Firearms E-book

This e-book was created exclusively for Military-Today.com mailing list subscribers.

Additional and updated information on the firearms described within is available at Military-Today.com website.

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Contents

Foreword

This e-book was created exclusively to Military-Today.com mailing list subscribers. It provides information about modern submachine guns and assault rifles. Additional and updated information on the firearms described within is available at Military-Today.com website. Our website is steadily growing and it is approaching a 1 000 article mark.

Military-Today.com website provides detailed description on modern weapons and military equipment. It gives overview of the most important weapon systems, listed in the following sections:

- Aircraft
- Helicopters
- Tanks
- Armored vehicles
- Artillery systems
- Military trucks
- Naval forces
- Firearms

Website includes detailed description, specifications and a great number of images. It is aimed at a wide range of readers, interested in weapons and military equipment, as well as general audience.

Submachine Guns

Submachine guns are automatic weapons, chambered for small caliber pistol cartridges. These weapons usually combine high volume of fire of the machine gun and compact dimensions at the expense of range and accuracy. Also they offer more controllable fire than automatic pistols. Most submachine guns have been designed for close encounters and concealed carrying. SMGs usually have effective range of about 50 to 200 meters.

Typically submachine guns are blowback-operated and fire from an open bolt. They are usually chambered for the standard 9 x 19 mm pistol ammunition. Most SMGs have semi-auto and full-auto modes. Some of them are capable of firing in 2- or 3-round burst modes.

Currently submachine guns are widely used by special operations forces, vehicle drivers, tank and artillery crews, staff personnel, support units, pilots, medical teams, airborne troops and law enforcement forces. These are used as personal defense or assault weapons. Many of these weapons are compatible with silencers or sound suppressors.

The main drawback of most SMGs is that the standard 9 x 19 mm round does not penetrate body armor at longer ranges.

Personal Defense Weapons or PDWs are considered as new-generation weapons. These are chambered for newly-developed more powerful high-velocity ammunition, offering enhanced penetration. Otherwise these are similar to submachine guns. PDWs have an effective range of about 200 meters. At close ranges these weapons deliver firepower of an assault rifle. PDWs are effective against body armor at ranges of 100 meters and beyond.

It is worth mentioning, that many operators use these weapons for the role, directly opposite to their original role. PDWs are often used for offensive roles by assault teams or special operations forces.

In this chapter you will find a number of modern submachine guns and personnel defense weapons.

Steyr TMP

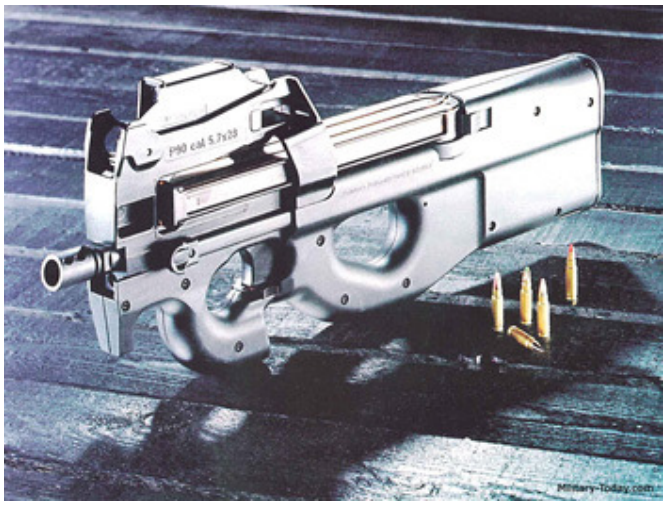
Submachine Gun

The Steyr TMP submachine gun was developed by famous Steyr-Mannlicher company in the early 1990s. It's production commenced in 1992 and ceased in 2001 because of lack of sales. Production licenses were transferred to a Swiss company and a variant of this SMG is still produced.

The Steyr TMP is a blowback-operated, selective fire weapon, chambered for the standard 9 x 19 mm ammunition. It fires from the closed bolt. This compact SMG is an interim design between automatic pistols and full-size submachine guns.

It offers lower, yet more controllable rate of fire. It is reported that the TMP is very controllable in full automatic mode. Many of it's parts are made from polymers. The Steyr TMP has no stock. This weapon can be fired single-handedly. It's compact size make it comfortable for concealed carrying. This SMG has semi-auto and full-auto modes. Firing mode is controlled by a dual-stage trigger and fire mode selector.

Caliber	9 x 19 mm
Weight (empty)	1.3 kg
Length	282 mm
Length (with folded stock)	-
Barrel length	130 mm
Muzzle velocity	370 m/s
Cyclic rate of fire	800 - 900 rpm
Practical rate of fire	30 - 90 rpm
Magazine capacity	15, 30 rounds
Sighting range	?
Range of effective fire	50 - 100 m



FN P90
Submachine Gun

The P90 submachine gun was developed in the late 1980s by the Belgian Fabrique Nationale (FN) of Herstal. It was intended as a personal defense weapon for non-frontline troops, vehicle drivers, tank and artillery crews. The FN P90 appeared in the early 1990s. At the time of it's introduction it was considered as a new generation weapon. It was the first personal defense weapon and took intermediate position between SMGs and assault rifles. About 20 000 of these submachine guns were sold for military operators and law enforcement forces worldwide. Currently it is in service with Belgium and about 25 export operators.

The FN P90 SMG is a clean sheet design. It is a blowback operated, selective fire weapon with bullpup layout, which fires from closed bolt. This PDW is chambered for a newly-developed 5.7 x 28 mm low-impulse and high-velocity ammunition with sharp nose bullets. This round has enhanced penetration comparing with 9 x 19 mm pistol round and is effective against body armor at ranges of 100 m and beyond. It resembles a scaled-down standard NATO 5.56 x 45 mm round. This weapon penetrates a standard US Army helmet at a range of 150 m.

Caliber	5.7 x 28 mm
Weight (empty)	2.54 kg
Length	500 mm
Length (with folded stock)	-
Barrel length	263 mm
Muzzle velocity	850 m/s
Cyclic rate of fire	900 rpm
Practical rate of fire	50 - 150 rpm
Magazine capacity	50 rounds
Sighting range	150 m
Range of effective fire	200 m

Sa vz.61 Scorpion
Submachine Gun

The Samopal vz.61 Scorpion submachine gun was developed in Czechoslovakia in the late 1950s by Miroslav Rybar. Initially it was intended for the reconnaissance units, special forces, staff officers and non-frontline units as a personal defense weapon. First prototypes were completed in 1959 and it was adopted to service with Czechoslovakian military in 1961. This submachine gun was widely exported. It was produced under license in Yugoslavia. A total of 210 000 of these SMGs were manufactured. Currently it is in service with a number of countries.

It is a blowback operated, selective fire weapon. It has an original fire rate reduction mechanism.

The original vz.61 Scorpion is chambered for the 7.65 x 17 mm Browning (.32 ACP) ammunition. From today's point of view this caliber is considered to be insufficient, however at that time it was a standard cartridge for many service pistols. Also it is worth mentioning that the vz.61 was smaller and lighter than most contemporary designs. This compact SMG can be easily fired single-handedly, however it's effective range of fire is only about 50 meters. The Scorpion proved to be a reliable weapon.

Caliber	7.65 x 17 mm
Weight (empty)	1.59 kg
Length	517 mm
Length (with folded stock)	269 mm
Barrel length	112 mm
Muzzle velocity	330 m/s
Cyclic rate of fire	640 rpm
Practical rate of fire	30 - 90 rpm
Magazine capacity	10, 20 rounds
Sighting range	150 m
Range of effective fire	50 m

QCW-05
Submachine Gun

The QCW-05 submachine gun is also referred as the Type 05. It's designation translates as a "Silenced Assault Gun, 2005". It was developed in the early 2000s to meet the Chinese army requirement for a compact submachine gun. This design won the trials and was selected for production. Production commenced in 2005. Currently is in service with the PLA and Chinese law enforcement forces. This weapon replaces the ageing Type 85 and other obsolete submachine guns.

This submachine gun looks like a scaled-down version of the QBZ-95, however it's internal design is different.

The original QCW-05 is produced for military use. It is a blowback operated weapon, with bullpup layout. This SMG is chambered for the new Chinese 5.8 x 21 mm ammunition. Some sources claim that it uses armor-piercing rounds as it's primary ammunition. In concept The QCW-05 it is a personal defense weapon, similar to the FN P90 and HK MP7.

The Type 05 submachine gun is fed from four-row magazines, that hold 50 rounds.

Caliber	5.8 x 21 mm
Weight (empty)	2.2 kg
Length	500 mm
Length (with folded stock)	-
Barrel length	250 mm
Muzzle velocity	150 m/s
Cyclic rate of fire	400 rpm
Practical rate of fire	50 - 150 rpm
Magazine capacity	50 rounds
Sighting range	?
Range of effective fire	150 - 200 m

Jati-Matic
Submachine Gun

The Jati-Matic submachine gun was designed in Finland by Jali Timari in the late 1970s and early 1980s. It is quite an unusual weapon, aimed at law enforcement forces and armored vehicle drivers. It's production commenced in 1983 and ceased in 1987. Only about 400 of these weapons were ever produced.

The Jati-Matic is a blowback operated, selective fire submachine gun, chambered for 9 x 19 mm ammunition. The receiver is made from stamped steel. Many of the parts are made of plastic, while other are made of stainless steel and aluminum. This submachine gun has only 39 individual components

A unique feature of this weapon is that it's bolt recoils at inclined plane at an angle to the barrel. It gives an element of braking to the bolt and also resists the upward movement of the barrel during the fire. The pistol grip is located higher than on other SMGs. Recoil on this weapon is directed backwards, rather than upwards. It eliminates muzzle climb and makes the weapon more controllable. The Jati-Matic can be fired using only one hand.

Caliber	9 x 19 mm
Weight (empty)	1.65 kg
Length	375 mm
Length (with folded stock)	-
Barrel length	203 mm
Muzzle velocity	360 m/s
Cyclic rate of fire	650 rpm
Practical rate of fire	30 - 120 rpm
Magazine capacity	20, 40 rounds
Sighting range	100 m
Range of effective fire	?

Heckler & Koch MP7
Submachine Gun

The MP7 submachine gun was developed by the famous Heckler & Koch company. Originally it was known as the HK PDW or Personal Defense Weapon, intended for non-frontline troops, vehicle drivers, tank and artillery crews. It is a rival to the Belgian FN P90, another firearm offered in this class. The MP7 was first revealed in 2000. It's production commenced in 2001. Currently it is in service with Germany, South Korea and the United Kingdom.

The Heckler & Koch MP7 is a gas operated, selective fire weapon. It's internal design resembles that of the HK G36 assault rifle, but scaled down. Otherwise it has a layout of a typical submachine gun.

This SMG is chambered for a new Heckler & Koch 4.6 x 30 mm high-velocity ammunition. This ammunition is also used by the HK UCP pistol. The MP7 has dimensions of a typical SMG, but at close ranges delivers firepower of assault rifle. It is claimed that the MP7 penetrates the CRISAT body armor at a range of 200 m.

It is worth mentioning, that many operators use this weapon for the role, directly opposite to it's original role. The MP7 personal defense weapon is often used for offensive roles by assault teams or special operations forces.

Caliber	4.6 x 30 mm
Weight (empty)	1.5 kg
Length	540 mm
Length (with folded stock)	340 mm
Barrel length	180 mm
Muzzle velocity	725 m/s
Cyclic rate of fire	950 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20, 40 rounds
Sighting range	200 m
Range of effective fire	150 - 200 m

Heckler & Koch UMP
Submachine Gun

The Heckler & Koch UMP submachine gun was designed as a successor to the famous MP5 in the mid-1990s. The main goal was to design a lightweight and powerful SMG, which would be cheaper than the MP5. This weapon was aimed mainly at US law enforcement market. It's production commenced in 1999 and it is still produced. This SMG is in service with some law enforcement agencies worldwide.

The HK UMP is a blowback-operated, selective fire weapon, fired from the closed bolt. It's first versions, the UMP-45 and UMP-40 were chambered for .45 ACP and .40 SW ammunition respectively. Later a 9 x 19 mm version became available (UMP-9). All versions have similar design, apart from the different chambering.

The UMP can fire in semi-auto, full-auto, 2- or 3-round burst modes. It's fire mode selector is also acts as a safety lock. This fire mode selector is fully ambidextrous. Cocking handle is located at the front of the receiver.

The HK UMP is available with 25- and 30-round capacity magazines. The UMP-45 is typically fed from 25-rouns magazines. Other versions are fed from the 30-round one. The .45 ACP and .40 SW versions use straight magazines and the 9-mm comes with curved magazines.

UMP-45	
Caliber	.45 ACP
Weight (empty)	2.3 kg
Length	600 mm
Length (with folded stock)	450 mm
Barrel length	200 mm
Muzzle velocity	285 m/s
Cyclic rate of fire	600 rpm
Practical rate of fire	30 - 80 rpm
Magazine capacity	10, 25, 30 rounds
Sighting range	?
Range of effective fire	100 m

Heckler & Koch MP5
Submachine Gun

The MP5 submachine gun was developed by Heckler & Koch company in the mid 1960s. In 1966 it was adopted by German police, border guard and special forces. Despite it's age, the MP5 is in service with at least 20 countries, including Germany. It's production still continues. This weapon is license-produced in Greece, Iran, Mexico, Pakistan, Saudi Arabia, Sudan, Turkey and the United Kingdom. It is one of the most famous firearms of it's class. It's only rival in terms of proliferation is the IMI Uzi.

The Heckler & Koch MP5 is a blowback operated, selective fire weapon, chambered for the standard 9 x 19 mm ammunition. It fires from a closed bolt and has a roller-delay mechanism, similar to that of the G3 automatic rifle. It is also referred as a scaled-down version of the G3. The MP5 is a high-quality, reliable and accurate weapon. It's effective range of fire is up to 100 meters.

MP5A3	
Caliber	9 x 19 mm
Weight (empty)	2.88 kg
Length	660 mm
Length (with folded stock)	490 mm
Barrel length	225 mm
Muzzle velocity	400 m/s
Cyclic rate of fire	800 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	15, 30 rounds
Sighting range	150 m
Range of effective fire	25 - 100 m

Spectre M4
Submachine Gun

The Spectre M4 submachine gun was developed in Italy by Roberto Teppa and Claudio Gritti in the mid 1980s. It was produced by SITES factory. This weapon was designed primarily for close combat. Production ceased in 1997. Currently this submachine gun is in service with Italy, Switzerland and possibly some other countries. It is mainly used by law enforcement forces.

It is a blowback operated weapon, which fires from the closed bolt. It is chambered for 9 x 19 mm ammunition. The receiver is made of stamped steel. Some sources claim that the Spectre M4 has an effective range of only 50 m.

This SMG has a double action trigger group, without manual safety. The Spectre can be safely carried with loaded chamber and fired immediately. An ambidextrous cocking handle is located on top of the receiver, so the weapon can cocked using either hand.

The Spectre M4 SMG is fed from 30- or 50-round capacity magazines. It is worth mentioning that civilian versions of this weapon are available with 5-, 10- or 15-round magazines.

Caliber	9 x 19 mm
Weight	2.9 kg
Length	580 mm
Length (with folded stock)	350 mm
Barrel length	130 mm
Muzzle velocity	400 m/s
Cyclic rate of fire	850 rpm
Practical rate of fire	40 - 150 rpm
Magazine capacity	30, 50 rounds
Sighting range	200 m
Range of effective fire	50 m

IMI Uzi

Submachine Gun

The Uzi submachine gun was designed by Uziel Gal, an Israel's army lieutenant, in 1949. This weapon is named in honor to it's designer. It was officially adopted in 1951 and was first introduced to Israel's army special forces in 1954. Two years later it became the standard issue submachine gun. It has been manufactured by the Israel Military Industries (IMI). It was phased out of frontline service with the IDF in the 1980s and currently this weapon is only in reserve.

This submachine gun was so successful, that it had been adopted by more than 90 countries worldwide either for military use or law enforcement forces. It was license-produced in Belgium by FN Herstal (FN Uzi) and Rhodesia (now Zimbabwe). Unlicensed copied have been produced in China (Model 320) and Croatia (ERO).

It is an open bolt, blowback operated submachine gun, chambered for the 9 x 19 mm Para round.

Caliber	9 x 19 mm
Weight (empty)	3.5 kg
Length	650 mm
Length (with folded stock)	470 mm
Barrel length	260 mm
Muzzle velocity	400 m/s
Cyclic rate of fire	600 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	25, 32, 40, 50 rounds
Sighting range	200 m
Range of effective fire	200 m

Minebea MP-9

Submachine Gun

The Minebea MP-9 submachine gun was developed by Japanese Minebea Co. It has been adopted by the Japanese Ground Self-Defense Forces in the early 1990s. It replaced the ageing M3 SMGs in service with the JGSDF. This weapon is mainly issued with secondary and support units, such as vehicle drivers, tank and artillery crews, as a personal defense weapon. It is also employed by special operations forces. Japan is the only operator of this submachine gun, as this country laws do not allow to export military equipment. It seems that currently this submachine gun is no longer produced. Some sources suggest, that JGSDF is looking to replace this weapon with new high-performance SMG and the MP-9 is due to be phased out.

The Minebea MP-9 is a license-produced version, based on the IMI Mini Uzi. It is worth mentioning that in the early 1990s Uzi was highly regarded as a good weapon. The MP-9 is an open bolt, blowback operated, selective fire weapon. This SMG is chambered for 9 x 19 mm round. This weapon is simple in design and technology.

Magazine is housed in the pistol handle. This feature makes weapon shorter and reloading becomes more intuitive. The MP-9 is fed from 25 round box-type magazines.

Caliber	9 x 19 mm
Weight (empty)	2.8 kg
Length	399 mm
Length (with folded stock)	-
Barrel length	120 mm
Muzzle velocity	?
Cyclic rate of fire	1 100 rpm
Practical rate of fire	30 - 100 rpm
Magazine capacity	25 rounds
Sighting range	?
Range of effective fire	50 - 100 m

PP-2000

Submachine Gun

The PP-2000 submachine gun was developed in the early 2000s. It is intended as a personal defense weapon for non-frontline military personnel and as a close combat weapon for special forces. It is a Russian alternative to the FN P90 and HK MP7. The PP-2000 PDW was first revealed in 2004. Currently it is in service with Russian law enforcement forces.

The PP-2000 is a blowback operated, selective fire weapon, chambered for the standard 9 x 19 mm ammunition. This submachine gun is also compatible with Russian 9 x 19 mm armor-piercing ammunition, which offers enhanced penetration against body armor.

It is fired from the closed bolt. The PP-2000 was designed to have as few parts as possible for enhanced reliability. This SMG has a polymer housing. Manufacturers claim that it's range of effective fire is up to 200 m. However it is most likely that this weapon is more suited for 50 - 100 m ranges.

Current production model comes with detachable buttstock, which folds to the right side. It can be replaced with a spare magazine, which serves as a shoulder support.

Caliber	9 x 19 mm
Weight (empty)	1.4 kg
Length	555 mm
Length (with folded stock)	340 mm
Barrel length	?
Muzzle velocity	?
Cyclic rate of fire	600 - 800 rpm
Practical rate of fire	?
Magazine capacity	20, 44 rounds
Sighting range	?
Range of effective fire	up to 200 m

CBJ MS

Submachine Gun

The CBJ MS or Modular System is a personal defense weapon, designed by Bertil Johanson, a Swedish arms designer, who established a CBJ Tech AB private arms manufacturing company. This PDW was revealed in the early 2000s. This compact weapon is intended for non-frontline troops, commanders, vehicle drivers, tank and artillery crews, pilots, medical teams and other support personnel. Currently this weapon system is in a final stage of development, however it received no production orders to date. The CBJ MS is based on the Izraeli Uzi submachine gun.

It is a blowback operated, selective fire weapon. However a replacement bolt group can be installed and the gun will fire from a closed action It is chambered for a newly-developed 6.5 x 25 mm high-velocity ammunition. It is claimed that performance of this round exceeds the standard ball 5.56 mm NATO ammunition. It is also claimed that in some cases it outperforms even the standard NATO 7.62 mm ball rounds.

Caliber	6.5 x 25 mm
Weight (empty)	2.8 kg
Length	565 mm
Length (with folded stock)	363 mm
Barrel length	200 mm
Muzzle velocity	830 m/s
Cyclic rate of fire	700 rpm
Practical rate of fire	30 - 100 rpm
Magazine capacity	20, 30, 100 rounds
Sighting range	?
Range of effective fire	up to 400 m

Brugger & Thomet MP9

Submachine Gun

The Brugger & Thomet MP9 is a recoil operated, selective fire weapon, which fires from closed bolt. This submachine gun is chambered for the standard 9 x 19 mm ammunition. It is worth mentioning that the Brugger & Thomet SMG is smaller than the HK MP5 or similar designs, however this weapon offers more controllable fire than automatic pistols. It falls in the same niche as the Mini Uzi and Ingram MAC-10. It's compact size and light weight make this weapon suitable for law enforcement teams and special units, however it looses to bigger SMGs in terms of range. This weapon has an effective range of about 50 - 100 meters.

Caliber	9 x 19 mm
Weight (empty)	1.4 kg
Length	523 mm
Length (with folded stock)	303 mm
Barrel length	130 mm
Muzzle velocity	?
Cyclic rate of fire	900 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	15, 20, 25, 30 rounds
Sighting range	?
Range of effective fire	50 - 100 m

The Brugger & Thomet MP9 submachine gun is a further development of the Austrian Steyr TMP. In 2001 Steyr stopped production of the TMP and sold production licenses to the Swiss arms manufacturer because the lack of sales. Swiss arms designers made over 19 engineering changes to this weapon. Production of the MP9 commenced in 2004. Currently this submachine gun is in service with Switzerland, India and Portugal.

TDI Kriss Super V

Submachine Gun

This SMG has an effective range of about 100 meters. Weapon can be easily field-stripped just with removal of two push-pins. This SMG comes with a side-folding polymer buttstock. It has an accessory rail is mounted below the barrel and is compatible with laser pointers, vertical grips, tactical flashlights and other accessories. Two additional rails can be installed on either side of the receiver.

The Kriss Super V is fed from the standard 13-round Glock 21 magazines.

Caliber	.45 ACP
Weight (empty)	~ 2 kg
Length	635 mm
Length (with folded stock)	406 mm
Barrel length	140 mm
Muzzle velocity	?
Cyclic rate of fire	800 - 1 100 rpm
Practical rate of fire	30 - 80 rpm
Magazine capacity	13, 30 rounds
Sighting range	?
Range of effective fire	100 m

The Kriss Super V submachine gun was developed by Transformational Defense Industries (TDI). It's name comes from Indonesian sword or large knife.

It is a delayed-blowback operated, selective fire weapon, which fires from the closed bolt. The Kriss Super V is chambered for .45 ACP ammunition. It is also available in .40 S&W. The Kriss Super V uses a patented operating system, which reduces recoil and muzzle climb. It absorbs and redirects the recoil force downwards, thus improving overall weapon control. Developers claim that this submachine gun generates 60% less felt recoil and 95% less muzzle climb than contemporary designs. The Kriss can be fired single-handedly with adequate accuracy.

Ruger MP9
Submachine Gun

The Ruger MP9 submachine gun is similar to the IMI Uzi. It was designed as a compact weapon for law enforcement forces. This submachine gun was introduced in 1995. The Ruger MP9 SMG has some improvements over it's predecessor. It has been tested by US special operations forces. However this weapon was produced only in limited numbers.

It is a blowback operated, selective fire weapon, chambered for the standard 9 x 19 mm ammunition. It fires from the closed bolt and has improved firing accuracy, comparing with it's predecessor. It's range of effective fire is about 75 meters. Some parts of this SMG are made from polymer, to save weight.

For cleaning and maintenance this weapon can be easily stripped into six major components. Magazine housing is located inside the pistol grip. This weapon is fed from 32-round magazines. It uses the same magazines as the Uzi. The MP9 has a redesigned folding stock. A safety / fire mode selector switch has semi-auto and full-auto settings. The cocking handle is located on top of the receiver. This weapon can be cocked using either hand.

Caliber	9 x 19 mm
Weight (empty)	1.83 kg
Length	556 mm
Length (with folded stock)	376 mm
Barrel length	173 mm
Muzzle velocity	?
Cyclic rate of fire	550 - 600 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	32 rounds
Sighting range	?
Range of effective fire	75 m

MAC-10
Submachine Gun

The Ingram submachine gun has been designed by an American arms designer Gordon B. Ingram. He began work on this compact SMG in the mid 1960s. Several prototypes were made by 1965. It was mainly intended for special operations and law enforcement forces. This submachine gun was purchased by the US Army for trials and evaluation, however it was not accepted to service. Production of this weapon commenced in 1970 by the Military Armament Corporation (MAC). In 1976 the MAC went bust and production rights of the Ingram SMG were transferred to RPB Industries Inc. Later it was also manufactured by some other companies.

Ingrams were exported to Chile, Yugoslavia and some other Asian and South American countries. Copies of this SMG were manufactured in Japan, South Africa and Taiwan.

This submachine guns has been designed for close encounters and concealed carrying. It is a blowback-operated, selective fire weapon, that fires from open bolt. There are two baseline MAC-10 (or M10) models, chambered for 11.43 (.45 ACP) and 9 x 19 mm rounds.

This weapon is simple in design and technology.

Ingram MAC-10	
Caliber	11.43 / 9 mm
Weight (empty)	2.84 kg
Length	584 mm
Length (with folded stock)	269 mm
Barrel length	146 mm
Muzzle velocity	330 / 280 m/s
Cyclic rate of fire	1 145 / 1 090 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	30 / 32 rounds
Sighting range	100 m
Range of effective fire	50 - 70 m

Assault Rifles

Assault rifle is an individual infantry weapon. These usually have an effective range of 300 – 800 meters. Currently assault rifles are widely used by frontline troops and special operations forces.

Usually assault rifles are gas-operated weapons, chambered for intermediate or small caliber cartridges. Most of these weapons have semi-auto and full-auto modes. Some of them are capable of firing in 2- or 3-round burst modes.

Most of the assault rifles are compatible with various accessories, such as knife-bayonets, underbarrel grenade launchers, various optics, night sights. Some of these weapons are capable of launching rifle grenades.

Some of assault rifles have a bullpup layout. These weapons have a pistol grip located in front of the magazine and the whole operating system and mechanisms are located in place of the buttstock. Such layout allows make weapon more compact, however it also has some drawbacks. Most of the bullpup designs are poorly balanced.

Some of the latest assault rifles have modular design. These can be easily adapted to a variety of roles, by changing the barrel, caliber, or other components.

In this chapter you will find a number of modern assault rifles and carbines. Most of them are in service with a number of countries. Also this chapter includes some interesting designs, that were not accepted to service or were produced only in small numbers.

Steyr AUG

Assault Rifle

The Steyr AUG has been developed since the late 1960s by the Austrian Steyr-Daimler-Puch company in conjunction with the Austrian Army. The AUG stands for Universal Army Rifle. This assault rifle has been adopted in 1977 as the StG.77. It's production commenced in 1978. It replaced the obsolete StG.58 assault rifle, which was a license-built version of the FN FAL. Since it's introduction the AUG gained serious popularity. It had been adopted by a number of countries. This weapon is license produced in Australia as the Lithgow F88, commonly known as Austeyr. The AUG can be considered as the most commercially successful bullpup design to date.

The Steyr AUG is chambered for the 5.56 x 45 mm standard NATO round. It is a gas operated, selective fire rifle with bullpup layout. This weapon was considered to be revolutionary in many respects when it first appeared. The Steyr AUG made it's name for it's reliability, good ergonomics and decent accuracy.

The Steyr AUG has a modular design. It was designed as a family of rifles that could be quickly adapted to a variety of roles by simply changing the barrel. There are four basic barrels.

Caliber	5.56 x 45 mm
Weight (empty)	3.8 kg
Length	805 mm
Length (with folded stock)	-
Barrel length	508 mm
Muzzle velocity	950 m/s
Cyclic rate of fire	650 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30, 42 rounds
Sighting range	?
Range of effective fire	450 - 500 m

FN SCAR

Assault Rifle

The FN SCAR modular assault rifle was developed by the famous Belgian Fabrique Nationale of Herstal (FN Herstal) to meet the requirement, issued by the US Special Operations Command (US SOCOM). This requirement was issued in 2003. It requested a new combat rifle for the US Special Forces, available in different calibers. In 2004 it was announced that FN company was selected and deliveries of this new assault rifle commenced in 2009. It is believed that the FN SCAR will gradually replace most of the current rifles (M14, M16, M4 and Mk.11) in service with US SOCOM forces.

The FN SCAR modular assault rifle was designed from the scratch. It is not based on any previous designs. It is a gas operated, selective fire weapon. There are two baseline models - the SCAR-L (light), chambered for 5.56 x 45 mm round and the SCAR-H (heavy) chambered for a more powerful 7.62 x 51 mm ammunition. These were officially designated as the Mk.16 and Mk.17 respectively. Other chamberings include the Soviet 7.62 x 39 mm round.

FN SCAR-L (Mk.16)	
Caliber	5.56 x 45 mm
Weight (empty)	3.5 kg
Length	850 mm
Length (with folded stock)	620 mm
Barrel length	254 / 355 / 457 mm
Muzzle velocity	?
Cyclic rate of fire	600 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	?

FN F2000

Assault Rifle

The F2000 assault rifle was developed by FH Herstal of Belgium in the 1990s. It was developed as a successor to the FN FNC service rifle. It was also aimed at export customers. This futuristic-looking weapon was first publicly revealed in 2001. Currently it is in service with Belgium, Croatia, India, Libya, Pakistan, Peru, Poland, Saudi Arabia and Slovenia.

The F2000 is a modern, modular assault rifle. It is a gas operated, selective fire weapon with bullpup design. This rifle is chambered for the standard NATO 5.56 x 45 mm ammunition. It is reported that the F2000 is perfectly balanced around the pistol grip. This assault rifle has a smooth outlines. Some sources claim that it is an excellent weapon.

The F2000 assault rifle is fully ambidextrous and has great ergonomics. It has a unique patented ejection system. Spent cases are ejected to the front. The FN F2000 can be used by left-handed shooters without any adjustments or modifications. The safety / fire mode selector is located under the trigger. The cocking handle is mounted on the left side, however it can be easily operated with either hand.

Modularity of this assault rifle allows to modify it to suit various mission requirements. There are plenty of available add-ons and accessories.

Caliber	5.56 x 45 mm
Weight (empty)	3.6 kg
Length	694 mm
Length (with folded stock)	-
Barrel length	400 mm
Muzzle velocity	900 m/s
Cyclic rate of fire	850 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	30 rounds
Sighting range	400 m
Range of effective fire	?

LAPA FA 03
Assault Rifle

The LAPA FA 03 assault rifle was developed by Nelmo Suzano in the late 1970 at his own founded company. The LAPA stands for Automatic Armaments Development Laboratory and the FA 03 stands for Fuzil de Assaulto Modelo 03, or Model 3 assault rifle. In the early 1980s this weapon was tested by Brazilian Army, however it was not adopted. Only few of these rifles were made in the mid 1980s. Some of them are still in service with special police forces of Brazil.

The LAPA FA 03 is a gas operated, selective fire weapon with bullpup layout. It is chambered for the standard NATO 5.56 x 45 mm ammunition

Despite it's futuristic looks it is a fairly conventional weapon. This assault rifle has got no separate manual safety. The fire mode selector has three positions: semi-auto, full-auto and double-action. In the double-action mode this weapon can be carried safely with a loaded chamber.

Some sources claim that it's effective range of fire is about 550 m.

Caliber	5.56 x 45 mm
Weight (empty)	3.5 kg
Length	738 mm
Length (with folded stock)	-
Barrel length	490 mm
Muzzle velocity	975 m/s
Cyclic rate of fire	650 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20, 30 rounds
Sighting range	?
Range of effective fire	550 m

QBZ-03
Assault Rifle

The QBZ-03 or Type 03 assault rifle is a recent Chinese development. Some sources claim that this weapon has been developed to complement the previous QBZ-95 assault rifle with bullpup layout, which was apparently found not entirely satisfaction. Currently it is unknown if the QBZ-03 will enter a widespread service with the PLA. Some sources report that it is already in service with Chinese Border Guard units. The QBZ-03 is a gas operated, selective fire weapon, chambered for Chinese indigenous 5.8 x 42 mm cartridge. This cartridge had been developed in the late 1980s. It is claimed to be superior to the standard NATO 5.56 x 45 mm and Soviet 5.45 x 39 mm ammunition. Unlike the previous QBZ-95 is has a conventional layout.

It is a successor to the Type 87 experimental rifle, developed in the mid 1980s for testing of this new 5.8 x 42 mm cartridge. This weapon comes with a skeletonized polymer shoulder stock, which folds to the right side. A bayonet can be attached to the flash hider, which is also used to launch riffle grenades.

An export version of this assault rifle is chambered for the standard NATO 5.56 x 45 mm ammunition. It is also compatible with the standard STANAG (M16-type) magazines.

Caliber	5.8 x 42 mm
Weight (empty)	3.5 kg
Length	950 mm
Length (with folded stock)	725 mm
Barrel length	?
Muzzle velocity	930 m/s
Cyclic rate of fire	~ 650 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	?

QBZ-95

Assault Rifle

The QBZ-95 or Type 95 assault rifle has been developed in China. It is an entirely new and modern family of weapons, which uses newly developed Chinese ammunition. This assault rifle has been designed to replace the ageing Type 81. The QBZ-95 was first adopted by the PLA elite units, however soon after it became the standard issue infantry rifle with the Chinese army, armed police and other law enforcement forces. This assault rifle was first observed in 1997. Export operators are Cambodia and Sri Lanka.

It is a gas operated, selective fire assault rifle, with a bullpup layout.

This weapon is chambered for indigenous Chinese 5.8 x 42 mm ammunition. This cartridge had been developed in the late 1980s. It is claimed to be superior to the standard NATO 5.56 x 45 mm and Soviet 5.45 x 39 mm ammunition. Design of this weapon do not resembles any of the previous Chinese designs.

All weapons of the QBZ-95 family are designed around the same action and bullpup layout with a polymer housing. This family also includes a carbine and light machine gun.

Caliber	5.8 x 42 mm
Weight (empty)	3.4 kg
Length	760 mm
Length (with folded stock)	-
Barrel length	520 mm
Muzzle velocity	930 m/s
Cyclic rate of fire	650 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	500 m
Range of effective fire	~ 400 m

Type 81

Assault Rifle

The Chinese army had never been wholly satisfied with it's Type 56 (license-produced version of the Soviet AK-47) performance. In the early 1960s the Russians refused to give licenses to produce the improved AKM assault rifle and RPK light machine gun. Chinese chose to design a new indigenous rifle. A prototype was ready in 1980. It's initial production commenced in 1983. This assault rifle was adopted with the Chinese army in 1986. For the past 20 years it was the standard-issue infantry weapon in service with the PLA. It replaced the obsolete Type 56 assault rifle and Type 63 carbine. Export operators are Bangladesh, Sri Lanka and some other Asian and African countries. Bangladesh obtained a license to produce these weapons locally.

Currently the Chinese Type 81 assault rifles are being replaced with the QBZ-95. A large number of ex-military rifles is transferred to law enforcement forces.

The Type 81 is a gas operated, selective fire weapon, chambered for the Soviet 7.62 x 39 mm ammunition. This assault rifle incorporate many AK-47 design features, but overall it is a new design, rather than clone. Tests showed that the Type 81 is much more accurate than the AK-47 and much more controllable in full automatic mode.

Caliber	7.62 x 39 mm
Weight (empty)	3.5 kg
Length	955 mm
Length (with folded stock)	-
Barrel length	445 mm
Muzzle velocity	m/s
Cyclic rate of fire	650 rpm
Practical rate of fire	rpm
Magazine capacity	30 rounds
Sighting range	500 m
Range of effective fire	m

VHS-D
Assault Rifle

The VHS-D assault rifle was developed by the HS Product Croatian firearms manufacturing company to meet the Croatian Army requirement for a new infantry rifle. Currently this country operates the Soviet AKM assault rifles and it's derivatives. The first prototype was revealed in 2005. Externally it shared some similarities with Israeli Tavor TAR-21 assault rifle. However the final versions of this weapon looks like the French FAMAS G2. It was introduced in 2008. The VHS-D assault rifle was successfully trialed by the Croatian Army and it's production commenced in 2009.

Croatian Army plans to acquire up to 60 000 of these new rifles by 2012. This weapon is also proposed for export customers.

It is a gas operated, selective fire weapon with bullpup layout. It is chambered for the standard NATO 5.56 x 45 mm ammunition. Weapon's housing is made of impact resistant polymer. A large integral carrying handle comes with built-in iron sights.

Caliber	5.56 x 45 mm
Weight (empty)	3 kg
Length	760 mm
Length (with folded stock)	-
Barrel length	500 mm
Muzzle velocity	950 m/s
Cyclic rate of fire	750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	400 m

Sa vz.58
Assault Rifle

The Samopal vz.58 assault rifle was developed in Czechoslovakia in the late 1950s. Design of this weapon was finished in 1958 and it entered service in 1959. Production ceased in 1984 and just short of 1 million of there assault rifles were manufactured. This weapon appeared in numerous conflicts worldwide. It is still in service with Czech Republic, Slovakia and a number of export operators.

The Sa vz.58 is a gas operated, selective fire weapon, chambered for the soviet 7.62 x 39 mm cartridge. Despite close resemblance to the AK-47, the Sa vz.58 is a vastly different design.

It is well balanced and handles much better than the AK. Also the vz.58 is lighter. It's accuracy is adequate for NATO-size targets out to a few hundred meters.

This assault rifle was originally produced with a solid wood-impregnated plastic stock, pistol grip and handguard (Sa vz.58 P). It was the standard infantry model. It is compatible with a knife-bayonet.

In the near future it might be replaced with the new CZ S805 assault rifle.

Caliber	7.62 x 39 mm
Weight (empty)	2.91 kg
Length	845 mm
Length (with folded stock)	-
Barrel length	390 mm
Muzzle velocity	705 m/s
Cyclic rate of fire	800 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	800 m
Range of effective fire	400 - 500 m

CZ S805

Assault Rifle

The new CZ S805 modular assault rifle was revealed in 2009. This weapon was developed in conjunction with the Czech Army and is aimed to replace the ageing vz.58. Currently Czech MoD is planning to obtain several thousands of these new rifles for special forces, reconnaissance battalions, and rapid deployment forces.

It is a gas operated, selective fire weapon, chambered for the standard NATO 5.56 x 45 mm ammunition. It's design was influenced by the Heckler & Koch G36. Modular design of the S805 enables simple changing of the caliber. This assault rifle can be also converted to 7.62 x 39 mm and 6.8 x 43 mm ammunition.

Caliber change is performed by the shooter by simply replacing the barrel, gas-piston unit, breech block and magazine housing. Three barrel lengths are available for each caliber. Consequently this weapon is available in three versions - carbine, standard assault rifle and light machine gun / marksman rifle. A polymer shoulder stock folds to the right side. When folded it do not obstructs ejection port. The shoulder stock can be completely removed, without affecting operation of the weapon.

Caliber	5.56 x 45 mm
Weight (empty)	3.6 kg
Length	?
Length (with folded stock)	?
Barrel length	?
Muzzle velocity	?
Cyclic rate of fire	750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20, 30, 100 rounds
Sighting range	500 m
Range of effective fire	~ 600 m

Lada / CZ-2000

Assault Rifle

The Lada is a Czech prototype family of weapons, consisting of assault rifle carbine and light machine gun. It was designed in Czechoslovakia in the late 1980s. It was to be the new service weapon of the Czech Army, replacing the vz.58 assault rifle, vz.61 Scorpion submachine gun and vz.59 light machine gun. Factory testing was completed in 1987. This weapon family successfully passed military trials in 1989 and was ready for production.

It is a gas operated, selective fire weapon, chambered for the Soviet 5.45 x 39 mm ammunition. This Czech assault rifle resembles the Kalashnikov designs, however it has some improvements.

The standard assault rifle, carbine and light machine gun versions utilize the same cartridge and have the same system of operation. All weapons have a high degree of parts commonality. However in the early 1990s it became clear, that the Soviet 5.45 and 39 mm would not have a future with the Czechoslovakian Army.

In the early 1990s the whole weapon system was chambered for 5.56 x 45 mm standard NATO ammunition in order to make the Lada project feasible. It became known as the CZ-2000.

CZ-2000	
Caliber	5.56 x 45 mm
Weight (empty)	3 kg
Length	850 mm
Length (with folded stock)	615 mm
Barrel length	382 mm
Muzzle velocity	910 m/s
Cyclic rate of fire	40 - 100 rpm
Practical rate of fire	750 - 850 rpm
Magazine capacity	30, 75 rounds
Sighting range	800 m
Range of effective fire	~ 600 m

Valmet M82
Assault Rifle

The Valmet M82 assault rifle has been designed for for the Finnish airborne troops. It was also intended to replace weapons with the folding stock. It was introduced in 1978. The Finnish Army rejected this weapon because of failures in the design. Nevertheless Valmet produced a small batch of these assault rifles, mostly in semi-automatic versions, chambered for a standard NATO 5.56 x 45 (.223 Remington) round. These rifles were ex mostly to the USA. Production ceased in 1986.

Designers intended to create a compact weapon. An attempt was made to convert a well-proven Valmet M76 assault rifle into a bullpup layout. It allowed to save on overall length of the weapon. Internal design of this assault rifle is similar to that of the Valmet Rk.76, which in turn is based on the Soviet AKM.

The M82 is a gas operated, selective fire weapon. Finnish designers decided to keep receiver and barrel of it's predecessor. Also this rifle had a lightened bolt carrier and thinner barrel, to reduce weight.

Early prototypes of this assault rifle featured wooden stocks. Later models had a polymer housing. It is worth mentioning that the Valmet M82 was poorly balanced, as most of the weight is in the rear.

Caliber	5.56 x 45 mm (.223 Rem)
Weight (empty)	3.3 kg
Length	710 mm
Length (with folded stock)	-
Barrel length	420 mm
Muzzle velocity	975 m/s
Cyclic rate of fire	750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	300 m
Range of effective fire	300 m

FAMAS
Assault Rifle

The FAMAS or Fusil d'Assault de la Manufacture d'Armes de St-Etienne assault rifle has been developed in the late 1960s. The lead designer was the Paul Tellie. First prototype of this rifle was built in 1971. In the early 1970s this weapon was tested and evaluated by the French Army. It was adopted in 1978 and soon became the standard issue infantry rifle with the French Army. Initial production version was the FAMAS F1. It is reported that over 400 000 of these assault rifles were produced when production switched to it's improved versions. The FAMAS F1 is still in service with the French Army. The original version has also been exported to some countries, including Senegal and United Arab Emirates.

Currently there are about 15 operators of this assault rifle and it's variants.

The FAMAS is selective fire weapon with delayed blowback action and bullpup layout. It is chambered for a standard NATO 5.56 x 45 mm (.223 Remington) round. This weapon seen action during the Desert Storm and peacekeeping operations. It proved itself as a reliable design. The FAMAS is fully ambidextrous. There are spent case ejection ports from either side of the gun. One of the ejection ports is always closed as required.

FAMAS F1	
Caliber	5.56 x 45 mm
Weight (empty)	3.61 kg
Length	757 mm
Length (with folded stock)	-
Barrel length	488 mm
Muzzle velocity	960 m/s
Cyclic rate of fire	900 - 1 000 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	25 / 30 rounds
Sighting range	m
Range of effective fire	300 m

XM8
Assault Rifle

The XM8 is a prototype infantry weapon system. It's development commenced in the late 1990s. It was developed by the famous German Heckler & Koch company in cooperation with the US Army. The US Army required a cheaper, lighter and more effective weapon than the M16. The XM8 was developed as a replacement for the M16 family and was intended to become a standard issue weapon. First prototypes were delivered for testing in 2003. Overall over 200 prototypes have been produced, however a wide scale testing was cancelled because of the funding problems. The whole project was cancelled in 2005.

It is a gas operated, selective fire weapon, chambered for the standard NATO 5.56 x 45 mm ammunition. The XM8 was developed from the HK G36 assault rifle into a modular system, which could be reconfigured into one of the available variants, depending on mission requirement. It is available in some baseline versions: personal defense weapon, carbine, marksman rifle and squad automatic weapon. Barrels and other modules can be swapped quickly, depending on operational requirements.

Caliber	5.56 x 45 mm
Weight (empty)	2.66 kg
Length	838 mm
Length (with folded stock)	-
Barrel length	318 mm
Muzzle velocity	?
Cyclic rate of fire	~ 750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30, 100 rounds
Sighting range	?
Range of effective fire	?

Heckler & Koch G36
Assault Rifle

The G36 had been designed in the early 1990s by Heckler & Koch company (HK). It was intended to replace the ageing G3 rifle in service with the Bundeswehr. The new rifle has also been aimed at the export customers. It is worth mentioning that during trials a prototype of the HK G36 was rated higher than the Austrian Steyr AUG. The G36 entered service with the German Army as a standard infantry rifle in 1995. It is also in service with various law enforcement agencies worldwide.

The Heckler & Koch G36 is chambered for the 5.56 x 45 mm standard NATO round. It is a conventional gas operated, selective fire rifle. It uses some proven elements of the previous G3 rifle design.

Internally it also bears a lot of similarity with the US Armalite AR-18 automatic rifle. Most of external parts of the G36 are made form polymers. Rifle's manufacturing process also employs the most modern technologies. The G36 is described as a good, accurate and reliable weapon. It is also simple in operation and maintenance. This rifle can be field stripped without any tools.

A standard German Army rifle has a dual sight system. It consists of one 3.5x magnification scope and one 1x magnification red dot sight above it.

Caliber	5.56 x 45 mm
Weight (empty)	3.6 kg
Length	1 000 mm
Length (with folded stock)	758 mm
Barrel length	480 mm
Muzzle velocity	925 m/s
Cyclic rate of fire	750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	1 000 m
Range of effective fire	800 m

AMD-63
Assault Rifle

The AMD-63 assault rifle is a Hungarian version of the Soviet AKM, but has some minor modifications. It was designed in the early 1960s. The AMD-63 was a standard Hungarian service rifle, before it was replaced by AK-63. This weapon was exported to some countries.

The AMD-63 is a gas operated, selective fire assault rifle, chambered for the Soviet 7.62 x 39 mm ammunition. It is worth mentioning that the AMD-63 assault rifle has inferior accuracy to most Western designs.

However it inherited unsurpassed reliability, ruggedness, simplicity of operation and maintenance of the AKM. This weapon do not jams or misfires in worst conditions possible. Also it has reliable extraction even with dirty chamber and cases. This weapon can be field stripped in one minute without using any tools. Unfortunately the Hungarian AMD-63 has poor ergonomics and is badly balanced. This weapon has a sighting range o 1 000 m, however it's effective range is limited to 350 - 400 meters.

Caliber	7.62 x 39 mm
Weight (empty)	3.13 kg
Length	880 mm
Length (with folded stock)	-
Barrel length	415 mm
Muzzle velocity	710 m/s
Cyclic rate of fire	600 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	1 000 m
Range of effective fire	350 - 400 m

KH-2002 Khaybar
Assault Rifle

The KH-2002 Khaybar assault rifle is a recent Iranian development. It is named after the legendary battle of Khaybar. This weapon was first revealed in 2004. It is intended to replace the ageing German HK G3 assault rifles, license-produced in Iran. It seems that this assault rifle is already in service with Iran.

The KH-2002 is a gas operated selective fire assault rifle with a bullpup design. Generally it is a bullpup conversion of the Iranian DIO S-5.56 assault rifle (clone of the M16A1). This weapon is chambered for the standard NATO 5.56 x 45 mm ammunition. A claimed effective range of fire is about 450 m.

This firearm has a plastic housing. Charging handle is located on top of the receiver, under the carrying handle, so the weapon can be loaded using either hand.

However the KH-2002 Khaybar is not fully ambidextrous, as there is only one spent case ejection port and one fire mode selector switch. The fire mode selector is located well behind the magazine. It has single shots, three round burst and full-auto modes. There is an automatic safety lock, built into the pistol grip. Enlarged triggerguard of this assault rifle allows to fire wearing winter gloves.

The KH-2002 Khaybar is compatible with the standard NATO (M16-type) magazines, holding 20 or 30 rounds.

Caliber	5.56 x 45 mm
Weight (empty)	3.7 kg
Length	730 mm
Length (with folded stock)	-
Barrel length	?
Muzzle velocity	900 - 950 m/s
Cyclic rate of fire	800 - 850 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	20, 30 rounds
Sighting range	m
Range of effective fire	450 m

Tavor TAR-21
Assault Rifle

The Tavor TAR-21 assault rifle was developed by Israel Military Industries (IMI) in the early 1990s. The TAR-21 stands for Tavor Assault Rifle for 21st century. It was first publicly revealed in 1998. This weapon had been tested by the Israel Defense Forces during 1999 - 2002. It was adopted to service in 2006 and replaced the M16A1, CAR-15 and Galil assault rifles. Currently it is in widespread use with the IDF and within the next few years it will become a standard infantry rifle. Export operators are Columbia, Georgia, Guatemala, India, Portugal and Thailand. In the nearest future this weapon will be license-produced in Brazil and Ukraine.

It is a gas operated, selective fire assault rifle with a bullpup design. It is chambered for a standard NATO 5.56 x 45 mm ammunition.

Initially there were some teething problems with this weapon, however it seems that many early problems have been fixed. Some sources report that the TAR-21 is much more accurate and reliable than the M4 carbine.

Design of this weapon is based on ergonomics and composite materials. It is reported that this assault rifle is comfortable to hold and to fire.

This assault rifle comes with red-dot sight as a prime sighting equipment. Early production models had no backup sights.

Caliber	5.56 x 45 mm
Weight (empty)	3.27 kg
Length	720 mm
Length (with folded stock)	-
Barrel length	460 mm
Muzzle velocity	910 m/s
Cyclic rate of fire	750 - 900 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	550 m

Howa Type 89
Assault Rifle

The Japanese Type 89 assault rifle was developed by Howa Machinery Co. for the National Defense Forces of Japan. This weapon entered service with Japan's Ground Self-Defense Forces in 1989. It replaced the previous Howa Type 64 in frontline units. The Type 89 was never exported due to Japan's laws. This assault rifle is lighter than it's predecessor due to polymer housing.

It is a gas operated, selective fire weapon, chambered for the standard NATO 5.56 x 45 mm ammunition. Some of this weapon's internal components are similar to the US AR-18, which was previously manufactured by Howa under license.

The Type 89 was designed with minimal number of parts for improved reliability. This assault rifle has an effective range of 500 m. A safety / fire mode selector is located from the right side, over the pistol grip. It has semi-auto, full-auto and three-round burst modes. Later an ambidextrous fire mode selector was installed on some rifles. The Howa Type 89 is fed from the standard NATO (M16-type) magazines. Typically it uses 30-round magazines, however it is also compatible with a 20-round mag.

Caliber	5.56 x 45 mm
Weight (empty)	3.5 kg
Length	864 mm
Length (with folded stock)	-
Barrel length	420 mm
Muzzle velocity	920 m/s
Cyclic rate of fire	750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	500 m

Howa Type 64
Assault Rifle

The Type 64 assault rifle was developed by Howa Machinery Co. in close cooperation with Japan's Ground Self-Defense Forces. This rifle was adopted to service in 1964 and was produced in large numbers. It replace the ageing US supplied M1 Garand rifles. Production ceased in the late 1980s. The Howa Type 64 was generally replaced by the newer Type 89, however it is still used by Japan's non-frontline units. This weapon was never exported due to Japan's laws.

The Type 64 is a gas operated, selective fire weapon, chambered for the standard NATO 7.62 x 51 mm ammunition. At that time it was the newest US creation. However the Type 64 fires Japanese cartridges with reduced powder loading and with a lighter bullet, as the original NATO round was too powerful for Japanese soldiers. It reduced excessive recoil and muzzle climb. This weapon can also use the standard NATO ammunition.

The gas bolt and operation system of the Type 64 were most probably inspired by the FN FAL.

Caliber	7.62 x 51 mm
Weight (empty)	4.4 kg
Length	990 mm
Length (with folded stock)	-
Barrel length	450 mm
Muzzle velocity	700 m/s
Cyclic rate of fire	500 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20 rounds
Sighting range	400 m
Range of effective fire	400 m

FX-05 Xiuhcoatl
Assault Rifle

The FX-05 Xiuhcoatl assault rifle was developed in Mexico to replace the ageing HK G3, which was produced under license. The Xiuhciatl, or fire snake, was first publicly revealed in 2006. Currently this assault rifle is produced in small numbers and is operational with some special units. In the near future it might become a standard issue service rifle with the Mexican Army.

The FX-05 is a gas operated, selective fire weapon, chambered for the standard NATO 5.56 x 45 mm ammunition. It's design was heavily influenced by the HK G36, however the Xiuhcoatl has many internal differences and is considered as an original design.

Most of external parts of the Xiuhcoatl are made form polymers. Ambidextrous safety / fire mode selector switches are located on both sides of the weapon, above the pistol grip. It has semi-auto and full-auto modes. There is one ejection port on the right side of the receiver, however it has a spent cases deflector, which propels ejected cases from the left-handed shooter. A charging handle can be mounted from either side of the housing. This rifle is fed form 30-round box-shaped magazines, made form translucent plastic. Two or three magazines can be clipped together for rapid reloading.

Caliber	5.56 x 45 mm
Weight (empty)	3.89 kg
Length	1 087 mm
Length (with folded stock)	887 mm
Barrel length	?
Muzzle velocity	920 m/s
Cyclic rate of fire	750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	about 1 000 m
Range of effective fire	about 800 m

Beryl

Assault Rifle

It is a gas operated, selective fire weapon, chambered for the standard NATO 5.56 x 45 mm ammunition. Beryl's system of operation is similar to that of the Tantal (version of the Soviet AK-74). It's range of effective fire is up to 600 m. It is a rugged weapon, which inherited reliability from Kalashnikov designs. The Beryl has three firing modes - semi-auto, three round burst and full auto. A fire mode selector is located on the left side of the receiver.

The Kbs wz.1996 Beryl (*beryllium*) assault rifle was designed in Poland to replace the AK-47 (7.62 x 39 mm) and wz.88 Tantal (5.45 and 39 mm) rifles in service with the Polish Army. It is a further development of the Tantal. First prototypes of this assault rifle were produced in 1995. The Beryl was accepted to service in 1997 as the standard issue infantry rifle and production commenced the same year. This assault rifle is also available for export customers.

Caliber	5.56 x 45 mm
Weight (empty)	3.35 kg
Length	941 mm
Length (with folded stock)	742 mm
Barrel length	457 mm
Muzzle velocity	920 m/s
Cyclic rate of fire	700 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	1 000 m
Range of effective fire	up to 600 m

AIM

Assault Rifle

The Romanian AIM can be easily distinguished by it's additional vertical grip. It makes weapon more controllable during fully automatic firing. This assault rifle was produced with a wooden stock, however late models were fitted with a side-folding metal stock.

The AIM has a sighting range of 1 000 meters, however it's effective range is only about 300 - 400 m. This assault rifle is fed from the standard AK 30-round magazines. It is compatible with a bayonet and 40-mm underbarrel grenade launcher.

The Romanian AIM assault rifle is a license-produced version of the Soviet AKM with some minor upgrades. The AIM is a standard infantry rifle. This weapon was widely exported.

It is a gas operated, selective fire weapon, chambered for Soviet 7.62 x 39 mm ammunition. It is worth mentioning that this assault rifle has inferior accuracy to most Western designs. However it inherited unsurpassed reliability, ruggedness, simplicity of operation and maintenance of the AKM. This weapon do not jams or misfires in worst conditions possible. Also it has reliable extraction even with dirty chamber and cases. This weapon can be field stripped in one minute without using any tools. Unfortunately the Romanian AIM has poor ergonomics and is badly balanced.

Caliber	7.62 x 39 mm
Weight (empty)	3.15 kg
Length	880 mm
Length (with folded stock)	-
Barrel length	415 mm
Muzzle velocity	710 m/s
Cyclic rate of fire	600 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	1 000 m
Range of effective fire	300 - 400 m

9A91

Compact Assault Rifle

The 9A-91 is a gas operated, selective fire weapon. It is chambered for 9 x 39 mm cartridge and uses subsonic ammunition. It uses the SP-5 (ball round), SP-6 (armor piercing) and PAB-9 (a lower cost version of the SP-6) rounds. The same ammunition is used by the VAL silenced assault rifle. The actual effective range of the 9A-91 is limited to about 100 meters because of the short barrel, short sighting line and steep trajectory of the subsonic bullets.

The 9A-91 compact assault rifle was originally developed for army service as a personal defense weapon, however it was accepted to service with Russian Ministry of Internal Affairs instead as a cheaper equivalent of the SR-3 Vikhr for urban environment. It is a member of the A-91 compact weapon family, which includes versions chambered for various cartridges. A small scale production of the 9A-91 commenced in 1994. Currently it is one of the smallest assault rifles in the world.

Caliber	9 x 39 mm
Weight (empty)	2.1 kg
Length	605 mm
Length (with folded stock)	383 mm
Barrel length	?
Muzzle velocity	270 m/s
Cyclic rate of fire	30 - 70 rpm
Practical rate of fire	600 - 800 rpm
Magazine capacity	20 rounds
Sighting range	200 m
Range of effective fire	100 m

AN-94 Abakan

Assault Rifle

The AN-94 is chambered for a standard Soviet 5.45 x 39 mm round. It is an advanced gas operated assault rifle. It's design is fundamentally differs from the Kalashnikov assault rifle's design. An unusual feature of this weapon is that the Abakan has 1 800 rpm and 600 rpm variable rate of fire modes. It is claimed, that the AN-94 is more accurate than the M16A2, even though the 5.45-mm Russian round is inferior to the 5.56-mm standard NATO rounds.

The AN-94 assault rifle has been designed as a possible replacement for the AK-74 by Genady Nikonov during the late 1980s and early 1990s. It was first publicly revealed in 1993. The Nikonov's design eventually won the competition against other new Russian assault rifles. The Abakan had been officially adopted by the Russian Army and Ministry of Internal Affairs in 1994. Originally it was intended to replace most of the AK-74s in the Russian service, however currently it is used only in limited numbers by elite forces, mainly because of the funding problems. One interesting detail is that the AN-94 Abakan has not been proposed for export customers.

Caliber	5.45 x 39 mm
Weight (empty)	3.85 kg
Length	943 mm
Length (with folded stock)	728 mm
Barrel length	405 mm
Muzzle velocity	960 m/s
Cyclic rate of fire	600 / 1 800 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	1 000 m
Range of effective fire	650 - 700 m

AS Val
Silenced Assault Rifle

Primary is the SP-6 armor piercing round. It has a hardened steel penetrator. It penetrates 6 mm steel plate at a range of 200 m and 2 mm steel plate at a range of 500 m. This round can defeat most military body armors at ranges of 300 - 400 meters. The SP-5 is a ball round, fitted with heavy bullet. The actual effective range of the AS Val is limited to 200 - 300 meters due to the shaped trajectory of subsonic bullets.

Caliber	9 x 39 mm
Weight (empty)	2.5 kg
Length	875 mm
Length (with folded stock)	615 mm
Barrel length	200 mm
Muzzle velocity	290 m/s
Cyclic rate of fire	900 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20 rounds
Sighting range	400 m
Range of effective fire	200 - 300 m

The AS Val silenced assault rifle was designed in the mid-1980s for the special operations forces. It was intended to replace the previous AK-47s and AKM assault rifles, fitted with silencers. Currently the Val assault rifle is commonly used by the Russian special forces.

It is a gas-operated selective fire weapon, fitted with integral silencer. The AS Val is chambered for 9 x 39 mm cartridge. This rifle uses the SP-5 and SP-6 subsonic ammunition.

AK-74
Assault Rifle

The AK-74 has improved firing accuracy over the AKM. This weapon retains all advantages and disadvantages of Kalashnikov design, including reliability, ruggedness, simplicity of operation and maintenance. This weapon do not jams or misfires in worst conditions possible. Also it has reliable extraction even with dirty chamber and cases. It's drawbacks are poor balance and ergonomics, as well as inferior firing accuracy to most Western weapons.

Caliber	5.45 x 39 mm
Weight (empty)	3.07 kg
Length	1 089 mm
Length (with folded stock)	-
Barrel length	415 mm
Muzzle velocity	900 m/s
Cyclic rate of fire	600 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30, 45 rounds
Sighting range	1 000 m
Range of effective fire	500 m

The AK-74 assault rifle was a Soviet answer to the US M16, adopted in the mid 1960s. An official requirement was issued in 1966. The main goal was to improve firing accuracy of the previous AKM. The Soviet Army adopted the AK-74 assault rifle in 1974. It is chambered for a new 5.45 x 39 mm small-caliber, high velocity round. Design of the AK-74 is similar to that of the AKM. Even 53% of the parts are interchangeable. The AK-74 is a standard issue infantry rifle in the Russian Army service and currently there are no plans to replace it. It is also in service with at least 30 countries worldwide.

AKM
Assault Rifle

The AKM is currently in service with at least 35 countries worldwide. Also it was license produced in a number of countries.
The AKM is a gas operated, selective fire weapon, chambered for the Soviet 7.62 x 39 mm intermediate cartridge. It is 0.7 kg lighter than the original AK-47. Firing accuracy was slightly improved over it's predecessor, due to a hammer release delay device.

Caliber	7.62 x 39 mm
Weight (empty)	3.6 kg
Length	880 mm
Length (with folded stock)	-
Barrel length	415 mm
Muzzle velocity	715 m/s
Cyclic rate of fire	660 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	1 000 m
Range of effective fire	300 - 400 m

In the mid 1950s Soviet Army issued new requirement for a lighter and more accurate assault rifle. These requirements were also complemented by a squad automatic weapon. Kalashnikov submitted his new version of the AK-47 with some minor improvements. Eventually this improved rifle was adopted to service in 1959 as the AKM along with the RPK light machine gun. These assault rifles were widely exported.

AK-47
Assault Rifle

The AK-47 is a legendary weapon, known for it's unsurpassed reliability, ruggedness, simplicity of operation and maintenance. This weapon do not jams or misfires in worst conditions possible. It's design simplicity made it suitable for mass production. Unfortunately the AK-47 has a poor ergonomics and is badly balanced. It is worth mentioning that this weapon has inferior accuracy to most Western assault rifles.

Caliber	7.62 x 39 mm
Weight (empty)	4.3 kg
Length	870 mm
Length (with folded stock)	-
Barrel length	415 mm
Muzzle velocity	715 m/s
Cyclic rate of fire	660 rpm
Practical rate of fire	40 rpm
Magazine capacity	30 rounds
Sighting range	800 m
Range of effective fire	300 - 400 m

The AK-47 assault rifle was designed in 1946 by Mikhail Kalashnikov. In 1949 it was accepted to service with the Soviet Army. This design was so successful, that shortly it displaced every other firearm in the Soviet Army, except pistols, machine guns and sniper rifles. Currently this assault rifle is used by hundreds of countries. It is estimated that over 90 millions of AK rifles were produced during the last 60 years. It is one of the best examples of a basic individual infantry weapon. The AK-47 and it's derivatives are still manufactured in a number of countries.

ST Kinetics SAR-21

Assault Rifle

The SAR-21 is a gas operated, selective fire assault rifle, with bullpup layout. It is chambered for the 5.56 x 45 mm standard NATO round. It uses some internal design and operation features both of the M16 and AK-47. The main advantage of the bullpup layout is the overall compactness of the weapon.

Caliber	5.56 x 45 mm
Weight (empty)	3.82 kg
Length	805 mm
Length (with folded stock)	-
Barrel length	508 mm
Muzzle velocity	945 - 970 m/s
Cyclic rate of fire	450 - 650 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	about 500 m

The SAR-21 assault rifle has been developed by Singapore Technologies Kinetics. It was first revealed in 1999. Currently it is in service with Singapore as a standard infantry rifle. It is gradually phasing out the previous M16S1 (a license-built version of the M16A1), SAR-80 and SR-88 rifles. This assault rifle is also proposed for export customers. The only export operator to date is Brunei.

It has been reported that this weapon comfortable to carry and to use, reliable, and accurate.

Vektor CR-21

Assault Rifle

The CR-21 is a gas operated, selective fire assault rifle with bullpup layout. It is chambered for the standard NATO 5.56 x 45 mm round. It's internal design and operation is similar to the previous Vektor R4. Also it is shorter, but retains barrel length and muzzle velocity of traditional assault rifle. It inherited all the reliability of the original AK-47 / Galil design. Some sources claim that it is possible to remanufacture the existing R4 rifles into the CR-21.

Caliber	5.56 x 45 mm
Weight (loaded)	3.8 kg
Length	760 mm
Length (with folded stock)	-
Barrel length	460 mm
Muzzle velocity	980 m/s
Cyclic rate of fire	650 - 700 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20, 35 rounds
Sighting range	?
Range of effective fire	about 500 m

The CR-21 assault rifle was developed by Vektor, a small South African weapon manufacturer, which is a division of the Denel corporation. The CR-21 stands for Compact Rifle for 21st century. This weapon was first publicly revealed in 1997. It was intended to replace the previous Vektor R4 and R5 assault rifles (license-built versions of Galil ARM and SAR) in service with the South African National Defense Forces. It is also aimed at the export customers. However this weapon received no production orders.

This weapon has a futuristic-looking bullpup housing, made from polymers. It is worth mentioning that the CR-21 is relatively light.

Daewoo XK8
Assault Rifle

The Daewoo XK8 assault rifle (also known as the DAR-21) was developed to replace the previous Daewoo K2 in service with the South Korean armed forces. It was revealed in 2003. Unfortunately this weapon was not accepted to service and was not produced in quantity.

It is a gas operated, selective fire assault rifle with bullpup design, chambered for the standard NATO 5.56 x 45 mm ammunition. Housing of this weapon is made of polymers.

The Daewoo XK8 is fed from the standard NATO (M16-type) magazines, holding 30 rounds. It is also compatible with older 20-round magazines.

The Daewoo XK8 comes with a 3x magnification scope and laser pointer, mounted on a Picatinny-type rail. It's laser pointer emits either visible or infrared beams. Other sights may be fitted. A claimed effective range of fire is 600 m.

Some sources report that a shortened carbine version of this rifle was also developed.

Caliber	5.56 x 45 mm
Weight (empty)	3.8 kg
Length	780 mm
Length (with folded stock)	-
Barrel length	508 mm
Muzzle velocity	920 m/s
Cyclic rate of fire	800 rpm
Practical rate of fire	40 - 120 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	600 m

SIG SG 550
Assault Rifle

Development of the SIG SG 550 assault rifle commenced in the late 1970s. It's prototype was based on the previous SG 540 design. In 1984 it's designation was changed to the SG 550. It's production commenced in 1986. The SIG SG 550 was officially adopted by the Swiss army in 1990 as the Stgw.90. It replaced the ageing SIG 510 (Stgw.57) automatic rifle. Swiss army took the last deliveries of the Stgw.90 in the mid 1990s, however these weapons are still manufactured for export customers. Over 600 000 of these assault rifles were produced. Currently it is a standard Swiss military rifle. The SG 550 is in service with at least 10 operators worldwide. These are usually used by elite units.

It is a gas operated, selective fire weapon, chambered for the standard NATO 5.56 x 45 mm ammunition. It's operation system is similar to that of the AK-47. It is worth mentioning that prototypes of the SG 550 assault rifle were tested with 5.6 x 48 mm and 6.5 x 48 mm ammunition, however experimental cartridges were rejected and the standard NATO round was selected. The SIG SG 550 is referred as one of the finest 5.56 mm assault rifle ever made. This weapon also proved to be reliable.

Caliber	5.56 x 45 mm
Weight (empty)	4.05 kg
Length	998 mm
Length (with folded stock)	772 mm
Barrel length	528 mm
Muzzle velocity	m/s
Cyclic rate of fire	700 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20, 30 rounds
Sighting range	400 m
Range of effective fire	m

Vepr
Assault Rifle

The Vepr is a gas operated, selective fire weapon with bullpup, chambered for the 5.45 x 39 mm ammunition. It has been advertised as a mayor improvement over the AK-74, however some sources claim, that it is no more than the standard AK-74 with bullpup layout. Because of it's layout the Vepr is smaller than the standard AK-74. It is believed, that Vepr's ballistic performance is identical to it's predecessor.

Caliber	5.45 x 39 mm
Weight	3.45 kg
Length	702 mm
Length (with folded stock)	-
Barrel length	415 mm
Muzzle velocity	m/s
Cyclic rate of fire	600 - 650 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	~ 500 m

The Ukrainian Vepr (*boar*) assault rifle was revealed in 2003. It is unknown weather this weapon will be adopted by Ukrainian Army and law enforcement forces. It is worth mentioning that there were plenty of Kalashnikov rifle conversions with bullpup layout, however none of them had any success. Currently Ukrainian Army mostly uses Soviet-designed assault rifles, such as the AKM and AK-74.

L85A1
Assault Rifle

The L85 is a gas operated, selective fire rifle with bullpup layout. Design of this weapon it is generally similar to the US Armalite AR-18. The main advantage of the bullpup layout is the overall compactness of the weapon. This assault rifle is chambered for the standard NATO 5.56 x 45 mm round. It is worth mentioning that the L85A1 assault rifle was plagued with many problems. In general it was quite unreliable and troublesome to maintain. The standard sighting equipment of the L85A1 is the SUSAT scope with 4x magnification.

Caliber	5.56 x 45 mm
Weight (with sight)	4.13 kg
Length	780 mm
Length (with folded stock)	-
Barrel length	518 mm
Muzzle velocity	900 m/s
Cyclic rate of fire	650 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	500 m

Development of this assault rifle began in the late 1960s. The project was known as the SA80 (or Small Arms for 1980s). This project included development of two weapons - automatic infantry rifle and light support weapon. It has been developed by Royal Small Arms Factory at Enfield. First prototypes were trialed in 1976. These new weapons were adopted by the British Army in 1984. The L85A1 eventually replaced the FN FAL assault rifles, license-produced in the United Kingdom. It is reported that about 320 000 of the original L85A1 rifles were produced until production completed in 1994. The only export operator of this weapon is Jamaican Defense Force.

Magpul Masada
Assault Rifle

The Masada modular assault rifle was developed by Magpul Industries, a US company, as a private venture. Initially this new weapon was intended to enhance the features of the M16 rifle. It is worth mentioning that in 2006 a project based on the M16 has been abandoned and Magpul Industries restarted it from scratch. Prototypes were revealed in 2007. The new rifle was named after the Siege of Masada. In 2008 it's production was taken over by Bushmaster.

The key idea of the Masada's modular system, that it will provide a wide variety of configurations within the matter of minutes in field conditions.

It is a gas operated, selective fire weapon with modular design. The Magpul Masada has several features of other recent designs, such as the M16 and FN SCAR. This multi-caliber weapon is available chambered in 5.56 x 45 mm standard NATO ammunition or 7.62 x 39 mm Soviet ammunition. It allows to fire the enemy ammunition with the alternate barrel and lower receiver. It can be easily converted from a standard assault rifle into carbine or dedicated marksman rifle without any tools.

Caliber	5.56 x 45 mm
Weight (empty)	3 kg
Length	947 mm
Length (with folded stock)	716 mm
Barrel length	368 / 406 / 457 mm
Muzzle velocity	?
Cyclic rate of fire	600 - 800 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	?
Range of effective fire	?

Z-M Weapons LR-300
Assault Rifle

The LR-300 assault rifle was developed by Z-M Weapons, a small US-based company. This rifle was designed by Allan Zitta and is aimed at law enforcement personnel and special operations forces. It is a version of the M4 carbine. The designation LR-300 translates as Light Rifle with a range of effective fire in 300 meters. It was manufactured between 2000 and 2007. Later all rights for the design were sold to Para USA.

The LR-300 is a gas operated, selective fire rifle. It is a state-of-the art compact modular weapon, based on the M16 design. The LR-300 has an improved patented gas operating system.

The main reason for this modification was to provide this rifle with capability to mount side-folding stock, rather than fixed M16-type stock, or partially collapsible M4 carbine-type stock. None of these stocks could be removed due the spring piston, mounted inside. A patented gas system of the LR-300 allowed to make the stock collapsible. It is fitted with the FN FAL-type non-adjustable or adjustable telescopic side-folding stocks. As a result the LR-300 is significantly shorter, but reduced size do not comes at a price of reduced accuracy.

Caliber	5.56 x 45 mm (.223 Rem)
Weight (empty)	3.27 kg
Length	914 mm
Length (with folded stock)	673 mm
Barrel length	419 mm
Muzzle velocity	?
Cyclic rate of fire	950 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20, 30 rounds
Sighting range	?
Range of effective fire	300 m

Colt M4
Carbine

It is a gas operated, selective fire weapon, chambered for the standard NATO 5.56 x 45 mm ammunition. It's internal design is similar to that of the M16A2. In fact these weapons have 80% parts commonality. Because of the shorter barrel this weapon has an effective range of 360 meters.

The Colt M4 has a telescopic 4-position stock, which is adjusted for length, and allows to shorten the rifle when required.

Since the early 1970s the Colt Firearms company developed various carbine versions of the AR-15. The Colt Model 720 is essentially a shortened version of the M16A2 assault rifle. It has a shorter barrel and telescopic buttstock. As a result this weapon was much more comfortable to carry and to use. The US Army adopted this carbine in 1994 as the M4. This carbine is still in service and being issued as a personal defense weapon for the non-frontline troops, vehicle drivers, artillery crews, airborne troops and special operation units. The Colt M4 is also in service with at least 30 operators worldwide.

Caliber	5.56 x 45 mm
Weight (empty)	2.5 kg
Length	838 mm
Length (with folded stock)	757 mm
Barrel length	370 mm
Muzzle velocity	841 m/s
Cyclic rate of fire	700 - 950 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	30 rounds
Sighting range	600 m
Range of effective fire	360 m

M16
Assault Rifle

The M16 is a gas operated, selective fire weapon, chambered for the 5.56 x 45 mm (.223 Remington) round. At the time of it's introduction the M16 had many flaws, however many of them were fixed and this weapon is considered as one of the best assault rifles in the world. It is a reliable, accurate and comfortable to fire weapon, however it can not match reliability of the famous AK-47 or AK-74.

First production models of the M16 had an effective range of only 450 meters. Later models were adapted for a new round and have improved range and accuracy.

It has been designed by Armalite to meet the US Army requirement for a new assault rifle, chambered for a new intermediate cartridge. This rifle was designed by Eugene Stoner and designated as the AR-15. The first Armalite AR-15 rifles were delivered to the US Army for testing in 1958. Initial tests revealed some reliability and accuracy problems. In 1959 all rights for the design of this rifle were sold to Colt. Later the original designer of this rifle left Armalite and joined Colt. In 1962 Colt company sent a batch of 1 000 AR-15 assault rifles to Vietnam for field trials. In 1964 the US Air Force and the US Army officially adopted this rifle as the M16. Currently variants of this assault rifle are still in service with the US Military, as well as over 50 operators worldwide. It is still manufactured in USA, Canada and China.

M16A1	
Caliber	5.56 x 45
Weight (empty)	2.89 kg
Length	986 mm
Length (with folded stock)	-
Barrel length	508 mm
Muzzle velocity	945 m/s
Cyclic rate of fire	650 - 750 rpm
Practical rate of fire	40 - 100 rpm
Magazine capacity	20, 30 rounds
Sighting range	500 m
Range of effective fire	460 m

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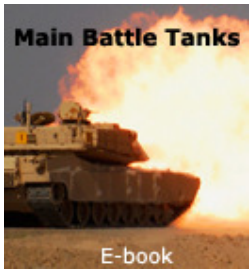

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