman weapons. The 50-41 cannot use a bayonet.

The Austrian version of the FAL, the StG-58, has several differences from the standard FAL. It was adopted in 1958 and continued soldiering on; it began to be replaced by the AUG in 1977, but continued in reserve service until 1995, and many an inactive reservist still has an StG-58 in his home in the event of mobilization. The Jagdkampf (Austrian Special Forces) also used them, in ever-smaller numbers, until the late 1980s; they valued the more powerful round and its ability to penetrate brick, cinder block, and in some cases damage the engine blocks of cars, and liked the extra range. The StG-58 has a long grenade launcher tipping the muzzle; it not only acts as a flash suppressor, but allows the shooter to fire older-style rifle grenades as well as newer bullet-trap rifle grenades. It is unusual for a FAL variant in that it does not have a bayonet lug. The long grenade-launching flash suppressor means that not much of the blade would be exposed to make a bayonet useful. It does, however, have a robust folding bipod attached to the front of the handguards. Those handguards are aluminum instead of wood or polymer, and are blued. StG-58s are also drilled and tapped for a scope mount. Currently, the StG-58 is still manufactured in a semiautomatic version, for civilian sales; it is distributed by Entreprise Arms in the US, and called the StG-58C.

The FAL Competition (also called the LAR Competition) is a special limited-production version of the FAL 50-00 built from 1962 onward. It is highly-tuned version of the 50-00 with a standard synthetic stock and a 24.2-inch match-quality barrel and drilling and tapping for a telescopic sight or other competition-type sights. It is not capable of automatic fire.

I have included below some of the experimental FAL chamberings just for the heck of it.

Twilight 2000/Merc 2000 Notes: Despite having been (in most cases) replaced by newer and lighter weapons, the FAL was still a very common weapon in the world. Many soldiers refused to give up their FALs, even when lighter weapons became available, because they preferred the punch and range of the FAL. This was especially common in Austria, and especially among the Jagdkampf.

Weapon	Ammunition	Weight	Magazines	Price
FAL 50	8mm Kurz	4.01 kg	30	$797

FAL 50	.280 British	4.02 kg	20	$803
FAL 50-00 (Early Production)	7.62mm NATO	4.21 kg	20	$1023
FAL 50-00 (Wood Furniture)	7.62mm NATO	4.25 kg	20	$1035
FAL 50-00 (Synthetic Furniture)	7.62mm NATO	3.9 kg	20	$1040
FAL 50-64	7.62mm NATO	4.3 kg	20	$1060
FAL 50-63	7.62mm NATO	3.74 kg	20	$1020
FAL 50-41 (Wood Furniture)	7.62mm NATO	6.55 kg	20, 30	$1547
FAL 50-41 (Synthetic Furniture)	7.62mm NATO	6.01 kg	20, 30	$1552
StG-58	7.62mm NATO	4.08 kg	5, 10, 20, 30	$1533
FAL Competition	7.62mm NATO	4.54 kg	10, 20	$1090

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
FAL 50 (8mm)	5	4	2-3-Nil	6	4	9	59
FAL 50 (.280)	5	4	2-Nil	6	3	8	67
FAL 50-00 (Early)	5	4	2-3-Nil	7	4	9	67
FAL 50-00 (Wood)	5	4	2-3-Nil	8	4	9	67
FAL 50-00 (Synthetic)	5	4	2-3-Nil	8	4	9	67
FAL 50-64	5	4	2-3-Nil	6/8	4	9	67
FAL 50-63	5	4	2-3-Nil	6/7	4	9	49
FAL 50-41 (Wood)	5	4	2-3-Nil	8	3	8	69
With Bipod	5	4	2-3-Nil	8	2	4	90
FAL 50-41 (Synthetic)	5	4	2-3-Nil	8	3	8	69
With Bipod	5	4	2-3-Nil	8	2	4	90
StG-58	5	4	2-3-Nil	8	4	9	67
With Bipod	5	4	2-3-Nil	8	2	5	87
FAL Competition	SA	4	2-3-Nil	8	4	Nil	90

FN M-1922

Notes: This is essentially a modified Spanish-pattern Mauser Model 1891. The FN began producing Mauser copies after a protracted patent fight with Mauser, with FN asserting that the Spanish-pattern Mauser they based their rifle upon was not subject to German patents, and Mauser saying the opposite. FN eventually won a license to produce Mauser rifles in Belgium, and after World War 1, it didn't really matter anyway.

The M-1922 was the first post-World War 1 Mauser to be made by FN. It was mechanically almost identical to the Gewehr 98, but had a tangent-leaf rear sight, a long handguard, and fittings for a Belgian-pattern bayonet. Some of these rifles were also produced for Brazil, but the bottom for full-length infantry rifles fell out soon after that.

The M-1924 Short Rifle is a shorter version of the M-1922 that was first produced to supplement the earlier weapon, but very quickly replaced it, with production exceeding the earlier rifle by over 600,000 units. Though early models have a straight-wrist stock, most of them have a pistol-grip-type stock. Production of this rifle stopped when the Germans invaded Belgium in World War 2, and then picked up again in 1946, finally stopping altogether in 1954. A training version of this rifle, firing only .22 Long Rifle ammunition, was also built after World War 2.

Weapon	Ammunition	Weight	Magazines	Price
M-1922	7mm Mauser	4.01 kg	5 Clip	$1438
M-1922	7.65mm Mauser	4.24 kg	5 Clip	$1573
M-1922	8mm Mauser	4.46 kg	5 Clip	$1768
M-1924	7mm Mauser	3.58 kg	5 Clip	$1378
M-1924	7.65mm Mauser	3.81 kg	5 Clip	$1513
M-1924	8mm Mauser	4.29 kg	5 Clip	$1708
M-1924 Training Rifle	.22 Long Rifle	3.81 kg	5 Clip	$302

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1922 (7mm)	BA	4	2-3-Nil	8	4	Nil	104
M-1922 (7.65mm)	BA	4	2-3-Nil	8	4	Nil	114
M-1922 (8mm)	BA	5	2-3-Nil	9	4	Nil	118
M-1924 (7mm)	BA	4	2-3-Nil	7	4	Nil	76
M-1924 (7.65mm)	BA	4	2-3-Nil	7	4	Nil	86
M-1924 (8mm)	BA	4	2-3-Nil	8	4	Nil	86
M-1924 Training Rifle	BA	1	Nil	7	1	Nil	52

FN M-1935/46 Short Rifle

Notes: This is basically an 1898-pattern Mauser converted to fire .30-06 ammunition after World War 2. This rifle was used an interim rifle for Belgian armed forces until the development of the M-1949. The changes, in addition to those necessary to fire the .30-06 Springfield cartridge, included the facility to feed from US M-1903-type stripper clips.

Weapon	Ammunition	Weight	Magazines	Price
M-1935/46	.30-06 Springfield	4.06 kg	5 Clip	$1720

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1935/46	BA	4	2-3-Nil	7	4	Nil	74

FN M-1949

Notes: Originally developed just prior to World War 2 in 1936, the M-1949 (also commonly called the SAFN-49 or simply SAFN, or the mistaken appellation of "ABL") design tried to address some of the problems that had plagued some rifles during that war. FN's plans to produce the M-1949 were scuttled when the Nazis invaded Belgium in 1940 and took over FN for their own use – but before that, Dieudonne Saive, the designer of the M-1949 (and one of John Browning's closest students), gathered up as many FN employees, designers and plans for weapons and undertook a harrowing journey that eventually got them to England. During World War 2, this FN team worked largely with Royal Ordnance. During this time, they eventually became sufficiently interested in what became the M-1949 to order some 2000 of them for field trials, which were to begin in late-1944. However, Belgium was liberated after the D-Day invasions, and Saive and his team elected to return to Belgium before these rifles were ever built.

The M-1949 was fed by both stripper clips through the top of the receiver as well as detachable box magazines; this was believed to give the user the capability to "top off" his weapon in between firing. The M-1949 rifle, unlike many of its predecessors, had a shorter barrel. It was felt that rifles before this were too long and bulky -- even with a shorter barrel, the M-1949 would be capable of engaging at ranges of 600 meters. The addition of a pistol-style stock was helpful as the weapon was manufactured to fire in full-automatic mode, and this helped to keep the weapon on target. (Most M-1949s however, were made in semiautomatic-only versions; the selective fire versions were often called AFNs.) The M-1949 used gas operation similar to that used on Tokarev's rifles, and the 23.2-inch barrel was available with an optional (though rare) muzzle brake. The muzzle is long enough to allow the launching of old-style rifle grenades, with a gas tube plug operated by a rotating switch on the front of the gas tube assisting in this. It did have its sour points, however, though easy to maintain and disassemble, the M-1949 also required assiduous maintenance – and many of its parts were easily breakable, especially by inexperienced or ill-trained troops. The M-1949 was also a rather poorly-balanced weapon, with a center of gravity near the junction of the stock and receiver, and the cartridges it fired and its small magazine meant it was never really suited to automatic fire, even with a muzzle brake. The sear also tended to malfunction, suddenly turning a semiautomatic M-1949 into an automatic one.

FN was willing to chamber the M-1949 to the wishes of its buyers; Venezuela made the first large-scale order in 1948, chambered for 7mm Mauser. Argentina followed in 7.65mm Argentine Mauser (later converting most of theirs to 7.62mm NATO), followed by Belgium, the Belgian Congo, Brazil, and Columbia (all in .30-06), Egypt (8mm Mauser), and Indonesia and Luxembourg (both in .30-06). Argentine M-1949's converted to 7.62mm NATO are unusual; they are able to use the standard M-1949 magazine as well as FAL magazines, and the barrel was shortened to 22 inches at the same time. Some of these conversions were used as late as the Falklands War; they were captured by British troops during that campaign. 6.5mm Swedish appears to be a rare caliber; I have not been able to find its users (if any).

Minor variants of the M-1949 include a "sniper" version with a rail for a scope mounted on the left side of the receiver; these were not specially made in any way other than the addition of the scope rail.

The Argentine conversions were later sold on the war surplus market, particularly in the US; many were sold with 10-round magazines to comply with the laws of the time, though they retain the ability to use 20-round FAL magazines. They are modified to fire on semiautomatic only, and are deliberately modified to be very difficult to convert to automatic fire. Similar Egyptian M-1949s in 8mm Mauser also found their way to the war surplus market; these use only 10-round magazines of the original, and are similarly modified for semiautomatic-only fire. (Century International Arms sells the Egyptian models as the FN-49 Sporter.)

Quantities of these weapons are still available in the following countries, where they usually equip reserves, militia, (or rebel forces in some cases): Congo, Luxembourg, Indonesia, Columbia, Brazil (120,000 sold total); Egypt (37,000 sold); and Venezuela (8,000 sold). In the 1980s, refurbished M-1949s could also be found on the civilian market, but only in semiautomatic form. Most such "war surplus" M-1949s have, however, seen quite heavy combat use.

Weapon	Ammunition	Weight	Magazines	Price
M-1949	6.5mm Swedish	4.31 kg	10	$882
M-1949	7mm Mauser	4.31 kg	10	$1022
M-1949	7.62mm NATO	4.31 kg	10, 20	$1034
M-1949	7.65mm Argentine Mauser	4.31 kg	10	$1929
M-1949	8mm Mauser	4.31 kg	10	$1247
M-1949	.30-06 Springfield	4.31 kg	10	$1254

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range

FN M-1949 (6.5mm)	5	4	2-Nil	7	4	9	67
FN M-1949 (7mm)	5	4	2-3-Nil	7	4	9	69
FN M-1949 (7.62mm)	5	4	2-3-Nil	7	4	9	72
FN M-1949 (7.65mm)	5	4	2-3-Nil	7	4	10	78
FN M-1949 (8mm)	5	4	2-3-Nil	7	4	10	78
FN M-1949 (.30-06)	5	4	2-3-Nil	7	4	10	68

IMBEL LAR

Notes: The IMBEL LAR (Light Automatic Rifle) is a Brazilian-built variant of the FN FAL. (IMBEL also makes the standard FAL 50-00, but the LAR supplanted that weapon in military service.) The LAR is a FAL redesigned to suit Brazilian manufacturing methods; in addition, an adjustable gas regulator has been added to insure smooth operation under adverse conditions, such as in the Amazon jungle, and the rifle has been modified to fire from a closed bolt instead of an open bolt. Standard and Paratroop versions are made, with the Paratroop model having a folding stock and a shorter barrel. The Paratroop model is the favored version, even among non-paratroopers.

Twilight 2000 Notes: Though at the beginning of the Twilight War, the LAR had been largely replaced by newer assault rifles, the LAR was brought out of storage, as were most such weapons in other countries.

Merc 2000 Notes: Many LARs were sold on the international arms market to raise badly-needed cash.

Weapon	Ammunition	Weight	Magazines	Price
LAR Standard	7.62mm NATO	4.5 kg	20	$1046
LAR Paratroop	7.62mm NATO	4.37 kg	20	$1027

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
LAR Standard	5	4	2-3-Nil	7	4	9	67
LAR Paratroop	5	4	2-3-Nil	5/6	3	9	50

Itajuba Mauser M-1894

Notes: This weapon, based on the Mauser M-1898 action, is virtually identical to the Spanish Mauser M-1893, except for a cylindrical bolt-head, and a rounded magazine-follower head (so that the bolt could be shut on an empty chamber after the magazine was empty). The M-1894 was chambered for the 7mm Mauser round, and fired it from a 29-inch barrel. The rear sight is adjustable from 400-2000 meters.

The M-1894 Carbine was similar, but was much smaller with a much shorter 18-inch barrel. In addition, the carbine had a sight graduated for shorter ranges, a straight bolt handle, and there was no bayonet lug. The M-1904 (also called the Mauser-Verueiro 1904 rifle) is a further modification of the Itajuba-built Mauser M-1894, with a pistol-grip stock, a slightly-shorter barrel, and slightly lighter weight; it was also chambered for the 6.5mm Portuguese cartridge instead of 7mm Mauser. The M-1907 rifle (the M-1907 rifle is often mis-identified as the M-1908 due to a very similar appearance) and carbine were based on a later version of the M-1898, but for game purposes, are identical to the M-1894 rifle and carbine – except that the M-1907 carbine can accept the same bayonet as the M-1894 and M-1907 rifles. The M-1908 rifle is, as noted above, very similar to the M-1907 rifle, but the barrel is a little longer at 29.25 inches and the bayonet used with the M-1908 is the German H-type bayonet with a muzzle ring. The M-1908 Short Rifle is, as the name suggests, a shorter version of the M-1908 rifle; it had a 22.05-inch barrel and a turned-down bolt handle. The M-1922 Short Rifle is very similar, but Brazil bought them from FN, and they used a straight-wrist stock instead of a pistol grip-wrist; they are considerably lighter than M-1908s. The M-1924 Short Rifle was a Czech version that (for game purposes) is identical to the M-1908 Short Rifle; these rifles were originally ordered by Brazilian insurgents in 1931, but were quickly captured (along with the insurgents) and put to use by the Brazilian Army. When Czechoslovakia was overrun by the Nazis in 1939, production began in Brazil without a license.

The M-1935 rifle was essentially the same as the M-1908 rifle, but built on the newer Kar-98b platform with its tangent rear sight. Unlike its German equivalent, the M-1935 had a straight bolt handle; like the German versions, the M-1935 was chambered for 8mm Mauser. The M-1935 Short Rifle was the same rifle with a shorter 22.05-inch barrel; it also used a turned-down bolt handle.

After World War 2, many of Brazil's Mauser-type rifles and short rifles were re-chambered for the .30-06 Springfield cartridge. The rifles also had their barrels shortened, so that all of them were essentially short rifles. This also necessitated a re-tooling of the sights, and at the same time the bayonet lugs were changed to accept the same bayonet as used on the US M-1 Garand rifle. The bolt handles, if straight, were also turned down. Stocks were also often remade using South American hardwood instead of the European wood used before. The two rifles so produced were the M-1908/34, with a 23.6-inch barrel, and the M-1954, which had the addition of a rifle grenade launcher attachment at the muzzle. The M-1954 is otherwise identical to the M-1908/34 for game purposes.

Weapon	Ammunition	Weight	Magazines	Price
M-1894	7mm Mauser	4.01 kg	5 Clip	$1437
M-1894 Carbine	7mm Mauser	3.48 kg	5 Clip	$1322
M-1904	6.5mm Portuguese	4 kg	5 Clip	$1304
M-1908	7mm Mauser	4.03 kg	5 Clip	$1439
M-1908 Short Rifle	7mm Mauser	3.8 kg	5 Clip	$1366
M-1922 Short Rifle	7mm Mauser	3.08 kg	5 Clip	$1366
M-1935	8mm Mauser	4.45 kg	5 Clip	$1789
M-1935 Short Rifle	8mm Mauser	4.18 kg	5 Clip	$1696
M-1908/34 Short Rifle	.30-06 Springfield	4.17 kg	5 Clip	$1724

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1894	BA	4	2-3-Nil	8	4	Nil	104
M-1894 Carbine	BA	4	2-3-Nil	6	4	Nil	50
M-1904	BA	4	2-3-Nil	8	4	Nil	96
M-1908	BA	4	2-3-Nil	8	4	Nil	105
M-1908 Short Rifle	BA	4	2-3-Nil	7	4	Nil	70
M-1922 Short Rifle	BA	4	2-3-Nil	7	5	Nil	70
M-1935	BA	5	2-4-Nil	9	5	Nil	126
M-1935 Short Rifle	BA	4	2-3-Nil	7	4	Nil	79
M-1908/34 Short Rifle	BA	4	2-3-Nil	7	4	Nil	76

BSA-Adams

Notes: BSA tried many times to get the British military to buy this rifle – first as the BSA-Adams in 1921, then later that year, this time called the Browne Adams; again in 1922 as the Fairfax-Adams, and finally in 1924 as the BSA New Model. As it was designed by a British Army Ordnance officer, you'd think it might be a good rifle; however, the BSA-Adams suffered from any defects: fouling, port and chamber erosion, extraction failures, and violent case ejection, deforming the spent cases. As a result, despite the persistence of its designer and BSA, it was rejected.

Weapon	Ammunition	Weight	Magazines	Price
BSA-Adams	.303 British	4.67 kg	5	$1174

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
BSA-Adams	SA	4	2-3-Nil	8	4	Nil	93

Enfield Rifle No 2 (Pattern '14)

Notes: This weapon was designed to replace the SMLE; the SMLE received harsh criticism from everyone but the soldiers themselves. Enfield began with a Mauser action and then chambered it for a high-powered .276 caliber round that was packed with so much propellant that it was practically a wildcat round. The result was a weapon that wore out very fast and had massive muzzle flash and recoil.

Enfield then returned to the tried-and-true .303 British cartridge. The rifles were then brought into service as the Pattern 1914, and manufactured in the US under contract by Remington and Winchester. The soldiers did not like the Pattern 1914; it was a target shooter's dream, but it was too long, cumbersome, and badly balanced for use by infantry. Therefore, they were eventually placed into storage until World War 2, when they were used to equip the Home Guard, then being called the Rifle No 3. In 1947, they were declared obsolete for military use and sold off to civilians.

Weapon	Ammunition	Weight	Magazines	Price
Enfield Rifle No 2	.303 British	4.14 kg	5 Clip	$1612

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Enfield Rifle No 2	BA	4	2-3-Nil	7	4	Nil	100

L-1A1

Notes: This is the British version of the FN FAL; it was also used by Australia, India, Barbados, Oman, Guyana, Gambia, Malaysia, and the Royal Ulster Constabulary in Northern Ireland. The Canadians also bought it, but quickly modified it into a much better weapon (the C-1 and C-1A1). The L-1A1 is basically an FN FAL with the automatic fire feature removed, a longer barrel fitted, and the ability to mount a wider variety of sights and optics. Original L-1A1s were made with hardwood stocks and handguards, but most were made with plastic stocks and handguards. The L-1A1 suffers from the same problem as early FALs: the firing pin is very long and fragile, and tends to get bent or broken easily. This often means that the L-1A1 will reliably fire two rounds, and then jam when attempting to fire the third. (This is often known as the "bang-bang-jam" problem.) In addition, the L-1A1 is huge, nearly four feet long, and this became a hindrance in the fighting in Northern Ireland's streets (though the wall penetration of the rounds was appreciated). The L-1A1 was largely replaced in the British Army except for certain specialist applications; but in other parts of the world, it is still widely used. By 2002, the only place new L-1A1s are made is in India, and they have their own problems (see Indian Battle Rifles). It should also be noted that while most FALs are built using metric measurements, the L-1A1 was built using "English" measurements (such as the US still uses for most purposes, though not most weapons manufacture). This means that while FAL parts will *usually* fit into an L-1A1, this is not always true; in addition, a FAL magazine cannot be used in an L-1A1 and vice versa. (Most weapons which were originally based on the L-1A1 instead of the FAL can still use the British magazines, but cannot use FAL magazines.)

Twilight 2000 Notes: Like many such weapons, L-1A1s were again issued in Britain when supplies of other weapons became scarce. Towards the end of the war, it was also turned into a substitute sniper weapon, after being modified with Picatinny Rails and bipods.

Merc 2000 Notes: Due to the widespread issue in the world, mercenary organizations liked the L-1A1. In addition, they often turned up in the hands of rebel forces in various countries.

Weapon	Ammunition	Weight	Magazines	Price
L-1A1	7.62mm NATO	4.3 kg	20	$1055

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
L-1A1	SA	4	2-3-Nil	7	4	Nil	71

Short, Magazine, Lee-Enfield (SMLE)

Notes: When Great Britain switched to Cordite as a standard bullet propellant, more efficient rifle designs were possible. One of these was the Mark I series. The original such weapon, the Lee-Enfield Mark I was basically a Lee-Metford Mark II* with a

different barrel that had more efficient rifling. It is sometimes known as the "Long Lee-Enfield." The Mark I* is the Mark I with the cleaning rod removed to improve balance; the ramrod was no longer necessary since Cordite did not foul the barrel as much as previous propellants. The barrel of the Lee-Enfield Mark I was an astounding 30.2 inches. The year after first issue, a version was designed as a Cavalry Carbine, with a greatly-shortened 21.2-inch barrel.

The next step was to shorten the weapon, to make it more universal in issue. The Lee-Enfield Mark I rifle was shortened, given the familiar snub-nose, and the ability to load the magazine from the top by chargers as well as putting a fresh magazine in the bottom. The barrel was shortened from the Mark 1 to 25 inches. This became the SMLE Mark I. The SMLE Mark I* was a Mark I with butt-trap for cleaning supplies, and the magazine was redesigned for more reliable feeding. The "Converted SMLE Mark I" was an old Lee-Metford converted into an SMLE Mark I. The Converted Mark II's are conversions of the Rifle Marks I and I* and old Lee-Metford Marks II and II* by fitting new sights and shorter barrels, and modifying them for charger loading.

The SMLE Mark III was a Mark I or 1* with long-range sights and a bridge charger guide. It was also heavier due to the use of better metal. The Converted Mark IV was a Converted Mark II* with the sights and bridge charger guide of the Mark III. The Converted Marks I**, II**, and II*** were made for the Royal Navy. The Mark I*** was optimized for the Mark 7 pointed bullet. The Mark III* was a modification of earlier rifles to facilitate production.

One of the countries to which the Mark III* was issued was to India, during the time that India was still a British colony. After India gained its independence in 1947, they continued to manufacture the Mark III*, until the late 1950s. (Before this, they also manufactured the Mark III* from 1940-45.) This version was called the Ishapore 2A. Differences included deletion of the piling sling swivel, and the rounded front sight ears were replaced with easier-to-manufacture square ears. The ears of the rear sight also have a similar squared profile. The cocking piece is rounded, and the poor quality of wood used in the construction made necessary a recoil screw through the fore-end in front of the trigger guard. The Indians finished the metalwork of their rifles in baked-on black enamel. The barrel of the SMLE is 25 inches; the Ishapore 2A has a slightly longer barrel at 25.2 inches. The Ishapore 2A is considerably heavier than the SMLE Mark III*, due to cruder construction methods. Initially, the Ishapore 2A was chambered for the .303 British cartridge, but in 1663, virtually all were rechambered for 7.62mm NATO. The 7.62mm version can be distinguished by its longer, square magazine, the rear tangent sight, adjustable only to 800 meters, a charger guide which is modified from the FAL charger guide, an aluminum alloy buttplate, and a butt with a slightly higher comb. The receiver is also made from better-quality EN steel to cope with the higher-pressure 7.62mm NATO cartridge. Though this iteration of the Ishapore 2A is the same size as the earlier version, it is slightly heavier due to the stronger receiver and stock design change. The conversions continued until 1970; in the mid-1970s, production of the Rifle 1A reached the point where the Ishapore 2A could be handed down to training depots, police units, and the reserves. Navy Arms currently sells surplus Ishapore 2As on the civilian market, mostly in the US, Canada, and Mexico.

Weapon	Ammunition	Weight	Magazines	Price
Lee-Enfield Mark I	.303 British	4.31 kg	10	$1537
Lee-Enfield Cavalry Carbine Mark I	.303 British	4.01 kg	10	$1445
SMLE Marks I, II Series	.303 British	3.71 kg	10	$1484
SMLE Mark III Series	.303 British	3.94 kg	10	$1484
Ishapore 2A	.303 British	4.22 kg	10	$1486
Ishapore 2A	7.62mm NATO	4.33 kg	10	$1458

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Lee-Enfield Mark I	BA	4	2-3-Nil	9	4	Nil	116
Lee-Enfield Cavalry Carbine Mark I	BA	4	2-3-Nil	7	4	Nil	75
SMLE Marks I, II	BA	4	2-3-Nil	8	4	Nil	95
SMLE Mark III	BA	4	2-3-Nil	8	4	Nil	95
Ishapore 2A (.303)	BA	4	2-3-Nil	8	4	Nil	96
Ishapore 2A (7.62mm)	BA	4	2-3-Nil	8	4	Nil	96

No. 4 Rifle Series

Notes: The No. 4 series was the result of a need to simplify the SMLE series of rifles for wartime production (World War 2, in this case). The No. 4 Mk 1 and 1* were SMLE Mk IIIs that had the nosecap removed from the muzzle, the sight base increased somewhat, and the rear sight, and an aperture rear sight. The No. 4 Mk 1* had some machining omitted to reduce manufacturing time; they were built mostly in Canada and the US to increase the number of production facilities available.

The No. 4 Mk 1(T) was a sniper's model of the Mk 1; it has a tangent rear sight and a base for a telescopic sight. It is found in British Sniper Rifles.

The Mk 2 has a modified trigger mechanism that was easier to build and reduces the trigger pull. The Mk 1/2 is a Mk 1 with the same trigger; the Mk 1/3 is the Mk 1* with that trigger.

The No. 5 Mk 1 is a carbine version of the No 4, also known as the "Jungle Carbine" or "Gibbs Carbine." It is a No 4 with a chopped barrel and a bell-shaped flash hider. The problem with this weapon was that the combination of short barrel and .303 British cartridge was not a good one. Muzzle flash and recoil were excessive, and the sights refused to hold their zero, so that

after even a short firefight, aimed fire from the carbine was extremely inaccurate. Though they were widely issued to British and Indian troops in the Far East, the troops hated them, and did all they could to beg/borrow/steal M-1 Carbines from the Americans. They were declared obsolete in 1947, and few exist today.

Weapon	Ammunition	Weight	Magazines	Price
No 4 Series	.303 British	4.11 kg	10	$1602
No 5 Mk 1	.303 British	3.24 kg	10	$1549

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
No 4 Series	BA	4	2-3-Nil	7	4	Nil	95
No 5 Mk 1	BA	4	2-3-Nil	6	5	Nil	62

C-1A1

Notes: This Canadian variant of the British L-1A1 improves on that model, solving the "bang-bang-jam" problem of the British weapon by replacing the long firing pin that tended to bend with a two-part pin made of stronger metal. This also solved the problem of the weapon firing before the breech closes. A carrying handle is added, and it can be reloaded by reloading the magazine or from the top via chargers. In general, the C-1A1 is stronger and made of better materials than its British counterpart. By 2000, the C-1A1 was largely in reserve use.

Twilight 2000 Notes: Many units mobilized later in the war as well as the Native Canadian Rangers were heavy users of the C-1A1, and it was sometimes used by snipers (with the addition of a bipod and scope).

Merc 2000 Notes: Most C-1A1s were put into storage for a rainy day; however, some Canadian units made a lot of use of the C-1A1, as they were used to supplement the C-7s and C-8s when a harder punch or longer range shooting were required.

Weapon	Ammunition	Weight	Magazines	Price
C-1A1	7.62mm NATO	4.25 kg	20	$1046

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
C-1A1	SA	4	2-3-Nil	7	4	Nil	67

C-2A1

Notes: This is modified C-1A1; the C-2A1 has the capacity for automatic fire, uses a heavier barrel with a bipod, and can be further distinguished from the C-1A1 by the uncovered gas cylinder over the forward grip (done to increase cooling when used for sustained fire). The C-2A1 is also able to use an extended 30-round magazine designed for it. The C-2A1 was the standard Squad Automatic Weapon in Canadian forces until the introduction of the C-7 LSW and the Minimi.

Twilight 2000 Notes: This weapon was issued out to units mobilized late in the Twilight War, and to the Native Canadian Rangers, in the same manner as the C-1A1.

Merc 2000 Notes: Like the C-1A1, these weapons were placed into long-term storage; unlike the C-1A1, they almost always stayed there.

Weapon	Ammunition	Weight	Magazines	Price
C-2A1	7.62mm NATO	6.93 kg	20, 30	$1593

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
C-2A1	5	4	2-3-Nil	7	3	8	74
C-2A1 (Bipod)	5	4	2-3-Nil	7	2	4	97

Ross

Notes: This is a Mannlicher Straight-Pull rifle modified by Sir Charles Ross' somewhat screwy designs methods and imagination. The bolt handle is not directly connected to the bolt; instead, it is connected to a sleeve, which is what actually draws the bolt back. This may seem like merely an unnecessary complication, but it is more dangerous than that; if the bolt and sleeve are put together the wrong way (which is too easy for green troops), it will close without locking, and the bolt will then fly back upon firing, striking the shooter's head with normally fatal results. (A good way to tell if the bolt is put together wrong is that if it cycles easily, you did it wrong.)

The bolt/sleeve combination has another problem; it doesn't suffer dirt well. The bolt/sleeve combination also wears out too fast; after a while, it gets close to impossible to cycle the bolt. Sir Charles Ross was constantly tinkering with the design, and some authorities estimate there are no less than 85 variants of the design. The weapon illustrated below is a Mark IIIB, the most common

variety.

Weapon	Ammunition	Weight	Magazines	Price
Ross Mark IIIB	.303 British	4.48 kg	5	$1652

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Ross Mark IIIB	BA	5	2-3-Nil	8	4	Nil	119

Hanyang Rifle

Notes: Though the origin of these rifles is somewhat of a mystery, they appear to be loose copies of the German pre-World War 1 Gewehr 88. The Hanyang Rifle, however, lacks the barrel jacket of the Gewehr 88, and the fore-end was more reminiscent of pre-World War 1 Mannlicher rifles. They tended to have a semi-pistol-grip wrist, though some had straight stocks. These rifles could be found in action as late as the 1960s in Vietnam, and can still be found in the hands of Mongolian steppe herders.

Weapon	Ammunition	Weight	Magazines	Price
Hanyang	8mm Mauser	3.86 kg	5 Clip	$1769

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Hanyang	BA	5	2-3-Nil	9	5	Nil	118

Norinco M-14S

Notes: Norinco produces a copy of the Springfield M-14; though the M-14S is primarily produced for civilian export purposes, I have included it here since it is a (crude) copy of the M-14.

Though externally virtually identical to the M-14, the Norinco version is regarded with derision by most buyers, primarily since it needs a LOT of work before it really becomes reliable and useable. To begin with, the surface contour of the locking lugs are not a proper fit for the surface contour of the receiver. This means that as the M-14S is fired, fouling occurs rapidly around bolt face and chamber, headspace around the chamber is rapidly lost, and the M-14S then simply stops firing in mid-cycle. The only real cure for this problem is disassembly and a thorough cleaning. In addition, the steel used in the chamber, bolt, and bolt face is very soft compared to that of most rifles, which means that they wear quite fast, and often need to be heat-treated *before* their first firing, and sometimes even need hand-lapping. Bolts of the M-14S also tend to be too long; sometimes, they are even long enough that the firing pin cannot properly hit the primer of the ammunition! In addition, the firing pin channel is sometimes too small, which means that the firing pin cannot even retract or engage properly. Measurements of working parts can also be irregular in dimensions and workmanship; some are actually the wrong dimensions to even allow the M-14S to work properly for very long, and even can create a rifle which is dangerous to the shooter! Finish of the external metalwork of the M-14S is also regarded as substandard, as is the wood of the stocks.

In short, if you buy a Norinco M-14S (in the US, at least, it takes mountains of BATF paperwork to actually buy them), take it immediately to the best armorer you can find, and at least get it checked over. If you don't accept his recommendations, fire it at your own risk. Most US resellers will not even give the buyer a warranty for the M-14S!

Twilight 2000 Notes: In the Twilight 2000 timeline, the Chinese actually issued some of these weapons to militia forces, where they received a lot of complaints and were in many cases simply discarded, if not reworked by local armorers. Some were even rechambered for ammunition which was more common in China (7.62mm Nagant and 7.62mm Kalashnikov). These were able to take SVD and Kalashnikov magazines, respectively, as well as some locally-made magazines.

Weapon	Ammunition	Weight	Magazines	Price
M-14S	7.62mm NATO	3.88 kg	5, 10, 20	$1039
Twilight 2000 M-14S	7.62mm Nagant	3.97 kg	10, 15, 20	$1090
Twilight 2000 M-14S	7.62mm Kalashnikov	3.6 kg	20, 30, 40, 75 Drum	$860

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-14S	SA	4	2-3-Nil	8	4	Nil	71
Twilight 2000 M-14S (7.62mm Nagant)	SA	4	2-3-Nil	8	4	Nil	71

Twilight 2000 M-14S (7.62mm Kalashnikov)	SA	4	2-3-Nil	8	4	Nil	66

VZ-98/22

Notes: For a short time after World War 1, Czechoslovakia was *the* place to get Mauser rifles; since the Germans were forbidden by the Treaty of Versailles from manufacturing Mausers (amongst other things), CZ in Czechoslovakia made a good fortune reconditioning tens of thousands of Mauser-type rifles, particularly the Gew 98 series and the Gew 1895 Mannlichers. In addition, CZ produced thousands Mausers during this period for themselves and other countries. Recognizing the superiority of the Mauser action over their then-standard Mannlicher-action rifles, CZ began to produce their own version of the Mauser, the VZ-24. It should be noted that these rifles were refurbished and produced on German equipment; the Treaty of Versailles did not prohibit the sale of weapon-production machine parts.

The VZ-98/22 is basically a Steyr-built Mauser that was originally built for the Mexican Army, with a pistol-grip wrist stock, improved sights, and a longer handguard. The long rifle pattern was the original one, with a 29-inch barrel, but this was soon superseded by the VZ-98/22 Short Rifle and then the VZ-23 rifle (based on the Kar-98AZ, with a Gew-98 stock), and the VZ-23A (as the VZ-23, but new production, whereas the VZ-23 was built from cannibalized or refurbished parts). The Short Rifles all had 21.5-inch barrels.

The VZ-98/29 was simply a minor upgrade of the VZ-98/22. It had wider barrel bands for strength, higher front sight protectors, and a third sling swivel was added in front of the trigger guard. This weapon was used by the Czech military from 1930 until World War 2. Several variants were built: The Model 08/33 Short Rifle, made for Brazil; the Model 12/33 Carbine, built for export to Central and South America; the Model 16/33 Carbine, the shortest member of the series and the basis for the VZ-33 Gendarmerie Carbine; the Model 32 and 35 Short Rifles, minor variants made for Peru (identical to the VZ-98/29 Short Rifle for game purposes); the VZ-98/29 Short Rifle, a shorter version of the base rifle; The Model JC Short Rifle, a lighter version of the VZ-98/29 Short Rifle built for civilian export; and the Model L Short Rifle, a version built for the Lithuanians, firing the .303 British cartridge and using a Austro-Hungarian 1895-pattern knife bayonet.

The VZ-24 was also based on the Mauser 98 action, but while it was based on the plans for that action, it was entirely Czech-produced. The VZ-24 was exported to several countries in Eastern Europe, South America, Latin America, China, and Turkey before World War 2, and thousands were built; CZ was literally swamped with orders for the VZ-24. The VZ-24 had a 23.3-inch barrel, and is for the most part a standard Mauser-type rifle. (Note that, despite the designation, this is not the same as the VZ-24 submachinegun.)

Two special versions of the VZ-24 were built for Persia. The M-1310 was the same as the VZ-24, but has an extended fore-end and a 29-inch barrel; the M-1317 was the same rifle, but with a 17.9-inch barrel. The Persians later set up their own factory to produce their VZ-24 variations; this facility produced those VZ-24 versions until the 1960s, when they were replaced by US-made weapons. The Polish built a license-built copy of the VZ-24 at Radom, called the Wz.29; this differed in that the infantry version had a straight bolt handle while those intended for mounted units had a downturned bolt handle.

After the German takeover of Czechoslovakia just before World War 2, CZ began producing exclusively for Germany. The VZ-24 and VZ-16/33 continued to be produced as the Gew-24(t) and Gew-33(t), though later only the Gew-24(t) was produced. The Gew-24(t) differed in having a laminated stock, short handguard, redesigned rear sight, and stamped trigger guards, buttplates, and barrel bands. For game purposes, these are identical to the VZ-24 and VZ-16/33.

Weapon	Ammunition	Weight	Magazines	Price
VZ-98/22	8mm Mauser	4.22 kg	5 Clip	$1768
VZ-98/22 Short Rifle	8mm Mauser	3.94 kg	5 Clip	$1712
VZ-23/23A	8mm Mauser	3.9 kg	5 Clip	$1712
VZ-98/29	8mm Mauser	4.34 kg	5 Clip	$1768
VZ-08/33 Short Rifle	7mm Mauser	3.2 kg	5 Clip	$1324
VZ-12/33 Short Rifle	8mm Mauser	3.67 kg	5 Clip	$1634
VZ-16/33 Carbine	8mm Mauser	3.84 kg	5 Clip	$1668
VZ-33	8mm Mauser	3.48 kg	5 Clip	$1668
VZ-98/29 Short Rifle	8mm Mauser	3.77 kg	5 Clip	$1654
Model JC Short Rifle	8mm Mauser	3.81 kg	5 Clip	$1661
Model L Short Rifle	.303 British	3.34 kg	5 Clip	$1529
VZ-24	8mm Mauser	4.08 kg	5 Clip	$1709
M-1310	8mm Mauser	4.16 kg	5 Clip	$1767
M-1317	8mm Mauser	4 kg	5 Clip	$1654

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
VZ-98/22	BA	5	2-3-Nil	9	4	Nil	118
VZ-98/22 Short Rifle	BA	4	2-3-Nil	8	4	Nil	88
VZ-23/23A	BA	4	2-3-Nil	8	4	Nil	88
VZ-98/29	BA	5	2-3-Nil	9	4	Nil	118
VZ-08/23 Short Rifle	BA	4	2-3-Nil	6	4	Nil	51
VZ-12/33 Short Rifle	BA	4	2-3-Nil	6	4	Nil	48
VZ-16/33 Carbine	BA	4	2-3-Nil	7	4	Nil	69

VZ-33	BA	4	2-3-Nil	7	5	Nil	65
VZ-98/29 Short Rifle	BA	4	2-3-Nil	7	4	Nil	58
Model JC Short Rifle	BA	4	2-3-Nil	7	4	Nil	61
Model L Short Rifle	BA	4	2-3-Nil	7	5	Nil	57
VZ-24	BA	4	2-3-Nil	8	4	Nil	86
M-1310	BA	5	2-3-Nil	9	4	Nil	117
M-1317	BA	4	2-3-Nil	7	4	Nil	58

ZH-29

Notes: This weapon was designed by Brno in the mid-1920s. It was one of the world's first modern selective-fire rifles, operating by gas piston. The design of the ZH-29 was very difficult to machine accurately with the technology of the time; that made the rifle expensive, and therefore not so desirable. This is a pity, because the ZH-29 was a very reliable weapon that could stand up to sustained automatic fire, despite the length and weight. In addition to Czech use, Brno sold the ZH-29 to China, Ethiopia, and Siam, and they could today turn up anywhere in Africa and the Far East.

Twilight 2000 Notes: In one of the strangest turns in the Twilight War, 12 of these weapons were gathered by a Czech irregular and put together into a single squad. These weapons were equipped with telescopic sights and used as combination sniper/automatic rifles against invading German troops. These same partisans were adamant about their unwillingness to fire upon other NATO troops unless attacked first.

Weapon	Ammunition	Weight	Magazines	Price
ZH-29	8mm Mauser	4.54 kg	10, 25	$1221

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
ZH-29	5	4	2-3-Nil	7	3	9	69

ZK-420

Notes: This was the most common of what was also known as the "Koucky Automatic Rifle." The design began shortly before World War 2, and went through sever iterations before this type was developed. It was a big, heavy weapon, with a large muzzle brake at the end of its 21-inch barrel and otherwise very reminiscent in appearance to the US M-14 of decades later. Though Koucky tried unsuccessfully to shop around the design after World War 2, making at least 150 examples of the ZK-420 rifle and trialing them in places as far away as Ethiopia and Israel, there were no takers. The world was simply more interested in intermediate-sized cartridges and new rifle concepts.

Weapon	Ammunition	Weight	Magazines	Price
ZK-420	7mm Mauser	3.68 kg	10	$1039
ZK-420	7.5mm Swiss	4.34 kg	10	$1138
ZK-420	.30-06 Springfield	4.53 kg	10	$1267
ZK-420	8mm Mauser	4.23 kg	10	$1259

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
ZK-420 (7mm)	SA	4	2-3-Nil	7	4	Nil	62
ZK-420 (7.5mm)	SA	4	2-3-Nil	7	3	Nil	66
ZK-420 (.30-06)	SA	4	2-3-Nil	7	3	Nil	61
ZK-420 (8mm)	SA	4	2-3-Nil	7	3	Nil	70

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Krag-Jorgensen Military Rifle Series (Danish Versions)

Notes: The Krag-Jorgensen series of rifles began development in 1887, when the Danes realized that their old Remington Rolling Block-type rifles were woefully inadequate compared to the rifles of their neighbors (most of whom were already well into issuing bolt-action magazine-fed rifles to their troops. They tried several foreign-built rifles (and indeed the Danish troops had already decided they wanted the Lee-type rifles), but in 1889, the Danes instead started to issue a new Krag-Jorgensen-designed rifle, with full production beginning in early 1890.

The original Gevaer m/89 rifle was essentially a bolt-action rifle with a mechanism based on the Mauser action. Feed was from an internal "tray;" rounds were loaded via a loading gate which hinged forward. The action was designed for use with blunt-nosed bullets and early low-power smokeless powder, which meant that Krag and Jorgensen could get away with what would today be considered a rather weak one-lug bolt and action. The m/89 has a peculiar lack of safety features, except for a dangerous half-cock notch. The barrel jacket is inspired by the German Gewehr 88, and the stock is a straight-gripped stock with no sort of pistol grip wrist. The bolt is cycled by a hooked cocking lever. The sights consisted of a rear non-folding leaf sight, partially protected by a mounting block with short ears. The front sight is a simple blade. The barrel was a rather long 37.4 inches, a new bayonet was designed for the rifle, which attached underneath the muzzle. Though the m/89 was given a series of improvements starting in 1908, examples of original m/89s could still be found in the hands of the Danish Home Guard as late as 1950.

In September of 1908, the m/89 was redesigned to allow the use of a new round with more modern propellant and a spitzer bullet. This new round necessitated numerous changes to the m/89, including a much-strengthened action and sights matching the capabilities of the new round. This improved version was called the m/89-08. In addition, first examples of the m/89-08 also had folding sights on the left side of the regular sights, allowing the shooter to properly sights in when using the older cartridge. These were quickly discarded, since the Danish military stopped issuing the older round almost immediately. The m/89-08 was quickly followed by the m/89-10; this version added a true safety which stopped the bolt from moving in either direction. Starting in 1910, most m/89s and m/89-08s were upgraded to the m/89-10 standard as they were turned into armorers for repair or overhauling. Rifles overhauled after 1915 were also given new barrels with more-modern 4-groove concentric rifling, a strengthened chamber, and new bayonet lugs designed to use the m/15 sword bayonet. The few that came out of this process especially well were also topped with m/16 telescopic sights and used as ersatz sniper rifles. (For game purposes, the m/89-08 and the m/89-10 are identical.)

The Rytterkarabin m/89 (Cavalry Carbine) is basically a shorter version of the Gevaer m/89-08, first issued in 1912 (and called the "Ryttergevaer" at first), after testing that lasted nearly a year. The action was the same as that of the m/89-08; however, barrel jacket was replaced by a wooden handguard, the buttplate was removed, and new sights were mounted to reflect the shorter barrel length (23.6 inches). Sling swivels were mounted, and as the new handguard extended to the muzzle, the Rytterkarabin m/89 had no provisions for a bayonet. In 1922, some m/89-10s had their barrels chopped to the same length for use by Danish border guards and the Danish customs service, and this led quickly to the Rytterkarabin m/89-23. This version also had its handguard cut back enough to allow it to use the m/15 sword bayonet. 4600 were built, but less than 200 are believed to have new production. Oddly enough, even the ones built specifically as m/89-23 used the old-style 6-groove Rasmussen polygonal rifling, which the Danes otherwise stopped using in 1925. For game purposes, all of these carbines are otherwise identical.

The Rytterkarabins inspired the development of the Fodfolkskarabin m/89-24 (as did the general realization around the world that most military rifles didn't need such a ridiculously long barrel or the range they provided). The m/89-24 started out as little more than various versions of the Gevaer m/89 with their barrels chopped to 24 inches and their sights suitably re-tooled. They used bayonet lugs designed for the m/15 sword bayonet. These early-model m/89-24s were produced until 1929, though in 1928 they were rebarreled to use the more modern 4-groove concentric rifling and the chamber strengthened. In 1929 production was moved to a Copenhagen factory, and purpose-built m/89-24s were made for the first time. Trigger pull was lightened in 1930. The m/89-24 was at first issued only to actual infantry units, but in 1928 the Dutch issued them to machinegun crews, then to mortar crews, and then to antitank gun crews.

Shortly after the introduction of the Fodfolkskarabin m/89-24, a short rifle was also introduced to arm artillery crews. Like the Infantry Carbine, the Artillerkarabin m/89-24 was, in fact, quite similar to the Fodfolkskarabin m/89-24 (even to the point of originally being mere conversions of the Gevaer m/89s); however there were numerous small differences. The Artillerkarabin m/89-24 had no bayonet lug, a standard rear leaf sight instead of a tangent-leaf rear sight, a triangular front sling swivel instead of a square one, a turned-down bolt handle, a grooved fore-end, and a slightly longer barrel at 24 inches. For game purposes, however, the Artillerkarabin m/89-24 is identical to the Fodfolkskarabin m/89-24. The Ingeniørkarabin m/89 (Engineer's Carbine) was another (relatively-minor) carbine version of the m/89; built for less than a year, the Ingeniørkarabin m/89 was almost a copy of the Rytterkarabin m/89, except for a different arrangement of the barrel bands and a cut-back handguard to allow a lug for the m/15 sword bayonet. For game purposes, the Ingeniørkarabin m/89 and the Rytterkarabin m/89 are otherwise identical.

The Finskydningsgevaer m/28 was the rarest variant of the m/89 series, with only about 300 being made from 1928 to 1931. They were designed primarily for military marksmanship competitions, with a secondary role as *ad hoc* sniper rifles (though in today's

terms they would be considered designated marksman's rifles rather than true sniper rifles). The Finskydningsgevaer m/28 used a 23-inch heavy, free-floating barrel, and had a full-length handguard with no provision for bayonet attachment. The front sight was either a hooded blade or globe-type, and a rear micrometer-adjustable aperture sight was mounted on the left side of the receiver instead of on top to allow for the mounting of a telescopic sight. Trigger pull weight was lightened, and in 1929 the m/28 was further modified with a lightweight, spurless cocking piece that allowed the bolt to be cycled more quickly. In 1930, the bolt handle was also modified by turning it down; many older m/28s were also retrofitted with the new bolt handle. The Swedes did not buy or issue the Finskydningsgevaer m/28 in any large numbers, but a very small lot was sold to Sweden in 1932. These rifles, designated Finskydningsgevaer m/28-31s, were chambered for the 6.5mm Swedish round and appear to have been used exclusively for military shooting competitions. (The prices and weights listed below for these rifles include a scope.) Today, you'd be lucky to find either model anywhere but Scandinavian museums or private owners, and if you actually get someone to sell you one (especially the m/28-31), you'd pay a pretty steep (real-life) premium for it.

A large amount of these assorted rifles and carbines were captured by the Nazis after occupying Denmark; they were then issued to some of the Nazi's own Home Guard and to troops in conquered countries (including Denmark herself) who were loyal to the Nazis. The Nazis also tried to restart the production line, but constant sabotage by Danish resistance fighters meant that the Nazis got only about 3500 m/89-24s built. The quality of these "Nazi" m/89-24s was generally poor, again due to sabotage by the Danish resistance. Thousands were also either destroyed or "repossessed" by the Dutch resistance, and thousands more were essentially just lost in the chaos of World War 2. After the war, a few of the remaining examples of the m/89 series were issued to the Danish Home Guard, and continued to be issued to the Home Guard as late as 1950. Today, they are considered highly-prized weapons on the civilian war surplus market (there are a lot of gunsmiths through the years who have even rechambered the m/89s for newer ammunition); they were so well-constructed that most Krags still function quite well after all this time.

Weapon	Ammunition	Weight	Magazines	Price
Gevaer m/89	8mm Danish Krag (m/89)	4.58 kg	5 Internal	$1868
Gevaer m/89-08	8mm Danish Krag	4.58 kg	5 Internal	$1868
Rytterkarabin m/89	8mm Danish Krag	4.04 kg	5 Internal	$1727
Fodfolkskarabin m/89-24	8mm Danish Krag	3.96 kg	5 Internal	$1732
Finskydningsgevaer m/89	8mm Danish Krag	5.33 kg	5 Internal	$1930
Finskydningsgevaer m/89-31	6.5mm Swedish	4.68 kg	5 Internal	$1400

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Gevaer m/89	BA	5	2-4-Nil	9	5	Nil	127
Gevaer m/89-08	BA	5	2-4-Nil	9	5	Nil	152
Rytterkarabin m/89	BA	4	2-3-Nil	7	4	Nil	87
Fodfolkskarabin m/89-24	BA	4	2-3-Nil	7	4	Nil	89
Finskydningsgevaer m/89	BA	4	2-3-Nil	8	4	Nil	88
Finskydningsgevaer m/89-31	BA	4	2-Nil	8	4	Nil	91

Madsen LMR m/47

Notes: The LMR m/47 (LMR for Light Military Rifle) was designed specifically for soldiers of small stature. It was small for the time, but would not be considered a small rifle these days at 40.76 centimeters for the .30-06 version and having no folding butt. They were designed in a variety of cartridges, but the only sale was to Columbia in 1957, who bought about 5000 of them in .30-06 caliber; unfortunately, the m/47 appeared in 1948 in a market already glutted with surplus World War 2 small arms.

The m/47 has a simple pistol grip wrist-type stock with a half-length fore-end. The metalwork is steel, with 23.45-inch barrel tipped by a short muzzle brake. The stock also has a rubber recoil pad. The m/47 had a lug for a purpose-designed knife-type bayonet.

Weapon	Ammunition	Weight	Magazines	Price
m/47	6.5mm Swedish	3.4 kg	5 Clip	$1296
m/47	7mm Mauser	3.5 kg	5 Clip	$1480
m/47	7.65mm Mauser	3.55 kg	5 Clip	$1615
m/47	8mm Mauser	3.84 kg	5 Clip	$1812
m/47	.30-06 Springfield	3.86 kg	5 Clip	$1824

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
m/47 (6.5mm)	BA	4	2-Nil	7	4	Nil	74
m/47 (7mm)	BA	4	2-3-Nil	7	4	Nil	77
m/47 (7.65mm)	BA	4	2-3-Nil	8	4	Nil	87
m/47 (8mm)	BA	4	2-3-Nil	8	5	Nil	87
m/47 (.30-06)	BA	4	2-3-Nil	8	4	Nil	75

Schultz & Larsen m/42

Notes: This weapon is perhaps more interesting for its history than its design. This rifle was designed for use by the Danish police, and was produced for only a few months in 1942 and 1943. Only a few hundred were built, not because of bad design or anything like that, but because of persistent Nazi sabotage of the factory. Design-wise, it is a conventional bolt-action rifle, with a pistol-grip-wrist stock and a stock that ran to the muzzle of the rifle. It was a strong design, able to take a lot of abuse.

Weapon	Ammunition	Weight	Magazines	Price
m/42	8mm Danish Krag	3.92 kg	4 Internal	$1710

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
m/42	BA	4	2-3-Nil	7	4	Nil	82

Cristobal M-62

Notes: This odd bird was made in the late 1960s by combining the gas system of the US M-14 rifle with the locking system of the Belgian FN FAL, plus features from a few other weapons. The stock was similar to an overgrown M-1 Carbine, with a pistol grip wrist, a short fore-end, and a sheet-steel shroud above this fore-end. The M-62 proved to be way too light in weight, owing to its metalwork constructed of thin and poor-quality steel, and it was decided to make the M-62 a semiautomatic-only weapon. Barrels were 21.25 inches long with an M-14-type flash suppressor, and they could launch US-type rifle grenades of the type the US and Europe once carried in their inventories in the 1950s and early 1960s. Sights were of the conventional ramp rear and blade front, with the rear sight being adjustable. The M-62 could take both US M-14 and Belgian-made FAL magazines. Only a few hundred M-62s were built, however; at about the same time, a lot of 5.56mm NATO-firing weapons began flooding the market at reasonable prices for even a relatively-poor island nation like the Dominican Republic, and the Dominicans decided to equip their troops and police with those instead. The M-62 remains an interesting, though unexceptional battle rifle.

Twilight 2000 Notes: In the Twilight 2000 timeline, surviving M-62s ended up being handed out by the Dominican government to loyal civilians and citizen's militias.

Weapon	Ammunition	Weight	Magazines	Price
M-62	7.62mm NATO	3.91 kg	20	$1033

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-62	SA	4	2-3-Nil	8	4	Nil	68

Model 1948 Gendarmerie Carbine

Notes: These Mauser-pattern rifles were bought from FN for use by the Dutch Gendarmerie and Police. They were also sold to the short-lived country of Papua, which was absorbed into Indonesia within a year of the issue of those rifles. The Model 1948 is basically a Mauser-pattern rifle with a very short barrel, and attending high muzzle blast.

Weapon	Ammunition	Weight	Magazines	Price
Model 1948	8mm Mauser	3.4 kg	5 Clip	$1648

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Model 1948	BA	4	2-3-Nil	6	5	Nil	55

Hakim

Notes: Based on the design of the Swedish Ljungman M-42, this elderly Egyptian battle rifle was retired in the late 1960s when the Egyptians began receiving large shipments of AK-47s and AKMs from Russia. They were placed in storage until the late 1980s, when the Egyptians began to sell them on the world market to war surplus enthusiasts and survivalists looking for a cheap rifle.

Twilight 2000 Notes: When the Twilight War picked up, the Egyptians began issuing Hakims to their Home Defense Militia units.

Weapon	Ammunition	Weight	Magazines	Price
Hakim	8mm Mauser	4.48 kg	10	$1290

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Hakim	SA	4	2-3-Nil	8	3	Nil	84

Floro International M-1 Garand Conversion

Notes: This rifle, which does not yet have an official Filipino military designation, is a solution for both the chronic shortage of military weapons the Filipino military faces, their lack of money to buy new ones, and large amounts of M-1 Garand rifles they have in storage (in conditions ranging from poor to very good). The M-1 Garand, while it was an excellent rifle for its time, is now a bit dated and is not considered a good weapon to issue out to the Filipino troops, especially since they are facing insurgents usually equipped with more modern weapons.

The Floro International solution, approved by the Filipino government, essentially turns the M-1 Garand into an analog of the M-14. The M-1 is rechambered for 7.62mm NATO (along with all necessary modifications) and is fed from new Filipino-made 20-round magazines (though the modified weapon will also accept M-14 magazines or those designed for the Italian BM-59). The safety is of a modern design. The barrel length is reduced to 22.4 inches. A recoil buffer is also added, somewhat reducing recoil.

Conversions started in 2005, though I have not been able to find out if any have yet been issued. It is estimated that 5 years will be required to modify all 50,000 M-1 Garands the Filipinos have. The modified weapons are envisioned to be used by platoon and squad marksmen, police, internal security organizations, and even for handing out to friendly non-government groups in the Philippines.

Twilight 2000 Notes: Floro International started these conversions far earlier in the Twilight 2000 timeline than they did in real life – in 1994.

Weapon	Ammunition	Weight	Magazines	Price
Floro M-1 Garand Conversion	7.62mm NATO	3.99 kg	20	$1108

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Floro M-1 Garand Conversion	SA	4	2-3-Nil	7	3	Nil	74

Finnish Nagants

Notes: As Finland was a part of Russia until the Russian Revolution of 1917, the Finns inherited a large number of Mosin-Nagant rifles from the Russians. As time went on, they continued to produce the Mosin-Nagant, and in fact were still making them as civilian rifles until well after World War 2. (Older former-military rifles were also common on the war surplus market.) It is generally agreed by most arms experts that the Finnish-made Mosin-Nagants were superior to their Russian counterparts, especially those produced in the 1920s and later, being built with better materials, better barrels, and in general not in such a cheap manner as Russian Mosin-Nagants.

The first Finnish variation of the Mosin-Nagant was domestically-produced version of the M-1891; it is essentially identical (for game purposes) as the Russian Mosin-Nagant, except that the sights were graduated in meters, the trigger had a two-stage pull (effectively giving it a set-trigger function), and had sling swivels as standard equipment. They also produced a domestic version of the M-1891 Dragoon, also identical (again, for game purposes) except for having the improvements listed above, except for a side-mounted sling adopted from the German Mauser K-98 rifle.

The M-24 (sometimes referred to as the M-1891/24), was an odd version of the Mosin-Nagant, primarily distinguishable by its Swiss or German-made barrel (complete with the Swiss or German company name stamped on the right side of the barrel). This barrel has a step rather than a continuous taper. The M-24 also has a reconditioned action cannibalized from scrapped weapons. The barrel is also a floating barrel, lending greater accuracy. Most of these rifles were built for the 7.62mm Nagant cartridge, but a very few were also chambered for the 8mm Mauser cartridge. Barrel length was 32 inches. Most of these rifles were issued to Finland's Civil Guard Infantry units. An M-24 Carbine was also produced, with a short 24-inch barrel; however, it is estimated that only about 650 of these carbines were actually made, all chambered for 7.62mm Nagant.

The Army also got a shorter version of the M-24, called the M-27 Short Rifle. This version used a 27-inch barrel, and had a full-stocked Mannlicher-type stock, and used a fully-adjustable leaf-type rear sight, as well as a protected blade front sight. Early models were modified M-1891 stocks, but soon purpose-designed stocks were devised. The bolt-handle was also turned down. Many M-1891 rifles were also modified to this standard; these were called the M-27/1891-30. A Cavalry Carbine variant was also produced, generally similar to the standard M-27; however, the Cavalry Carbine used a 24-inch barrel with appropriately-calibrated sights and a side-mounted sling.

The M-39 Short Rifle is widely regarded as the best version of the Mosin-Nagant rifle ever built; it is a Finnish version of the Russian M-1891/30. It is also, unfortunately, one of the rarest Mosin-Nagants. Original Finnish Nagants were simply captured Russian weapons; however, the Finns quickly began making their own copies, which were better in quality than the Russian examples. They remained in service for nearly half a century. Differences between these Finnish and Russian Nagants include a stock made of better quality wood and with a higher comb, a slightly larger bore diameter (the Russians never figured out that their ammunition was slightly too large), a wider sling, a different bayonet (similar to a Bowie knife in design), and a different front sight.

Twilight 2000 Notes: M-39s were pulled back out of storage, and put into action as ersatz sniper rifles. Other versions of the Finnish Nagant were used by civilians (rather enthusiastically) against all comers; these often were equipped with more modern sights and sight mounts, and even bipods.

Merc 2000 Notes: The price of one of these rifles can fetch a pretty good sum in the West. (That's true even in real life.)

Weapon	Ammunition	Weight	Magazines	Price
M-1891	7.62mm Nagant	4.43 kg	5 Clip	$1600
M-24	7.62mm Nagant	4.2 kg	5 Clip	$1615
M-24	8mm Mauser	4.4 kg	5 Clip	$1808
M-24 Carbine	7.62mm Nagant	4.09 kg	5 Clip	$1531
M-27	7.62mm Nagant	4.11 kg	5 Clip	$1562
M-27 Cavalry Carbine	7.62mm Nagant	3.98 kg	5 Clip	$1531
M-39	7.62mm Nagant	4.3 kg	5 Clip	$1562

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1891	BA	5	2-3-Nil	9	4	Nil	124
M-24 (7.62mm)	BA	5	2-3-Nil	9	4	Nil	130
M-24 (8mm)	BA	5	2-4-Nil	9	5	Nil	134
M-24 Carbine	BA	4	2-3-Nil	8	4	Nil	94
M-27	BA	4	2-3-Nil	8	4	Nil	109
M-27 Cavalry Carbine	BA	4	2-3-Nil	8	4	Nil	94
M-39	BA	4	2-3-Nil	8	4	Nil	109

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M-24

Notes: This odd version of the Mosin-Nagant is primarily distinguishable by its Swiss-made barrel (complete with the company name, Schweizerische Industrie-Gesellschaft stamped on the right side of the barrel). This barrel has a step rather than a continuous taper. The M-24 also has a reconditioned action cannibalized from scrapped weapons. The barrel is also a floating barrel, lending greater accuracy.

Weapon	Ammunition	Weight	Magazines	Price
M-24	7.62mm Nagant	4.2 kg	5 Clip	$1638

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-24	BA	5	2-3-Nil	10	4	Nil	140

M-27

Notes: This is a shorter version of the M-24. The nose cap of the stock was hinged, underneath which was a bayonet lug. The sights were changed to reflect the shorter barrel length, and the bolt handle was turned down. A variant was the M-27 Cavalry Rifle, shorter and lighter than the standard M-27.

Weapon	Ammunition	Weight	Magazines	Price
M-27	7.62mm Nagant	4.11 kg	5 Clip	$1552
M-27 Cavalry Rifle	7.62mm Nagant	3.98 kg	5 Clip	$1535

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-27	BA	4	2-3-Nil	8	4	Nil	105
M-27 Cavalry Rifle	BA	4	2-3-Nil	8	4	Nil	96

M-39

Notes: This Finnish copy of the Mosin-Nagant M-1939 is widely regarded as the best version of the Mosin-Nagant rifle ever built. It is also, unfortunately, one of the rarest Mosin-Nagants. Original Finnish Nagants were simply captured Russian weapons; however, the Finns quickly began making their own copies, which were better in quality than the Russian examples. They remained in

service for nearly half a century. Differences between Finnish and Russian Nagants include a stock made of better quality wood and with a higher comb, a slightly larger bore diameter (the Russians never figured out that their ammunition was slightly too large), a wider sling, a different bayonet (similar to a Bowie knife in design), and a different front sight.

Twilight 2000 Notes: These weapons were pulled back out of storage, and put into action as ersatz sniper rifles.

Merc 2000 Notes: The price of one of these rifles can fetch a pretty good sum in the West.

Weapon	Ammunition	Weight	Magazines	Price
M-39	7.62mm Nagant	4.3 kg	5 Clip	$1403

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-39	BA	4	2-3-Nil	7	4	Nil	106

ENT M-1886 “Lebel”

Notes: More properly known as the *Fusil d’Infanterie Mle. 1886,* The Lebel M-1886 is notable since it is the first military rifle to use both smokeless powder and (what was considered at the time) a small-caliber bullet. (It should be noted that the rifle became known as the “Lebel,” over the protests of Colonel Lebel himself – he did not design the rifle, only the cartridge.) The new round *was* a technical advance, but rather strangely-implemented; it was behind the times as far as feed was concerned, using a tubular magazine (in a bolt-action rifle, which is rather unusual), but ahead of the times as far as the ammunition is concerned. It essentially led to an arms race that would last some 20 years, until the Mauser series of rifles came into its own. In the meantime, the M-1886 was issued to the French military and the Foreign Legion alike. In 1915, large numbers of the M-1886/93 were supplied to Imperial Russia; later, they were sold or supplied to Belgium, Serbia, Romania, and Greece. Some were also captured by the Germans in World War 1, and used to equip some of their second-line and service troops; some of these were modified to take the standard Mauser bayonet.

The Lebel M-1886 is essentially a Mle. 1885 modified to use the new ammunition; changes included a new barrel, bolt head, and a new chamber. The barrel length was an astounding 31.5 inches. The M-1886 was forced to use round-headed ammunition by the tubular magazine feed (at the time, Spitzer (pointed-nose) bullets were quite unreliable in a tubular feed magazine, with the point of the bullet often setting off the primer of the round ahead of it in the magazine in the shock of firing the weapon). The bolt action had a massive, exposed receiver with a bolt handle that stuck straight out from the weapon. The peculiar bolt mechanism and the need for a large tubular magazine led to a long, heavy, and unbalanced rifle which took some time for shooters to get used to. The wooden stock was straight-wristed with a quite long length of pull. The magazine feed could be cut off, allowing for the feeding of single rounds into the rifle (French tactics of the time called for the shooter to feed single rounds into the weapon under most circumstances, using the magazine only to defend against incoming charges or when a large volume of fire was otherwise needed). Experienced users of the M-1886 had a trick for loading more ammunition into the weapon at once – they would fill the tubular magazine, load one into the chamber, and put an extra round into the cartridge lifter, giving them ten rounds to work with. The sights were unusual, with the rear sight being a very wide U-shaped notch on a stepped ramp graduated for 400-800 meters, and a folding leaf graduated for 900-2000 meters. For short-range shooting, the folded leaf has a fixed notch sight useful out to about 250 meters. The front sight was a block-like blade with a groove on top, with the shooter aligning the front and rear sights and placing the target in the groove. The M-1886 did not have a safety; instead, it had a very heavy target pull to prevent accidental discharges.

In 1893, minor modifications were made to the M-1886; the firing pin, muzzle band, and bolt head were modified. Wings were added around the rear sight base, as the sight tended to separate using the simple soldering used on the M-1886. Despite these minor modifications, the rifle was given a new designation, the M-1886/93. It is identical to the standard M-1886 for game purposes. Another minor and relatively rare variation, the M-1886/93/R35, was a carbine version with a 17.7-inch barrel and a tubular magazine that held only three rounds.

In 1929, some experimental M-1886/30 rifles were rechambered to take the then-new 7.5mm MAS round. These experimental rifles received new 24-inch barrels, a new bolt head, and a box magazine to replace the tubular magazine. They were designated the M-1886/27. However, the decision to develop a new rifle (which eventually became the MAS-36) cut these tests short. The stats below are presented as a “what-if.”

Despite its being essentially obsolete well before World War 1, the M-1886 remained in service with the French until the end of World War 2 (in limited numbers).

The tubular magazine of the Lebel M-1886 was far too slow and difficult to load, especially as the feed spring in the magazine was very stiff. The Berthier modification (the Mle 1907/15, generally known as the “Lebel-Berthier”) was a box magazine with a Mannlicher clip, in addition to allowing the weapon to use the new Spitzer-pointed boattail bullet. The original Berthier modification gave it only a three-round magazine in order to avoid having to do heavy modifications to the stock, but later a 5-round magazine was adapted to it by adding a sheet-metal extension to the bottom of the stock. This version was variously referred to as the Mle 1916, Mle 1907/15/16, and its official designation, the Mle 1907/15 et 1916.) For the most part, the M-1907/15 went to Foreign Legionnaires; this gave them the best rifle in the world for a few years.

The Berthier modification remained in service until the 1950s, and a few were given mounts for telescopic sights and used as *ad hoc* sniper rifles. Others were given extended muzzle rifle grenade-launching attachments.

Weapon	Ammunition	Weight	Magazines	Price
Lebel M-1886	8mm Lebel Rifle	4.28 kg	8 Tubular	$1622
Lebel M-1886/93/R35	8mm Lebel Rifle	3.54 kg	3 Tubular	$1481
Lebel-Berthier M-1907/15	8mm Lebel Rifle	3.81 kg	3 Clip	$1623
Lebel-Berthier M-1907/15/16	8mm Lebel Rifle	3.84 kg	5 Clip	$1623
Lebel-Berthier M-1886/27	7.5mm MAS	3.71 kg	5 Clip	$1506

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Lebel M-1886	BA	5	2-3-Nil	9	4	Nil	120
Lebel M-1886/93/R35	BA	4	2-3-Nil	7	4	Nil	57
Lebel-Berthier M-1907/15	BA	5	2-3-Nil	8	5	Nil	121
Lebel-Berthier M-1907/15/16	BA	5	2-3-Nil	8	5	Nil	121

Lebel-Berthier M-1886/27	BA	4	2-3-Nil	8	4	Nil	90

Meunier Fusil A6

Notes: This was at first only a provisionally-accepted rifle, but the coming of World War 1 and difficulties with the St. Etienne M-1917 led to more widespread deployment of the Fusil A6 than it might otherwise have gotten. It was an advanced semiautomatic rifle for the time, one of the few decent weapons the French fielded during World War 1. The biggest problem was the special ammunition required for the rifle, which led to continual ammunition shortages for those specialist troops equipped with the Fusil A6. (About 750 Fusil A6's were built, and issued mainly to sharpshooters.)

Weapon	Ammunition	Weight	Magazines	Price
Fusil A6	7mm STA	4.04 kg	6 Clip	$1130

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Fusil A6	SA	4	2-3-Nil	8	4	Nil	92

St. Etienne M-1917/M-1918

Notes: It seemed to be beyond the power of post-World War 1 French arms manufacturers to design a weapon that was either reliable or esthetically appealing. Case in point: the St. Etienne M-1917, brought to you by the designers of the Chauchat. The rifle was an early attempt at a semiautomatic infantry weapon. However, the gas port tended to get very easily blocked, leading to jams. It was long and poorly-balanced. The magazine held only 5 rounds and was fixed; no chargers were available for quick loading. And the M-1917 used the notoriously unreliable 8mm Lebel cartridge, a round that was poorly-shaped for a semiautomatic weapon. In 1918, The St. Etienne was shortened and the magazine modified to accept a charger; the shorter length partially relieved the balance problem, but increased the muzzle blast and fouling. In 1935, most of the surviving M-1917s and M-1918s were modified into bolt-action weapons, which at least solved the problem of jamming. They were issued to French troops stationed in Equatorial Africa.

Weapon	Ammunition	Weight	Magazines	Price
M-1917	8mm Lebel	5.25 kg	5 Internal	$1196
M-1918	8mm Lebel	4.79 kg	5 Clip	$1111

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1917	SA	5	2-3-Nil	8	4	Nil	109
M-1918	SA	4	2-3-Nil	7	4	Nil	77

St. Etienne MAS-36

Notes: More properly known as the *Fusil MAS Mle. 1936,* this rifle arose after the shortcomings of the Mle 1886 series (especially it's 8mm Lebel Rifle cartridge), and was the last bolt-action service rifle developed for the army of a major power (at the time). The MAS-36 was the first service rifle developed expressly for the 7.5mm MAS cartridge, but was still essentially a development of the M-1886 series of rifles. Though regarded as an ugly and clumsy weapon, it could stand up to virtually any sort of abuse known to man, from surviving explosions to being used as an improvised club or crowbar. Even the 22.6" barrel, though exposed for a large part of its length, was thickened and strengthened to make it stronger despite the exposure. The MAS-36 was the last bolt-action rifle adopted by any major power as a standard infantry weapon, and served for almost 40 years. Thou official production of the MAS-36 ended in 1953, MAS-36s continued to be assembled from parts already manufactured for several years more. The MAS-36 served in the French reserve forces well into the 1970s, and it still the standard rifle of the French Gendarmerie, who have rebuilt heavily and repeatedly over the years. The Viet Minh captured many MAS-36s from the French in Indochina during their involvement there, and these later showed up in Viet Cong hands during the Vietnam War until replaced by Soviet and Chinese weapons.

The MAS-36, despite its "Lebel" rifle ancestry, is immediately identifiable by this exposed length of barrel, along with the front sight set back from the muzzle and the shorter, lighter receiver and bolt. The MAS-36 also is equipped with a cruciform bayonet; this bayonet is kept in a hollow tube in the fore-end beneath the barrel. The bayonet is removed from the tube for use, and the other end is inserted into the tube, with a lug on the barrel a little ahead of that. The MAS-36 still used a two-piece stock changed very little from the M-1886 series. The sights were considered excellent, but the trigger pull was extremely heavy. There was also no manual safety of any kind, and only one passive safety. The biggest problem with the MAS-36 is in fact that bolt-action system. The bolt was designed to lock into the receiver behind the magazine, instead of above it; this made the MAS-36 a shorter weapon than normal, but also turned the bolt pull so short that the handle had to be bent forward, and pulling the bolt when the shooter had his head in the normal aiming position meant that he was usually pulling the bolt into his nose.

A very rare variant of the MAS-36 is the MAS-36/CR39, which is a folding-stock paratrooper's weapon; the stock remains solid, but folds for parachute drops or storage. It is not recommended that the MAS-36/CR39 be fired with the stock folded, though it is possible to do so. The MAS-36/CR39 uses a shortened 17.7-inch barrel. A less-rare variant is the MAS-36/LG48; this is a standard MAS-36 with an attachment on the muzzle for older-type (non-bullet-trap) rifle grenades. This version also has a rifle grenade sight on an arm on the left side of the barrel, and range for the rifle grenade could be somewhat adjusted by rotating a

gas trap collar at the muzzle. The MAS-36/LG48 was usually issued with a slip-on rubber recoil pad for the butt that also protected the butt when the rifle grenades were fired with the butt braced against the ground. The MAS-36/LG48 is otherwise identical to a standard MAS-36 for game purposes. A training version, the MAS-36 Subcaliber, was also produced for training; this version uses a barrel insert and modified bolt and sights for use with .22 Long Rifle ammunition.

Century International has been selling military surplus MAS-36s on the military surplus market since the early 1990s. These are standard MAS-36s, often refinished and sometimes with replacement parts, but for game purposes are identical to the standard MAS-36. MAS-36/CR39s are sometimes seen on the military surplus market, where they command a rather high (real-world) price.

Weapon	Ammunition	Weight	Magazines	Price
MAS-36	7.5mm MAS	3.75 kg	5 Clip	$1492
MAS-36/CR39	7.5mm MAS	3.25 kg	5 Clip	$1467
MAS-36 Subcaliber	.22 Long Rifle	3.85 kg	5 Clip	$295

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
MAS-36	BA	4	2-3-Nil	7	4	Nil	82
MAS-36/CR39	BA	4	2-3-Nil	5/6	5	Nil	57
MAS-36 Subcaliber	BA	1	Nil	7	1	Nil	50

St. Etienne MAS-44

Notes: In the fall of 1944, the French began work on trying to perfect the pre-war MAS-39 (an unsuccessful semiautomatic design), which eventually resulted in the MAS-44. First issue to French troops (specifically, French Marine Commandos fighting in Indochina) began in 1946, and the MAS-44 was rarely seen outside of French issue or issue to the troops of former French colonies. The MAS-44 used the stock, fittings, and bayonet of the MAS-36, but of course used a semiautomatic action based on gas with tilting-block locking. The charging handle was sometimes a sore point with troops in Indochina; it protruded rather far from the right side of the receiver. The 24.1-inch barrel and 42.35-inch overall length was also a bit unwieldy for jungle-operating troops. The range this long barrel produced was appreciated by other French troops, however. The MAS-44 used a tangent-leaf rear sight and a simple ramp front sight.

In 1948, the MAS-44A was introduced; this was a rifle grenade-firing version with the muzzle modified for that purpose, the bayonet lug deleted, and an extra sight for grenade launching added near the muzzle. The MAS-44A shoots the same as the MAS-44 for game purposes, though in real-life terms it was a bit muzzle-heavy.

The MAS-44 proved to have a lot of problems with fouling, both in the gas tube and the bore and was further modified, resulting in the MAS-49 (see below). The MAS-44 was therefore withdrawn from service in 1951.

Weapon	Ammunition	Weight	Magazines	Price
MAS-44	7.5mm MAS	4.07 kg	10	$1094
MAS-44A	7.5mm MAS	4.11 kg	10	$1099

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
MAS-44	SA	4	2-3-Nil	7	4	Nil	82

St. Etienne MAS-49

Notes: This original version of this rifle, the MAS-49, was the second semiautomatic weapon produced by France after World War 2 for their military. (An earlier version, the MAS-44, had severe problems with fouling and was reworked.) It had been known for a long time (at least since before World War 2) that France needed to catch up and produce at least a semiautomatic service rifle for their troops, but World War 2 interrupted this development. Production began in earnest early in the 1950s, with the MAS-49/56 appearing in late 1957, and production continuing until 1978. In addition to France, users included virtually anywhere that the French Foreign Legion operated, as some were inevitably captured – Africa, the Middle East, and Indochina. (Examples turned up in the hands of the Viet Cong in the early stages of the Vietnam War.) As late as 1992, the MAS-49 and MAS-49/56 was in service with the French Gendarmerie and some French Army reserve units.

The MAS-49 was made for their then-standard 7.5mm French Service cartridge, and the muzzle includes a combination muzzle brake and rifle grenade launcher attachment. The firing mechanism is very similar to that used by the US M-1 Garand, and is quite reliable, though of course, the problem with the ringing noise that occurs when an M-1 Garand is emptied is reproduced on the MAS-49, despite the box magazine feed. Like the MAS-36, the MAS-49 had a heavy, massive machined receiver which increased the weight of the weapon as a whole, though the MAS-49 was a very tough and “soldier-proof” weapon because of the heavy construction. Also like the MAS-36, the MAS-49 has a two piece stock, built of medium grade wood. The charging handle, for whatever reason, was painted in bright white, perhaps to allow it to be found quickly in the heat of battle. The magazine could be simply placed into the weapon in a conventional manner, or topped from the top with 10-round chargers. The attachment device for the magazine is unusual in that it is a large, spring-loaded clamp on the right side of the magazine itself. The fore-end was virtually full-length, leaving enough barrel exposed to allow for the muzzle brake/grenade launcher. Operation is by gas. By 1957, some 20,000 MAS-49s had been produced, most of which were issued to the French Foreign Legion; however, they were less-

than-satisfied by the weight and the length of the weapon, especially since they were fighting in what was then French Indochina. In the late 1950s and early 1960s, most MAS-49s were sort of dumped on the French Gendarmerie, where they were used as sharpshooters weapons (sometimes scoped), until superseded by better, dedicated sharpshooter and sniper's weapons a few years later. They then were given to former French colonies in Africa and South America; though they will sometimes still be found in French Guyana service, in Africa they were quickly discarded in favor of cheap, easy to find AK-47s and AKMs. After that, they started showing up on the international market for sale to civilians, where they still didn't sell very well (though they are still available even today).

In the mid-1950s, the French responded to the Foreign Legion's demand for a shorter, lighter rifle with the MAS-49/56. This rifle was essentially the same, but the receiver was not quite so heavy, the barrel was over 2 inches shorter than the MAS-49's 22.8-inch barrel at 20.7 inches, the fore-end was lighter (mostly due to the shorter barrel), and the length of pull was slightly lessened. The spike-type bayonet issued with the MAS-49 was replaced with a shorter knife-type bayonet. Both the front and rear sight were capable of fine adjustments, with the rear sight adjustable for windage and the front for elevation. A rifle-grenade launching adapter was added to the end of the barrel. This version was far more successful with over 275,000 being manufactured by 1978, but it was eventually replaced by the FAMAS assault rifle, and then it had the same fate as the MAS-49 (except that the French Gendarmerie never used them).

French Foreign Legionnaires often turned their MAS-49s into *ad hoc* sniper rifles by having their receivers grooved to accept a scope mount, and mounting the Mle 1953 (APX-L806) 3.85x scope on them. For game purposes, they are simply standard MAS-49s with a scope on them.

In the late 1950s, some MAS-49s were converted to the new NATO standard 7.62mm NATO cartridge, and some MAS-49/56s also had this conversion done. However, more of these conversions were done just before they were offered on the civilian market, and more done by independent gunsmiths after they were bought (especially in the US, Canada, and Mexico).

Twilight 2000 Notes: Ironically, a lot of civilian-owned MAS-49s and MAS-49/56s were turned on the French by Belgian, Dutch, German, and Luxembourger partisans after the French invasions of their countries, most of which had already been converted to 7.62mm NATO.

Weapon	Ammunition	Weight	Magazines	Price
MAS-49	7.5mm MAS	4.72 kg	10	$1131
MAS-49	7.62mm NATO	4.65 kg	10	$1092
MAS-49/56	7.5mm MAS	3.9 kg	10	$1109
MAS-49/56	7.62mm NATO	3.84 kg	10	$1070

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
MAS-49 (7.5mm)	SA	4	2-3-Nil	7	3	Nil	76
MAS-49 (7.62mm)	SA	4	2-3-Nil	7	3	Nil	75
MAS-49/56 (7.5mm)	SA	4	2-3-Nil	7	3	Nil	66
MAS-49/56 (7.62mm)	SA	4	2-3-Nil	7	3	Nil	65

Haenel M-1907

Notes: The Haenel M-1907 (*Aptierte Haenel-Gewehr M-1907)* was not actually built for use by German forces; it was made for export to China shortly after the turn of the 20th century. It is basically a Gewehr 88 with the addition of a bolt-guide rib, gas-escape port, guides for stripper clips, and modifications necessary to accept the 8mm Mauser round. A few of these rifles were still in Germany at the start of World War 1, awaiting shipment to China; these sere seized by the Kaiser's Army and used by Landsturm troops to free Gewehr 88s for regular Army use. Some of these retained their original 6.5x57mm Mauser chambering, but most were modified for 8mm Mauser.

Weapon	Ammunition	Weight	Magazines	Price
M-1907	8mm Mauser	3.87 kg	5 Clip	$1756
M-1907	6.5x57mm Mauser	3.04 kg	5 Clip	$1272

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1907 (8mm)	BA	5	2-3-Nil	8	5	Nil	112
M-1907 (6.5mm)	BA	4	2-3-Nil	8	5	Nil	93

Heckler & Koch G-3

Notes: The G-3 was first taken into German Army service in 1959. Since then, it has been sold and manufactured in so many countries, it may be encountered almost anywhere in the world. The G-3 is based on the design of the Spanish CETME-58; however, the CETME-58 was itself based on a Nazi design that was never produced. (In fact, the first prototypes of the G-3 were virtually identical to the CETME-58.) The G-3 was the first Heckler & Koch rifle to use roller-locking action that became synonymous with the company's name.

After many modifications and some improvements, the G-3 did not look so much like the CETME-58 anymore; there is still, however, a noticeable family difference. Unlike the CETME-58, however, the G-3 is built using as many steel stampings as possible. Early G-3s used stamped steel ventilated handguards, but had inexpensive high-impact plastic pistol grips. Early stocks were of wood, but these were later replaced with plastic stocks. The first G-3s used sights which were little-changed from those of the CETME-58, but most G-3s use drum-type sights with a hooded front post. The charging handle is on the left side above the barrel, and folds for storage or to prevent snagging. Very early production G-3s had no flash suppressor; a prong-type flash suppressor was quickly added, but virtually all G-3s were built with a compact birdcage-type flash suppressor or retrofitted with them. The original G-3 also was fitted with a folding bipod and a FAL-type carrying handle.

Operation is by delayed blowback using roller locking. In addition, a tiny amount of gas is leaked through internal flutes to the chamber, which actually helps keep the spent cases from sticking and aids in extraction.

The G-3 was first fielded in 1959, but user feedback led to some of the changes described above in 1963, such as the drum-type rear sight. The bipod and carrying handle were also eliminated. Also in 1963, the first sliding-stock variant, the G-3A1, was introduced, with a metal stock similar to (but not exactly the same as) later Heckler & Koch sliding stock patterns, including a textured rubber-coated buttplate. The G-3A2, though approved in 1962, does not appear to have been fielded until 1964; this model used a fixed plastic stock, plastic handguards, and a floating barrel which improved accuracy. Many earlier G-3s were rebuilt to the G-3A2 standard.

The G-3A3 was adopted later that year, and replaced the plastic stock with a synthetic one, improved the front sight, and changed the design of the flash suppressor to allow it to use NATO-pattern rifle grenades. In 1968, a version of the G-3A3 also became available with four selector lever positions (safe, semiautomatic, 3-round burst, and full auto), but the Germans and many other countries do not seem to have used that version very much. In 1974, further modifications were made to the G-3A3, re-shaping the pistol grip and simplifying the handguards. In 1985, even more changes were made, including a synthetic sub-frame for the stock and pistol grip for strengthening and an ambidextrous fire selector. The G-3A4 is virtually identical to the G-3A3, but uses a sliding steel stock. The G-3A3 and G-3A4 have become the standard production versions of the G-3 series. (There are also G-3A5, A6, and A-7 versions, which are simply export versions of the G-3A3 or G-3A4.)

Other significant variants of the G-3 include the G-3KA3 and A4; these versions have barrels shortened to 12.7 inches, with the G-3KA3 using a fixed stock (and being relatively quite rare) and the G-3KA4 having a sliding steel stock. Neither are capable of mounting bayonets or using rifle grenades. The G-3SG/1 is an otherwise-standard G-3A3 which, during test firing, showed itself (due to slight variances in manufacturing) to be somewhat more accurate and/or better built than the normal G-3A3. They have a normal fire selector, but also are fitted with a trigger group including a set trigger (useable only when the rifle is set on semiautomatic). The standard trigger is also adjustable for pull weight. The G-3SG/1 also has a folding bipod mounted as standard, as well as a modified stock with a removable cheekpiece (of various sizes to suit the shooter). They have a claw-type telescopic sight mount fitted (which in German service usually holds a Zeiss 1.5-6x scope). The G-3A3 and G-3A4 INKAS have an infrared laser spotting device built into the cocking handle, with the switch behind the front sight.

A minor modification of the G-3A3 is called the G-3PT; this version is made by using a parts kit consisting of a subcaliber barrel insert and a magazine insert to allow the G-3A3 to fire .22 Long Rifle ammunition. No other G-3A3 parts need be changed to produce the G-3PT, though the sights must be adjusted for the shorter range. The G-3PT is meant to allow lower-cost basic marksmanship training. The G-3TGS is not really a variant as such; it is simply the nomenclature for a G-3A3 or G-3A4 fitted with the HK-79 grenade launcher and the special interface handguard/fore-end hardware and grenade-launching sights.

The G-3 also spawned several related designs (which are covered elsewhere in these pages); these include the PSG-1 and MSG-90 sniper rifles, HK-33 and G-41 assault rifles, and HK-11 and HK-21 machineguns; in addition, there is a civilian version called the HK-91, which has a fire selector locked to allow only semiautomatic fire only. There are in fact so many countries which wither have licenses to manufacture the G-3 series or use the G-3 series themselves that it is possible to encounter the G-3 almost anywhere in the world, with virtually innumerable local modifications both large and small.

Perhaps one of the largest manufacturers of civilian-legal G-3s (i.e., HK-91s) is the US manufacturer PTR-91 Inc (formerly JLD Enterprises). For the most part, these are identical to HK-91s and their variants, but one version, the PTR-32 is worth a little more elaboration. The PTR-32 is chambered for 7.62mm Kalashnikov and has a 16-inch barrel. It is built to the heavier HK-91/PTR-91 frame, and the name appears to be a combination of the PTR-91 and the limited-production HK-32. The barrel is 16 inches, and is tipped with a bird-cage-type flash suppressor which can be removed and replaced with a variety of aftermarket muzzle devices. The PTR-32KC is designed for compliance with California regulations, and has no MIL-STD-1913 rail and can accept 10-round magazines; the flash suppressor is also non-removable. A PTR-32KCM4 is identical, but does have the MIL-STD-1913 rails, including four on the handguards. The standard PTR-32KF is very similar to the California model, but has a removable flash suppressor and mounts for a bipod, a MIL-STD-1913 rail, or other types of scope mounts. The PTR-32KMF4 (formerly designated the PTR-32KFR) has the MIL-STD-1913 rail as standard, and the handguards also have four MIL-STD-1913 rails on the handguard. The PTR-32 can take any magazine which will fit into an AK-type weapon. PTR-91 also produces the PTR-91 Super Sniper, which is their version of the G-3SG/1, though it has MIL-STD-1913 rails atop the receiver and handguards and below the handguards. It costs 1% more than a standard G-3SG/1.

It should be noted that while the G-3 is not normally issued with a bipod, it can easily be fitted with one; any G-3 can also be fitted with a claw-type scope/accessory mount. There are also rumors that some G-3s have recently been fitted with MIL-STD-1913 rails, but I have not been able to confirm this.

Weapon	Ammunition	Weight	Magazines	Price
G-3 (With Bipod)	7.62mm NATO	4.79 kg	20	$1428
G-3 (No Bipod)	7.62mm NATO	4.58 kg	20	$1001
G-3A1	7.62mm NATO	5.29 kg	20	$1026
G-3A2	7.62mm NATO	5.09 kg	20	$1010
G-3A3	7.62mm NATO	4.4 kg	20	$1403**
G-3A4	7.62mm NATO	4.7 kg	20	$1423**
G-3KA3	7.62mm NATO	4.12 kg	20	$1350**
G-3KA4	7.62mm NATO	4.4 kg	20	$1370**
G-3SG/1	7.62mm NATO	4.75 kg	20	$1653
G-3A3 INKAS	7.62mm NATO	4.6 kg	20	$1803**
G-3A4 INKAS	7.62mm NATO	4.9 kg	20	$1823**
PTR-32KF/PTR-32CF	7.62mm Kalashnikov	4.03 kg	10, 20, 30	$780
PTR-32KFM4/PTR-KCF4	7.62mm Kalashnikov	4.05 kg	10, 20, 30	$788
G-3PT Parts Kit	(.22 Long Rifle)	5 kg*	20	$181*

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
G-3	5	4	2-3-Nil	7	3	8	52
(With Bipod)	5	4	2-3-Nil	7	2	4	67
G-3A1	5	4	2-3-Nil	6/7	3	8	52
G-3A2	5	4	2-3-Nil	7	3	8	54
G-3A3	3/5	4	2-3-Nil	7	3	5/9	54
G-3A4	3/5	4	2-3-Nil	6/7	3	5/8	54
G-3KA3	3/5	4	2-3-Nil	6	3	5/9	32
G-3KA4	3/5	4	2-Nil	5/6	3	5/8	32
G-3SG/1	5	4	2-3-Nil	7	3	8	55
(With Bipod)	5	4	2-3-Nil	7	2	4	70
G-3A3 INKAS	3/5	4	2-3-Nil	7	3	5/9	54
G-3A4 INKAS	3/5	4	2-3-Nil	6/7	3	5/8	54
PTR-32	SA	3	2-Nil	6	3	Nil	44
G-3PT	5	1	Nil	7	1	1	38

*Plus the cost of the base G-3A3; the parts kit cannot be used as a rifle by itself! The weight listed, however, is the weight of the parts kit in addition to the weight of the base G-3A3; by itself, the weight is 0.6 kg.

**If one chooses one of these G-3 versions without burst firing capability, subtract $182 from the price of the weapon.

Mauser Gew-98

Notes: This version of the Mauser rifle rivals the Kalashnikov for the most common rifle in history. This is in spite of the rather clumsy arrangement of the bolt handle and group, the stock that is normally way too long for the size of an average person

(especially one of that time, 1898), and a full 29-inch barrel. The pistol grip-wrist stock was generally of walnut, with an almost full-length fore-end; a length of the fore-end contained a tube for a cleaning rod. Versions built before 1915 had finger grooves in the fore-end, a steel grommet behind the pistol grip wrist, and V-notch adjustable rear sights. In 1915, the finger grooves and the steel grommet were deleted to ease manufacturing, but the rear sight was changed to a tangent sight which offered finer adjustments. The Gew-98 was built until 1918, with over 3.5 million having been made. The Nazis were still carrying millions of them when they invaded Poland in 1939, and a substantial number of them still survive to this day – and many have been rechambered for different cartridges. The action has formed the base for hundreds of rifle designs for over a century. They are strong, reliable, and accurate.

After World War 1, a large number of Gew-98s were altered to comply with the Armistice requirements. The excellent tangent sight was replaced with a simple flat tangent sight, the stacking hook was removed, and a slot was cut into the stock for a sling. At the same time, the bolt handle was bent down instead of being straight out like the Gew-98. This version is known as the Kar-98b, but is identical to the Gew-98 for game purposes.

Built only from 1900 to 1905, the Gew-98A carbine (not to be confused with the later Kar-98 series) had a barrel shortened to 17 inches and a fore-end that ran all the way to the muzzle. Versions built 1900-02 had no provisions for a bayonet nor a tube for a cleaning rod. In late 1902, a bayonet bar was added as well as provision for a cleaning rod in the fore-end. Only about 3000 were built.

The Kar-98 series was introduced in 1908 with the Kar-98a (at first designated the Gew-98AZ; it was re-designated after World War 1). For the most part, the Kar-98a was the same as the Gew-98, but with a 24-inch barrel. Other differences included a full-length fore-end and a fore-end cap equipped with a bayonet lug and a small curved bar used when stacking the rifles in an encampment. 1.5 million were built before the end of World War 1.

The Kar-98k was the primary battle rifle of the Nazi forces during World War 2. Though it still used the same basic design, the Kar-98k used a 23.6-inch barrel and a shorter stock to make it handier. The bolt handle and bolt action were at the same time reshaped and reworked for smoother action. As the war went on, the quality of materials of this weapon became lower and lower, but it soldiered on. It became the last Mauser rifle design used by the military.

During World War 2, an attempt to address the low magazine capacity of the Kar-98k was attempted. Mauser attached a fixed, curved 25-round magazine to the normal place where the internal magazine was. Loading was still from the top, by a succession of the same 5-round clips. It was quite unpopular with the troops, more difficult and expensive to produce, and after a very short time dropped from production.

The Gew-98 Training Rifle was built in the 1930s as a training rifle exclusively for Nazi party members. The Training Rifle still used the same action, but the magazine was blocked, making it a single-shot rifle. The barrel was 26 inches long. Despite the potential range, the tangent rear sight was adjustable only to 200 meters.

After the switch to the Kar-98k, a number of Kar-98as were rechambered as casual target rifles, called the Kar-98a Zimmerstutzen. This version drills out the 8mm barrel to 13mm, then inserts a barrel for 4mm ammunition inside of it. The working parts are all altered for the new ammunition. The ammunition is the now-rare 4mm rimfire long. The barrel is almost as long at 23.6 inches, but the action takes only one round at a time and the sights are replaced with ones more appropriate for the ammunition (though still graduated from 300 to 2000 meters, the standard range for 4mm ammunition was only 15 meters).

Just prior to and during World War 2, certain Kar-98ks which had been tested by Mauser or the German Army and found to have superior quality were drilled and tapped for a scope and used as sniper rifles. These were designated the Kar-98k ZF-41. For the most part, they were standard Kar-98ks, but due to “accidents” in production, they happened to shoot and handle better than most Kar-98ks. Individual *Scharfschutzen* (German word for “snipers” at the time) generally further modified these rifles with raised cheekpieces, trigger adjustments, and other little enhancements. In the cost below, the scope is included; the standard scope for this rifle was the ZF-41 1.5x long eye relief scope. This was the biggest drawback for the Kar-98k ZF-41 as a sniper rifle; the low power of the scope did not extend the range much, and today the ZF-41 would not even be considered as a scope for a sniper rifle due to its low power. Even worse, the ZF-41 had a rather narrow field of view. Whenever possible, German snipers would try to acquire better scopes for their Kar-98k ZF-41s. Due to the position and angle of the Kar-98k’s receiver and ejection port, the ZF-41 had to be mounted relatively forward on the rifle, in what would today be called the “scout” position. A modified version of the scope, the ZF-41/1, was designed to both simplify production and to provide more reliable adjustments in extreme cold weather such as in Russia. For game purposes, the scope and therefore the rifle it is mounted on is identical to the standard Kar-98k ZF-41. The ZF-41 and ZF-41/1 was furnished with a special carrying case; included in this was a specially-treated lens-cleaning cloth called a Klarinotuch, which is impregnated with a compound to reduce the formation of condensation on the lenses of the scope.

Weapon	Ammunition	Weight	Magazines	Price
Gew-98	8mm Mauser	4.14 kg	5 Clip	$1768
Gew-98A	8mm Mauser	3.4 kg	5 Clip	$1645
Kar-98a	8mm Mauser	3.63 kg	5 Clip	$1716
Kar-98k	8mm Mauser	3.9 kg	5 Clip	$1712
Kar-98k Long Magazine	8mm Mauser	4.1 kg	25 Clip	$1732
Training Rifle	8mm Mauser	3.86 kg	1 Internal	$1012
Zimmerstutzen	4mm Rimfire Long	3.23 kg	1 Internal	$272

Kar-98k ZF-41	8mm Mauser	4.2 kg	5 Clip	$1868

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Gew-98	BA	5	2-3-Nil	8	4	Nil	118
Gew-98A	BA	4	2-3-Nil	7	5	Nil	53
Kar-98a	BA	4	2-3-Nil	8	5	Nil	90
Kar-98k (Both)	BA	4	2-3-Nil	7	4	Nil	88
Training Rifle	BA	5	2-3-Nil	7	5	Nil	101
Zimmerstutzen	BA	-2	Nil	8	1	Nil	36
Kar-98k ZF-41	BA	4	2-3-Nil	7	4	Nil	91

Mauser FSK-15

Notes: This rare and unusual Mauser semiautomatic rifle was designed for defensive use by aircrews (primarily those in zeppelins and other airships). Only about 2000 examples of the FSK-15 (*Flieger-Selbstladenkarabiner* Model 1915, or Flyer's Self-Loading Carbine) were made, primarily due to an unduly-complicated mechanism and a measure of unreliability. The FSK-15 had a sort of Rube Goldberg operation – a sort of two-step blowback mechanism that achieved the aim of shortening the rifle, but also had enough small and easily-breakable parts that something was bound to go wrong. On top of that, the real-world price of the FSK-15 was twice that of Germany's other aircrew rifle, a gas-operated semiautomatic Mondragon design built in Switzerland, and the Mondragon was much more reliable and easier to maintain. The FSK-15 was also combat-tested by the German Army, where it suffered far greater reliability problems. They were finally reissued to the Navy, where they saw almost no usage whatsoever, and gradually simply fell out of usage.

The mechanism of the FSK-15 is by blowback. When the weapon fires, the barrel and receiver both recoil by about 15mm; then small and rather fragile locking bars are released, allowing the breechblock itself to reciprocate. Once the breechblock has returned forward, the breechblock locks into the receiver again, and the receiver and barrel then return forward. On top of all this, charging the FSK-15 took a good measure of strength. And to top it all off, recoil was quite heavy, making accuracy difficult and prolonged firing very fatiguing.

Otherwise, the FSK-15 used a stock with a pistol-grip wrist, and usually a half-length fore-end (though the ones combat tested by the Army used a full-length fore-end). The FSK-15 accepted the three primary bayonets used on the Gew-98 rifles. The FSK-15 was a rather heavy weapon for its size, with a 26.55-inch barrel and a rear adjustable tangent sight. Semiautomatic rifles themselves were unusual in World War 1, but the FSK-15 was not one of the better ones.

Weapon	Ammunition	Weight	Magazines	Price
FSK-15	8mm Mauser	4.74 kg	10, 20, 25	$1264

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
FSK-15	SA	5	2-3-Nil	8	4	Nil	95

Mauser Gew-41(M)

Notes: This was a competing design to Walther's Gew-41(W). Only about 6700 were built, and it was discovered that the modified Bang system used by the Gew-41(M) could be a bit fragile, and the protruding charging handle tended to get caught up on just about anything. Many of Mauser's design and production facilities had been destroyed by Allied bombing, and even the Nazi government had doubts as to whether Mauser could deliver even the 15,000 rifles requested in the first batch, let alone any more after that. The Gew-41(M) did have the virtue of being able to be top-loaded by stripper clips or by inserting a fresh magazine; it also used a standard Mauser-pattern bayonet. In the end, however, it was hardly a successful design.

Weapon	Ammunition	Weight	Magazines	Price
Gew-41(M)	8mm Mauser	4.6 kg	10	$1209

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Gew-41(M)	SA	4	2-3-Nil	7	4	Nil	70

Rheinmetall FG-42

Notes: This weapon, one of the outstanding small-arms designs of World War 2, was made for use by Nazi Paratroopers and first used during the rescue of Mussolini. It is the ancestor of modern assault rifles, being a fairly compact weapon firing on automatic or semiautomatic; it is not considered an actual assault rifle only due to its full-power cartridge. Devised in 1940, the Luftwaffe wanted a rifle about the same weight as the Kar-98k, yet magazine-fed, capable of automatic fire, short enough to be reasonably handy, and still fire the 8mm Mauser cartridge. The Army felt that this was impossible, so Goering contacted Rheinmetall on his own initiative, and weapon designer Louis Stange came up with the FG-42. The FG-42 was expensive and time-consuming to manufacture, and only 7000 were made; only Herman Goering's political influence and determination to provide a distinctive weapon to "his" paratroopers allowed that many to be made. Few of them survive in working order to this day; most of

them belong to private collectors or museums.

The FG-42 used an unusual side-mounted magazine, and had a light bipod and reversible spike bayonet carried under the barrel. The design is a modern “straight-line” type from the stock to the muzzle. The FG-42 fires from an open bolt in automatic fire to allow greater cooling; it fires from a closed bolt in semiautomatic model to allow greater accuracy when aiming. The FG-42 has a bolt hold-open device, but it operates “properly” only when the FG-42 is set on automatic and the magazine empties. If the FG-42 is set on semiautomatic, the bolt hold-open still works, but the charging handle has to be pulled back and locked before the empty magazine removed and a fresh one inserted. The FG-42 was really too light for prolonged automatic fire, and most troops learned quickly to limit themselves to short bursts.

Original models had a steeply-raked pistol grip that was a awkward, but did help control recoil in automatic fire. The FG-42 had folding sights that allowed for long-range fire and short-ranges using a peep sight on the folded long-range sight. The stock was of stamped steel, and the fore-end was wooden. Most of the FG-42 was made of high-quality manganese-steel alloy. The barrel was 20 inches long and tipped by a pepperpot-type muzzle brake. A mere 527 of these first-pattern FG-42s were built; combat experience and shortages of the manganese-steel alloy dictated several changes in design.

In 1944, the FG-42 II appeared. Though critical parts were still made from manganese-steel, most of the FG-42 II was built of standard weapon-quality steel. The barrel was slightly lengthened to 20.65 inches, and the muzzle brake was improved in strength, though it was more bulky. The bipod mounting allowed it to be attached at the muzzle or the end of the fore-end. A gas regulator was added, both to compensate for dirt and fouling and to allow for the varying quality of ammunition being produced in Germany in 1944. The trigger group was detachable for cleaning and adjustment and the manual safety moved to a more ergonomic position. A spring-loaded ejection port cover was added, and a brass deflector was placed behind the ejection port. The stamped steel buttstock of the FG-42 was replaced with a wooden buttstock. The pistol grip was made of plastic and it’s shape changed to a normal shape and angle. The stroke length of the action was made longer, reducing the violent recoil found on the FG-42; the cyclic rate was lowered by 100 rpm to 700 rpm. The longer action meant that the FG-42 II was about three inches longer than the FG-42; it was also much heavier. Approximately 3900 were built.

Weapon	Ammunition	Weight	Magazines	Price
FG-42	8mm Mauser	4.38 kg	10, 20	$1725
FG-42 II	8mm Mauser	5.05 kg	10, 20	$1739

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
FG-42	5	4	2-3-Nil	7	4	9	62
With Bipod	5	4	2-3-Nil	7	2	4	81
FG-42 II	5	4	2-3-Nil	7	3	8	65
With Bipod	5	4	2-3-Nil	7	2	4	85

Walther Gew-41(W)

Notes: This is the result of an experimental program by the Nazis to produce a semiautomatic rifle to compete with the likes of the American M-1 Garand. They selected a Walther design, an adaptation of the Bang rifle system using gas operation. The Gew-41(W) proved to be satisfactory, and eventually over 122,000 were built.

Initial models had a bolt hold-open device and a simple manual safety; when production commenced, the bolt hold-open was eliminated and the safeties improved. The barrel was 22 inches long and the entire rifle 45.5 inches. One of the problems with the Gew-41(W) was that it was difficult and slow to manufacture; another was that it was long and poorly-balanced. The integral magazine was also slow to load and the whole rifle was a bit heavy; it was eventually replaced by the Gew-43. The Gew-41(W) was issued primarily to special units stationed on the Russian Front.

Sometimes called the Kar-43, the Gew-43 modified the Bang gas system with a combination of the camming-flap breech locking of the Gew-41(W) and a Tokarev-type gas piston system. The internal magazine was replaced by a detachable box magazine. When the Gew-43 was first ordered into production, only 3000 were made in the first batch delivered in 1943. By March of 1945, when production stopped, over 450,000 had been built – though quality declined the quicker they were manufactured.

The Gew-43 was similar in appearance to the Gew-41(W), but used a half-length fore-end and a hooded front sight. On the right side of the receiver, a mount for a Zf.4 telescopic sight was found. The barrel length remained at 22 inches, though length was reduced by nearly an inch, balance improved, and weight considerably reduced.

Despite the large amounts of Gew-41(W)s and Gew-43s made, most were lost in the disastrous Operation Barbarossa – the invasion of Russia by the Nazis.

Weapon	Ammunition	Weight	Magazines	Price
Gew-41(W)	8mm Mauser	4.58 kg	10 Internal	$1215
Gew-43	8mm Mauser	3.86 kg	10	$1212

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Gew-41(W)	SA	4	2-3-Nil	8	4	Nil	72
Gew-43	SA	4	2-3-Nil	8	4	Nil	72

Huzagol 35M

Notes: This is a Mannlicher-pattern rifle produced in the late 1930s and early 1940s. It is basically a Mannlicher 1895-pattern rifle firing the 8mm Hungarian Mannlicher round (the 31.M cartridge), and a British-style two-piece stock. The turning-bolt action was adopted for this rifle, though the handle remained of the 1895 pattern.

Weapon	Ammunition	Weight	Magazines	Price
H-35M	8mm Hungarian Mannlicher	4.03 kg	5 Clip	$1735

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
H-35M	BA	4	2-3-Nil	8	4	Nil	88

Huzagol 43M

Notes: Just prior to World War 2, the Germans made a shorter copy of the H-35M called the Gew-98/40. This was a rather successful rifle, especially on the export market, so the Hungarians made their own copy of that weapon, the H-43M. It is little more than a Gew-98/40 with a Hungarian-style barrel band, nose cap, and sling swivels, and designed to take the Pattern 43M sword bayonet. Production was interrupted by end of World War 2, and since production was slow anyway, only a few thousand were built. Production of the H-43M finally stopped in the early 1950s.

Weapon	Ammunition	Weight	Magazines	Price
H-43M	8mm Hungarian Mannlicher	3.92 kg	5 Clip	$1713

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
H-43M	BA	4	2-3-Nil	7	4	Nil	76

Rifle 1C

Notes: When the Indians started buying BMP-2's from the Russians and AKM's from the Romanians in the mid-1980s, they encountered three problems. One, they were disappointed by the performance of the AKM as a firing port weapon; two, most mechanized infantrymen, while they were happy with the BMP-2, did not want to give up their hard-hitting and long-ranged Rifle 1A1's (the Indian designation for their version of the British L-1A1); and three, they encountered an acute shortage of 7.62x39mm tracer rounds, along with the usual problems of making a tracer round out of such a short cartridge while maintaining performance. They decided to modify a Rifle 1A1 for the purpose, shortening the barrel, adding the ability to fire on automatic, and adding an adapter so that it can be fitted to the firing ports of the BMP-2.

As noted above, Indian arms manufacturers also produced their own version of the L-1A1. However, both the Rifle 1C and Rifle 1A1 were produced without any sort of license from the British, Belgians, or anyone else, and their parts and magazines will not fit into any other FAL-type or FAL-based weapon.

Weapon	Ammunition	Weight	Magazines	Price
Rifle 1C	7.62mm NATO	4.5 kg	20	$1015

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Rifle 1C	5	4	2-3-Nil	7	3	9	53

Armaguerra Model 39

Notes: The designer of this weapon is Gino Revelli, who also designed the Fiat-Revelli machinegun and the Glisenti pistol. This should give you some idea what kind of mechanical nightmare this weapon is. When fired, the entire barrel of the weapon slides back 10 millimeters to allow the bolt to unlock. The barrel was kept in its track by large retaining bolts, and the charging handle had to be pulled back by pulling on the front of the sling. Luckily, only about 500 of these rifles were built and forced into the hands of unlucky Italian soldiers during World War 2, with a change in caliber helping to ensure the slowness of their manufacture by requiring a tooling change soon after the beginning of its manufacture.

Weapon	Ammunition	Weight	Magazines	Price
Model 39	6.5mm Carcano	2.79 kg	6 Clip	$859
Model 39	7.35mm Carcano	2.99 kg	6 Clip	$1002

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Model 39 (6.5mm)	SA	4	2-Nil	7	5	Nil	72
Model 39 (7.35mm)	SA	4	2-3-Nil	7	5	Nil	79

Beretta BM-59

Notes: Shortly after World War 2, Beretta began to manufacture the M-1 Garand rifle for the Italian, Indonesian, and Danish armies. As years went by, the need for a more modern weapon became apparent, and the M-1 Garand was modified into a selective fire weapon chambered for the then-new 7.62mm NATO cartridge and feed from a detachable box magazine.

Beretta's first BM-59s were produced in 1958; they were essentially M-1 Garands with a minimum of modifications. The barrel was shortened to 19.35 inches, a lighter weight of wood was used for the furniture, the rifle was given selective-fire capability, and of course the chambering was changed and a box-feed ability was added (in addition to the ability to top off the magazine from the top of the receiver using chargers). For about a year, this *was* the BM-59. The BM-59D, introduced in 1959, was essentially the same weapon, but with a deeper pistol grip wrist. The original cyclic rate, about 800 rpm, was then judged to be too high; this resulted in the BM-59R later that year, with a cyclic rate reducer. (In game terms, however, this has no effect, and the BM-59, BM-59D, and BM-59R are identical for game purposes.) A bit later that year, the BM-59GL was also introduced, with a muzzle device added allowing for the firing of rifle grenades.

At this point, variations of the BM-59 proliferated wildly. 1960's BM-59 Mk I had a trigger with a somewhat lighter pull and a barrel tipped with what Beretta called a "tri-compensator" – it served as a flash suppressor, could fit NATO-pattern rifle grenades, and also functioned as a low-grade compensator. A modification of the Mk I designed with an extra selector setting for three-round bursts (the BM-59 CB) was also built, but never put into even low-level production. 1961's BM-59 Mk II had an altered stock with a true pistol grip, a winter trigger guard, and a folding bipod attached under the gas block. At about the same time as the Mk II, the Mk III was introduced; this version had a folding tubular triangular-shaped stock with a well-made buttplate, in addition to a foregrip under the handguard and the bipod deleted. In 1962, the Mk IV version was introduced; it was designed to be a light support version a la the M-14A1, and had a plastic stock similar in shape to that of the M-14A1 as well as a hinged shoulder support, a heavy barrel, and a folding bipod.

In 1962, the BM-59 Mk Ital was introduced, and it became the standard BM-59 for most of the rifle's service. It is essentially a conventionally-stocked rifle made of weatherproofed walnut, a folding bipod with a mount that wrapped around the gas tube, and a special folding sight for rifle grenades behind the standard front sight. (When this sight is raised into position, the gas tube is virtually closed to allow grenade firing.) A folding-stock version, the Mk Ital A, was also designed, and is identical to the Mk Ital except for that stock.

The BM-59 Ital Alpini was based on the Mk III; it had the same folding stock, foregrip, absence of a bipod, and also had a winter trigger guard and trigger group. The Ital Paracudisti has shorter 18.21-inch barrel, a detachable muzzle device, and no winter trigger group or guard, but was otherwise similar to the Ital Alpini. Finally, a civilian model, the BM-59 SL, was also put on the market; it is essentially a BM-59D restricted to semiautomatic fire and with no bayonet lug.

Weapon	Ammunition	Weight	Magazines	Price
BM-59/BM-59D/BM-59R	7.62mm NATO	4.1 kg	20	$1007
BM-59GL	7.62mm NATO	4.22 kg	20	$1031
BM-59 Mk I	7.62mm NATO	4.1 kg	15, 20, 25	$1032
BM-59 CB	7.62mm NATO	4.1 kg	15, 20, 25	$1424
BM-59 Mk II	7.62mm NATO	4.3 kg	15, 20, 25	$1516
BM-59 Mk III	7.62mm NATO	4.3 kg	15, 20, 25	$1057
BM-59 Mk IV	7.62mm NATO	5.5 kg	15, 20, 25	$1513
BM-59 Mk Ital	7.62mm NATO	4.4 kg	15, 20, 25	$1492
BM-59 Mk Ital A	7.62mm NATO	4.5 kg	15, 20, 25	$1517
BM-59 Ital Alpini	7.62mm NATO	4.5 kg	15, 20, 25	$1057
BM-59 Ital Para	7.62mm NATO	4.6 kg	15, 20, 25	$1045
BM-59SL	7.62mm NATO	4.6 kg	10, 15, 20, 25	$1007

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
BM-59/BM-59D/BM-59R/BM-59GL	5	4	2-3-Nil	7	3	8	59
BM-59 Mk I	5	4	2-3-Nil	7	3	9	59
BM-59 CB	3/5	4	2-3-Nil	7	3	5/9	59
BM-59 Mk II	5	4	2-3-Nil	7	3	8	59
(With Bipod)	5	4	2-3-Nil	7	2	4	77
BM-59 Mk III	5	4	2-3-Nil	5/7	3	8	59
BM-59 Mk IV	5	4	2-3-Nil	7	3	7	61
(With Bipod)	5	4	2-3-Nil	7	1	3	80
BM-59 Mk Ital	5	4	2-3-Nil	7	3	8	59
(With Bipod)	5	4	2-3-Nil	7	2	4	77
BM-59 Mk Ital A	5	4	2-3-Nil	5/7	3	8	59
(With Bipod)	5	4	2-3-Nil	5/7	2	4	77
BM-59 Ital Alpini	5	4	2-3-Nil	5/7	3	8	59
BM-59 Ital Para	5	4	2-3-Nil	5/7	3	8	54
BM-59SL	SA	4	2-3-Nil	7	3	Nil	59

Beretta BM-931

This weapon was one of several tried out by the Italian Army and used in the inter-war years and during World War 2. It is an entirely ordinary gas-operated semiautomatic rifle with a straight wrist stock instead of having any sort of pistol grip. This could make it uncomfortable to fire, and production costs also tended to run a bit high. As a result, it was not adopted in any large numbers. The bottom of the integral magazine also pivoted forward to load it, a somewhat unusual feature. The BM-937 was a short rifle version of the BM-931, and was also chambered for different ammunition. This rifle was top-loaded in a conventional manner, dispensing with the forward-pivoting magazine housing.

Weapon	Ammunition	Weight	Magazines	Price
BM-931	6.5mm Carcano	4.07 kg	6 Clip	$859
BM-937	7.35mm Carcano	3.94 kg	6 Clip	$956

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
BM-931	SA	4	2-Nil	7	4	Nil	72
BM-937	SA	4	2-3-Nil	7	4	Nil	58

Breda PG

Notes: Despite the cartridge it fires, the PG is sometimes cited as an early ancestor of assault rifle development. It was produced in small numbers between 1935 and 1936 (when about 850 were built), and it had modern features such as a high-capacity magazine, short barrel, gas operation, sights calibrated for short range, burst firing capability, and other such modern design features. However it was not without its faults, the chief of which being that it is a beastly heavy weapon despite its small dimensions. It also has a very complicated firing mechanism, particularly in the burst mechanism. The only known sales were to Costa Rica.

Weapon	Ammunition	Weight	Magazines	Price
PG	7mm Mauser	5.25 kg	20	$946

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
PG	4	4	2-3-Nil	6	3	6	47

Mannlicher-Carcano M-1891

Notes: These rifles were some of the Italian Army's primary service weapons from 1891 to 1945. The Mannlicher-Cacanos were based on the basic Mannlicher design, with the primary difference being the chambering. Trials included the German Gew. 88, rifles submitted by Vitali, Bertoldo, Mauser, and Lee as well 45 other rifles. These rifles were all chambered or re-chambered for the 6.5mm Carcano round, and trials were remarkably fast considering the sheer amount of rifles tested – in only two years.

The first version of this series was the *Fucile di Fantera M-1891,* adopted in 1891, but not issued until 1894. The FF M-1891 had a straight-wrist stock with a magazine that was made in one-piece with the trigger guard. A quadrant sight with a perhaps overly-hopeful range of 2000 meters was mounted at the rear. The FF M-1891 used a long 30.7-inch barrel, with the rifle having an overall length of more than 1.28 meters.

The next version was the *Moschetto per Cavallaria M-1891* – the Cavalry Carbine. The MC M-1891 has a permanently-attached, folding bayonet; in fact, nine different variations of the attachments and folding devices for the bayonet. The MC M-1891 was primarily issued to Cavalry (horse-mounted, that is), Carabinieri (mountain troops), and bicycle-mounted troops. During World

War 2, it was issued to almost anyone. The early form of the MC M-1891 had no top part of the handguard, and had a (largely-ineffective) recoil lug in the stock; the recoil lug was later removed and a top handguard fitted. The barrel of the MC M-1891 is 17 inches; mostly due to the folding bayonet, it is almost as heavy as the TS M-1891, despite lighter construction.

The TS (*Truppe Special;* the full designation being the *Moshetto per Truppe Speciale*) carbine is the most common version of the M-1891 system. It is basically a Mauser-type rifle, with a Mannlicher-type magazine, and a new bolt safety system. The bayonet mounting system is especially strange, using a special rod projecting from below the barrel and a transverse locking lug. The barrel is 17.69 inches. These carbines were mostly sold off in large numbers after World War 2, an act from which its greatest infamy came: it was the weapon Lee Harvey Oswald used to shoot John F. Kennedy.

The M-1940 rifle is basically an improved version of the M-1891, officially adopted by the Italian Army in 1940 but never actually built in large quantities. It used a much longer 27.15-inch barrel (the carbine had a 17.75-inch barrel) and used modified sights to match the increase in range, but is otherwise the same as the TS Carbine, using the same action and taking the same M-1891 sword bayonet. The M-1940 can still be found on the War Surplus market.

Weapon	Ammunition	Weight	Magazines	Price
FF Rifle M-1891	6.5mm Carcano	3.78 kg	6 Clip	$1237
MC Carbine M-1891	6.5mm Carcano	3.12 kg	6 Clip	$1098
TS Carbine M-1891	6.5mm Carcano	3.13 kg	6 Clip	$1128
M-1940	6.5mm Carcano	3.71 kg	6 Clip	$1192

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
FF Rifle M-1891	BA	4	2-3-Nil	8	4	Nil	108
MC Carbine M-1891	BA	3	2-Nil	6	3	Nil	48
TS Carbine M-1891	BA	3	2-Nil	6	4	Nil	51
M-1940	BA	4	2-3-Nil	8	4	Nil	95

Mannlicher-Carcano M-1938

Notes: World War 1 suggested to the Italians that the 6.5mm Carcano cartridge did not have the punch that the ammunition used by the rest of the world did. North Africa and Abyssinia reinforced this. It was not, however, until 1938 that a new cartridge was devised. This cartridge was placed into a modified TS M-1891 Carbine, and the new weapon was called the M-1938 Short Rifle. Unfortunately, the pressures of World War 2 meant that the cartridge and the weapon were produced in only a limited amount, since there were already a huge number of M-1891s and their ammunition available.

The M-1938 Carbine, like the Short Rifle, is basically a modified M-1891 design; it is a shorter version of the Short Rifle, with 17.75-inch barrel (as opposed to the Short Rifle's 22.15-inch barrel). The Carbine used the same folding bayonet as the M-1891. The M-1938 TS Carbine is similar, has a barrel band, nose cap for the fore-end, and used the M-1891 sword bayonet.

The M-1938-43 Short Rifle is an M-1938 Short Rifle modified to fire 8mm Mauser ammunition, specifically for Italian troops fighting alongside Nazi troops. Other than the modifications necessary for the new cartridge, the clip-fed magazine was replaced by a 5-round internal magazine into which rounds had to be fed one at a time. The modifications to caliber, unfortunately, turned the M-1938 into a somewhat dangerous weapon for the user, because the M-1938's action simply wasn't designed to fire ammunition of the power of the 8mm Mauser.

Weapon	Ammunition	Weight	Magazines	Price
M-1938 Short Rifle	7.35mm Carcano	3.4 kg	6 Clip	$1342
M-1938 Carbine	7.35mm Carcano	3.33 kg	6 Clip	$1310
M-1938-43 Short Rifle	8mm Mauser	3.61 kg	5 Internal	$1697

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1938 Short Rifle	BA	4	2-3-Nil	6	4	Nil	73
M-1838 Carbine	BA	4	2-3-Nil	6	4	Nil	57
M-1938-43 Short Rifle	BA	4	2-3-Nil	6	5	Nil	80

Arisaka 35th Year Rifle

Notes: The old 30th Year Rifle was a disappointment to the soldiers who had to use it. Therefore, the 30th Year Rifle was improved, with an enlarged cocking piece, a better port to bleed off excess gas, an enlarged bolt knob, more reliable feeding of cartridges, and a longer handguard. The 35th Year Rifle (also known as the M-1902) was also somewhat of a disappointment; it was issued primarily to naval forces.

Between World Wars 1 and 2, the Siam (later called Burma, and even later Myanmar) took delivery of a few thousand modified 35th Year rifles. These rifles were modified to fire the two standard Siamese service rounds (8mm Lebel and 8x51mm Mauser – but not both). The modifications for these cartridges included a modification of the magazine to accommodate the larger rounds, a change to tangent-leaf rear sights graduated for the different effective range, and a change in barrel length to 30.35 inches (from 31.1 inches). The Siamese also used a one-piece stock instead of the two-piece stock used by the Japanese. They carry Sanskrit markings instead of Japanese markings. Though most of these rifles have literally fallen apart from use, some can still be found amongst rebels in Myanmar.

Weapon	Ammunition	Weight	Magazines	Price
35th Year Rifle	6.5mm Arisaka	4.07 kg	5 Clip	$1189
35th Year Rifle	8mm Lebel	4.6 kg	5 Clip	$1610
35th Year Rifle	8x51mm Mauser	4.54 kg	5 Clip	$1558

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
35th Year Rifle (6.5mm)	BA	4	2-3-Nil	8	4	Nil	109
35th Year Rifle (8mm)	BA	5	2-3-Nil	9	4	Nil	116
35th Year Rifle (8x51mm)	BA	4	2-3-Nil	9	4	Nil	116

Arisaka 38th Year Rifle

Notes: This is an early 20th century Japanese service rifle based on the Mauser action. The "38th Year" in the nomenclature refers to the 38th Year of reign of the Emperor at the time of introduction (1905, which why this rifle is also commonly called the M-1905). The Japanese chambered it for the 6.5mm Arisaka cartridge. The 38th Year Rifle was designed to address shortcomings in the designs of both the 30th Year and 35th Year Rifles, with the primary changes being a simplified bolt, a non-rotating extractor, a reciprocating bolt cover, and a larger shroud for the safety (which was at the end of the cocking piece, and could easily be accidentally tripped on the earlier rifles). The 38th Year Rifle had a 31.45-inch barrel and was 50.2 inches in total length, making it an accurate but rather unwieldy weapon, particularly for the short-statured Japanese soldier. Nonetheless, over 5 million were built, and they appeared quite frequently in World War 2. The 38th Year Rifle could take sword, knife, or spike bayonets designed for the 30th Year or 35th Year Rifles, or a new pattern of sword bayonet designed specifically for the 38th Year Rifle.

The 38th Year Carbine was a shortened version of this rifle, originally produced for cavalry, but later issued to troops such as artillery and support units. It is virtually identical, except for the shortened 19.15-inch barrel and the sights, which are graduated to match the shorter barrel. It's a handier weapon, but the muzzle blast is extreme. The 38th Year Carbine can use only the sword bayonet designed for the 38th Year Rifle.

During World War 1 (right after it began, in fact, in August of 1914), the British ordered a batch of 38th Year rifles (and some 30th Year Rifles), as well as some 38th Year Carbines. These retained their 6.5mm Arisaka chambering, but were given the British nomenclature of "Rifle, Magazine, .256 Caliber, Pattern 1907" (or simply the M-1907). They were ostensibly obtained for the training of recruits in basic marksmanship, but for a time TE Lawrence's troops and irregulars in the Middle East were also equipped with some 20,000 of 38th Year rifles. They were also issued in small numbers to the Royal Navy and the RAF. The rifles used in actual combat service had been replaced by June of 1917 by Canadian-made Ross rifles (which was a bad decision, in my opinion). The "British" 38th Year rifles had English markings instead of Japanese (except for some Japanese manufacturing markings). After 1917, most were sent to the White Russians who were fighting the ultimately successful takeover of the Bolsheviks, though some remained in British service until 1921.

Large numbers of 38th Year rifles were used during and after World War 2 by the Indonesians. They were taken off dead Japanese soldiers, and were therefore essentially the original articles. They were later used by insurgents fighting against Dutch rule, and then by the newly-formed Indonesian Army from 1949 until the early 1960s. Most of these rifles found today are in the hands of various village militias, in collectors' hands, or in museums, and most Indonesian examples have had their stocks replaced (the originals long having been broken or rotted away), and the metalwork blued. The Indonesians also added the emblem of the Indonesian Army after 1949.

Mexico ordered about 40,000 38th Year Rifles and Carbines in 1910, being faced with an imminent revolution. They were

almost identical to standard 38 Year rifles, but chambered for 7mm Mauser instead, which also meant that they required a different rear sight leaf. The bayonet lugs and nose caps were also modified to accept standard Mexican bayonets. Markings for these rifles were largely in Spanish. However, less than 5,000 of these rifles and carbines were actually delivered – in 1911, the rebel forces of Porfirio Diaz overthrew the government that had ordered the rifles, and the Japanese did not support Diaz's government. The remainder of the order was later sold to Russia in 1914, ironically still carrying Mexican markings and designed to accept Mexican bayonets.

Weapon	Ammunition	Weight	Magazines	Price
38th Year Rifle	6.5mm Arisaka	4.12 kg	5 Clip	$1193
38th Year Rifle	7mm Mauser	4.47 kg	5 Clip	$1461
38th Year Carbine	6.5mm Arisaka	3.35 kg	5 Clip	$1068

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
38th Year Rifle (6.5mm)	BA	4	2-3-Nil	8	4	Nil	111
38th Year Rifle (7mm)	BA	4	2-3-Nil	9	4	Nil	113
38th Year Carbine	BA	3	2-Nil	6	3	Nil	59

Arisaka Type 99

Notes: The Sino-Japanese war in the early 1930s made the Japanese believe that the 6.5mm Arisaka round they were using in their rifles was not powerful enough for their purposes. They thus designed a new rifle based on the 7.7mm semi-rimmed cartridge developed for their Type 92 machinegun; the round was modified slightly for use in a bolt-action rifle, which they called the Type 99 (also known as the Type 99 No. 1, or Type 99 Long Rifle). The Type 99 was a modified form of the 38th Year Rifle, and had some strange features such as a folding wire monopod (a rather poor and weak substitute for a proper bipod), and sights that were designed primarily for firing against attacking aircraft rather than antipersonnel sharpshooting. The original Type 99 rifle was little more than a 38th Year rifle modified for use with the new cartridge, and had the same 31.45-inch barrel and essentially the same features along with the new ones.

After only a few thousand Type 99s were built, experience in China showed that the Type 99 Long Rifle was simply too long, heavy, and clumsy for easy use, especially by fast-moving infantry. This resulted in 1940 in the primary version of the Type 99, the Type 99 Short Rifle (also known as the Type 99 No. 2). This weapon was basically the same as the Type 99 Long Rifle, but was shortened to use a 25.85-inch barrel and rear sights appropriately modified.

Another variant of the Type 99, the Type 99 Sniper Rifle (also known as the Type 99 No. 4), was introduced in 1942. Other than being shown to be slightly better-made by testing, the Type 99 Sniper Rifle primarily differed in its mount for a compact telescopic sight (at first a Kokura 2.5x scope, but later a Nagoya 4x scope). Only about 10,000 of 3.5 million Type 99s built were sniper rifle versions.

In 1943, after a long period of testing, the Type 2 Paratrooper's Rifle was also introduced. This is essentially a variant of the Short Rifle, with a 24.4-inch barrel, and could be taken apart at the junction of the barrel and receiver to create a smaller package for parachute jumps. The monopod was also deleted. Some 25,000 of these rifles were built starting in mid-1943, and they tend to have rather rough finishes on the metalwork and stock, due to the declining standard of production in Japan late in World War 2.

The Type 99 Substitute Rifle (also known as the Type 99 Model 2 or Type 99 Type 3) was built starting in late 1943, mostly to conserve raw materials for other purposes, and designed for issue to non-infantry forces. It was essentially a Type 99 Short Rifle in appearance, but the steel used was of middling to low-quality, the bolt cover and sling swivels were deleted, and the bolt face and bore were not chromed as those of normal Short Rifles were. As the war went on, they declined further in quality, taking on dull, rough appearances, with two-screw nose caps, cylindrical bolt knobs, fixed rear sights, stocks with poor shaping, solid barrel bands, and welded safety shrouds. It has been remarked by firearms expert John Walter that the only reason late-war Type 99 Substitute Rifles worked at all was due to the strength of the Arisaka action. Note that the weight listed below is only approximate; the weight of the Substitute Rifles could vary wildly.

After World War 2, the Nationalist Chinese used large amounts of Type 99 rifles for a while. These were, of course, early-war rifles that were of better condition, re-chambered for the 8mm Mauser round that was the standard rifle round of the Chinese military until the takeover of the Communists. Little work was done on the rifles other than to re-chamber them and refurbish them so they would last a few more years (and Long Rifles had their barrels shortened to Short Rifle length), and they were allegedly used until the late 1950s by Peoples' Militia forces.

As with the 38th Year Rifle, the Indonesians used large amounts of the Type 99 rifle (of all types) until the 1960s, little modified except for the replacement of worn stocks or the occasional spare part.

The newly-formed Republic of Korea was given some 127,000 Short Rifles and 6700 Long Rifles after World War 2, in order to equip their police forces and to a small extent military forces. These versions of the Type 99 were re-chambered for .30-06 Springfield, with appropriate changes in the magazine and sights, and also had slots cut in the top to allow for the use of the ammunition's stripper clips. Normally, the monopod was also deleted. Japanese markings were also removed, and the metalwork was re-finished in gray phosphate. These weapons served in surprising numbers in South Korean hands in the Korean War, but

most were junked or placed in museums or private collections after the Korean War.

The Thai military also received thousands of Short Rifles after World War 2; these were also re-chambered for .30-06 Springfield ammunition. They are the same as the modified Korean Type 99 Short Rifles for game purposes, but bear markings in Sanskrit and the *Chakra* symbol of the Thai military forces, as well as Japanese markings. Their fates were also similar to their Korean counterparts.

Weapon	Ammunition	Weight	Magazines	Price
Type 99 Long Rifle	7.7mm Type 99	4.15 kg	5 Clip	$2385
Type 99 Short Rifle	7.7mm Type 99	3.96 kg	5 Clip	$2214
Type 99 Sniper Rifle	7.7mm Type 99	4.45 kg	5 Clip	$2609
Type 2 Paratrooper's Rifle	7.7mm Type 99	3.8 kg	5 Clip	$1662
Type 99 Substitute Rifle	7.7mm Type 99	3.6 kg	5 Clip	$1552
Type 99 Short Rifle (Chinese)	8mm Mauser	4.04 kg	5 Clip	$2307
Type 99 Long Rifle (Korean)	.30-06 Springfield	3.82 kg	5 Clip	$1804
Type 99 Short Rifle (Korean/Thai)	.30-06 Springfield	3.75 kg	5 Clip	$1747

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Type 99 Long Rifle	BA	5	2-3-Nil	9	4	Nil	122
Type 99 Long Rifle (Monopod)	BA	5	2-3-Nil	9	2	Nil	159
Type 99 Short Rifle	BA	4	2-3-Nil	8	4	Nil	96
Type 99 Short Rifle (Monopod)	BA	4	2-3-Nil	8	2	Nil	124
Type 99 Sniper Rifle	BA	5	2-3-Nil	9	4	Nil	125
Type 99 Sniper Rifle (Monopod)	BA	5	2-3-Nil	9	2	Nil	163
Type 2 Paratrooper's Rifle	BA	4	2-3-Nil	8	4	Nil	88
Type 99 Substitute Rifle	BA	4	2-3-Nil	8	4	Nil	83
Type 99 Short Rifle (Chinese)	BA	5	2-3-Nil	8	4	Nil	100
Type 99 Short Rifle (Chinese, Monopod)	BA	5	2-3-Nil	8	2	Nil	130
Type 99 Long Rifle (Korean)	BA	5	2-3-Nil	9	5	Nil	116
Type 99 Short Rifle (Korean/Thai)	BA	4	2-3-Nil	8	5	Nil	87

Howa Type 64

Notes: After World War 2, Japan had virtually all of their weaponry confiscated by the Allies (especially the US). After a few years, much of this was replaced with mostly US-made weapons, including the M-1 Garand, but the Japanese always felt that the Garand was too cumbersome a weapon, firing too-powerful ammunition for their small-statured troops. In 1957, released from their post-war military restrictions, they began to design a new rifle for their troops, one that it was felt they could handle as one that was more modern. This resulted in the Type 64 rifle.

The Type 64 uses a gas system and bolt that are sort of an amalgamation of the FN FAL and the Russian SVT-40. The gas system has a manual regulator, allowing it to fire rifle grenades as well as better operate in difficult conditions. The charging handle is above the receiver, just below the sight line. The trigger unit includes a rate reducer holding the cyclic rate of fire down to 450-500 rpm. The Type 64 is built using as much stamped steel as possible, both to lighten the weapon and to make manufacturing easier and less expensive; the stock is wooden and the pistol grip plastic. The 17.7-inch barrel is tipped with a long multi-baffle muzzle brake, and a folding bipod is attached under the front sight. Both the front and rear sight fold, allowing the use of other optics such as night vision devices if desired. The buttplate is adjustable for height, to a limited extent.

Perhaps the most unusual aspect of the Type 64's design is the primary type of ammunition it is designed to fire. The Japanese, again citing the shorter stature of their troops, designed a reduced-charge version of the 7.62mm NATO round, using about 10% less propellant and a somewhat lighter bullet. This round further reduces recoil, along with the long muzzle brake. The Type 64 can still fire standard 7.62mm NATO rounds, but this requires adjusting the gas regulator (which is one of the settings of that regulator).

Production of the Type 64 stopped in 1985 as Howa began designing the assault rifle which would become the Type 89, and it was never exported. By 2006, virtually none of them remain in service with regular Japanese Self-Defense Force units, though they are stored for possible future use and a very few have been retained for use as platoon sharpshooters' weapons (with the addition of a low-power scope).

Twilight 2000 Notes: There were still a lot of Type 64s in use by the time of the Twilight War; in addition, some of them were sold to South Korea and the Philippines during and after the war.

Weapon	Ammunition	Weight	Magazines	Price
Type 64	7.62mm Howa or 7.62mm NATO	4.41 kg	20	$1462

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Type 64 (7.62mm Howa)	5	4	2-3-Nil	6	2	6	49

(With Bipod)	5	4	2-3-Nil	6	1	3	64
Type 64 (7.62mm NATO)	5	4	2-3-Nil	6	3	7	52
(With Bipod)	5	4	2-3-Nil	6	1	4	67

Mannlicher-Carcano I-Type Rifle

Notes: This rifle was built for the Japanese Army by the Italians at the beginning of hostilities between Japan and China. Japan found herself with too few rifles for all its troops, and made an emergency order for rifles from Italy. Italy offered a Mannlicher-Carcano rifle modified to fire 6.5mm Arisaka ammunition, a butt 20 millimeters shorter, and using the Japanese 38th Year bayonet. In addition, most of the makings on the rifle were translated to their Japanese equivalents. Some 60,000 were bought by the Japanese and distributed to their troops.

Weapon	Ammunition	Weight	Magazines	Price
I-Type Rifle	6.5mm Arisaka	4.07 kg	5 Clip	$1184

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
I-Type Rifle	BA	4	2-3-Nil	8	4	Nil	107

FMM Model 1902 Series

Notes: The FMM (*Fusil Mauser Mexicano)* Model 1902 was a Mauser rifle, built for Mexico by the Germans, to replace the earlier FMM Model 1895. The Mexicans have had a long and fruitful relationship with the Germans, in many ways beginning with the Mauser-based military rifles. The Model 1902 used an action derived from the Gew-98, but used a straight-wrist stock and an 1895-pattern bayonet.

The Mexicans need more rifles however, and German production was not enough for them. They ordered some similar rifles from Austria-Hungary. The FMM Model 1907 used a pistol-grip-style stock and s short bayonet attachment bar (forcing a change in the design of the bayonet). The rear sight leaf was also changed to reflect improvements in ammunition. Physically, the rifle was some 5mm longer due to the change in the stock.

The Mexicans began to produce their own Mauser-pattern rifles with the FMM Model 1910. This weapon was almost identical to the FMM 1902, except for the bayonet used (a Model 1907 sword bayonet) and the sights. It did, however, begat two carbine variants – the CMM Model 1910 and CMM Model 1912. About 4000 of these carbines were built for cavalry, and were basically FMM Model 1910s with the barrels chopped to 17.5 inches. The two are identical for game purposes.

The Model 1912 rifle was an answer to the slow response of Mexican industry to the request for an indigenous rifle. The Mexicans ordered another batch of rifles from Austria-Hungary. These rifles are basically similar to the FMM Model 1907, but somewhat heavier due to design differences (mainly in the wood used for the stock). They also used the Model 1907 sword bayonet. Many of these rifles were seized by the Austro-Hungarian government before they could be shipped to Mexico and issued to their troops when World War 1 started. A short rifle version was also built, in small numbers; this version had a turned-down bolt handle and different sights.

Weapon	Ammunition	Weight	Magazines	Price
Model 1902	7mm Mauser	4.01 kg	5 Clip	$1438
Model 1907	7mm Mauser	4.05 kg	5 Clip	$1438
Model 1910 Carbine	7mm Mauser	3.55 kg	5 Clip	$1320
Model 1912	7mm Mauser	4.11 kg	5 Clip	$1438
Model 1912 Short Rifle	7mm Mauser	3.99 kg	5 Clip	$1413

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Model 1902/1907/1912	BA	4	2-3-Nil	8	4	Nil	104
Model 1910 Carbine	BA	4	2-3-Nil	6	4	Nil	50
Model 1912 Short Rifle	BA	4	2-3-Nil	8	4	Nil	93

FMM Model 1924

Notes: Some of these weapons were purchased from FN in Belgium; others were built by Brno in Czechoslovakia. Czech-made versions are a bit shorter in the barrel. They are both, however, basically improved Model 1902 rifles, with pistol-grip stocks, turned-down bolt handles, and full-length handguards. They used the Model 1924 sword bayonet.

A carbine version was also built for Mexico by FN. They differed from standard FN-built rifles in the very short barrel length and the inability to mount a bayonet, as well as sights that were graduated way too high for the short barrel.

Weapon	Ammunition	Weight	Magazines	Price
Model 1924 (Belgian-Built)	7mm Mauser	3.86 kg	5 Clip	$1380

Model 1924 (Czech-Built)	7mm Mauser	3.78 kg	5 Clip	$1364
Model 1924 Carbine	7mm Mauser	3.4 kg	5 Clip	$1296

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Model 1924 (Belgian)	BA	4	2-3-Nil	7	4	Nil	77
Model 1924 (Czech)	BA	4	2-3-Nil	7	4	Nil	69
Model 1924 Carbine	BA	4	2-Nil	6	4	Nil	39

FMM Model 1936

Notes: This is an indigenously-produced Mauser variant designed to replace the FMM Model 1902 and most of its variants. It is basically an 1898-pattern Mauser with the barrel bands, nose cap, and cocking piece from the US Springfield M-1903 (itself a Mauser-pattern rifle). It also had a pistol-grip stock, a slight swelling ahead of the magazine to produce a palm rest, a turned-down bolt handle, and US-style sling swivels.

After World War 2, the Mexicans modified the Model 1936 to fire .30-06 Springfield ammunition. This produced the Model 1954. Changes were made that were necessary to chamber the new caliber and to the magazine to hold the new rounds. The barrel was lengthened very slightly. However, since semiautomatic rifles became readily available after World War 2, the Mexicans stopped manufacturing the Model 1954 in 1956, and relegated the rifles to reserve use.

Weapon	Ammunition	Weight	Magazines	Price
Model 1936	7mm Mauser	3.78 kg	5 Clip	$1378
Model 1954	.30-06 Springfield	4.38 kg	5 Clip	$1728

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Model 1936	BA	4	2-3-Nil	7	4	Nil	76
Model 1954	BA	4	2-3-Nil	8	4	Nil	78

Krag-Jorgensen Military Rifle Series (Norwegian Versions)

Notes: Norwegian use of the Krag-Jorgensen began in 1894 after 4 years of trials with several weapons (most of which were Mauser and Mannlicher variations), and another 2 years of grueling field tests with the Norwegian Army.

The first Norwegian Krag-Jorgensen was designated the Krag-Jorgensengevaer M/1894. It used the Danish Gevaer m/89 as a base, but was a far better version of the Krag-Jorgensen than the Danes would ever have. The feed tray hinged downward rather than to the left, which allowed a side benefit of the addition of a rotary cutoff that prevented rounds from feeding from the magazine if necessary. The design of the bolt was altered to increase reliability and allow more positive locking. The bolt handle was turned down and seated in a groove in the receiver when the weapon was cocked. The stock was of the pistol-grip-wrist type, with a finger groove behind the rear sight. At first, the stocks were made from walnut, but this was quickly switched to birch to reduce costs. Though the handguard was longer than that of its Danish cousins, room was left for a lug for use with the Model 1894 knife bayonet. The rear sight was a tangent-leaf, with a hooded bead in front. Original chambering was for the M/94 and M/97 rounds, which were Norwegian versions of the blunt-nosed 6.5mm Swedish round. In 1923, a new version of this round with a spitzer-type pointed bullet was approved by the Norwegian government – however, conversion of existing M/1894s to the new round, along with the new sights, was so slow that the conversions were not completed until 1938. The barrel used was 29.9 inches long and used the then-new 4-groove concentric rifling. Most were issued to the Norwegian Army, but the Navy actually got first issue. (Naval versions had a butt trap for a cleaning kit, but are otherwise identical to Army rifle for game purposes.) An attempt was also made to turn 1000 M/1894s into marksmen's rifles by adding mounts for a German-made Ajack 4x scope, but the scope performed poorly in the icy weather often present in Norwegian winters. The troops that had to use these marksmen's rifles complained bitterly to the Army for years, but it took until 1923 for the Army to replace the troublesome weapons with purpose-built marksmen's rifles. The M/1894 marksmen's rifles were returned to the standard M/1894 configuration at this time.

Like many countries at the time, carbine versions of Norwegian Krags were also made. The first of these, the Krag-Jorgensenkarabin for Kavaleret M/1895 (Cavalry Carbine), had half-length handguard that narrowed quickly towards the front (a weight-saving measure), sling swivels to the left side of the single barrel band and under the stock behind the pistol grip wrist, a much shorter 20.45-inch barrel, and no bayonet lug. The bolt hold-open/stop was deleted in 1897, and the rear sling swivel was moved to the left side of the stock behind the pistol grip wrist. Production of this carbine stopped in 1912. The Krag-Jorgensenkarabin for begartilleriet og ingenøvåpnet M/1897 (Mountain Artillery and Engineer Carbine) was virtually identical, but the rear sling swivel was located under the stock, 4 inches in front of the butt. In 1904, the Norwegian Army's Engineer Corps received their own carbine version, the Krag-Jorgensenkarabin for ingenøvåpnet M/1904. The M/1904 was for the most part the same as the M/1897; however, the handguard was extended to the muzzle (but narrowed quickly towards the muzzle), the handguard also had space to allow a cleaning rod to be slid into it, and a bayonet lug was added beneath the handguard which allowed it to accept the M/94 knife-type or M/12 sword-type bayonets. In 1907, field artillery also got a new carbine, the Krag-Jorgensenkarabin for feltartilleriet M/1907; this was virtually identical to the M/1904 except for the position of the sling swivels (one on the left side of the rearmost barrel band and one under the stock 4 inches ahead of the butt), and the weight.

Of course, infantrymen eventually began clamoring for their own carbine, leading to the Krag-Jorgensenkarabin M/1912, with a 24-inch barrel. The stock (originally of walnut, but later made from beech), used a handguard that extended so far forward that it almost enclosed the muzzle itself. The handguard had a space to allow a cleaning rod to be slid into the front of the handguard, and underneath the front of the handguard was a bayonet lug accepting an M/12 bayonet. After field use showed that the stock's nose cap was rather weak where it joined to the stock, a steel collar was added to prevent the nose cap from falling off; in addition, while bolt handles on the M/1912 were bent down, M/1912s built from 1916 onwards used straight bolt handles. Starting in 1923 the tangent-leaf rear sights were recalibrated to keep up with ammunition using more modern propellants. There were, however, a lot of infantrymen who preferred the longer-barreled M/1894 with its greater accuracy, so the M/1912 never fully replaced the M/1894 in Norwegian service, despite being built until 1935, and service extending until 1942. A further infantry carbine, the M/1894-43, was essentially an M/1894 modified into the same configuration as the M/1912 during the Nazi occupation of Norway. Essentially the same (for game purposes) as the M/1912, these weapons were stamped with Nazi ordnance makings instead of Norwegian markings, had protective ears for the front sight bead, and were generally used in the same manner as similar Danish models.

Several purpose-built marksman/sniper versions were also built. The first of these, the Skarpskyttegevaer M/1923, was designed to replace the ill-fated M/1894-based marksman's rifle. The Ajack was replaced with a micrometer-adjustable open aperture sight (and a few were also fitted with scope mounts). The stock was full-length, with a pistol grip wrist that was deeper and had a sharper angle than the stocks of the other M/1894-based rifles; the pistol grip wrist and handguard were also checkered to improve grip. The barrel was a heavy, floating, and 26.2 inches long. Though the M/1923 was far better than its predecessor, it was still not quite satisfying enough and production stopped in 1925, and the existing M/1923s were converted to M/1930 specifications. While the M/1930 was being developed, an intermediate design was produced, called the Skarpskyttegevaer M/1925; unfortunately, the M/1925 was a bit of a step backwards, as it basically just a modified M/1894 which was given the barrel and sights of the M/1923 in addition to having protective ears for the front sight. About 110 were built, and for game purposes, they are identical to the M/1923. Both of these were replaced by the far better Skarpskyttegevaer M/1930; this version used 29.9-inch floating bull barrel.

They were fitted with the same rear sight as the M/1923, but most also had scope bases; the front sight was a hooded blade. The stock used a half-length handguard, but was otherwise the same as that of the M/1923. 150 M/1930s were new-built rifles; another 90 were upgraded from M/1923s.

A training version of the M/1894 was also built; this version was designed for basic rifle marksmanship training by military cadets, students in the Norwegian equivalent of high school, and some firearms clubs. Designated the Krag-Jorgensenkarabin for Skoler M/1906 (Cadet Carbine), this rifle was more commonly referred to as the "gutte karabiner" (boys' carbine) and was built from 1906-12. It was basically the same design as the M/95 Cavalry Carbine, but used an extremely short handguard to save weight (and cost). Most training was done with sub-loaded ammunition to allow safer practice on small ranges and allow for the smaller stature for the students using the M/1906, but the M/1906 was also capable of firing standard M/94 and M/97 ammunition.

Weapon	*Ammunition*	*Weight*	*Magazines*	*Price*
M/1894 Rifle (Early)	6.5mm Norwegian (M/94 and M/97)	4.05 kg	5 Internal	$1262
M/1894 Rifle	6.5mm Norwegian	4.05 kg	5 Internal	$1262
M/1894 Marksman's Rifle	6.5mm Norwegian (M/94 and M/97)	4.15 kg	5 Internal	$1362
M/1895 Cavalry Carbine	6.5mm Norwegian (M/94 and M/97)	3.4 kg	5 Internal	$1166
M/1904 Engineer Carbine	6.5mm Norwegian (M/94 and M/97)	3.81 kg	5 Internal	$1166
M/1912 Short Rifle (Early)	6.5mm Norwegian (M/94 and M/97)	4.02 kg	5 Internal	$1202
M/1912 Short Rifle (Late)	6.5mm Norwegian	4.02 kg	5 Internal	$1202
M/1923 Marksman's Rifle	6.5mm Norwegian	4.16 kg	5 Internal	$1268
M/1930 Marksman's Rifle	6.5mm Norwegian	4.32 kg	5 Internal	$1280
M/1906 Cadet Carbine	6.5mm Norwegian (M/94 and M/97)	3.78 kg	5 Internal	$1147

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M/1894 Rifle (Early)	BA	4	2-3-Nil	8	4	Nil	85
M/1894 Rifle	BA	4	2-3-Nil	8	4	Nil	102
M/1894 Marksman's Rifle	BA	4	2-3-Nil	8	4	Nil	85
M/1895 Cavalry Carbine	BA	3	2-Nil	7	4	Nil	56
M/1904 Engineer Carbine	BA	3	2-Nil	7	4	Nil	56
M/1912 Short Rifle (Early)	BA	4	2-Nil	7	4	Nil	70
M/1912 Short Rifle (Late)	BA	4	2-Nil	7	4	Nil	77
M/1923 Marksman's Rifle	BA	4	2-3-Nil	8	4	Nil	93
M/1930 Marksman's Rifle	BA	4	2-3-Nil	8	4	Nil	108
M/1906 Cadet Carbine (Standard)	BA	4	2-3-Nil	8	4	Nil	102
M/1906 Cadet Carbine (Sub-Loaded)	BA	2	1-Nil	8	2	Nil	54

POF G-3

Notes: These are G-3 rifles manufactured under license by Pakistani Ordnance Factories. They are virtually identical to the G-3A3 (which Pakistan calls the G-3P3) and G-3A4 (which Pakistan calls the G-3P4), except for differences to suit local manufacturing methods and slight weight and size differences. In addition, the rate of fire of a POF G-3 is about 50 rounds less per minute than the original HK G-3A3 and A4 (though this is not important in the *Twilight 2000 v2.2* rules). These weapons are still quite common in Pakistani forces, despite the acquisition of newer and/or lighter weapons from China, Germany, and the US.

Weapon	Ammunition	Weight	Magazines	Price
POF G-3P3	7.62mm NATO	4.4 kg	20	$1006
POF G-3P4	7.62mm NATO	4.7 kg	20	$1026

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
POF G-3P3	5	4	2-3-Nil	6	3	9	52
POF G-3P4	5	4	2-3-Nil	5/6	3	8	52

Mosin-Nagant M-1891 Series

Notes: This rifle was designed by two Belgian brothers named Nagant and a Russian Army colonel named Mosin. The 7.62mm Nagant cartridge was designed for use in this weapon (though at the time of it's design, it was known as the 3-Line cartridge). The weapon has an unusual safety; it is engaged by pulling the cocking handle back and rotating it backwards. Many variants were made over the years.

The first model was the M-1891; it uses a removable socket bayonet. The sights were calibrated in the obsolete Russian measurement system of arshins (one arshin is about 711 mm), but in 1917 most of them were converted to metric sights. The bayonet, though removable, is designed to be on the rifle; in fact, the balance of the M-1891 is so affected that the sights must be re-zeroed if one intends to use the rifle without the bayonet. The M-1891 is almost an obscenely-long weapon, at 51.9 inches, though this did allow for an incredible 32.3 inches of barrel length. Receivers were of heavy steel, and a ramp-and leaf sight rear sight and a front bead sight were provided for aiming on original M-1891s. The stock was straight-wristed. Experience in the Russo-Japanese War of 1904-05 showed that the sights worked poorly at short ranges, and therefore they were re-worked. At the same time, some minor changes were made to the mechanism and stock. Issued in 1910, this version was the M-1891 Type L. (It is identical to the standard M-1891 for game purposes.)

The M-1891 Cossack Rifle is a version of the M-1891 with a shorter 29.9-inch barrel, sling slots moved to the side of the stock and fore-end, and a modified cleaning rod. It was designed specifically for use from horseback. This version was built until 1914, with assembly continuing until 1915. The M-1891 Dragoon is essentially the same rifle with a different cleaning rod, but otherwise virtually identical to the Cossack rifle. Both had special weighting so that aim was not disturbed whether or not a bayonet was attached. The Dragoon became the standard infantry rifle in 1922, and production continued until the early 1930s.

The M-1907 carbine used an even shorter 20.05-inch barrel. It was specifically designed for the Tsar's Army artillery and cavalry units. The stock had such a long fore-end that a bayonet could not be attached. Originally, the sights were graduated for arshins, but with the advent of the Spitzer bullet, the sights were replaced with metric sights graduated for longer ranges. (Some sources call this version with modified sights the "M-1910," but this nomenclature is generally regarded by most experts as incorrect.)

The M-1891/30 is a modified Dragoon rifle with the receiver body changed from a hexagonal shape to a cylindrical shape. This was done to simplify manufacture. In addition, the rear sights were changed from leaf-type to a tangent-type, and the front sight was changed from a barleycorn type to a more modern hooded post. Sling slots were added to the stock and fore-end. A new bayonet along with a more secure bayonet lug was designed for the M-1891/30. Barrel length was still an astonishing 28.75 inches. The M-1891/30 is perhaps the most numerous of all of the M-1891 series, with some 17.5 million being built (mostly just before and during World War 2). The M-1938 carbine was essentially a shortened M-1891/30, with 20.05-inch barrel and the ability to use the same bayonet as the M-1891/30.

The M-1891/30 Sniper's Rifle was made by taking the best-performing rifles from production batches of M-1891/30s, adding a mount for the PU or PE telescopic sights (both of which were modified Zeiss designs, with the PE being longer and having a 4x magnification, while the PU was shorter and had a 3.5x magnification), and given further treatment to ensure smooth operation of their actions. The normally straight bolt handles were also turned downward so as to not interfere with the scope, and a slot was cut in the side of the stock for this down-turned bolt handle.

The M-1891/30 Silenced Rifle is a rare and odd variant of the M-1891. Designed for use with special "partisan" sub-loaded ammunition, these rifles were never large in number and even recorded uses of them are rare. They were to be fired only with the special subsonic ammunition; if normal ammunition is used, the rubber-baffle silencer would be ruined in as little as 3 shots. Even with subsonic ammunition, the life of the silencer may have been as little as 30 shots.

Starting in 1943, experiments began to affix a permanent folding bayonet to the M-1938. By 1944, a Semin-type folding cruciform bayonet was settle upon and production began. Unfortunately, it was quickly realized after World War 2 that the M-1891 series was obsolete, and production stopped shortly after the war. Production did, however, continue in other countries, most notably China, long after this point.

During World War 1, the Austro-Hungarians captured mountains of M-1891s and M-1891 Cossack rifles on the Eastern Front. Most of these were used without modification (as the Austro-Hungarians also captured mountains of ammo), but a considerable number were converted to fire the 8mm Lebel round which was one of the Austro-Hungarian standard rifle rounds. Some were also modified to use Austro-Hungarian bayonets. Like the Austro-Hungarians, the Germans also captured large amounts of these Russian rifles and ammunition, but some of these were also converted to use the standard German service cartridge (8mm Mauser in this case). Captured German examples were far more likely to have been modified to use German bayonets.

The Poles also used the Mosin-Nagant starting in the 1920s until its subjugation by the Nazis in World War 2. Theirs were highly-modified, chambered for 8mm Mauser ammunition, designed for German-style bayonets, and having barrels 23.6 inches long. These rifles were called the M-91/98/25.

So many Mosin-Nagants were built, and the design so hardy, that they can still be regularly encountered today in the hands of various insurgents, rebels, hunters, and even in some armies.

Weapon	Ammunition	Weight	Magazines	Price
M-1891	7.62mm Nagant	4.43 kg	5 Clip	$1607
M-1891	8mm Lebel	4.43 kg	5 Clip	$1630
M-1891	8mm Mauser	4.43 kg	5 Clip	$1800
M-1891 Cossack/Dragoon	7.62mm Nagant	3.95 kg	5 Clip	$1582

M-1891 Cossack	8mm Lebel	3.95 kg	5 Clip	$1605
M-1891 Cossack	8mm Mauser	3.95 kg	5 Clip	$1776
M-1907 Carbine	7.62mm Nagant	3.4 kg	5 Clip	$1482
M-1891/30	7.62mm Nagant	3.95 kg	5 Clip	$1571
M-1891/30 Sniper's Rifle	7.62mm Nagant	4.2 kg	5 Clip	$1778
M-1891/30 Silenced Rifle	7.62mm Nagant Subsonic	4 kg	5 Clip	$2212
M-1938 Carbine	7.62mm Nagant	3.54 kg	5 Clip	$1482
M-1944 Carbine	7.62mm Nagant	3.9 kg	5 Clip	$1485
M-91/98/25	8mm Mauser	3.7 kg	5 Clip	$1712

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1891 (7.62mm)	BA	5	2-3-Nil	9	4	Nil	127
M-1891 (8mm Lebel)	BA	5	2-3-Nil	9	4	Nil	124
M-1891 (8mm Mauser)	BA	5	2-4-Nil	9	5	Nil	131
M-1891 Cossack/Dragoon (7.62mm)	BA	4	2-3-Nil	9	4	Nil	117
M-1891 Cossack (8mm Lebel)	BA	5	2-3-Nil	9	5	Nil	114
M-1891 Cossack (8mm Mauser)	BA	5	2-3-Nil	9	5	Nil	121
M1907 Carbine	BA	4	2-3-Nil	7	5	Nil	69
M1891/30	BA	4	2-3-Nil	8	4	Nil	113
M-1891/30 Sniper's Rifle	BA	4	2-3-Nil	8	4	Nil	115
M-1891/30 Silenced Rifle	BA	3	1-Nil	11	3	Nil	45
M1938 Carbine	BA	4	2-3-Nil	7	4	Nil	69
M1944 Carbine	BA	4	2-3-Nil	7	4	Nil	69
M-91/98/25	BA	4	2-3-Nil	8	5	Nil	88

Simonov AVS-36

Notes: Though this battle rifle had been under development since 1931, it was not until 1936 that Simonov (better known for the SKS carbine) developed a weapon that worked well enough to put into production. Unfortunately, the AVS-36 was never trialed properly, and in battle, its shortcomings became obvious. The AVS-36 was hampered by an overly-complicated gas operation system that fouled too quickly since it let dirt and dust in too easily. In addition, the weapon was much too light for the cartridge when fired on automatic, and muzzle blast was far too great due to a poorly-designed muzzle brake. The AVS was replaced by the Tokarev SVT-38 in 1938.

Weapon	Ammunition	Weight	Magazines	Price
AVS-36	7.62mm Nagant	4.4 kg	15, 20	$1161

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
AVS-36	5	4	2-3-Nil	8	3	8	85

Tokarev SVT-38/SVT-40/AVT-40

Notes: Tokarev's first battle rifle design, the SVT-38, was for the most part a failure due to the fragility of the weapon. It has a two piece stock, an external cleaning rod, a complicated gas operation system, and a six-baffle muzzle brake. These complicated pieces simply broke a lot. Operation is by gas, and the operating system itself is quite efficient when working. Steps were taken to prevent an early-on problem – violent case ejection that deformed cases and possibly revealed the shooter's position. The receiver is a long affair, with a cocking handle with a ring on it. The two-piece stock generally divided at the fore-end just ahead of the magazine well. The handguard was metal and ventilated, and wrapped around to form a barrel shroud. On the inside of the fore-end was a hole for the insertion of a cleaning rod when not in use. The SVT-38 had a simple safety that rotated into the trigger guard and prevented any trigger or hammer movement. The barrel of the SVT-38 was 24.7 inches long and tipped with a muzzle brake, and the rifle was a bit on the heavy side. The SVT-38 was first used by the Soviets in the Winter War against Finland, but results were disappointing; it is possible that the brutal winter conditions along with troops poorly trained in its use and maintenance contributed greatly to it's bad reputation. However, it is possible that the SVT-38 was not sufficiently strengthened to handle the 7.62mm Nagant cartridge.

The SVT-38 was replaced by the SVT-40, which was a more robust version of the SVT-38. There were a number of improvements, such as a one-piece stock, replacement of smaller pieces with large continuous ones where possible, a simplification of the operation, a two or three-baffle muzzle brake, and a number of other improvements. Tokarev retained as much of the basic SVT-38 pattern as possible, but worked on all levels to correct the SVT-38's shortcomings. This included strengthening of the receiver, firing pin, and barrel extension. Unfortunately, the SVT-40 was still rifle that was expensive and slow to build. Tokarev also addressed criticism that the SVT-38 was too long, shortening the barrel to 24 inches. They were primarily issued to noncommissioned officers and to certain snipers, though to an extent the SVT-40 also became sort of a "showpiece rifle" and used by special units. Some snipers also made use of them, using a variant of the 3.5x PU scope used on the Mosin-Nagant

sniper versions. Though 2 million SVT-38s and SVT-40s were produced, they came nowhere near to replacing the Mosin-Nagant.

The AVT-40 was basically an SVT-40 with a sear and selector lever modified for automatic fire. Few such modifications were made, since the resulting weapon was too light for practical automatic use.

A few thousand carbine versions of the SVT-40 were built with an 18.5" barrel , called the SKT-40. They were designed for urban warfare, but the muzzle blast proved formidable. The standard sights were also retained, leading to aiming errors and a lot of "Kentucky windage." The standard knife bayonet was retained. After World War 2, prototypes of the SVT-40 and AVT-40 were chambered for the then-new 7.62mm Kalashnikov round, but these were not proceeded with, and are presented here merely for interest.

Weapon	Ammunition	Weight	Magazines	Price
SVT-38	7.62mm Nagant	3.91 kg	10, 20	$1162
SVT-40/AVT-40	7.62mm Nagant	3.83 kg	10, 20	$1155
SVT-40/AVT-40	7.62mm Kalashnikov	3.5 kg	10, 20	$926
SKT-40	7.62mm Nagant	3.58 kg	10, 20	$1099

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
SVT-38	SA	4	2-3-Nil	8	3	Nil	85
SVT-40 (7.62mm Nagant)	SA	4	2-3-Nil	8	3	Nil	81
SVT-40 (7.62mm Kalashnikov)	SA	4	2-3-Nil	7	4	Nil	73
AVT-40 (7.62mm Nagant)	5	4	2-3-Nil	8	3	9	81
AVT-40 (7.62mm Kalashnikov)	5	4	2-3-Nil	7	4	9	73
SKT-40	SA	4	2-3-Nil	7	4	Nil	55

CETME

Notes: After Germany's defeat in World War 2, some of Mauser Firearms' technicians moved to Spain. One of the things they took with them was the plans for a rifle they had designed for the Nazis, the StG-45, a weapon that never got past the prototype stage in Germany. They went to work for CETME, developed the weapon further, until they had the CETME.

The CETME's operation is by delayed blowback, along with the roller-locking mechanism which Heckler & Koch later made famous. The original CETME prototypes, appearing in 1952, were chambered for a special intermediate 7.92mm round designed specifically by CETME for its new rifle. Production began tentatively in 1954, with the CETME chambered for the 7.92mm intermediate cartridge; however, in 1955, a very few examples were also built in another experimental CETME cartridge which was essentially a short-cased version of the US-designed .30 T65 cartridge (which later became the 7.62mm NATO cartridge). However, like many such rounds designed by NATO members at the time, these two experimental rounds were effectively stamped out by US political pressure. This led to the CETME-A, chambered for a version of the 7.62mm NATO round packed with less propellant, late in 1955.

The CETME-A was very similar to the prototypes, except for its chambering. It was designed to be easy and inexpensive to manufacture, with a great deal of the parts comprised of steel stampings. The stock used a straight-line profile and was built of wood; the pistol grip was also wooden. The barrel jacket was a ventilated steel stamping; just forward of the barrel jacket was mounted a folding bipod, which doubled as a rather uncomfortable handguard (the bipod legs were thick and did not fold flush). The CETME-A had a folding carrying handle atop the receiver. The 17.7-inch barrel was tipped with a multi-port muzzle brake, which could be unscrewed and replaced with a rifle grenade launching attachment. The CETME-A fired from a closed bolt in semiautomatic and from an open bolt when set on automatic. In 1958, the CETME-A was further modified and simplified into the CETME-B (also called the CETME-58); the CETME-B had a new sheet-metal handguard, a flush-folding bipod, a new flash suppressor which doubled as a rifle grenade launcher, and fired from a closed bolt in both semiautomatic and automatic fire.

The CETME-C entered service in 1965; this version primarily resulted from CETME and Spain's decision to switch to the standard 7.62mm NATO round instead of the reduced-charge round they had been using. It became the most common version of the CETME battle rifle. The primary change was that the receiver, chamber, and other operating parts were strengthened to take the greater power of the full-charge 7.62mm NATO round. The sheet metal handguards were replaced with wood, the sights redesigned to match the new chambering, and the flash suppressor was modified to allow the CETME-C to use standard NATO-pattern rifle grenades. The CETME-C, in addition to Spanish use, was exported to many countries for service use and for trials.

The CETME-D gave the CETME-C a few minor improvements, but it mostly served as a development pattern for the CETME-E. The CETME-E was to be a modernized CETME-C and was to have entered service and the export market in 1982, but Spain decided to wait a couple of years for the new CETME-L, chambered for the 5.56mm NATO cartridge. The CETME-E had a greatly-improved extractor and ejector, improved sights, and a synthetic stock, pistol grip, and handguard. Some were also built with 3-round burst capabilities in addition to the standard selector settings. Production of the CETME-E was extremely limited.

There were also a couple of special variants of the CETME. The CETME-C Sniper was a version of the CETME-C with a match-grade barrel, special iron sights calibrated for longer ranges, a mount for a telescopic sight (with the scope included in the cost below), and no automatic fire capability. It was meant to be the standard Spanish sniper rifle, but Spanish military and police snipers both preferred imported sniper rifles, and later the Santa Barbara-built C-75. This meant that only a few CETME-C Sniper rifles were ever built.

The CETME-R was designed to be a firing port version for use from armored vehicles equipped with ball/swivel-type firing ports. The barrel was greatly-shortened to 12 inches and the flash suppressor enlarged, and the handguard/barrel jacket assembly was replaced with a cylindrical collar. The stock is deleted, replaced with a short end cap (making it pretty much impossible to shoulder). Since the charging handle would be impossible to use in a firing port mount in its normal position, it has been moved back almost to the front of the receiver, and the standard CETME charging handle has been replaced with a modified version of the MG-42's charging handle. The CETME-R has no sights of any kind (the magazines are filled with tracers for aiming purposes), nor does it have a semiautomatic fire setting. (The cyclic rate of only 550 rpm does allow a trained shooter to squeeze off short bursts and single shots if necessary.) The pistol grip is slightly shortened, and made of plastic.

A civilian model, the CETME Sport, was also designed based on the CETME-C, which differed only in being unable to fire on automatic and having a rubber recoil pad on the butt. It also was not equipped with a bipod or a bayonet lug, but was drilled and tapped for a scope mount. For whatever reason, it never sold well, and it is relatively rare today.

Twilight 2000 Notes: In the Twilight 2000 timeline, a most CETME-Cs (and even a few CETME-Bs) have been pulled back out of storage. In addition, a lot of CETME-Rs have been taken out of wrecked IFVs and put to use; some even have had jury-rigged stocks added of varying quality (most are simple fixed tubular metal stocks).

Weapon	Ammunition	Weight	Magazines	Price
CETME	7.92mm CETME	4.45 kg	20	$1305*
CETME	7.62mm Short CETME	4.43 kg	20	$1305*
CETME-A	7.62mm CETME	4.58 kg	20	$1377*
CETME-B	7.62mm CETME	4.63 kg	20	$1327
CETME-C	7.62mm NATO	4.48 kg	20	$1425
CETME-E	7.62mm NATO	4.42 kg	20	$1827**
CETME-C Sniper	7.62mm NATO	4.88 kg	20	$1652
CETME-R	7.62mm NATO	6.4 kg	20	$942
CETME Sport	7.62mm NATO	4.22 kg	20	$1071***

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
CETME (7.92mm)	5	4	2-Nil	6	2	7	52
(With Bipod)	5	4	2-Nil	6	2	3	67
CETME (7.62mm Short)	5	4	2-Nil	6	2	7	52
(With Bipod)	5	4	2-Nil	6	2	3	67
CETME-A	5	4	2-3-Nil	6	2	7	49
CETME-A (With Bipod)	5	4	2-3-Nil	6	2	3	63
CETME-B	5	4	2-3-Nil	7	2	7	49
(With Bipod)	5	4	2-3-Nil	7	2	3	63
CETME-C	5	4	2-3-Nil	7	3	9	52
(With Bipod)	5	4	2-3-Nil	7	2	4	67
CETME-E	3/5	4	2-3-Nil	7	3	5/9	52
(With Bipod)	3/5	4	2-3-Nil	7	2	3/4	67
CETME-C Sniper	SA	4	2-3-Nil	7	3	Nil	56
(With Bipod)	SA	4	2-3-Nil	7	2	Nil	72
CETME-R	5	4	2-Nil	4	3	7	28
CETME Sport	SA	4	2-3-Nil	7	3	Nil	52

*The cost of the these versions include the additional rifle-grenade launcher muzzle device.

**If one uses the version of the CETME-E without a burst-firing setting, subtract $393 from the game price.

***Versions built during the US Assault Weapons ban and sold in the US will not have flash suppressors. Subtract $11 from the game price for the "Assault Weapons Ban" version and 0.06 kg from the weight; in addition, reduce the Bulk rating to 6.

Destroyer

Notes: The Destroyer, also known as the Destroyer Carbine, is a Model 93 Spanish Mauser variant produced for Spanish police forces, both local and national, as well as the Guardia Civil. They are believed to have first been built in the early-to-mid-1920s, but information is sparse about the Destroyer's origins. These first Destroyers, however, are believed to have been produced by one of the firearms companies in Eibar called Gaztanaga. Gaztanaga went out of business in the 1930s, but the Destroyer was again made just prior to World War 2, also in Eibar, by the firm Ayra Duria S.A. This company produced the Destroyer until at least 1961, and possibly later. The Destroyer is rather common to this day on the military surplus market. The Destroyer may be identified from other short Mausers by the larger bore, long magazine below the receiver, and the action, which more like that of a bolt-action shotgun than a rifle. The triggers tend to be creepy, but light. In some cases, Star pistol magazines (from their older models) can be modified to fit a Destroyer (Difficult: Gunsmith or Formidable: Small Arms (Rifle)). The sights are way out of line for a pistol-caliber rifle, being of an adjustable ladder type and graduated from 100-700 meters, but when flipped down, there is a fixed battle sight zeroed for 50 meters.

It should be noted that while 9mm Winchester ammunition will fit into a Destroyer chambered for 9mm Largo, this is not recommended due to the higher chamber pressures generated by the 9mm Winchester round. 9mm Largo is the most common chambering for the Destroyer.

Weapon	Ammunition	Weight	Magazines	Price
Destroyer	9mm Parabellum	2.8 kg	7, 10	$367
Destroyer	.38 Super	2.86 kg	7, 10	$395
Destroyer	9mm Largo	2.86 kg	7, 10	$394

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Destroyer (9mm Parabellum)	BA	2	2-Nil	6	1	Nil	55
Destroyer (.38 Super)	BA	3	1-2-Nil	6	1	Nil	70
Destroyer (9mm Largo)	BA	2	1-Nil	6	1	Nil	59

Ljungmann AG-42

Notes: As the nomenclature might suggest, this weapon came into Swedish service in 1942 and served in the Swedish military until the early 1970s. Also known as the Eklund-Ljungmann (the designer was a Ljungmann engineer named Erik Eklund), the AG-42 used an unusual direct gas system instead of the gas piston that was normally used in a gas-operated system at the time; this became the basis for standard for gas operation. This makes the rifle simpler to manufacture and take care of. Unfortunately, the AG-42's gas system is its weak point; the design was novel at the time and had bugs in it which led to it being fouled easily, causing lots of stoppages. The AG-42 also has no actual charging handle, as such – instead, the breech cover is pulled back to uncover the breech (which also allows the AG-42 to be top-loaded with chargers without removing the magazine), then pushed forward again. Due to the nasty tendency for stoppages, the AG-42 never achieved the hoped-for amount of issue (it was supposed to be the standard Swedish infantry rifle); instead, it was issued at the most to only half a squad (and usually less) to provide extra firepower.

The stock of the AG-42 is a modified form of that of the M-38 Mauser; this was done because Husqvarna (which later became FFV) wanted to affect the manufacture of their M-38 Mausers as little as possible due to fear that the Nazis might invade Sweden. The AG-42 therefore used a hardwood stock with a semi-pistol grip wrist and a fore-end which reached almost to the muzzle of the weapon. The barrel was 24.5 inches long, with a muzzle shaped to allow the use of the rifle grenades of the period and a lug to accept the standard Swedish M-96 knife-type bayonet. Atop the fore-end was a ventilated wooden barrel shroud. A drum-type adjustable rear sight and a post front sight were used; the rear sight was protected by high ears and the front by a ring.

In 1953, the AG-42B was introduced. This improved version of the AG-42 addressed most of the shortcomings of the AG-42, including the use of a wider gas tube made from stainless steel to reduce the fouling which was the primary cause of stoppages. (It still did not become the standard Swedish infantry rifle, however.) The trigger and extractor mechanisms were strengthened. Case ejection of the original AG-42s tended to lead to deformed cases which could not be reloaded without considerable work; therefore, a rubber roller was attached to the right side of the breech cover to stop this. Minor changes were also made to the sights to allow finer adjustments, and the magazines were also made to allow them to be loaded easier and more quickly (these will also fit into original AG-42s). This version was manufactured until the late 1050s, though both the AG-42 and AG-42B continued to serve in a lesser and lesser role until the early 1970s.

A variant of the AG-42 was also manufactured in Denmark as the Madsen-Ljungmann AG-42 (also sometimes incorrectly the ML-42). These were intended to replace the ancient Krag-Jorgensen rifles the Danish used before and after the Nazi occupation during World War 2, but problems with the gas system were magnified when the AG-42 was re-chambered for the standard Danish service cartridges (7mm and 8mm Mauser). Though virtually the entire mechanism was strengthened to allow the use of these cartridges, nothing ever really worked. Changes (other than simple strengthening) included a gas tube coiled around the barrel to increase the length of gas travel (this made cleaning the gas tube by armorers a nightmare), and various other small changes. In addition, the bayonet lug was changed to accept the standard Danish bayonet, and the barrel shroud was made from sheet steel instead of wood. By the early 1950s, Madsen realized the AG-42 was simply not going to accept the Mauser cartridges (the technology to allow it was not quite perfected at the time), and they abandoned the attempt, with only a very few ever being issued to the troops; by the mid-1960s, even these were recalled.

In 1954, the Egyptians had bought the AG-42B design, and a manufacturing license; they successfully rechambered theirs for 8mm Mauser, and manufactured it as the Hakim. (See Egyptian Battle Rifles for the Hakim entry.) The later Rashid carbine was also based on the Hakim.

Twilight 2000 Notes: This was one of the many weapons brought out of storage (or otherwise appeared somehow) and used by Swedish partisans during the Twilight War. Many Danish examples also showed up being used by Luxembourger partisans, and small amounts were also used by German citizens.

Weapon	Ammunition	Weight	Magazines	Price
AG-42 (Swedish)	6.5mm Swedish Mauser	4.71 kg	10	$910
AG-42 (Danish)	7mm Mauser	4.55 kg	10	$1030
AG-42 (Danish)	8mm Mauser	4.74 kg	10	$1254

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
AG-42 (Swedish)	SA	4	2-Nil	8	3	Nil	72

AG-42 (Danish, 7mm)	SA	4	2-3-Nil	8	4	Nil	75
AG-42 (Danish, 8mm)	SA	4	2-3-Nil	8	4	Nil	84

Schmidt-Rubin

Notes: This is a weapon that lasted as long as it did in service because it was never actually used in wartime. The straight-pull design, though obsolete by 1889 when the Schmidt-Rubin was designed, was used because Switzerland invented it. Schmidt used an extremely long-pull design on top of that, making the entire weapon unwieldy and long. The sleeve and bolt system is similar to that of the Ross rifle, but even more complicated. Fortunately, Swiss soldiers never had to go to war with these weapons, and that probably saved countless lives.

Weapon	Ammunition	Weight	Magazines	Price
Schmidt-Rubin M-1889	7.5mm Schmidt-Rubin	4.44 kg	12	$1571
Schmidt-Rubin M-1889	7.5mm Swiss	4.59 kg	12	$1615
Schmidt-Rubin M-1911	7.5mm Swiss	4.59 kg	6	$1615
Schmidt-Rubin M-1911 Carbine	7.5mm Swiss	3.93 kg	6	$1539
Schmidt-Rubin M-1931 Carbine	7.5mm Swiss	4.01 kg	6	$1565

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1889 (7.5mm Schmidt-Rubin)	BA	4	2-3-Nil	8	4	Nil	120
M-1889 (7.5mm Swiss)	BA	4	2-3-Nil	8	4	Nil	121
M-1911	BA	4	2-3-Nil	8	4	Nil	121
M-1911 Carbine	BA	4	2-3-Nil	7	4	Nil	85
M-1931 Carbine	BA	4	2-3-Nil	7	4	Nil	99

SiG SG-542

Notes: This is the battle rifle version of the SG-540 rifle family (other parts include the SG-540 assault rifle and SG-543 carbine). The weapon is equipped with a bipod and is optimized for cold weather. Any NATO-type sighting device may be fitted. The SG-542 may be built with an integral bipod, but it is not standard. The SG-542 was not produced in quantity, but is used by Chile in good numbers, as well as by Bolivia and Nicaragua. It is also used by several African nations, by Indonesia and Lebanon, and by France in small numbers. By 2002, the only place to buy a new SG-542 is from FAMAE in Chile.

Twilight 2000 Notes: Switzerland started production of the SG-542, in small numbers, in 1998. Indonesia, however, began manufacturing the SG-542 in large numbers in 1996, far outstripping manufacture in Chile.

Weapon	Ammunition	Weight	Magazines	Price
SG-542 (Fixed Butt)	7.62mm NATO	3.55 kg	20, 30	$1410
SG-542 (Fixed Butt with Bipod)	7.62mm NATO	3.83 kg	20, 30	$1485
SG-542 (Folding Butt)	7.62mm NATO	3.55 kg	20, 30	$1430
SG-542 (Folding Butt with Bipod)	7.62mm NATO	3.83 kg	20, 30	$1505

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
SG-542 (Fixed Butt)	3/5	4	2-3-Nil	6	4	6/10	54
SG-542 (Fixed Butt/Bipod)	3/5	4	2-3-Nil	6	4	6/9	54
SG-542 (Fixed Butt/Bipod, w/Bipod)	3/5	4	2-3-Nil	6	2	3/5	71
SG-542 (Folding Butt)	3/5	4	2-3-Nil	5/6	4	6/10	54
SG-542 (Folding Butt/Bipod)	3/5	4	2-3-Nil	5/6	4	6/9	54
SG-542 (Folding Butt/Bipod, with Bipod)	3/5	4	2-3-Nil	5/6	2	3/5	71

SK-46

Notes: The *Selbstladekarabiner Modell 46* was developed during World War 2, but not marketed until afterward. It is a basic semiautomatic rifle in most respects, using gas operation, but the semiautomatic feature could be disconnected with a switch and the rifle operated as a bolt-action weapon. (This was feature was primarily for training purposes.) The SK-46 also had a 2.2x magnification sight fitted as standard. Unfortunately, the SK-46 is a very heavy rifle, and there were a lot of war-surplus weapons flooding the market at the time, so the SK-46 barely sold at all.

Weapon	Ammunition	Weight	Magazines	Price
SK-46	8mm Mauser	4.54 kg	5, 10	$1436

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
SK-46	SA	4	2-3-Nil	7	4	Nil	80

SiG Stgw-57

Notes: After World War 2, Switzerland quickly realized that it would need a modern weapon to replace its World War 1 and 2-vintage weapons. Though they first tried to address this problem with the abortive Sk-46 and AK-53, these designs

did not satisfy the Swiss military, and they were also entire satisfied (at the time) with their own 7.5mm Swiss cartridge. Therefore, the AM-55 was developed by Rudolf Amsler, which became the Stgw-57. The Stgw-57 was adopted in 1957 as Switzerland's standard service rifle in 1957, and produced until 1983.

Just as some of Mauser's technicians went to Spain after World War 2, some went to Switzerland. Some of those technicians went to work for SiG, and they took the plans they had for the StG-45 and made radical changes to it. Being derived from the StG-45, the Stgw-57 based the operation on the pioneering delayed-blowback roller-locking design. Firing was from a closed bolt, and the Swiss did have some problems with cookoffs during prolonged automatic fire. However, the Swiss designers replaced the standard rollers with roller-shaped pivoting flaps; this better–suited the ammunition to be used. The receiver is of stamped steel, finished by machining. The trigger unit housing, pistol grip, and trigger guard are one unit. The barrel has a perforated steel jacket with two mounting points for the folding bipod issued with the rifle – one near the muzzle, and another just in front of the receiver at the point of balance of the rifle. The 22.95-inch barrel has no flash suppressor or brake, but is shaped to allow the firing of rifle grenades. (It is not of the right dimensions to use standard NATO-pattern rifle grenades.) The stock has a straight-line profile and is wood, mounted on a wooden extension. The stock also contains an effective recoil buffer which is quite good at reducing felt recoil, ans well as a thick rubber recoil pad. The trigger guard has a winter trigger of sorts; it swings downwards to allow the use of even fingerless mittens. The exceptional rear sight is micrometer-adjustable, and the rifle also has a mount for a special Kern 4x compact telescopic sight designed especially for the Stgw-57. There is no large handguard under the barrel, but there is a short fore-end of plastic. (This could lead to burned hands when carelessly gripped during prolonged firing.) Standard magazines have a slight curve to them and contain 24 rounds, but a special 6-round magazine was also issued to contain ballistite rounds for grenade launching.

Though the Swiss were quite satisfied with the Stgw-57, and used it until it was replaced by the SG-550 series in the early 1980s. However, they also realized the possible export potential of such an excellent rifle, and therefore SiG designed the SG-510. The SG-510 was quite similar to the Stgw-57; in fact, the first version of the SG-510, the SG-510-1, was little more than an Stgw-57 rechambered for 7.62mm NATO. This was quickly refined into the SG-510-2, using lighter wood for the stock and a slimmer barrel jacket. Neither of these two versions sold well.

The SG-510-3, which was chambered for the 7.62mm Kalashnikov round for possible export to the East and other countries using that round, also did not sell very well. This version used a 17.89-inch barrel, reshaped woodwork (without the straight-line stock configuration), a reshaped fore-end, a slightly higher cyclic rate (600 rpm versus the 500 rpm of earlier versions of the SG-510, though this has no effect for game purposes), and a reshaped muzzle to allow for use of Eastern-Bloc rifle grenades. The magazines looked similar to those of the AK series, but were smooth-sided and proprietary. This version saw almost no sales.

The definitive version of the SG-510, the SG-510-4, had decent sales to South America (particularly Bolivia and Chile, who still use them). The barrel was 19.93 inches long, and was tipped with flash suppressor that could accept standard NATO-pattern rifle grenades as well as older rifle grenades and modern BTU rifle grenades. The foregrip was slightly lengthened and changed to wood, and the complicated (and fragile) micrometer sights were replaced with sturdy sights similar to those used by its contemporaries. The mounting point for the bipod ahead of the receiver was eliminated, with the folding bipod fixed under the gas block. The Swiss considered changing to the SG-510 as its standard service rifle, and even acquired several of them, but decided to stick with the Stgw-57.

A further version of the SG-510-4 is the AMT (not to be confused with the American AMT firearms company), sold in the US as the PE-57. In addition, a version of the SG-510-3 was also sold to civilians in very small numbers. AMT was generally sold with 5 and 10-round magazines, but standard SG-510 magazines of the appropriate type were also useable. The fire mechanism was locked on semiautomatic. Unfortunately, the AMT also did not sell well (primarily due to the high real-world price, as well as the "ultra-military" appearance).

After adoption of the SG-550 series (known to the Swiss as the StG-90), the Stgw-57 was relegated to Home Guard and Reserve status. Most of them have been kept is perfect working order, and can still be found in the homes of many a retired Swiss soldier or Home Guard member.

Twilight 2000 Notes: As these rifles were often kept, in perfect working order, by retired soldiers all over Switzerland, they were a common sight to those invading Switzerland. They made many invaders' lives miserable.

Weapon	Ammunition	Weight	Magazines	Price
Stgw-57	7.5mm Swiss	5.55 kg	24, 30	$1754
SG-510-1	7.62mm NATO	4.9 kg	20	$1629
SG-510-2	7.62mm NATO	4.41 kg	20	$1629
SG-510-3	7.62mm Kalashnikov	4.1 kg	30	$1308
SG-510-4	7.62mm NATO	4.25 kg	20	$1548
AMT	7.62mm NATO	4.25 kg	5, 10, 20	$1543
AMT	7.62mm Kalashnikov	4.2 kg	5, 10, 30	$1297

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Stgw-57	5	4	2-3-Nil	7	3	6	75
(With Bipod)	5	4	2-3-Nil	7	1	3	98
SG-510-1/-2	5	4	2-3-Nil	7	3	7	76
(With Bipod)	5	4	2-3-Nil	7	1	3	99

SG-510-3	5	4	2-Nil	6	3	7	53
(With Bipod)	5	4	2-Nil	6	1	3	68
SG-510-4	5	4	2-3-Nil	7	3	7	62
(With Bipod)	5	4	2-3-Nil	7	1	3	80
AMT (7.62mm NATO)	SA	4	2-3-Nil	7	3	7	62
(With Bipod)	SA	4	2-3-Nil	7	1	3	80
AMT (7.62mm Kalashnikov)	SA	4	2-Nil	6	3	7	53
(With Bipod)	SA	4	2-Nil	6	1	3	68

MKEK G-3

Notes: This is a license-produced G-3 rifle made in Turkey. The primary changes in the design are to ease production using Turkish manufacturing methods, and the use of a locally-designed bayonet. There are slight differences in weight and dimensions. Two versions are produced, the G3-A3 and G3-A4, corresponding to the HK G-3A3 and G-3A4. The MKEK G-3 is referred to in Heckler & Koch literature as the G-3A7-A3 and G-3A7-A4, though it was never produced in Germany. These weapons are still in wide use in Turkey, serving alongside the AKM.

Weapon	Ammunition	Weight	Magazines	Price
MKEK G3-A3	7.62mm NATO	4.25 kg	20	$1012
MKEK G3-A4	7.62mm NATO	4.52 kg	20	$1032

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
MKEK G3-A3	5	4	2-3-Nil	6	4	9	52
MKEK G3-A4	5	4	2-3-Nil	5/6	3	9	52

Turkish Mausers

Notes: The Turks were some of the first non-Germans to buy Mauser-pattern rifles in large numbers. Their first one to fire modern (i.e., non-black powder) ammunition was the Model 1890 rifle, which was a variant of the Belgian-made Model 1889. The magazine is unusual, in that it was "semi-fixed;" it was intended to be fixed, and troops were trained to treat it as such, but it could also be removed and replaced easily. (If a user does this in combat, treat it as taking twice as long as normal to insert the new magazine.) A variant of the Model 1890 is the Model 1890 Carbine, issued to cavalry and artillery crews. This carbine has a shorter barrel, and the stock extends to the barrel, preventing a bayonet from being mounted. The sights are also graduated to the new barrel.

The Spanish received an improved Mauser-pattern rifle in 1893, and the Turks wanted an improved Mauser too. Their new Mauser, the Model 1893, was a virtual copy of the Spanish Mauser, but had a conventional bolt and Arabic markings.

The Turks then saw improvements in the Mauser pattern in Germany, and true to form, wanted those improvements in their own rifles. They therefore introduced the M-1903, which was externally similar to the German Gew-98, but had a standard rear sight, a simpler nose cap, and used a pistol grip stock and a Turkish-pattern bayonet. Most of these rifles were converted to fire the 8mm Mauser cartridge in the mid-1920s.

The Model 1908 Carbine was really a short rifle – its barrel is longer than that of a carbine. It was designed to replace the old 1890 carbine, and is basically a shorter version of the M-1903. Like the M-1903, most of these weapons were modified to fire 8mm Mauser ammunition in the mid-1920s.

Weapon	Ammunition	Weight	Magazines	Price
Model 1890	7.65mm Mauser	4.01 kg	5 Clip	$1573
Model 1890 Carbine	7.65mm Mauser	3.49 kg	5 Clip	$1477
Model 1893	7.65mm Mauser	4.06 kg	5 Clip	$1572
Model 1903	7.65mm Mauser	4.08 kg	5 Clip	$1572
Model 1903	8mm Mauser	4.28 kg	5 Clip	$1767
Model 1908 Carbine	7.65mm Mauser	3.74 kg	5 Clip	$1496

Model 1908 Carbine	8mm Mauser	3.94 kg	5 Clip	$1692

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Model 1890	BA	4	2-3-Nil	8	4	Nil	114
Model 1890 Carbine	BA	4	2-3-Nil	7	5	Nil	67
Model 1893	BA	4	2-3-Nil	8	4	Nil	113
Model 1903 (7.65mm)	BA	4	2-3-Nil	8	4	Nil	113
Model 1903 (8mm)	BA	5	2-3-Nil	9	4	Nil	117
Model 1908 Carbine (7.65mm)	BA	4	2-3-Nil	7	4	Nil	77
Model 1908 Carbine (8mm)	BA	4	2-3-Nil	7	4	Nil	77

Alexander Arms Beowulf

Notes: This weapon is described by Alexander Arms, the manufacturer, as a "large caliber carbine." It is a highly-modified AR-15 firing a proprietary round called the .50 Beowulf; this round was made to fit in existing AR-15/M-16 series magazines with only slight modifications. The rifle was designed based on recommendations from US special operations soldiers after experience in Afghanistan, and combat tested in small numbers by them in Afghanistan and Iraq. The rifle is basically an AR-15 lower receiver built to stronger standards, along with a new upper receiver and collapsible stock. The upper receiver uses a Picatinny Rail instead of the normal carrying handle. The muzzle has a massive pepperpot-type muzzle brake.

Twilight 2000 Notes: This weapon does not exist.

Weapon	Ammunition	Weight	Magazines	Price
Beowulf (16" Barrel)	.50 Beowulf	3.18 kg	7, 12	$1026
Beowulf (24" Barrel)	.50 Beowulf	4.2 kg	7, 12	$1272

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Beowulf (16")	SA	5	1-2-Nil	4/5	3	Nil	45
Beowulf (16", Bipod)	SA	5	1-2-Nil	4/5	1	Nil	58
Beowulf (24")	SA	6	1-2-3	5/7	3	Nil	76
Beowulf (24", Bipod)	SA	6	1-2-3	5/7	1	Nil	99

Alexander Arms Grendel

Notes: This is another development of the AR-15 series by Alexander Arms. Again, the modifications to existing AR-15s basically consist of replacing the upper receiver and barrel unit with a new one of Alexander Arms manufacture. It was designed to address shortcomings in the 5.56mm NATO round, by replacing the round with a new one which has superior ballistics and stopping power. As with the Beowulf, the Grendel is *rumored* to be testing with the US military. They have a collapsible stock, MIL-STD-1913 rail instead of a carrying handle, and a muzzle brake to reduce felt recoil. Civilian versions do not have the MIL-STD-1913 rail or the muzzle brake, nor do they normally have a bipod.

Twilight 2000 Notes: The Grendel does not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
Grendel (19.5" Barrel)	6.5mm Grendel	3.07 kg	10, 17	$1190
Grendel (24" Barrel)	6.5mm Grendel	3.19 kg	10, 17	$1328

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Grendel (19.5")	SA	4	1-2-Nil	5/6	2	Nil	59
Grendel (19.5", Bipod)	SA	4	1-2-Nil	5/6	1	Nil	76
Grendel (24")	SA	4	1-2-Nil	6/7	2	Nil	73
Grendel (24", Bipod)	SA	4	1-2-Nil	6/7	1	Nil	95

Alliance Arms AK-47 .460

Notes: A private venture by the company, the Alliance Armament AK-47 .460 is sold as a complete rifle as a kit to convert existing AK-series weapons to the new caliber. The standard configuration which Alliance uses is an imported Egyptian Wasr-10 (the Egyptian version of the AK-47), with wood furniture and the primary modifications being the barrel, the addition of a muzzle brake, and appropriate internal parts, as well as a change to semiautomatic fire. (The SBR uses an ACE side-folding stock, and has MIL-STD-1913 rails atop the receiver and 4-point rails o the synthetic handguards.) Alliance sells not only as a standard-length rifle with a barrel length of 16 inches, but as an SBR (Short-barreled Rifle) with a length of 8.5 inches. The AK-47 .460 is designed for damaging and stopping unarmored and lightly-armored vehicles, and therefore is chambered for a new, proprietary round – the .460 Alliance. Ballistics are similar to those of the .50 Beowulf. The AK-47 platform was used due to the ease of conversion and the fact that the AK is more common in the world; Alliance is hoping for not only civilian sales, but police and military as well. Externally, the AK-47 .460 is virtually identical to the standard AK-47, though the fit and finish are greatly improved. Sights are standard AK sights, and there are no embellishments like MIL-STD-1913 rails. The basic toughness of the AK means that it is capable of accepting the more powerful round. Magazines are modified standard AK magazines.

Weapon	Ammunition	Weight	Magazines	Price
AK-47 .460	.460 Alliance	4.31 kg	12	$1904
AK-47 .460 SBR	.460 Alliance	2.95 kg	12	$1723

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
AK-47 .460	SA	6	1-3-Nil	7	4	Nil	45
AK-47 .460 SBR	SA	6	1-2-3	4/5	3	Nil	16

Armalite AR-10

Notes: The AR-10 is the direct ancestor of the AR-15/M-16 series of rifles, built to compete for the standard US service rifle with the likes of the M-14 and AR-10, and losing out to the M-14 primarily due to politics rather than any real shortcoming of the weapon (of which there were many). The AR-10 itself had a rather inglorious career as a military rifle; it was almost a year too late for the weapons trials that eventually produced the M-14, was rejected by even the special operations troops of most countries, suffered in its early forms from burst barrels, and was bought in semi-large numbers only by Sudan, and Sudan's troops largely rejected it and they mostly went into storage for decades. Starting in the early 1990s, there was a revival of sorts for the AR-10, this time in civilian semiautomatic form; these versions have had far more success than the original version. The original AR-10 has a 20-inch barrel tipped with a flash suppressor.

There are number of modern AR-10 clones that have been popping up as of late. These versions are mostly made by Eagle Arms, a division of Armalite. The AR-10B was the first of these clones, introduced in 1996; it was introduced in 7.62mm NATO caliber, with a .243 Winchester version was introduced in 1998, and in 2004, a version firing .300 Remington Short Action Magnum was put on the market.

The AR-10B is closely-based on the original AR-10B, but the parts are made of more modern materials and manufacturing methods. Emphasis has been given to functionality, reliability, and parts commonality with the AR-15/M-16 series as well as the M-15 series (Armalite's improved version of the AR-15/M-16 series). They use forged aircraft aluminum upper and lower receivers, a firing pin spring to prevent firing if dropped or bumped, and modifications to allow the AR-10B to use the more powerful loads available today. The AR-10B can use original AR-10 magazines, modified M-14 magazines, and magazines built by Armalite for AR-10B use. The AR-10B, like the original AR-10, has no forward assist. AR-10Bs are equipped with compact muzzle brakes instead of flash suppressors, both for control and to comply with the Assault Weapons Ban, which was still in effect at the time of their introduction. Civilian and police models do not have bayonet mounts. The AR-10A2 was designed specifically for civilians, is locked on semiautomatic and cannot be fired on automatic, and does not come in a .300 RSAUM version. A carbine version of the AR-10A2 is new as of 2006; it is essentially the same as a standard AR-10A2, but uses a 16-inch barrel, a sliding M-4-type stock, and can be had in an optional flattop version with a MIL-STD-1913 rail. The AR-10A4 is basically identical to the AR-10A2, but the carrying handle is deleted from the upper receiver as is the front sight, and the gas block shape is modified. This allows for the mounting of a full-length MIL-STD-1913 rail. The AR-10A4 LE (Law Enforcement) carbine is designed for SRT-type teams; it uses a flash suppressor instead of a muzzle brake, and the handguards have four-position MIL-STD-1913 rails. The AR-10A4 LE uses a collapsible stock, and it may be had in semiautomatic or full-automatic versions. In all these cases, the standard barrel length is 20 inches, though carbine versions with 18-inch barrels are also made; in the case of the AR-10A4 LE, a version with a 16-inch barrel is also made.

The AR-10(T) version of the AR-10 has a heavy match barrel, no flash suppressor, rounded, fluted, free-floating handguards, and a MIL-STD-1913 rail for use with any sort of sight or optic. (There are no iron sights sold with the AR-10(T), though they can be mounted on the MIL-STD-1913 rail.) The lower receiver is basically a larger version of the AR-15 lower receiver. The AR-10(T) uses a 24-inch heavy match barrel with a target-crowned muzzle instead of a flash suppressor or muzzle brake. It uses round aluminum handguards instead of AR-15-type handguards. The AR-10(T) is equipped with a lightweight folding bipod adjustable for height and cant.

When the US Army began looking for a SASS (Semiautomatic Sniper System), Armalite responded by developing the AR-10 SASS. This version was to be used as a tactical sniper weapon by the spotter member of a sniper team. The SASS is quite similar to the AR-10A4, but also has three other MIL-STD-1913 rails at the 3, 6, and 9-o'clock positions on the handguards, a free-floating heavy SST 24-inch barrel, a Harris bipod adjustable for cant and height, flip-up/removable front and rear iron sights as well as a Leupold scope, a Magpul stock with an adjustable cheekpiece and buttplate, and a screw-off flash suppressor which can also take a silencer or suppressor. The AR-10 SASS was not selected by the US Army, but Armalite decided to sell them on the civilian and international markets starting in the 3rd quarter of 2006, calling it the AR-10 SuperSASS. Though perhaps more appropriate in the Sniper Rifles section, it is included here for completeness.

The AR-10T (not to be confused with the AR-10(T)), introduced in 2008, is chambered for the new .338 Federal cartridge. It is based on the AR-10A4, and as such has a full-length MIL-STD-1913 rail above the upper receiver and handguards. The barrel is 22 inches, made of stainless steel, and has no flash suppressor or muzzle brake (though is does have a target crown). The barrel is free-floating and match-quality. The stainless steel gas block is massive, and doubles as a front sight base for the flip-up Midwest Industries front sight. A flip-up rear sight made by the same company is also included.

Many companies make clones of the AR-10. For the most part, they are like the AR-10B in 7.62mm, though they may have barrels as short as 16 inches, or as long as 22 or 24 inches. They have no muzzle brakes. Several companies also make match-quality AR-10 clones. These may have 16, 18, 20, 22, or 24-inch match-quality heavy barrels. They typically have scope mounts and flattop receivers, and they may have Weaver or MIL-STD-1913 rails atop their receivers. These are noted below as "AR-10 Match-Quality Clones."

Twilight 2000 Notes: The AR-10A4, AR-10 SuperSASS, and AR-10T do not exist in the Twilight 2000 timeline. The AR-10A2 is very rare, but the AR-10A2 Carbine does not exist as such in manufactured form, though some such modifications have been done after the fact. The AR-10A4 LE Carbine also does not exist, except in forms modified from actual AR-10A4s, and the AR-10 SuperSASS is also absent from the Twilight 2000 timeline. The original AR-10 is a rather rare commodity in the Twilight 2000 timeline, merely because few serviceable copies exist by 2000.

Weapon	Ammunition	Weight	Magazines	Price
AR-10	7.62mm NATO	3.4 kg	20	$1036

AR-10B (20” Barrel)	.243 Winchester	4.12 kg	10, 20	$786
AR-10B (18” Barrel)	.243 Winchester	4.08 kg	10, 20	$765
AR-10B (20” Barrel)	7.62mm NATO	4.7 kg	10, 20	$1074
AR-10B (18” Barrel)	7.62mm NATO	4.65 kg	10, 20	$1054
AR-10B (20” Barrel)	.300 RSAUM	5.69 kg	10, 20	$1076
AR-10B (18” Barrel)	.300 RSAUM	5.63 kg	10, 20	$1056
AR-10A2 (20” Barrel)	.243 Winchester	4.07 kg	10, 20	$778
AR-10A2 (18” Barrel)	.243 Winchester	4.02 kg	10, 20	$757
AR-10A2 (20” Barrel)	7.62mm NATO	4.64 kg	10, 20	$1064
AR-10A2 (18” Barrel)	7.62mm NATO	4.59 kg	10, 20	$1043
AR-10A2 Carbine	7.62mm NATO	4.08 kg	10, 20	$1015
AR-10A4 (20” Barrel)	.243 Winchester	3.9 kg	10, 20	$781
AR-10A4 (18” Barrel)	.243 Winchester	3.85 kg	10, 20	$761
AR-10A4 (20” Barrel)	7.62mm NATO	4.45 kg	10, 20	$1068
AR-10A4 (18” Barrel)	7.62mm NATO	4.4 kg	10, 20	$1048
AR-10A4 LE (20” Barrel)	7.62mm NATO	4.34 kg	10, 20	$1061
AR-10A4 LE (18” Barrel)	7.62mm NATO	4.29 kg	10, 20	$1040
AR-10A4 LE (16” Barrel)	7.62mm NATO	4.24 kg	10, 20	$1020
AR-10(T)	7.62mm NATO	4.7 kg	10, 20	$1662
AR-10(T)	.300 RSAUM	5.69 kg	10, 20	$1664
AR-10 SuperSASS	7.62mm NATO	5.92 kg	10, 20	$1894
AR-10T	.338 Federal	4.27 kg	5, 10, 20	$1227
AR-10 Clone (16” Barrel)	7.62mm NATO	4.6 kg	10, 20	$995
AR-10 Clone (18” Barrel)	7.62mm NATO	4.7 kg	10, 20	$1015
AR-10 Clone (20” Barrel)	7.62mm NATO	4.75 kg	10, 20	$1036
AR-10 Clone (22” Barrel)	7.62mm NATO	4.8 kg	10, 20	$1057
AR-10 Clone (24” Barrel)	7.62mm NATO	4.85 kg	10, 20	$1078
AR-10 Match-Quality Clone (16” Barrel)	7.62mm NATO	4.74 kg	10, 20	$1014
AR-10 Match-Quality Clone (18” Barrel)	7.62mm NATO	4.84 kg	10, 20	$1034
AR-10 Match-Quality Clone (20” Barrel)	7.62mm NATO	4.9 kg	10, 20	$1057
AR-10 Match-Quality Clone (22” Barrel)	7.62mm NATO	4.96 kg	10, 20	$1080
AR-10 Match-Quality Clone (24” Barrel)	7.62mm NATO	5 kg	10, 20	$1101

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
AR-10	5	4	2-3-Nil	7	4	10	62
AR-10B (.243, 20”)	5	3	2-Nil	6	2	4	52
AR-10B (.243, 18”)	5	3	2-Nil	6	2	4	44
AR-10B (7.62mm, 20”)	5	4	2-3-Nil	7	3	6	62
AR-10B (7.62mm, 18”)	5	4	2-3-Nil	6	3	6	53
AR-10B (.300, 20”)	5	5	1-2-3	7	2	6	75
AR-10B (.300, 18”)	5	5	1-2-3	6	2	6	64
AR-10A2 (.243, 20”)	SA	3	2-Nil	6	2	Nil	52
AR-10A2 (.243, 18”)	SA	3	2-Nil	6	2	Nil	44
AR-10A2 (7.62mm, 20”)	SA	4	2-3-Nil	7	3	Nil	62
AR-10A2 (7.62mm, 18”)	SA	4	2-3-Nil	6	3	Nil	53
AR-10A2 Carbine	SA	4	2-3-Nil	5/6	4	Nil	44
AR-10A4 (.243, 20”)	SA	3	2-Nil	6	2	Nil	52
AR-10A4 (.243, 18”)	SA	3	2-Nil	6	2	Nil	44
AR-10A4 (7.62mm, 20”)	SA	4	2-3-Nil	7	3	Nil	62
AR-10A4 (7.62mm, 18”)	SA	4	2-3-Nil	6	3	Nil	53
AR-10A4 LE (7.62mm, 20”)	5	4	2-3-Nil	6/7	4	9	62
AR-10A4 LE (7.62mm, 18”)	5	4	2-3-Nil	5/7	4	9	53
AR-10A4 LE (7.62mm, 16”)	5	4	2-3-Nil	5/6	4	9	44
AR-10(T) (7.62mm)	SA	4	2-3-Nil	7	4	Nil	87

(With Bipod)	SA	4	2-3-Nil	7	2	Nil	113
AR-10(T) (.300)	SA	5	1-2-3	7	3	Nil	105
(With Bipod)	SA	5	1-2-3	7	2	Nil	136
AR-10 SuperSASS	SA	4	2-3-Nil	7	3	Nil	89
(With Bipod)	SA	4	2-3-Nil	7	2	Nil	116
AR-10T	SA	5	1-2-3	7	4	Nil	91
AR-10 Clone (16")	SA	4	2-3-Nil	6	3	Nil	44
AR-10 Clone (18")	SA	4	2-3-Nil	7	3	Nil	53
AR-10 Clone (20")	SA	4	2-3-Nil	7	3	Nil	62
AR-10 Clone (22")	SA	4	2-3-Nil	8	3	Nil	72
AR-10 Clone (24")	SA	4	2-3-Nil	8	3	Nil	81
AR-10 Match-Quality Clone (16")	SA	4	2-3-Nil	7	3	Nil	48
AR-10 Match-Quality Clone (18")	SA	4	2-3-Nil	7	3	Nil	57
AR-10 Match-Quality Clone (20")	SA	4	2-3-Nil	7	3	Nil	67
AR-10 Match-Quality Clone (22")	SA	4	2-3-Nil	8	3	Nil	77
AR-10 Match-Quality Clone (24")	SA	4	2-3-Nil	8	3	Nil	87

Bushmaster .308

Notes: The Bushmaster .308 moniker encompasses a number of related rifles that are based on the AR-15/M-16 series of rifles. These rifles can be had in 16-inch or 20-inch barrel lengths, in flattop configuration with a MIL-STD-1913 rail or with a carrying handle, and with either an AK-74-style muzzle brake or the more effective "Izzy" muzzle brake. They can have skeletonized stocks or standard AR-15-style stocks. All of them come with 10 or 20-round magazines (depending upon whether they are sold to civilians or police/military), but all can feed from any FAL-type magazine. Flattop versions are generally referred to as Bushmaster A3's, while those with carrying handles are called A2's. "Izzy" style brakes are, for the time being, paired with skeletonized stocks, while AK-74-style brakes are paired with standard stocks.

Twilight 2000 Notes: This weapon does not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
Bushmaster .308 (Skeletonized Stock, 16" Barrel)	7.62mm NATO	4.26 kg	10, 20	$1184
Bushmaster .308 (Skeletonized Stock, 20" Barrel)	7.62mm NATO	4.34 kg	10, 20	$1224
Bushmaster .308 (Standard Stock, 16" Barrel)	7.62mm NATO	4.25 kg	10, 20	$1034
Bushmaster .308 (Standard Stock, 20" Barrel)	7.62mm NATO	4.34 kg	10, 20	$1074

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Bushmaster .308 (Skeletonized Stock, 16")	SA	4	2-3-Nil	6	2	Nil	44
Bushmaster .308 (Skeletonized Stock, 20")	SA	4	2-3-Nil	7	2	Nil	62
Bushmaster .308 (Standard Stock, 16")	SA	4	2-3-Nil	6	3	Nil	44
Bushmaster .308 (Standard Stock, 20")	SA	4	2-3-Nil	7	3	Nil	62

Bushmaster .450

Notes: The Bushmaster .450 began with US military forces in Iraq needing a more powerful weapon for CQB, but allowing for the "muscle memory" of troops used to the M-16/M-4 series. Bushmaster and Tim LeGendre of LeMag Firearms worked together to produce an AR-15 derivative that fired a modified version of LeGendre's .45 Professional round, called the .450 Bushmaster round. The idea was to produce a round that had good short-range penetration and damage while still providing decent damaging effects at short range. Another part of the design was to produce a weapon that could deal with car bombers by disabling their vehicles with powerful small arms fire. For civilian use, the .450 Bushmaster is quite capable of one-shot stops versus any North American or European big game.

The Bushmaster .450 is essentially built on a highly-modified Bushmaster AR-type base. The Bushmaster .450 uses a 16 or 20-inch free-floating barrel that is noticeably wider, tipped by a slotted muzzle brake. The upper receiver is a flattop, with a full-length MIL-STD-1913 rail; the handguards also have three more rails. DPMS Mangonel folding iron sights are included as backups. The Bushmaster .450 can be had with a variety of stocks and pistol grips, but a folding or collapsible stock is not presently among the selections. Current magazines are based on 20-round AR-15/M-16 magazines, but larger ones are being devised.

Twilight 2000 Notes: The Bushmaster .450 does not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
Bushmaster .450 Carbine	.450 Bushmaster	3.86 kg	5, 8	$560
Bushmaster .450 Rifle	.450 Bushmaster	3.93 kg	5, 8	$601

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range

Bushmaster .450 Carbine	5	5	1-2-Nil	5	2	5	39
Bushmaster .450 Rifle	5	5	1-2-Nil	6	3	7	53

Colt Monitor BAR

Notes: In the 1930's, the FBI was finding out that the Thompson submachineguns issued to FBI agents as heavy weapons were incapable, in many cases, of penetrating the heavy bodies of the cars of the period, especially from the front angles. They were interested in acquiring the Browning BAR, but the BAR was just too large and heavy for most FBI purposes. Therefore, the FBI has Colt redesign the BAR into a lighter weapon for them, and built about 90 of them for their agents, they saw little use, but one famous use was the team that took down Bonnie and Clyde; the Monitor was in the hands of a Texas Ranger named Frank Hamer. The Monitors were farmed out to various police agencies after that, though many were destroyed later on.

The basic receiver of the Monitor is virtually identical to that of the standard BAR, but stock is shortened, a pistol grip is fitted, the sights are designed for the shorter barrel of the Monitor, and the gas tube and operating rod is also redesigned. The muzzle brake, designed by Cutts, was specifically designed for the Monitor, and is huge. (Despite the compensator, the muzzle blast is massive, though it cuts recoil quite a bit.)

Weapon	Ammunition	Weight	Magazines	Price
Monitor	.30-06 Springfield	7.34 kg	20	$2346

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Monitor	5	4	2-3-Nil	7	2	5	46

DPMS .308 Panther

Notes: These rifles are basically 5.56mm DPMS Panthers that are "sized up" to fire 7.62mm NATO (.308 Winchester) ammunition. There are a number of versions, in some cases corresponding to their smaller-caliber counterparts.

The Panther Long Range 308 (LR-308) is greatly re-engineered to produce better accuracy. The company refers to it as a "precision rifle." The receiver is milled, rather than cast or stamped, and the entire rifle is much more robust than the normal AR-15-type rifle. The LR-308 is equipped with a MIL-STD-1913 rail that allows the mounting of virtually any sight or optics. The rail on the LR-308 is raised slightly to optimize it for telescopic sights. The barrel is a very heavy bull barrel that is 24 inches long. The LR-308 has no dust cover, no brass deflector, and no forward assist. The magazines that are sold with the LR-308 are see-through plastic. The LR-308 B 18 is similar, but uses an 18" barrel. The Panther LR-308 T 16 H-BAR is also similar, but uses a heavy free-floating barrel instead of a bull barrel, and it is a 16" barrel. The Panther LR-308C is similar in many ways to the LR-308 T 16 H-BAR, in that it is basically a long-range carbine variant of the .308 Panther, but it is a more militarized weapon able to use standard Panther 10-round magazines as well as 20-round magazines which are compatible with the FAL or AR-10, uses a flash suppressor, a heavy barrel, a flattop upper receiver with a MIL-STD-1913 rail, a dust cover and brass deflector a more snag-free design, a more snag-free design, and a 6-position composite folding stock. The rumor mill says the LR-308C is available in automatic form to qualified buyers, but I cannot confirm this. Nonetheless, I have included automatic stats below.

The Panther LR-300 is a different sort of beast, as it is much heavier than even the LR-308, and it fires .300 RSAUM ammunition instead of 7.62mm NATO. It uses a 20-inch fluted bull barrel, and a skeletonized stock to reduce the weight of the weapon somewhat. It is otherwise similar to the LR-308.

In mid-2006, DPMS introduced the Panther LR-260 rifle with a 24-inch barrel, and later followed it with the Panther LR-260H rifle with a 20-inch barrel. Both of these weapons fire the .260 Remington (6.5-08 A-Square) cartridge, and are based on the Panther LR-308. The LR-260 uses a bull barrel which is button-rifled, has a chromed bore, and made of stainless steel. Finish is primarily in various shades of matte black, and the LR-260 has sling swivels as standard; the forward sling swivel can used as a bipod mount. The top of the receiver has a MIL-STD-1913 rail, and the gas block also have very short rails of this sort suitable for use with tactical lights, laser aiming modules, bayonet mounts, and suchlike. There are no iron sights. The LR-260H is virtually identical except for its somewhat lighter 20-inch barrel which is tipped with a DPMS-designed flash suppressor. Both feed from proprietary magazines which are made of steel.

The Sportical is sort of a version of the LR-308C which is made over into a sport version. This version has a MIL-STD-1913 rail atop the receiver, and in general has DPMS Panther's quality of construction. No iron sights are offered with the standard Sportical, as it is meant to be used with add-on optics. (the rails above the receiver and gas block can mount add-on iron sights if desired.) The 16-inch barrel has an A-2-type flash suppressor. Parts are phosphated and plated. The upper receiver has no shell deflector or a forward assist. Both the upper and lower receivers are of aluminum alloy, with the upper receiver being of 6066-T6 aluminum billet and the lower being of 6061-T6 aluminum billet. The receivers are hard-coat anodized. The stock is a 6-position Pardus stock.

Twilight 2000 Notes: The LR-308C is not available in the Twilight 2000 timeline, nor are the two LR-260 rifles or the Sportical.

Weapon	Ammunition	Weight	Magazines	Price
Panther LR-308	7.62mm NATO	5.03 kg	10	$1077
Panther LR-308 B 18	7.62mm NATO	4.4 kg	10	$1013
Panther LR-308 T 16 H-BAR	7.62mm NATO	3.86 kg	10	$989

Panther LR-308C	7.62mm NATO	3.86 kg	10, 20	$1022
Panther LR-300	.300 RSAUM	5.67 kg	9	$1036
Panther LR-260	6.5-08 A-Square	5.13 kg	19	$1011
Panther LR-260H	6.5-08 A-Square	4.83 kg	19	$973
Panther Sportical	7.62mm NATO	3.76 kg	10, 20	$1065

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Panther LR-308	SA	4	2-3-Nil	7	4	Nil	87
Panther LR-308 B 18	SA	4	2-3-Nil	6	4	Nil	57
Panther LR-308 T 16 H-BAR	SA	4	2-3-Nil	6	4	Nil	47
Panther LR-308C	5	4	2-3-Nil	5/7	4	9	46
Panther LR-300	SA	4	1-2-3	7	3	Nil	80
Panther LR-260	SA	4	2-3-Nil	7	3	Nil	65
Panther LR-260H	SA	4	2-Nil	7	3	Nil	48
Panther Sportical	SA	4	2-3-Nil	5/6	3	Nil	44

DSA SA-58

Notes: This is basically an American-made FAL, modified for civilian use. They range from almost-exact copies of real FN-made FALs (except for a semiautomatic sear) to versions with folding stocks, short barrels, or modified for some of more extreme antigun laws (such as California). The standard SA-58 looks just like a standard FAL, but is modified for semiautomatic fire only. The upper receiver is of blackened steel (though stainless steel is an option, and looks sharp), and the lower receiver is of blackened aircraft aluminum. The barrel is equipped with an FN-style flash suppressor, and the barrel has an attachment point for a bipod. (There is, of course, no attachment point for a bayonet.) The stock, handguard, and pistol grip are of reinforced fiberglass. Like most military rifles, the rear sight is adjustable for windage and the front post for elevation. Options for the SA-58 Standard include a handguard, pistol grip, and stock of walnut, a scope mount, a rubber recoil pad, a bipod, and a match-grade set trigger. The SA-58 Carbine is similar, but the barrel is either 16.25 or 18 inches, as opposed to the standard SA-58's 21 inches. Also similar is the SA-58 Medium Contour, but the barrel is somewhat heavier (and called a medium contour barrel, hence the name). The SA-58 Bull Barrel has a heavy bull barrel for more accuracy and resistance to heat deformation, and the barrel is match-grade and free-floating. The pistol grip is the same style as that of the Minimi SAW instead of the standard FAL-type pistol grip. A MIL-STD-1913 rail is standard with the SA-58 Bull Barrel.

The SA-58 Predator is a civilian hunting variant of the SA-58, with no flash suppressor, a 16 or 19-inch medium contour barrel, green synthetic furniture, a MIL-STD-1913 rail for scope mounting, with backup iron sights, smaller magazines, and three choices of caliber. The SA-58 Graywolf is a modification of the Predator, finished in gray and black, with round ventilated handguards, a 21-inch match-grade bull barrel, a Minimi-style pistol grip, a Harris bipod, and a skeletonized stock.

The SA-58 Collector's Series are rifles designed to look and function as much as possible the more unusual military FALs of the past. The SA-58 Congo is finished in black, with standard FAL-type furniture, and a standard 18-inch barrel. The barrel is equipped to accept a bipod. Being actually a civilian rifle, it is not able to take a bayonet. The SA-58 Para Congo is the same weapon, but is equipped with a folding stock. The G-1 FAL is a copy of the original German post-war battle rifle (the G-1, a German-made copy of the FAL), and has a 21-inch barrel, a wooden stock, a long flash suppressor (as opposed to the short Belgian-style flash suppressor), a black finish for all surfaces except the stock, a folding bipod, and even markings in German instead of English. In addition, the lower receiver is of steel instead of aluminum, as per the original G-1 version of the FAL. The SA-58 T-48 is an unusual version with a fixed magazines which is fed by stripper clips from the top, a walnut stock, pistol grip, and handguards, a 21-inch barrel, a long flash suppressor, and a black finish for the metalwork.

The Tactical Series is a line of SA-58s designed for police, military, and government agency use. They may be had in selective fire or semiautomatic versions, and typically have features not meant or legally available to the general public. The SA-58 Tactical Carbine (also known as the SA-58TAC) has a 16.25-inch fluted medium-contour barrel with an M-16-type flash suppressor, a MIL-STD-1913 rail above the upper receiver, a shortened gas system for increased reliability, a standard or skeletonized stock, and synthetic furniture, with the entire carbine having a black finish. The Limited Edition Tactical Carbine is similar, but is meant more for collectors who are legally allowed to possess such weapons; the receivers and the barrel are of stainless steel, with a medium-gray finish to the metalwork and furniture. This version uses a short muzzle brake instead of a flash suppressor. The SA-58 OSW uses a very short 11 or 13-inch barrel with an M-16-type flash suppressor, a MIL-STD-1913 rail atop the weapon, four-position MIL-STD-1913 rails on the handguard, a standard or folding stock, and a Minimi-type pistol grip.

The SA-58 SPR is a member of the Tactical Series was originally designed in response to the US Army's SASS competition; though it lost that competition, it is still offered for sale by DSA. The SPR has a fully-adjustable gas system to allow the SPR to get the most out of the rifle regardless of what ammunition is used or the dirt conditions. The 19-inch heavy 19-inch barrel is match-quality and fluted to reduce weight and increase cooling, and tipped by a flash suppressor. The Speed Trigger is designed for easy adjustment (by an armorer), quick follow-up shots, and smooth action. The SPR has four-point MIL-STD-1913 rails, with the upper rail being continuous with the MIL-STD-1913 rail atop the receiver. The SPR has flip-up iron sights front and rear. The stock not only folds to the right, but is adjustable for length of pull and has an adjustable cheekpiece. The buttplate is also adjustable for angle and has a recoil pad. The pistol grip of the SPR is the same as used on the M-249 SAW rather than a

standard SA-58 or FAL pistol grip. The SPR is a sniper rifle, but is included here for completeness.

There are also "California" models of almost all these weapons (except the Tactical Series and the G-1 FAL); these have no flash suppressor of any kind, no bipod lugs, no carrying handles, and are limited to special 10-round magazines; they are otherwise identical to their parent models.

Twilight 2000 Notes: Most of these rifles are available in the Twilight 2000 timeline; however, the "California" models are not.

Weapon	Ammunition	Weight	Magazines	Price
SA-58 Standard	7.62mm NATO	3.97 kg	10, 20	$1046
SA-58 Carbine (16.25" Barrel)	7.62mm NATO	3.76 kg	10, 20	$997
SA-58 Carbine (18" Barrel)	7.62mm NATO	3.79 kg	10, 20	$1015
SA-58 Medium Contour	7.62mm NATO	4.42 kg	10, 20	$1052
SA-58 Bull Barrel	7.62mm NATO	5.03 kg	10, 20	$1057
SA-58 Predator (16" Barrel)	7.62mm NATO	4.02 kg	5, 10	$984
SA-58 Predator (19" Barrel)	7.62mm NATO	4.08 kg	5, 10	$1014
SA-58 Predator (16" Barrel)	6.5-08 A-Square	3.9 kg	5, 10	$917
SA-58 Predator (19" Barrel)	6.5-08 A-Square	3.96 kg	5, 10	$937
SA-58 Predator (16" Barrel)	.243 Winchester	3.48 kg	5, 10	$695
SA-58 Predator (19" Barrel)	.243 Winchester	3.53 kg	5, 10	$726
SA-58 Graywolf	7.62mm NATO	5.9 kg	5, 10	$1564
SA-58 Congo	7.62mm NATO	3.9 kg	10, 20	$1020
SA-58 Para Congo	7.62mm NATO	4.47 kg	10, 20	$1040
G-1 FAL	7.62mm NATO	4.83 kg	10, 20	$1036
SA-58 T-48	7.62mm NATO	4.22 kg	10 Clip	$1039
SA-58 Tactical Carbine	7.62mm NATO	3.74 kg	10, 20	$997
SA-58 OSW (11" Barrel)	7.62mm NATO	4.08 kg	10, 20	$962
SA-58 OSW (13" Barrel)	7.62mm NATO	4.24 kg	10, 20	$983
SA-58 SPR	7.72mm NATO	4.54 kg	10, 20	$1840

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
SA-58 Standard	SA	4	2-3-Nil	7	4	Nil	67
SA-58 Carbine (16.25")	SA	4	2-3-Nil	7	4	Nil	45
SA-58 Carbine (18")	SA	4	2-3-Nil	7	4	Nil	53
SA-58 Medium Contour	SA	4	2-3-Nil	7	4	Nil	69
SA-58 Bull Barrel	SA	4	2-3-Nil	7	3	Nil	72
SA-58 Predator (16", 7.62mm)	SA	4	2-3-Nil	6	4	Nil	44
SA-58 Predator (19", 7.62mm)	SA	4	2-3-Nil	6	4	Nil	58
SA-58 Predator (16", 6.5-08)	SA	3	2-Nil	6	4	Nil	32
SA-58 Predator (19", 6.5-08)	SA	4	2-Nil	6	4	Nil	39
SA-58 Predator (16", 6.5-08)	SA	3	2-Nil	5	3	Nil	37
SA-58 Predator (19", 6.5-08)	SA	3	2-Nil	6	3	Nil	48
SA-58 Graywolf	SA	4	2-3-Nil	7	3	Nil	72
SA-58 Graywolf (Bipod)	SA	4	2-3-Nil	7	2	Nil	93
SA-58 Congo	SA	4	2-3-Nil	7	4	Nil	55
SA-58 Para Congo	SA	4	2-3-Nil	6/7	3	Nil	55
G-1 FAL	SA	4	2-3-Nil	7	3	Nil	67
SA-58 T-48	SA	4	2-3-Nil	7	4	Nil	67
SA-58 Tactical Carbine	5	4	2-3-Nil	7	4	9	45
SA-58 OSW (11")	5	4	2-Nil	4/6	3	9	24
SA-58 OSW (13")	5	4	2-Nil	5/6	3	9	32
SA-58 SPR	SA	4	2-3-Nil	6/7	3	Nil	62
With Bipod	SA	4	2-3-Nil	6/7	2	Nil	81

Fulton Armory/Sage Mark 14 Mod 0 EBR

Notes: This weapon, normally known as the EBR (Enhanced Battle Rifle) is a heavily modified M-14 designed primarily for special operations use, and particularly, US Navy SEALs. The wooden stock and fore-end are removed; the stock is replaced with Sage's Enhanced Battle Rifle Stock, a lightweight aluminum alloy adjustable stock designed to reduce weight, yet provide a stable platform. This stock includes an adjustable cheekpiece and an adjustable-length butt. It is also a straight-in-line stock, which helps tame barrel climb. The action also sits lower in the new stock, further reducing barrel climb. The EBR is equipped with a handguard, and this handguard is of the wrap-around variety, synthetic, and equipped with four MIL-STD-1913 rails for the

mounting of various equipment. The side and bottom rails are half the length of the handguard, while the top rail is full length for better mounting of optics; in addition, this rail joins to a rail on top of the receiver. The barrel is free-floating to enhance accuracy. There are backup iron sights, but the EBR is really meant to be used with various optics and telescopic sights. The parts are basically redone; and fitted to very tight tolerances. The barrel is tipped by a Vortex muzzle brake/flash suppressor. The weapon is equipped with an effective and lightweight bipod designed by Keng's Firearms Specialty. The traditional charging handle has been replaced with one similar to that of the M-16/AR-15/M-4 series, and also has a bolt hold-open device similar to those rifles. The trigger is two stage and match quality. As with the M-4 SOPMOD, the EBR may be equipped with a staggering amount of accessories; in game terms, the player may choose up to $300 of accessories when he takes this rifle, and they are included in the cost of the weapon. The result of all this is that the EBR bears almost no outward resemblance to the parent M-14. The EBR is rumored to have been battle-tested satisfactorily in Iraq and Afghanistan, though this has not been confirmed.

Notes: This weapon does not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
EBR	7.62mm NATO	4.44 kg	20	$1675

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
EBR	5	4	2-3-Nil	5/6	2	6	55
(With Bipod)	5	4	2-3-Nil	5/6	1	3	72

JLD PTR-91

Notes: The PTR-91 series are clones of the Heckler & Koch HK-91 (a civilian variant of the G-3). When the Brady Gun Bill provisions ended, there was considerable demand for H&K to resume sales to the US of the HK-91; unfortunately, during the time the Brady Gun Bill was in effect, H&K had sold the tooling and technical data to a Portuguese company who basically did nothing with them. That, combined with the currently poor exchange rate between the US dollar and the Euro means that H&K has no plans to resume production of the HK-91. JLD bought a copy of the technical diagrams and the tooling from the Portuguese company, and with the help from a long-time employee of H&K (and, it is rumored, Heckler & Koch itself), they reproduced the HK-91 to an astounding degree, differing only in minor details (which some say are actually improvements). In fact, HK-91 parts will fit the PTR-91 series, and vice versa. H&K and CETME magazines will fit into a PTR-91, though JLD also makes its own magazines.

JLD currently makes three variants of the PTR-91: the standard PTR-91, equal to the standard HK-91; the PTR-91A1, a heavy-barreled match rifle with a longer barrel, better sights, an interface for a scope mount, and a target-crown for its barrel instead of a flash suppressor; and the PTR-91KP, which is basically a standard PTR-91 with a sliding stock. The rifles are usually finished in black or green and are coated with Lauer DuraCoat, an extremely tough finish which is virtually weather and corrosion proof. Several camouflage patterns are also available as finishes.

Twilight 2000 Notes: These rifles are unavailable in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
PTR-91	7.62mm NATO	4.17 kg	5, 10, 20	$995
PTR-91KP	7.62mm NATO	4.17 kg	5, 10, 20	$1015
PTR-91A1	7.62mm NATO	4.23 kg	5, 10, 20	$1024

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
PTR-91	SA	4	2-3-Nil	6	4	Nil	44
PTR-91KP	SA	4	2-3-Nil	5/6	4	Nil	44
PTR-91A1	SA	4	2-3-Nil	7	4	Nil	57

Kel-Tec RFB

Notes: The RFB (Rifle Forward-ejection Bullpup) is one of Kel-Tec's newest designs – and it's attracted the attention of military, government, police, and civilians alike. Mass production is currently expected to begin in late 2007 or early 2008. The RFB's primary designer is George Kellgren, who has been working on bullpup rifles since the early 1970s, when he designed the Interdynamics MKR (see the Best Assault Rifles that Never Were pages).

Though the RFB uses short-stroke gas piston operation, it also uses a floating linkage bar to avoid the typically creepy trigger pull that characterizes many bullpup weapons. The RFB also includes a manual gas regulator, to allow the shooter to compensate for dirt, fouling, and climate. Controls are fully ambidextrous. The barrel is sort of "semi-free-floating" – a little over a half of the barrel is used as a framework around which much of the rifle is constructed, with the remaining barrel being truly free-floating. Case ejection uses two extractors; one gets the case out of the chamber, and the other pushes it into the ejection chute. Cases are not actually ejected from the chute itself until another case enters the ejection chute, the rifle is manually-cycled, or the weapon is pointed downwards. (Personal note: This just sounds screwy and malfunction-prone to me…) Construction is of steel, light alloy, and polymer, and the receiver is topped with a decent length of MIL-STD-1913 rail for the mounting of sights and/or optics. (The RFB itself has no integral iron sights.) Extra attention was paid to the possibility of a chamber explosion of burst barrel injuring the shooter (as on a bullpup, both are closer to the shooter); the walls of the chamber and barrel extension are thicker than normal for such a weapon.

Three versions of the RFB are made, with barrel lengths of 18, 24, and 32 inches. Originally, these versions were to be called the Battle, Hunter, and Sniper versions respectively, but to avoid possible knee-jerk reactions from the US Congress and the anti-gun lobby, Kel-Tec changed the names of the versions to Carbine, Sporter, and Target. (In addition to the very long barrel, the Target model has no flash suppressor, has a heavier barrel, uses an adjustable trigger which can be adjusted for weight of pull between 2-6 pounds [in 5 increments], and is equipped with a lightweight Harris-type folding bipod). Currently, the RFB is chambered for 7.62mm NATO, and feed is from FN FAL magazines.

Kel-Tec indicates that the RFB may, in the future, be produced in different calibers; 7.62mm Kalashnikov, 6.8mm SPC, 6.5mm Grendel, and 5.56mm NATO have been mentioned, and just for the heck of it, I have put stats below for these chamberings. In addition, the rumored non-civilian interest in the RFB means that automatic versions of the RFB may be made, and I have included stats to that effect as well. Please note that the stats for anything but a semiautomatic, 7.62mm NATO RFB is at this point both a guess and fictional.

Twilight 2000 Notes: The RFB does not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
RFB Carbine	7.62mm NATO	3.67 kg	10, 20	$1005
RFB Sporter	7.62mm NATO	3.95 kg	10, 20	$1069
RFB Target	7.62mm NATO	5.13 kg	10, 20	$1922
RFB Carbine	7.62mm Kalashnikov	3.54 kg	10, 30, 40, 75D	$823
RFB Sporter	7.62mm Kalashnikov	3.81 kg	10, 30, 40, 75D	$885
RFB Target	7.62mm Kalashnikov	4.95 kg	10, 30, 40, 75D	$1738
RFB Carbine	6.8mm SPC	3.41 kg	8, 18, 28	$713
RFB Sporter	6.8mm SPC	3.67 kg	8, 18, 28	$775
RFB Target	6.8mm SPC	4.77 kg	8, 18, 28	$1624
RFB Carbine	6.5mm Grendel	3.35 kg	8, 18, 28	$643
RFB Sporter	6.5mm Grendel	3.61 kg	8, 18, 28	$705
RFB Target	6.5mm Grendel	4.69 kg	8, 18, 28	$1553
RFB Carbine	5.56mm NATO	3.26 kg	5, 10, 20, 30	$562
RFB Sporter	5.56mm NATO	3.51 kg	5, 10, 20, 30	$634
RFB Target	5.56mm NATO	4.56 kg	5, 10, 20, 30	$1479

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
RFB Carbine (7.62 NATO)	5	4	2-3-Nil	5	4	9	48
RFB Sporter (7.62 NATO)	5	4	2-3-Nil	6	4	9	73
RFB Target (7.62 NATO)	5	5	2-3-Nil	7	4	9	106
With Bipod	5	5	2-3-Nil	7	2	4	138
RFB Carbine (7.62 Kalashnikov)	5	4	2-Nil	5	4	9	48
RFB Sporter (7.62 Kalashnikov)	5	4	2-3-Nil	6	4	9	66
RFB Target (7.62 Kalashnikov)	5	4	2-3-Nil	7	3	9	96
With Bipod	5	4	2-3-Nil	7	2	4	124
RFB Carbine (6.8mm)	5	3	1-2-Nil	5	3	7	57
RFB Sporter (6.8mm)	5	3	1-2-Nil	6	4	9	83
RFB Target (6.8mm)	5	4	1-2-3	7	3	8	119
With Bipod	5	4	1-2-3	7	2	4	155
RFB Carbine (6.5mm)	5	3	1-2-Nil	6	3	7	48
RFB Sporter (6.5mm)	5	3	1-2-Nil	6	3	7	79
RFB Target (6.5mm)	5	4	1-2-3	7	3	8	114
With Bipod	5	4	1-2-3	7	2	4	149
RFB Carbine (5.56mm)	5	3	1-Nil	4	2	6	43
RFB Sporter (5.56mm)	5	3	1-Nil	5	2	6	63
RFB Target (5.56mm)	5	3	2-Nil	7	2	6	90
With Bipod	5	3	2-Nil	7	1	3	117

LWRC LW-15

Notes: Leitner-Wise (now LWRC International) originally designed the LW-15 for the US Coast Guard after the September 11 attacks; the Coast Guard suddenly found themselves in the anti-terrorist business, and knew their small arms were inadequate even for the counter-drug-smuggling role they were already fulfilling. The standard M-16A1 didn't have the penetration to deal with the likes of speedboats and aircraft, and they could not use the newer M-855 Ball ammunition used by the rest of the armed forces.

At the same time, US Air Force security police were clamoring for a new rifle. They were often still using the likes of old M-16A1 and even old M-16s (model 01's!), and didn't really have anything that could penetrate vehicle engine blocks or stop aircraft from taking off if necessary. They were also traditionally the last members of the armed forces to receive new rifles.

After September 11, they were finally given the money necessary to update their equipment. The Coast Guard was to receive the LW-15 first (they already have some of them), and the Air Force planned to start receiving them in late 2005. I have not been able to discover if the Coast Guard actually got them, but the LW-15 never actually made it into US Air Force issue. For that matter, I have not been able to discover whether LWRC is still making the LW-15 for anyone, or even if the LW-15 ever entered production for anyone.

The LW-15 is based on the M-16A2; the lower receiver is almost identical to that of the M-16A2, and in fact, Leitner-Wise made an upper-receiver add-on (with a few other parts) to convert an M-16 to an LW-15. The magazines cannot be used with the new ammunition, and new, straight magazines were designed, along with a high-capacity drum. To allow the LW-15 to be used in different roles, three types of ammunition and three different types of LW-15 were to be fielded. The three types of ammunition offered werre low, medium, and high-penetration, and the three types of LW-15 were the standard LW-15 rifle, the LW-15 DMR (Designated Marksman Rifle), with a long barrel, and the LW-15 CQB (Close-Quarters Battle), with an abbreviated barrel. All have a MIL-STD-1913 rail on top for optics or accessories.

Twilight 2000 Notes: This weapon does not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
LW-15	.499 Leitner-Wise	2.85 kg	10, 12, 60 Drum	$655
LW-15 DMR	.499 Leitner-Wise	3.16 kg	10, 12, 60 Drum	$716
LW-15 CQB	.499 Leitner-Wise	2.57 kg	10, 12, 60 Drum	$619

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
LW-15 (Standard Ammo)	5	4	2-Nil	6	3	7	53
LW-15 (Low-Penetration)	5	4	3-Nil	6	3	7	53
LW-15 (High-Penetration)	5	4	1-2-Nil	6	3	7	53
LW-15 DMR (Standard Ammo)	5	4	2-3-Nil	7	3	7	77
LW-15 DMR (Low-Penetration)	5	4	3-4-Nil	7	3	7	77
LW-15 DMR (High-Penetration)	5	4	1-2-3	7	3	7	77
LW-15 CQB (Standard Ammo)	5	3	2-Nil	3/5	2	6	30
LW-15 CQB (Low-Penetration)	5	3	3-Nil	3/5	2	6	30
LW-15 CQB (High-Penetration)	5	3	1-2-Nil	3/5	2	6	30

LWRC REPR

Notes: The REPR (Rapid-Engagement Precision Rifle) is one of many rifles by various companies designed to fulfill a variety of roles in combat by taking a modular approach. Many of these rifles use the AR base, in this case a highly-modified and accurized AR-10. The AR-10 base makes changing the role and uses of the REPR easy, as all one has to do is change the upper receiver/barrel assembly, and LWRC as stuck to one caliber for the REPR. The REPR allows the shooter to use a 12-inch barrel for the close assault role, a 16.1-inch and general-use role, am 18-inch barrel for use as a DMR, and a 20-inch barrel for use as a sniper weapon. As the upper receiver assemblies are relatively light in relation to the lower receiver assembly, a shooter could carry more than one upper if necessary to fill a variety of tactical situations, and on an AR platform, changing from one upper to another is quick and easy – and it's a lot lighter than carrying separate complete weapons to cover a variety of tactical situations, something that is becoming increasingly frequent and problematic for modern troops. All versions of the REPR are built in civilian versions which do not have automatic fire capability, and of course the 12-inch-barrel version is very restricted by the laws of most countries.

The REPR uses an AR base, but the entire works are accurized and improved in general, and there are modifications to the bolt carrier group because of the side-mounted charging handle. The focus of the REPR system is in the upper receiver assembly. Operation is by short-stroke gas piston. Both the upper and lower receivers are built from 7075 aluminum billets, which give them superior strength to most light alloy firearms constructions. The REPR does not use the standard AR-type charging handle in the rear of the upper receiver; instead, the charging handle is on the left side, above the magazine well. The upper receiver is topped by a MIL-STD-1913 rail, which connects to the top MIL-STD-1913 rail on the handguard. A shorter MIL-STD-1913 rail is found on each side of the handguard near the front, with another under the handguard; the length and position of the handguard's rails varies with the length of the barrel on the upper receiver. These rails are part of LWRC's ARM-R system, and are designed to be easily removed if necessary; the rails can also be interchanged between different-length handguards, so the rail from one length of handguard could be used with a different length of handguard (within the limits imposed by the length of the handguard itself). The rails are designed to retain the shooter's zero when attached properly, regardless of how they are interchanged. The 12-inch and 16-inch barrels have a standard profile, while the 18-inch barrel uses a medium profile floating barrel. The 20-inch barrel is a heavy floating barrel. All lengths of barrels are cold hammer forged for superior strength. All are tipped with an A2-type flash suppressor, which can be removed by the shooter and replaced with a suppressor or silencer. An adjustable gas system and the side-mounted charging handle allow the shooter to adjust the rifle for use with sub-loaded ammunition. The iron sights used with the rifle fold down when not in use, but are otherwise standard AR-type sights. The pistol grip of the REPR is a Magpul MIAD ergonomic grip; LWRC sells the REPR with a VLTOR Emod 6-position sliding stock or a Magpul four-position sliding M-4-type stock. The finish of the REPR's barrels is called a ferritic salt bath, which is nitro-carburized

inside and outside of the barrel, which gives them very tough, corrosion-resistant properties; in particular, this finish is superior to a chrome-lined bore. Working parts use a proprietary nickel-based finish that has corrosion-resistant and lubrication qualities.

Lower receivers can be had which are specifically designed for use with the DMR and sniper upper receivers. These lowers are equipped with Giselle precision triggers and a Magpul PRS stock which is adjustable for length of pull and has an adjustable cheekpiece, though it is otherwise a fixed stock. This stock also has storage compartments for batteries and a recoil pad. The stats I have provided below assume the use of this lower for the 18-inch-barel and 20-inch-barrel versions. The stats below furthermore include a scope and a bipod for the 20-inch-barrel version. These lowers are designed for use with semiautomatic fire only.

Weapon	Ammunition	Weight	Magazines	Price
REPR (12” Barrel)	7.62mm NATO	4.21 kg	5, 10, 20	$983
REPR (16.1-inch Barrel)	7.62mm NATO	4.31 kg	5, 10, 20	$1028
REPR DMR	7.62mm NATO	4.76 kg	5, 10, 20	$1106
REPR Sniper	7.62mm NATO	5.4 kg	5, 10, 20	$1837
REPR Silencer	N/A	2.15 kg	N/A	$661

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
REPR (12”)	5	4	2-Nil	4/6	3	9	28
REPR (12”, Silenced)	5	3	1-Nil	6/7	2	4	20
REPR (16.1”)	5	4	2-3-Nil	5/7	3	9	45
REPR (16.1”, Silenced)	5	3	1-Nil	7/9	2	5	28
REPR DMR	SA	4	2-3-Nil	7	3	Nil	55
REPR DMR (Silenced)	SA	3	1-Nil	9	2	Nil	32
REPR Sniper	SA	4	2-3-Nil	7	3	Nil	67
With Bipod	SA	4	2-3-Nil	7	1	Nil	87
REPR Sniper (Silenced)	SA	3	1-Nil	9	1	Nil	36
With Bipod	SA	3	1-Nil	9	1	Nil	46

Johnson M-1941

Notes: The roots of the M-1941 actually go back to 1934, before World War 2. Near the end of the development of the M-1 Garand, a young US Marine lieutenant observing the testing process did recommend that the Marines adopt the M-1, but with the caveat that he believed that the *clang* of the clip when the last round was fired would become a liability, that the inability of the M-1's clip to be topped off was another liability, and that he did not believe that the M-1 Garand could be quickly and efficiently mass-produced. (In the first two respects, it did turn out that he was right.) This young Marine, 1st Lieutenant Maynard Johnson, in the finest spirit of American inventiveness, decided to design a rifle to alleviate what he felt were the Garand's flaws.

The M-1941 used recoil operation instead of the more complicated gas operation of the Garand. This allowed for a rifle with fewer parts and simpler construction and field stripping. The M-1941 proved to be adequate for accuracy, the operating system allowed for lower tolerances and proved more reliable in dirty conditions, was a considerably lighter weapon, had a greater magazine capacity, and the magazine, though internal, could be topped off at any time, either with chargers or by hand.

Unfortunately, the problems with the M-1941 began before World War 2, on the political side. Springfield, who designed the M-1 Garand, has a tremendous amount of pull with the Ordinance Board or the War Department, and didn't want any sort of "interlopers" interfering with the adoption of the M-1 Garand or even supplementing it. Complaints by the Ordinance Board were many, ranging from cost to the fact that the M-1941 could not use the standard US Army bayonet to everything in between. This was happening even though shooters ranging from averages soldiers to match marksmen stated that the M-1 and M-1941 were at the least equal to each other.

However, with the US entry into World War 2, it was in fact quickly discovered that indeed M-1 Garand production could not be ramped up quickly enough to fill the demand. In addition, the US also needed to provide modern weapons for groups ranging from partisans in France and elsewhere to Allied forces whose troops had ended up here and there after their countries had been taken over by the Nazis or Japanese. The M-1941 was therefore put into limited service with USMC special operations units, particularly their parachutists. It was also used throughout World War 2 by the OSS and the partisans they were supplying, and by Dutch forces operating in the East Indies. The Australians used a small number of them, as did some resistance fighters here and there in the Pacific theater. There are also rumors that some small amounts of M-1941s were used by free French forces.

But all was not rosy with the M-1941. One of the problems with the M-1941 was its need for a non-standard bayonet, but this was considered a minor problem. A worse problem with the bayonet was that it essentially unbalanced the M-1941, degrading accuracy for most shooters. The M-1941 had a rather long part of its barrel which was exposed, not being inside the stock or a shroud, not otherwise being reinforced. This part of the barrel could and did get bent, especially during drops by ParaMarines. Though the ability to top off a magazine was appreciated, charging using the standard 5-round stripper clip of the time was quite difficult; the end of the clip did not *quite* fit into the M-1941. The Marines replaced them with M-1 Garands and even M-1 Carbines as they became available; the major users of the M-1941 actually turned out to be the Dutch. Total M-1941 production was about 70,000. The Johnson enjoyed brief popularity on the civilian market after World War 2, but is now a collectors' item. (Just trying to get spare parts for the M-1941 is a big problem.)

Weapon	Ammunition	Weight	Magazines	Price
M-1941	.30-06 Springfield	3.86 kg	10-I	$1223

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1941	SA	4	2-3-Nil	7	4	Nil	62

POF P-308

Notes: Patriot Ordnance Factory makes a number of firearms; many of them are AR-15 or AR-10-based, but operated by a gas piston system instead of direct gas impingement. One of these is the P-308 series, chambered for 7.62mm NATO. These rifles are available with 20, 16, 14, and 12-inch barrels (the latter available only to law enforcement and military concerns, as is automatic fire capability). Common features include Vanadium alloy barrels that are twice as hard as Mil-Spec barrels and rated for automatic fire, chrome-lined barrels that have 10 times the thickness of chrome than Mil-Spec barrels, and a BC-A5 muzzle brake. The all operating parts are treated with POF's CROS (Corrosion Resistant Operating System). Finishes may be of NP3, black nitrite, or black anodization. The bolt carrier and bolt carrier area are nickel/Teflon coated. Receivers are of aircraft-quality aluminum, and may or may not be flattop according to the buyer's wishes. The pistol grip and stock are ergonomic, with the stock being a sliding Vltor stock. The handguards have four MIL-STD-1913 rails, as does the receiver if a flattop model; if flattop, the upper rail is a monolithic rail.

POF makes its own magazines for the P-308, but the P-308 can also use AR-10 (both modern and original), M-1A, SR-25, and metric-pattern FAL magazines.

Weapon	Ammunition	Weight	Magazines	Price
P-308 (12" Barrel)	7.62mm NATO	3.94 kg	10, 20, 25	$1026
P-308 (14" Barrel)	7.62mm NATO	3.98 kg	10, 20, 25	$1046
P-308 (16" Barrel)	7.62mm NATO	4.03 kg	10, 20, 25	$1069

P-308 (20" Barrel)	7.62mm NATO	4.11 kg	10, 20, 25	$1110

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
P-308 (12")	5	4	2-Nil	4/5	3	7	29
P-308 (14")	5	4	2-3-Nil	4/6	3	7	37
P-308 (16")	5	4	2-3-Nil	5/6	3	7	46
P-308 (20")	5	4	2-3-Nil	5/7	3	7	65

Remington (Enfield) US Service Rifle M-1917

Notes: This is basically an Enfield No 2 (Pattern '14) Rifle re-barreled for .30-06 Springfield ammunition. This was done to address an urgent World War 1 need for rifles and the resulting shortfall of M-1903s. Although the M-1917 was designated a "secondary standard rifle," by the War Department, nearly twice as many US troops carried them into combat in World War I than the "primary standard" Springfield M-1903. This is the weapon that Sergeant Alvin York used to such great effect in World War I when winning his Medal of Honor.

Almost 2 million were used by US troops during World War 1, and almost 2.4 million were actually produced. They were designed in England by Enfield, but the M-1917 was primarily built by Remington (who held the actual government contract), Winchester, and a subsidiary of Remington called Eddystone. (The basis of the design in an Enfield rifle led to them being commonly called "Enfield" in the US, though almost none were actually made in Britain.) They went into storage after World War 1. Nearly 120,000 were sent to England during World War 2 to equip their Home Guard, where they were painted with a red band around the stock to distinguish them from No 2 Rifles since their chambering remained unchanged from .30-06 Springfield. Many others were refurbished and sent to US troops, particularly the US Navy, in the early stages of World War 2. After 1946, most of these rifles were sold to US target shooters and hunters.

Weapon	Ammunition	Weight	Magazines	Price
M-1917	.30-06 Springfield	4.08 kg	5 Clip	$1755

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1917	BA	4	2-3-Nil	7	4	Nil	87

Rock River Arms LAR-8

Notes: Called the LAR-10 in its early inceptions, the LAR-8 appears at first glance to be an enlarged AR-15. Originally scheduled for market introduction in late 2006 or early 2007, Rock River Arms' web site still says "Anticipated availability Summer 2007," though apparently the LAR-8 is not as yet on the market except for pre-orders.

The basic LAR-8 Standard comes in an A2 version, which essentially does look like an enlarged AR-15A2, complete with the AR-15A2-type stock and handguards, as well as the carrying handle and front sight raised post. The A4 model has the carrying handle replaced by a MIL-STD-1913 rail, and the front sight post replaced by a gas block assembly that has a very short MIL-STD-1913 rail. Optionally, the A4 version may have its handguards replaced by a Daniel Defense Lite Quad Rail handguard, with four MIL-STD-1913 rails. In the case of both rifles, the barrels are made by Wilson Combat and are 20 inches long and tipped with an M-16A2-type flash suppressor. The pistol grip has been modified to allow the use of an outer Hogue rubber shell. The trigger unit is a two-stage match trigger. Both can accept metric and English FAL-type magazines.

The LAR-8 Mid-Length (both the A2 and A4) are virtually identical to their LAR-8 Standard counterparts, but use 6-position sliding stocks and 16-inch barrels. The specialist LAR-8A4 Varmint (which would also serve equally well as a tactical marksman's weapon) uses a 26-inch Wilson Combat Air-Gauged bull barrel made of stainless steel and free-floating, inside special ribbed aluminum handguards. The receiver uses a MIL-STD-1913 rail instead of a carrying handle, with a corresponding short MIL-STD-1913 rail atop the gas block in case the shooter wishes to mount iron sights or other accessories. The barrel has no flash suppressor, but instead is tipped by a target crown.

Twilight 2000 Notes: These rifles do not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
LAR-8A2 Standard	7.62mm NATO	4.22 kg	20	$995
LAR-8A4 Standard	7.62mm NATO	4.08 kg	20	$1005
LAR-8A2 Mid-Length	7.62mm NATO	3.9 kg	20	$974
LAR-8A4 Mid-Length	7.62mm NATO	3.67 kg	20	$983
LAR-8A4 Varmint	7.62mm NATO	5.26 kg	20	$1069

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
LAR-8A2/A4 Standard	SA	4	2-3-Nil	7	4	Nil	62
LAR-8A2/A4 Mid-Length	SA	4	2-3-Nil	5/6	4	Nil	44
LAR-8A4 Varmint	SA	4	2-3-Nil	8	3	Nil	95

Rock River Arms LAR-458

Notes: Essentially a heavy modification of the RRA CAR A4, the LAR-458 is modified to instead fire the .458 SOCOM cartridge. It is intended primarily for short-range combat and entry teams.

Other than the changes necessary to fire the .458 SOCOM cartridge (which were large and many in of themselves), the LAR-458 has a large number of sub-versions available, differing primarily in the stocks, handguards, pistol grips, and MIL-STD-1913 rails available. For game purposes, the stocks may be primarily into fixed and 6-position sliding stocks; however, possible fixed stocks include a standard AR-15A2 stock, a shorter "entry stock," the CAA Tactical Stock (which has compartments for accessories such as cleaning kits, batteries, etc.), and the ACE Skeleton stock. The handguards may be "generic" ribbed aluminum handguards or better Hogue versions. (Both of these also contain free-float tubes for the barrel.) The pistol grips may be standard AR-15A2, Hogue rubber, an ERGO grip, or an ERGO Target grip. The receiver is topped by a MIL-STD-1913 rail, but the buyer may elect to also buy a detachable carrying handle with an AR-15A2-type rear sight in it; the gas block also has a very short MIL-STD-1913 rail, and the buyer may also elect to buy a front sight to fit this rail if desired. The trigger guard may be of standard size or a wider winter trigger guard. The barrel is a 16-inch chrome-moly steel bull barrel, which may be tipped with a standard AR-15A2-type flash suppressor or a Vortex flash suppressor/muzzle brake. Feed is from modified AR-15A2 magazines.

There are some rumors floating around that the US Military (primarily special operations and the Coast Guard) have requested that Rock River Arms build some versions of the LAR-458 capable of automatic fire, though I have been unable as of yet to confirm this beyond mere rumors. However, I have included automatic stats below, as a point of interest.

Twilight 2000 Notes: The LAR-458 does not exist in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
LAR-458 (Fixed Stock, Flash Suppressor)	.458 SOCOM	3.45 kg	4, 7, 10, 15	$2096
LAR-458 (Fixed Stock, Muzzle Brake)	.458 SOCOM	3.44 kg	4, 7, 10, 15	$2124
LAR-458 (Folding Stock, Flash Suppressor)	.458 SOCOM	3.45 kg	4, 7, 10, 15	$2112
LAR-458 (Folding Stock, Muzzle Brake)	.458 SOCOM	3.44 kg	4, 7, 10, 15	$2141

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
LAR-458 (Fixed, Flash)	5	6	1-3-Nil	6	4	11	58
LAR-458 (Fixed, Brake)	5	6	1-3-Nil	7	3	8	58
LAR-458 (Folding, Flash)	5	6	1-3-Nil	5/6	4	11	58
LAR-458 (Folding, Brake)	5	6	1-3-Nil	5/7	3	8	58

Springfield M-1 Garand

Notes: Perhaps more than any other weapon, the M-1 Garand is synonymous with the World War 2 US fighting man. In 1932, it was the first semiautomatic rifle to be adopted by any country's armed forces. By the time manufacture had ended in the late 1950s, over 5.5 million had been made. They were in regular service as late as the Vietnam War, and there are no doubt some still floating around, even in military service. They were modified by several countries for both military and civilian use, including the US M-14 and the Italian BM-59 series. The Garand is simple and tough, but by no means light. Criticisms included the small magazine capacity (still larger than most personal weapons of the day), the inability to top off the rifle until it is completely empty, and the loud "clang" the weapon makes when the weapon empties and ejects the spent clip. Other touches include a compartment in the stock, accessed through the butt, which is meant to hold a bottle of lubricating oil, a small grease pot, a pull-through tool for cleaning the barrel, and a two combination tools which performed six functions total (related to maintaining the rifle or clearing jams). The Garand was produced by a large number of companies during World War 2, and later by the arms companies of several countries (both licensed and unlicensed). A common add-on modification was a muzzle device for the launching of old-style non-bullet-trap rifle grenades. The sights were surprisingly sophisticated, and finely-adjustable for elevation and windage using the rear sight. Though heavy, the Garand is very well-balanced.

The New M-1 Garand is a faithful reproduction of the M-1 Garand rifle of World War 2 fame. Many of the parts on the .30-06 models are in fact leftovers from unbuilt M-1s that have been packed in preservative all these years. The stocks and barrels are always of new manufacture, and can fire old and new ammunition equally well. Another version is converted to 7.62mm NATO.

Twilight 2000 Notes: CivGov issued a number of these to their levies and troops after the collapse of central authority in the US; these rifles were actually manufactured in Virginia instead of Massachusetts, and most of the CivGov New M-1s were chambered for 7.62mm NATO.

Weapon	Ammunition	Weight	Magazines	Price
M-1 Garand	.30-06 Springfield	4.37 kg	8 Clip	$1238
New M-1 Garand	.30-06 Springfield	4.31 kg	8 Clip	$1238
New M-1 Garand	7.62mm NATO	4.31 kg	8 Clip	$1051

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1 Garand	SA	4	2-3-Nil	7	4	Nil	71
New M-1 Garand (.30-06)	SA	4	2-3-Nil	7	4	Nil	71

New M-1 Garand (7.62mm)	SA	4	2-3-Nil	7	4	Nil	81

Springfield M-1A

Notes: This is basically a civilian model of the M-14 automatic battle rifle. It is semiautomatic only, and comes in a variety of models with different barrel lengths. Like the M-14, they are magazine fed instead of using the clips of the M-1 Garand. Most versions of the M-1A differ only in barrel lengths, materials, and sight mounts; the Scout can mount the widest variety of accessories with its optional MIL-STD-1913 rail. The SOCOM-16 is perhaps the most radical alteration; it has a chopped 16-inch barrel with a special muzzle brake, an enlarged military-aperture rear sight with MOA click adjustments for elevation and windage, a front sight with tritium insert, and a MIL-STD-1913 rail forward of the rear sight base. The Springfield Squad Scout is a rifle developed for military and police use; it has an 18-inch barrel, beefy muzzle brake, and with other modifications necessary for the new barrel length. It is equipped with a MIL-STD-1913 rail.

While the SOCOM-16 is a good carbine-type M-1A, it does have some problems. The forward position of the MIL-STD-1913 rail allowed optics to be mounted in a "Scout" type configuration, but was not a good position for telescopic or optical sights, and under sustained fire, the mounting block transferred heat directly to the rail and right to the optics, causing them to lose accuracy and zeroing. It did not have the four-position MIL-STD-1913 rails that are becoming common (and useful) on modern SOPMOD-type weapons. It had no folding stock. Therefore, in 2005, the SOCOM II was designed to remedy these problems. In addition to those improvements, the SOCOM II has a true pistol grip (with a compartment inside for small items), a single point sling, an actual pepperpot-type muzzle brake, and an adjustable cheekpiece for the collapsible stock (and the stock also has compartments for small items). The result is a weapon similar to the US Navy SEALs' Mk 14, Mod 0 EBR, but in a lighter package with a less complex stock.

McMillan makes a version of the M-1A that is very similar to the SOCOM II, but has several differences that give it more utility in some cases than the SOCOM II. The MFS-14 uses a stock that is both sliding and folds to the left, and is also of a design where the sliding part is on a thick post while the buttstock is small and skeletonized. The stock can also take a small vertical adjustment for use if the shooter is using optics or not. The buttstock also has a rubber recoil pad attached to it. (Optionally, a simpler McMillan stock with adjustments for cheekpiece height, length of pull, and with a buttpad can be fitted.) The barrels may be 18 or 20 inches in length and its tipped with an M-14-type flash suppressor. They are hand-bedded and precision-fitted. The standard version is drilled and tapped for a scope mount atop the receiver; a handguard-length MIL-STD-1913 or Weaver rail is located below the handguard, while two very short lengths of rail are on each side of the handguards at the front of the handguards. The drilling and tapping can take a MIL-STD-1913 or Weaver rail itself. The iron sights are standard M-14-type. Most of the furniture other than the stock is polymer, including an ergonomic pistol grip. The trigger is two-stage.

The McMillan M-3A is basically a souped-up version of the M-1A designed for the tactical sniper and designated marksman roles. The M-3A, of course, features a McMillan synthetic stock (usually in olive drab), with an adjustable cheekpiece, butt adjustable to an extent for length of pull by spacers, and a recoil pad. The stock is similar in profile to a standard M-1A stock, but a bit more ergonomic. The M-3A has a full-length MIL-STD-1913 rail that extends from the back of the receiver to the front of the handguard, and a rail on either side of the handguard near the front, half the length of the handguard, that are slightly above the centerline of the handguard. The 18-inch match-quality barrel is tipped by a slim-line muzzle brake, and the front and rear have flip-up iron sights for use in an emergency. The cost of the M-3A below includes the cost of a telescopic sight.

Twilight 2000 Notes: The M-1A Scout, Squad Scout, SOCOM-16, and SOCOM II, McMillan M-3A, and MFS-14 do not exist in the Twilight 2000 timeline. The others are common weapons issued to CivGov and MilGov forces alike.

Merc 2000 Notes: This is a common weapon of mercenary troops, particularly the full-sized M-1A and the M-1A Bush. Most SOCOM IIs are made for semiautomatic fire only, but some police versions are made with automatic fire capability, and there are rumors of US military use of them.

Weapon	Ammunition	Weight	Magazines	Price
M-1A	7.62mm NATO	4.33 kg	5, 10, 20	$1099
M-1A Bush	7.62mm NATO	4 kg	5, 10, 20	$1038
M-1A Bush Synthetic	7.62mm NATO	4 kg	5, 10, 20	$1052
M-1A National Match	7.62mm NATO	4.5 kg	5, 10, 20	$1098
M-1A National Match Government	7.62mm NATO	4.5 kg	5, 10, 20	$1628
M-1A Scout	7.62mm NATO	4.08 kg	5, 10, 20	$1052
SOCOM-16	7.62mm NATO	4.22 kg	5, 10, 20	$1032
Squad Scout	7.62mm NATO	4.22 kg	5, 10, 20	$1194
SOCOM II	7.62mm NATO	4.94 kg	5, 10, 20	$1063
MFS-14 (18" Barrel)	7.62mm NATO	4.92 kg	5, 10, 20	$1047
MFS-14 (20" Barrel)	7.62mm NATO	5 kg	5, 10, 20	$1070
McMillan M-3A	7.62mm NATO	4.39 kg	5, 10, 20	$1144

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range

M-1A	SA	4	2-3-Nil	7	3	Nil	72
M-1A Bush	SA	4	2-3-Nil	6	3	Nil	53
M-1A Bush Synthetic	SA	4	2-3-Nil	6	3	Nil	53
M-1A National Match	SA	4	2-3-Nil	7	3	Nil	74
M-1A National Match Government	SA	4	2-3-Nil	7	3	Nil	74
With Bipod	SA	4	2-3-Nil	7	1	Nil	97
M-1A Scout	SA	4	2-3-Nil	6	3	Nil	53
SOCOM-16	SA	4	2-3-Nil	6	3	Nil	44
Squad Scout	SA	4	2-3-Nil	7	2	Nil	53
SOCOM II	5	4	2-3-Nil	5/6	2	6	44
MFS-14 (18" Barrel)	SA	4	2-3-Nil	6/7	3	Nil	54
MFS-14 (20" Barrel)	SA	4	2-3-Nil	6/7	3	Nil	64
McMillan M-3A	SA	4	2-3-Nil	6	2	Nil	55

Springfield M-14

Notes: In the early 1950s, NATO began to adopt a common cartridge for rifles and light machineguns, the 7.62mm NATO round. Most of NATO decided to adopt the FN FAL or variants of it, but the Defense Department didn't like the FAL, partially because it was "not invented here," and partially because they though US designers could come up with something better. Unfortunately because of politics and sheer government bumbling, an updated version of the M-1 Garand called the M-14 was selected for issue. Though Springfield designed and originally was the sole producer of the M-14, several other manufacturers have since built the M-14, most notably Fulton Armory. Production of the original M-14 stopped in 1964, as the US military transitioned to the M-16, but public demand led Springfield and Fulton to resume production of a version of the M-14 capable of only semiautomatic fire in 1974, and since then numerous variants have been built by a number of companies. Most US Navy ships carry several M-14s in their armories; these are used to shoot floating mines in the water to detonate them before they can hit the ship. (These are designated M-14 SMUDs, for Stand-off Munition Disruption). The 3rd Infantry Regiment (Old Guard) retain a number of immaculately-kept M-14s for ceremonial purposes; these weapons are typically well-polished, but still in working order (though they are not the weapons the Old Guard trains with when conducting tactical training). In addition, the M-14 is still used by a number of ceremonial honor guard units, including the US Air Force (modified to disallow semiautomatic or automatic fire, as they are used for rifle salutes at funerals), US military academies, and various military colleges around the US. These may or may not be in working order, but will always look great. The M-21 sniper rifle and its more developed version, the M-25, are modified forms of the M-14. The M-1A is also a variant of the M-14.

The M-14, as originally designed, differs from the M-1 Garand primarily in its caliber, automatic fire ability, larger magazine, and shorter gas cylinder and 22-inch barrel. In addition, the M-14 had better chroming for the bore and chamber as well as a long flash suppressor at the muzzle. The M-14, though accurate at long range, proved to be far too light for automatic fire, and in US Army and Marine use, they tended to be locked to disallow automatic fire. A later variant of the M-14, the M-14A1, was weighted to be heavier, used a straight stock, and an integral bipod; though touted as a replacement for the M-14 and the BAR, it proved to still be too light as an automatic rifle, and too heavy as a personal weapon. For a short time, it was used as a squad automatic weapon, but it too quickly passed from use by US troops.

Other modifications of the M-14 proved to be far more successful; the M-21 and M-25 sniper rifles are accurized and modified M-14s, and recent modifications have produced Designated Marksman Weapons for the USMC, US Army special operations, combat engineers, and Israeli forces. Recent pictures taken in Afghanistan and Kosovo sometimes show US soldiers using the M-14, M-21, M-25, and various other modified M-14s.

A fairly recent modification of the M-14 is Springfield's M-14K. This was essentially the first attempt at a carbine variant of the M-14 (many others have been produced since its introduction in the late 1980s). It is externally virtually identical to a standard M-14, but instead of a 22-inch barrel, it uses a 16-inch or 13.3-inch barrel. The standard rate of fire of an M-14 is 750 rounds per minute; the M-14K uses a modified gas system from the M-60 machinegun and thus has a rate of fire reduced to about 600 rpm. (This unfortunately has no real effect by the *Twilight 2000 v2.2* rules.)

The US Navy SEALs and Marine Recon units discovered in Afghanistan that they needed a rifle with more punch and range then the M-16/M-4 series with which they were largely armed. This led, in part, to the development of the SCAR, but the SEALs decided they needed such a weapon right away instead of waiting the years it would take to develop the SCAR; the SEALs were already using the M-14 for such purposes, but they weren't happy with it. The M-14 series was essentially obsolete, being large, heavy, and unable to use the large range of optics and accessories developed since the M-14's inception. NSWC Crane therefore came up with the Mk 14, Mod 0 EBR (Enhanced Battle Rifle). This version of the M-14, at first glance, is barely recognizable as an M-14 variant. The EBR has its wooden furniture replaced with the Sage International Stock System; this stock is built of lightweight aircraft-grade aluminum alloy, and incorporates a collapsible stock, four-position MIL-STD-1913 rails around the handguard, a polymer pistol grip, a forward handgrip, and in addition allows the 18.5-inch barrel to free-float. The front of the handguard has a mount for bipods of various makes. The stock also allows the receiver to sit lower, facilitating aiming from any position, and provides a straight in-line configuration. The receiver also has a fifth MIL-STD-1913 rail on top. The barrel is tipped with a Vortex muzzle brake, with the front sight moved to gas cylinder lock ring. The buttplate has a thick rubber cushion to further

cut felt recoil. The M-14's standard bolt stop (which, like most modern semiautomatic and automatic weapons, holds the bolt open when the magazine is empty), has been replaced with a "slap" type paddle, like that of the M-16 series, making reloading just a bit faster. A civilian/police version of the EBR is also manufactured (by Fulton Armory); this version is identical to the EBR except that it is capable only of semiautomatic fire.

Today, the M-14 is again being issued, usually in a heavily-reworked form as an SDM (Squad Designated Marksman) rifle. This need was made obvious by the much longer engagement ranges found in the Afghanistan theater of operations. Though the SDM version is not up to the standards of the M-21 sniper version of the M-14, virtually all that remains of the original M-14 in most cases is the action, and the barrel itself being retained depending upon its condition. The SDM version is first accurized, with the action being tuned and the trigger group being either tuned or replaced by a more precise trigger group. Again, depending upon the condition of the barrel, the barrel may be replaced by one which is better-made, and the barrel is usually bedded in a free-floating manner. Alternately, a 22-inch or 18-inch match-quality heavy barrel may be used. Muzzle brakes on the match-quality barrels may be removed and replaced by suppressors. The stock is totally replaced by a synthetic stock system, usually made by McMillan or Vltor, which has a MIL-STD-1913 rail ahead of the action and three sets of short MIL-STD-1913 rails at the front of the handguards. The buttstock is sliding and adjustable for length of pull and cheek height, as well as having a padded butt. The lower MIL-STD-1913 rail usually has a folding light alloy bipod adjustable for height and cant; the lower MIL-STD-1913 rail is longer than those on the sides of the handguard, and a vertical foregrip behind the bipod is a common add-on accessory. The standard M-14 iron sights are retained. The receiver is typically topped by a scope of moderate power, generally adjustable and in the neighborhood of 3-6x.

The US Marines use a rifle with a similar function, called the M-14 DMR (Designated Marksman Rifle). This version is equipped with a McMillan Tactical M2A fiberglass stock, which has a true pistol grip and a buttstock with an adjustable cheekpiece. The M-14 DMR uses a 22-inch match-grade Krieger or Rock Creek barrel, tipped with the OPS muzzle brake; this may be removed and replaced with an OPS 12th-Model suppressor. The M-14 DMR has a MIL-STD-1913 rail mounted over the action, normally topped with an Unertl 10x scope (the same as used on the M-40 series), a Leupold Mark 4 TS-30.xx 12x scope, or one of several night vision scopes. Under the handguard at the front is a Harris S-L bipod adjustable for height and cant. The Marines are currently in the process of replacing the M-14 DMR with the M-39 Enhanced Marksman Rifle (EMR), which is essentially a Marine version of the M14 Mod 0 EBR, though equipped with the barrel of the M-14 DMR and the addition of the Harris bipod. The M-39 has been lightened considerably over the M-14 DMR.

The US Coast Guard uses a version of the M-14, the M-14 Tactical, which is equipped with the same stock as on the Mk 14 Mod 0 EBR, a 22-inch match-quality barrel, and a Smith Enterprise Muzzle Brake.

The AWC Systems Technology G2 is a bullpup sniper version of the M-14. The G2 is used by several unnamed US government agencies, and is equipped with the synthetic bullpup stock made by McMillan specially for this rifle, a heavy stainless steel 16-inch Krieger match-quality barrel tipped by a flash suppressor, and a special scope mount above the action above the pistol grip and trigger, designed not only to cope with the need for a raised optics mount, but for the harsh conditions in which the rifle is expected to be used. Some G2s are equipped with MIL-STD-1913 rails instead of this special scope mount, though optics are still mounted on a raised mount that attaches to the rail. The flash suppressor can be removed and replaced with a suppressor. Less than 100 of these rifles were built, and only one of them was built with automatic fire capability (designated the G2FA); deliveries are believed to be complete. Since a full-auto version exists, stats are given below for a Burst recoil factor. The stock and receiver are inside a tough polymer material. Mystery still shrouds the G2, and the weight given below is an estimate.

Other than the US, M-14s were used by Israel, Taiwan, and South Korea, and in some cases, still are. Like the M-16, examples of the M-14 captured in Vietnam have found their way around the world, most notably in Central America in Sandinista hands. In 2001, some 40,000 M-14s were given to Lithuania by the US; rumors say this was in return for certain intelligence activities. They were also very successful on the civilian market. The M-14K was reportedly tested by US, Israeli, and some other countries' military forces; though there are rumors of limited combat use by special ops units, they are not officially being used by any country. They are somewhat popular among civilians, though.

Twilight 2000 Notes: The M-14 became a widely issued weapon again during the Twilight War; in addition to certain applications by special operations forces, the M-14 was issued out to both MilGov and CivGov militia units, and issued as a personal weapon to some military units raised late in the war. South Korea and Taiwan also issued M-14s to civilians and military alike, and the Israelis converted a lot of theirs to sniper and DMR rifles. The EBR is not available in the Twilight 2000 timeline.

Weapon	Ammunition	Weight	Magazines	Price
M-14	7.62mm NATO	5.08 kg	20	$1046
M-14A1	7.62mm NATO	6.64 kg	20	$1562
M-14K (16" Barrel)	7.62mm NATO	3.74 kg	5, 20	$1054
M-14K (13.3" Barrel)	7.62mm NATO	3.59 kg	5, 20	$1024
Mk 14 Mod 0 EBR	7.62mm NATO	4.73 kg	20	$1246
M-14 SDM (18" Barrel)	7.62mm NATO	6.54 kg	20	$1829
M-14 SDM (22" Standard Barrel)	7.62mm NATO	6.8 kg	20	$1951
M-14 SDM (22" Barrel)	7.62mm NATO	6.8 kg	20	$1961
M-14 DMR	7.62mm NATO	4.99 kg	20	$1857
M-39 EMR	7.62mm NATO	3.4 kg	20	$1884
M-14 Tactical	7.62mm NATO	4.91 kg	20	

AWC G2	7.62mm NATO	3.73 kg	5, 10, 20	$1193
Suppressor for M-14 Series	N/A	3.4 kg	N/A	$685

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-14	5	4	2-3-Nil	7	3	8	72
M-14A1	5	4	2-3-Nil	7	3	8	72
With Bipod	5	4	2-3-Nil	7	2	4	93
M-14K (16")	5	4	2-3-Nil	6	3	8	44
M-14K (13.3")	5	4	2-Nil	6	3	8	33
Mk 14 Mod 0 EBR	5	4	2-3-Nil	5/6	2	6	57
M-14 SDM (18")	SA	4	2-3-Nil	5/7	2	Nil	57
With Bipod	SA	4	2-3-Nil	5/7	1	Nil	74
M-14 SDM (18", Silenced)	SA	3	1-Nil	7/9	1	Nil	33
With Bipod	SA	3	1-Nil	7/9	1	Nil	43
M-14 SDM (22" Standard)	SA	4	2-3-Nil	6/7	2	Nil	75
With Bipod	SA	4	2-3-Nil	6/7	1	Nil	98
M-14 SDM (22" Match)	SA	4	2-3-Nil	6/7	2	Nil	77
With Bipod	SA	4	2-3-Nil	6/7	1	Nil	100
M-14 SDM (22" Match, Silenced)	SA	3	1-Nil	8/10	1	Nil	38
With Bipod	SA	3	1-Nil	8/10	1	Nil	50
M-14 DMR	SA	4	2-3-Nil	7	3	Nil	77
With Bipod	SA	4	2-3-Nil	7	1	Nil	100
M-14 DMR (Silenced)	SA	3	1-Nil	9	2	Nil	50
With Bipod	SA	3	1-Nil	9	1	Nil	62
M-39 EMR	SA	4	2-3-Nil	6/7	3	Nil	77
With Bipod	SA	4	2-3-Nil	6/7	1	Nil	100
M-39 EMR (Silenced)	SA	3	1-Nil	8/10	2	Nil	46
With Bipod	SA	3	1-Nil	8/10	1	Nil	50
M-14 Tactical	SA	4	2-3-Nil	6/7	2	6	62
AWC G2	5	4	2-3-Nil	5	4	9	43
AWC G2 (Silenced)	5	3	1-Nil	7	2	4	26

Springfield M-1903

Notes: When smokeless powder was introduced at the turn of the century, the US Army adopted the Krag-Jorgensen. It soon proved to be a bust as a service rifle, and despite vast sums of money poured into its acquisition and development, it was unceremoniously dropped a few years later. A Mauser-action type weapon was adopted, and a modified Krag bullet known as the .30 Caliber M1903 Springfield was designed to be fired from it. (This is what I am calling in these pages the .30-06 Springfield, since the flat-nosed M1903 bullet was replaced by a round-tipped bullet in 1906.) There were 6 major versions of the M-1903.

The immediate ancestor of the M-1903 was the M-1901; it was regarded as an experimental design, and produced on the same production line as the Krag. Though some 5000 M-1901's were ordered from the War Department, only 100 were actually built, since it was realized that building the M-1901 and the Krag on the same production line was essentially untenable. The M-1901 was chambered for what was then an experimental new cartridge (the .30-03), and used a modified Mauser action. They used a 30-inch barrel with a rod-type bayonet, and were fed by internal magazines which could be loaded with a stripper clip or individually. They used tangent-leaf rear sights and blade front sights.

The original M-1903 was designed for the M-1903 bullet and was a conventional Mauser-action rifle, though a bit shorter in the barrel than most Mauser designs of the time. It has a standard hunting stock with no grip. They were essentially M-1901s with the barrel reduced to 24 inches and the sights adjusted accordingly, along with a change in the lug for the bayonet and improvements in the action. The bayonet was later replaced with a sword-type bayonet in 1905, with an appropriately-modified lug. About a month later, the rear sight was modified; though it was still a tangent-leaf design, it was re-graduated out to 2400 yards, and the sights were given protective ears. In 1906, the M-1903 rifle was rechambered for the new .30-06 bullet, along with another modification of the rear sights. In 1910, a flute was cut into the top of the receiver and barrel shroud to improve the sight line. In 1918, special heat treatment was given during production to the receiver and action to further improve reliability. In 1928, the receiver composition was changed to nickel-steel. All these are identical for game purposes, with the exception of early M-1903's firing the .30-03 round.

The M-1903 was partially-replaced in late 1919 with the M-1903A1, which merely replaced the stock with one that had a semi-pistol grip. The M-1903A1 was not produced in quantity, since the War Department already had a great surplus of straight-wristed stocks. For game purposes, the M-1903A1 is otherwise identical to late-model M-1903s.

The M-1903A2 was not really a rifle in the normal sense; instead, it was designed to be fitted into the breeches of artillery pieces to allow for low-cost training.

The M-1903A3 was introduced as an emergency measure to provide arms for World War 2; the primary changes were ones that facilitated mass production, such as some sheet-metal stampings and the replacement of the graduated sight by a simple aperture sight. In addition, the M-1903A3 returned to the straight-wristed stock, which was also easier to produce. At first, the recoil bolts were replaced with pins, but this led to a marked decrease in reliability and bolt were quickly returned to. The bolt lug was changed to allow it to use the bayonet of the M-1 Garand. Amazingly enough, the M-1903A3 was in production until 1944.

The M-1903A4 was a sniper rifle based on the M-1903 used by the US Marines as late as Vietnam. They were generally reworked from the best-behaved rifles off of the production line, and fitted with a scope mount. They had backup aperture-type sights sights, but were primarily designed to be fitted with a Redfield Model 330C 2.5x scope. These versions used pistol-grip wrists and a bent-down bolt handle in order to not interfere with the scope; some had bayonet lugs, and some were produced without them at the request of snipers.

As I said, there were 6 major versions. The M-1903 Mark I was an experimental "trench broom" weapon. It was modified to accept the "Pederson Device," allowing the bolt-action M-1903 to be converted to automatic fire. Though over 100,000 of these weapons were built, they proved to be unwieldy and fragile in tests. The were mostly converted back to the original M-1903 specifications; unfortunately, the ejection port could not be filled properly, and since the whole project was classified until after World War 2, many troops were puzzled by the holes in the receivers of their weapons. It is doubtful many of these weapons still exist, but they are presented here as an interesting "what-if."

The M-1903 (Modified) was a version built by Remington for the British early in World War 2 to augment their supply of Enfield rifles. Production was slow, partially due to worn-out tooling provided by the War Department (which quickly had to be replaced), and partially due to US Government interference, as Roosevelt did not want the US to be seen to be too-overtly aiding the British early in the war (before the US officially entered the war). The primary difference was a re-chambering to .303 British, but the gas escape hole on the right side was omitted, and the rear sight was also modified. The finger grooves on the fore-end were also omitted, and a few stamped and welded parts were also included to speed production (mostly on non-working parts including the magazine floorplate, trigger guard, sling swivels, barrel bands, and magazine follower). About 365,000 were produced by 1942, when production ended.

Numerous civilian versions have been built over the years (mostly conforming to the various models of the M-1903, and differing only in finishes, markings, production methods, sights, etc. These are identical to the various models of the M-1903 for game purposes.

Weapon	Ammunition	Weight	Magazines	Price
M-1901	.30-03 Springfield	4.07 kg	5 Clip	$1789
M-1903 (Early)	.30-03 Springfield	3.86 kg	5 Clip	$1728
M-1903 (Standard)	.30-06 Springfield	3.86 kg	5 Clip	$1730
M-1903A1	.30-06 Springfield	3.64 kg	5 Clip	$1728
M-1903A3	.30-06 Springfield	3.36 kg	5 Clip	$1736
M-1903 Mark 1	.30 Pederson	4.1 kg	40	$1108
M-1903 (Modified)	.303 British	3.26 kg	5 Clip	$1475

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-1901	BA	5	2-3-Nil	9	4	Nil	98
M-1903 (Early)	BA	4	2-3-Nil	8	4	Nil	71
M-1903 (Standard)	BA	4	2-3-Nil	7	4	Nil	79
M-1903A1	BA	4	2-3-Nil	7	5	Nil	78
M-1909A3	BA	4	2-Nil	7	5	Nil	78
M-1903 Mark 1	SA	4	2-Nil	7	4	Nil	64
M-1903 (Modified)	BA	4	2-3-Nil	7	5	Nil	90

Stoner SR-25

Notes: This is basically an AR-15 rechambered for 7.62mm NATO and with the carrying handle replaced by a Picatinny Rail and the normal barrel mounting replaced with one offering a floating barrel. There are several variants, including the base weapon, two match versions for sharpshooters, a carbine, a "Sporter" version meant for civilians, and a short assault rifle version. The two match versions are furnished with a 6x telescopic sight. These weapons have been showing up in military hands more and more lately, often in a highly modified form, in pictures taken in Afghanistan.

After extensive use in Afghanistan and Iraq by US Navy SEALs, the SR-25 was modified by Knight Armament Corporation (who had inherited the design of the SR-25), and it became the Mark 11 Mod 0 Rifle. This is an enhanced version of the SR-25, and is designed for the spotter of a sniper team. The Mark 11 Mod 0 is covered under the Knight Armament Corporation Mk 11 Mod 0/M-110 entry in US Sniper Rifles G-L.

Twilight 2000 Notes: In the Twilight 2000 world, these weapons were most popular in civilian hands; military versions were provided primarily to government militia sniper teams.

Merc 2000 Notes: The SR-25 series is popular among civilians, mercenaries, military, and criminals alike.

Weapon	Ammunition	Weight	Magazines	Price
SR-25 Standard	7.62mm NATO	4.58 kg	5, 10, 20	$1024
SR-25 Match	7.62mm NATO	4.87 kg	5, 10, 20	$1825
SR-25 Lightweight Match	7.62mm NATO	4.3 kg	5, 10, 20	$1732
SR-25 Carbine	7.62mm NATO	3.515 kg	5, 10, 20	$983
SR-25 Sporter	7.62mm NATO	3.97 kg	5, 10, 20	$1024
SR-25K Assault Rifle	7.62mm NATO	3.85 kg	5, 10, 20	$1023

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
SR-25 Standard	SA	4	2-3-Nil	7	3	Nil	62
SR-25 Match	SA	4	2-3-Nil	7	3	Nil	96
SR-25 Match (Bipod)	SA	4	2-3-Nil	7	2	Nil	121
SR-25 Lightweight Match	SA	4	2-3-Nil	7	4	Nil	82
SR-25 Lightweight Match (Bipod)	SA	4	2-3-Nil	7	2	Nil	102
SR-25 Carbine	SA	4	2-3-Nil	6	4	Nil	44
SR-25 Sporter	SA	4	2-3-Nil	6	4	Nil	62
SR-25K Assault Rifle	3	4	2-3-Nil	4/6	4	5	48

Thunder Sabre

Notes: This is essentially an AR-15A2 fitted with a new upper receiver designed to fire a much larger round than normal, and a modified folding stock of a different type than normally fitted to an M-16/M-4 series weapon. The Thunder Sabre fires what amounts to a scaled-up version of the .50 Action Express round. The handguards are similar to longer versions of those fitted to the M-16K, and the upper receiver has a MIL-STD-1913 rail instead of a carrying handle. The Thunder Sabre is fed from a modified AR-15/M-16 magazine. A peculiarity of the Thunder Sabre is that the bolt must be locked to the rear before a magazine can be locked in place.

Twilight 2000 Notes: This weapon does not exist.

Weapon	Ammunition	Weight	Magazines	Price
Thunder Sabre	.502 Thunder Sabre	3.63 kg	4, 9	$513

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Thunder Sabre	5	5	1-2-Nil	4/5	3	7	46

Tromix Jackhammer

Notes: Though the price given here is for a complete weapon, the Jackhammer was not normally sold as such; when you ordered the weapon from Tromix, generally what you got was a complete upper receiver/barrel combination, which could be fitted to an existing M-16 series, AR-15 series, or M-4 series lower receiver/stock combination to produce a complete weapon. The Jackhammer was designed to produce a harder-hitting version of the M-16 or AR-15, generally for use by police SRT and special operations units in close-assault situations or in a situation where heavy body armor needed to be penetrated. The barrel is a short 12.25 inches. There were two versions of the Jackhammer, one based on the proprietary .458 SOCOM round when high damaging potential was needed, and one based on the .440 Cor-Bon round when more controllability and better penetration is needed. The following weights are based on an M-4 series lower receiver.

Before settling on .440 CorBon and .458 SOCOM, Tromix also produced a small amount of some other chamberings for the Jackhammer. I thought it would be interesting to stat those out as well, for general interest.

Twilight 2000 Notes: This is a rare weapon, since it was introduced so late.

Merc 2000 Notes: This weapon has seen a lot of experimentation by civilians, military, and police.

Weapon	Ammunition	Weight	Magazines	Price
Jackhammer	.458 SOCOM	3.22 kg	7, 10, 15	$1975
Jackhammer	.440 CorBon	3.26 kg	7, 10, 15	$1167
Jackhammer	.357 AutoMag	2.56 kg	7, 10, 15	$329
Jackhammer	.44 AutoMag	2.76 kg	7, 10, 15	$397
Jackhammer	.44 Magnum	2.75 kg	7, 10, 15	$396
Jackhammer	.475 Tremor	3.86 kg	7, 10, 15	$2273
Jackhammer	.50 Action Express	2.98 kg	7, 10, 15	$474
Parts Kit (.458 SOCOM)	N/A	1.73 kg	N/A	$1042
Parts Kit (.440 CorBon)	N/A	1.71 kg	N/A	$565
Parts Kit (.357 AutoMag)	N/A	1.38 kg	N/A	$178

Parts Kit (.44 AutoMag)	N/A	1.49 kg	N/A	$212
Parts Kit (.44 Magnum)	N/A	1.49 kg	N/A	$210
Parts Kit (.475 Tremor)	N/A	2.08 kg	N/A	$1228
Parts Kit (.50 Action Express)	N/A	1.61 kg	N/A	$252

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Jackhammer (.458 SOCOM)	3 or 5	5	2-4-Nil	4/5	5	8 or 13	29
Jackhammer (.440 Cor-Bon)	3 or 5	4	1-2-3	4/5	4	6 or 11	30
Jackhammer (.357 AutoMag)	3 or 5	3	1-Nil	4/5	2	4 or 6	30
Jackhammer (.44 AutoMag)	3 or 5	4	1-Nil	4/5	3	3 or 7	30
Jackhammer (.44 Magnum)	3 or 5	4	1-Nil	4/5	3	4 or 7	30
Jackhammer (.475 Tremor)	3 or 5	6	2-4-Nil	4/5	4	6 or 11	29
Jackhammer (.50 Action Express)	3 or 5	5	1-2-Nil	4/5	3	4 or 7	30

Tromix Sledgehammer

Notes: Similar in concept to the Jackhammer, the Sledgehammer is based on a standard AR-10 lower receiver and a new upper receiver designed for a new round designed by Tromix, the .510 Phalanx. This round causes a lot of damage, but extracts a large toll on the user in the form of fatigue and controllability.

Twilight 2000 Notes: This weapon is even rarer than the Jackhammer, and its ammunition even more rare.

Merc 2000 Notes: This weapon is also being experimented with by military and police forces.

Weapon	Ammunition	Weight	Magazines	Price
Sledgehammer	.510 Phalanx	5.2 kg	6, 12, 18	$2866

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
Sledgehammer	5	7	2-4-6*	6	4	9	60

*A SLAP version of the .510 Phalanx round is available; this has a penetration of 1-3-5.

M-48 (Yugoslavian Mauser)

Notes: This is an example of a post-World War 2 Mauser produced in Yugoslavia for use by its armed forces and for export. In fact, many of these rifles were sold to unsuspecting collectors as ex-Nazi Kar-98k's. Many others were fooled into believing that it is a close enough copy of the Kar-98k that it will accept surplus and collectible Nazi accessories (the M-48 will not). The M-48 is a Mauser variant, but not a copy. One of the defects of the M-48 is the trigger pull; meant to deter trigger-happy soldiers, the trigger is two stage, with a pull of 7 and 9.5 pounds.

Weapon	Ammunition	Weight	Magazines	Price
M-48	8mm Mauser	4.54 kg	5 Clip	$1708

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-48	BA	4	2-3-Nil	7	4	Nil	86

M-63

Notes: This is a shortened version of the Yugoslavian version of the M-48 above, using a 17.4-inch barrel. It was designed shortly after World War 2 for use by Yugoslavia's armored vehicle crewmen, and is therefore often called the "Tanker" Mauser. It has some improvements, such as controlled round feed for increased reliability, a positive extractor, a strengthened receiver, and an improved safety.

Many years later (early 2000s), the US company of Mitchell's Mausers entered into a collaboration with Zastava, the maker of the M-63, to produce the M-63 for the American market. These M-63's have a box magazine, very light (some would say blond) colored wood stocks, and deeply polished and blued metalwork. They are otherwise identical to standard M-63s. They are somewhat popular in the US, but the sights, graduated from 200-1400 meters, are not suited to American hunting, and many owners replace them. The M-63 is not drilled and tapped as standard, but Mitchell's Mausers will mount scout-type scope sights upon request. Mitchell's Mausers (or Zastava, actually) has also recently started chambering the M-63 for more calibers, particularly those which would be attractive to US customers.

Twilight 2000 Notes: None of the Mitchell's Mausers versions exist in the Twilight 2000 timeline. The standard M-63 equips mostly reserve and partisan units.

Weapon	Ammunition	Weight	Magazines	Price
M-63	8mm Mauser	3.36 kg	5 Clip	$1649
Mitchell's Mausers M-63	8mm Mauser	3.36 kg	5	$1642
Mitchell's Mausers M-63	.30-06 Springfield	3.37 kg	5	$1654
Mitchell's Mausers M-63	7.62mm NATO	3.25 kg	5	$1374
Mitchell's Mausers M-63	.270 Winchester	3.28 kg	5	$1403
Mitchell's Mausers M-63	.243 Winchester	3.06 kg	5	$945

Weapon	ROF	Damage	Pen	Bulk	SS	Burst	Range
M-63	BA	4	2-3-Nil	7	5	Nil	55
Mitchell's Mausers M-63 (8mm)	BA	4	2-3-Nil	7	5	Nil	55
Mitchell's Mausers M-63 (.30-06)	BA	4	2-3-Nil	7	5	Nil	48
Mitchell's Mausers M-63 (7.62mm)	BA	4	2-3-Nil	7	4	Nil	55
Mitchell's Mausers M-63 (.270)	BA	4	2-3-Nil	7	4	Nil	42
Mitchell's Mausers M-63 (.243)	BA	3	2-Nil	7	3	Nil	46